Quality Assurance for Higher Education under Covid-19 Pandemic and Beyond in the Asia-Pacific Region

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ASIA-PACIFIC QUALITY NETWORK

Anthology of 2022 APQN Academic Conference in Singapore

24 to 27 November, 2022

Asia-Pacific Quality Network (APQN)

Dissolving Boundaries for a Quality Region

Founded in 2003, the Asia-Pacific Quality Network (APQN) is a non-governmental and non-profit network who has been striving for “Enhancing the Quality of Higher Education in the Asia-Pacific Region” and "Dissolving Boundaries for a Quality Region". APQN has 268 members from 47 countries/territories, becomes the largest and the most influential international organization on higher education in this Region. APQN has played a crucial and unique role in improving the quality assurance mechanism, exchanging theory and practice experiences, promoting substantive co-operatiotrirons, establishing Consultant Bank, reviewing Asia-Pacific Quality Register (APQR) and Asia-Pacific Quality Label (APQL) in this Region.

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Keynote Speaker:

The Future Of Higher Education: Takeaways From The UNESCO World Higher Education Conference 2022

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2022 has been a big year for the international higher education community as we saw the once-every-decade event, the UNESCO 2022 World Higher Education Conference (a.k.a 3rd WHEC or WHEC 2022) taking place in Barcelona, Spain, last May. It seems coincidental that all three WHECs happened amid major global crises, with the previous two linked with the global financial crises in 1998 and 2009 and this year's overshadowed by the worldwide impact of the COVID-19 pandemic. While the global crises were regrettable, they also created great momentum for higher education stakeholders to rethink the fundamentals of higher education. Indeed, major challenges to higher education at this scale often catalyse opportunities to reset our understanding of higher education towards a more peaceful and sustainable future for humanity and the planet.

Unlike the previous two WHECs that ended up with the release of a Declaration and a Communiqué, respectively, the 3rd WHEC was informed by the submission of a new Roadmap, Beyond Limits: New Ways to Reinvent Higher Education (hereafter 'Roadmap').

The Roadmap complements rich contributions made during the Conference, including 60 parallel sessions and 400 speakers. In total, there were in attendance over 2,500 higher education stakeholders in Barcelona, including youth representatives, and 8,300 virtual attendees from all over the world. The consultations preceding the Conference, and the open knowledge products that resulted from them, were far-reaching in scope, indeed in hopes that they would stimulate further debates during the Conference, if not well beyond its conclusion.

What follows are my key takeaways from these essential documents, along with some of my observations on the future of higher education. UNESCO recognizes youth voices and the diversity of perspectives and experiences in higher education worldwide, all of which we hope to continue exploring through active dialogues such as those typical of the Conference itself.

The Human-Rights-Based Approach to Higher Education

The human-rights-based approach to education has been a signature position of UNESCO ever since its founding in 1945, in the immediate aftermath of the Second World War. In the field of education, this rights-based approach is anchored in several UNESCO Conventions and other normative instruments, not least of all the 1960 Convention against Discrimination in Education.

As reconfirmed in the Roadmap submitted to the 3rd WHEC this year, 'UNESCO sees higher education as an integral part of the right to education and a public good.' Indeed, education, including higher education, is increasingly becoming a necessity rather than a luxury, if we want to grow and thrive in both work and life in a fast-changing world.

The global benchmarks on the eligibility for education have been evolving with 'universal primary education' proposed, in 2000, as part of the Millennium Development Goals (MDGs), followed by Sustainable Development Goal 4 (SDG4), covering 2015 to 2030, which calls for 'complete free, equitable and quality primary and secondary education for all'.

In reality, the gross enrolment ratios (GERs) of different levels and types of education in countries indicate substantial variations in the eligibility for education. We need to go beyond literacy and numeracy and intensify our efforts for better access to equitable, quality and relevant tertiary education, including technical and vocational education and training (TVET) and higher education, as they are critical for economic and social transformation.

To secure people's rights to higher education as a public good, governments need to meet the international benchmarks of 'allocating at least 4% to 6% of gross domestic product (GDP) to education and allocating at least 15% to 20% of public expenditure to education', as proposed by the Addis Ababa Action Agenda and reiterated in the Incheon Declaration. Furthermore, a more significant proportion of the increased government financial resources should be allocated to higher education.

Competing demands from other public service sectors threaten the right to higher education, with shrinking government revenues caused by the impact of the COVID-19 pandemic. UNESCO calls for actions to prioritize, protect and increase domestic finance for education, including higher education.

Additional resources mobilized through public-private partnerships and partnerships with international donors also help promote the rights to higher education. Developed countries need to meet the target of spending 0.7% of their gross national income (GNI) on official development assistance (ODA) to developing countries.

To advance a human-rights-based approach to higher education, public investment is key. With much needed investment, the future of higher education in this region will see more systems moving from the elite stage to massification and even universal access to higher education supported by inclusive, sustainable, equitable, well-funded policies and practices.

Quality Assurance: From Inputs-Driven to Process- and Outputs-Driven

Although learning outcomes and the ways to achieve them are not the focus of the Roadmap, they are the main concerns of good qualifications frameworks which the Roadmap promotes in line with its lifelong learning approach to higher education.

The proliferation of the practices of national qualifications frameworks (NQFs) worldwide has indicated a paradigm shift of higher education quality assurance from inputs-driven to process- and outputs-driven. This is based on the fact that investment in higher education has substantially increased from the government and other higher education stakeholders with the expansion of higher education systems in recent decades.

Indeed, when higher education is small or still at an early stage of development, inputs-related indicators can serve as leverage for securing more investment from the government and other stakeholders. In an era of higher education massification, outputs are more relevant as quality eventually depends on students' achieving the expected learning outcomes.

In the future, learning outcomes will be more holistic to include not only knowledge and understanding, skills and competencies, but also values and attitudes, so that we nurture well-rounded professionals who are also 'fully fledged citizens that cooperatively address complex issues.'

This requires that we pay more attention to the learning process in which learners interact with teachers and fellow learners, as well as other learning partners and the learning environment. The overall aim is to ensure that the learning process is pedagogically learner-centred and leading to the achievement of comprehensive learning outcomes, including cognitive and non-cognitive competencies, as well as transversal skills.

Higher education teaching personnel who are well trained in their subject areas should also be well trained in pedagogies and their applications with the support of state-of-the-art technologies. There should be more continuing professional development opportunities, including micro-credential programmes for higher education teaching personnel.

We will also need to increase the relevance of learning outcomes to both work and life. A post of 'Chief Learning Scientist' can be created at higher education institutions to coordinate institution-wide teaching and learning strategy, and serve as a liaison ensuring the alignment of external quality assurance and internal quality assurance, as well as acting as a bridge between the supply and demand sides of the learning programmes.

Flexible Learning Pathways

The Roadmap proposes a transition 'from a hierarchical and weakly connected archipelago of institutions and programmes to an integrated system with diversity of programmes and flexible learning pathways connecting them to enlarge the educational opportunities for youth and adults and avoid dead ends.'

This transition is revolutionary and has been accelerated by the challenges brought on by the COVID-19 pandemic. It can break the long monopoly of conventional higher education institutions and allow new learning providers, especially those close to the demand side, among them enterprises and professional bodies, along with those empowered by innovative technologies, to provide higher education learning programmes.

According to a background paper for the 3rd WHEC on quality and relevance of programmes in higher education, new flexibility can also be reflected in 'moving beyond the formal education, to embrace, credit and officially recognise innovative education models (formal, non-formal and informal) to enhance opportunities for learners.' In this regard, learning will be more flexible in terms of time, length, and venue, making it possible for people to have multiple entry and exit points to higher education and to learn at any time and in any place.

NQFs, subject-specific quality standards, and programme development templates constitute the basic national academic infrastructure for learning outcomes of different types and levels of learning programmes across the country to be comparable, transferable, and stackable with one another under common quality frameworks. They are thus critical tools in facilitating the equivalency and recognition arrangements between and among different qualifications and learning programmes.

National learning management systems, such as interconnected and learner-centred digital credit bank systems at the system and institutional levels, comprise the other essential academic infrastructure to be put in place. They would ensure that credits earned from different higher education providers can be recognized, deposited, and accumulated, leading to the award of micro-credentials and full qualifications.

In the future, higher education learning programmes will go beyond the simple division of academic, professional, and higher vocational. More mixed types of these three contents will be developed into different learning programmes if they align with the NQFs and other upstream quality frameworks.

We might foresee that higher education institutions (HEIs) will not need to excel in every subject area and domain of their activities in the future. They can outsource their uncompetitive services to external providers and keep building on their own core competitive functions. They can also play a qualifications/degree-awarding role by validating learning experiences and credits from various providers. In other words, learners will earn credits from different learning providers to DIY their own individualised qualifications to be assessed by recognized providers in line with the national qualifications frameworks.

Promoting Social Mobility

'Inclusion' and 'equity' are two of the many keywords highlighted in the Roadmap for the 3rd WHEC. Inclusion can bring more students from different social backgrounds, especially disadvantaged groups, to the bigger talent pool and enable them to make upward social mobility after graduation. With social mobility, we can avoid clear-cut social stratification, thereby strengthening social cohesion of a country.

As stated in the Roadmap, inequality in university admissions criteria can produce disparity and reduce chances for social mobility. We need to think of both merit-based and quota-based admission policies as they complement each other. Necessary affirmative action measures should be put in

place to support learners from disadvantaged groups to gain access to quality higher education and flourish subsequently in both life and career.

Higher education should not perpetuate the existing social stratification. A real test to higher education's equity and inclusiveness is its ability and results in promoting social mobility. There is a need to establish mechanisms, like Social Mobility Watch, to monitor the yearly intakes and retention rates of various tiers and types of HEIs by students from different social and economic backgrounds, and to trace their employment destinations after graduation.

Inclusion and equity should be promoted in a holistic manner to include not only student recruitment, but also student learning processes, including pedagogy and assessment, and employment after graduation. Inclusion and equity should also cover institutional governance, research, and social engagement and outreach activities of the higher education institutions.

In the future, higher education must serve as a social institution for promoting upward social mobilization. Every citizen, irrespective of their economic and social background, can resort to higher education as an effective and fair platform to change their fate and enter the mainstream of the societies where they live and work.

Higher education shall also soon facilitate circulation of all citizens with changing and rotating roles, status, and responsibilities, making it possible for a society to reboot and refresh its social dynamics regularly and increase the coherence, innovativeness, resilience and competitiveness of its people and society as a whole.

Institutional Autonomy and Social Accountability

These two seemingly conflicting arguments have been the two principles guiding the development of higher education worldwide. When the systems have been small, especially when there has been less government spending on higher education, institutional autonomy has tended to speak louder than other arguments.

The pioneer countries in higher education usually have a long tradition of academic freedom and institutional autonomy. By notable contrast, latecomer countries tend to launch their higher education systems with more coordination provided by government. Asia and the Pacific is a region where most countries are latecomers with their higher education systems influenced by different traditions that have originated in the pioneer countries.

As higher education systems in most countries have been rapidly expanding in recent decades, the self-sustaining tradition has increasingly been challenged. The vast numbers of graduates produced by the expanded systems need to be accommodated by the employment market. At the same time, the massive budget from taxpayer monies for the expanded systems has also required accountability measures to ensure that all the spending meets the principle of value for money.

In this regard, the fundamental issue is the relationship between governments and HEIs. Historically, we have had the famous University Grants Committee (UGC) model to install a buffer organization between the government and universities. The composition of the UGC initially was more in favour of universities. With the expansion of the systems, however, more UGC members were appointed by the governments, including those members from the industries. Social accountability has become another principle impacting the operation of HEIs.

As the Roadmap points out, learning outcomes, employability, diversity, and inclusion have been more visible in the quality assurance and accountability frameworks. Academic freedom and participation of all stakeholders is one of the six principles to shape the future of higher education.

We can anticipate that the relationships between governments and HEIs will be more balanced in the future, with external regulations and internal innovations and alignment mutually nurturing and complementing each other. Regulated institutional autonomy and 'autonomy for accountability' will constitute the way forward.

Internationalisation of Higher Education

Currently, there are two leading multilateral platforms for promoting the internationalisation of higher education. One is UNESCO, as the only UN agency with a mandate in higher education; and the other is the World Trade Organization (WTO), which sees higher education as a service sub-sector subject to regulation under the General Agreement on Trade in Services (GATS).

The two platforms use different but mutually transferrable frameworks. UNESCO's framework has focused on conceptualisation of cross-border higher education, including the cross-border mobility of students, programmes and institutions. The WTO's approach has centred around four modalities of delivery: consumption abroad, cross-border supply, commercial presence, and the movement of natural persons.

The Roadmap mentions UNESCO's Conventions on academic recognition to promote mobility and inter-university cooperation. Indeed, the recognition issue has long been the entry point for UNESCO regarding higher education. The Tokyo Convention for Asia and the Pacific has already entered into force and has 12 ratifications as of October 2022. The Global Convention, adopted in 2019 in Paris, welcomed Japan last month as its 17th ratification in the world and the 1st ratification in Asia and the Pacific. This positive development brings us closer to the 20 ratifications required for the Global Convention to enter into force.

Joining and aligning with international normative instruments such as these conventions are critical indicators for measuring the status of higher education internationalisation at both system and institutional levels. We have yet to see the first ratification of the Tokyo Convention and the Global Convention on academic recognition from South-East Asia countries. The ratifications will help remove the recognition barriers to student and professional mobility in the region and beyond.

Student mobility has been high on the internationalisation agenda, as many traditional destination countries have faced declining enrolments of their domestic students due to fast-aging populations. However, other considerations have also driven student mobility, such as higher education being regarded as a greening service sector to generate income, and the competition for young talent from a more significant international talent pool, and so forth.

Looking ahead, we may see more intense competition between and among countries in the Asia-Pacific region as they strive to develop into regional higher education hubs. We may also see more 'study-plus-work-permit' packages offered by countries to attract young international talents to study in the given priority areas and stay in the destination countries for employment after graduation.

In July of this year, we witnessed the launch of a two-year work plan for establishing a common higher education space in South-East Asia in Hanoi, Viet Nam. This event was a milestone for kicking off the harmonisation processes for higher education systems in the region. According to the work plan, there will be more national alignment of the ASEAN Qualifications Reference Framework (AQRF), more student and professional mobility opportunities, and the covering of more sectors by the Mutual Recognition Agreements (MRAs). In addition, regional partners in South-East Asia aim to catalyse internationalization through a critical mass of student mobility under a new ASEAN Branded Scholarship.

Digital Transformation of Higher Education

The Roadmap states that 'technologies play an increasingly central role in higher education.' Although there are gaps and disparities among countries in the maturity of frontier technologies and their applications in higher education, the rapid developments in computer power, algorithms, big data, artificial intelligence (AI) and internet reach 'have transformed teaching, learning, and research, as well as networking and collaboration within and across nations.'

Digital transformation goes beyond awareness and ICT literacy. It means that digital technologies should be embedded and integrated in all types and domains of higher education activities. We should move from 'technology-assisted' to 'technology-enabled, -enhanced, and -empowered', and eventually to technology-embedded, or fully integrated learning and governance ecosystems.

The COVID-19 pandemic has exacerbated the digital divide given unequal access to the technologies for delivering higher education programmes. For conventional HEIs, online and blended learning have been mainstreamed and become the 'new normal' during and even beyond the pandemic. There is, nevertheless, an increasing need to integrate technologies with content, pedagogy, assessment, and other quality assurance measures to ensure the most efficient and powerful work synergies among these critical domains, as well as to meet the needs of diverse learners.

Massive open online courses (MOOCs) continue to gain momentum towards greater expansion in this region with the establishment and functioning of National MOOC portals, such as Indonesia

Cyber Education Institute, JMOOCs, KMOOCs, M-MOOCs, XuetangX, ThaiMOOC, and so forth. Some are financed by governments, some managed by the private sector, and some run by consortiums of HEIs.

There will soon be more mature and advanced learning analytics empowered by big data and AI to help diagnose teaching and learning activities at institutional, subject, programme, and individual session levels. Big data generated by HEIs on a daily basis will be more efficiently and ethically used by university leaders, administrators, faculty and students, as well as other higher education actors and stakeholders.

University governance should also go digital with a whole set of applications to support the workflow of different administrative activities. These activities include finance; staff recruitment, evaluation and professional development; student affairs management; international partnership and cooperation; travel and leave management; resource mobilisation; and public information and outreach, among others. A one-stop-shop, web-based daily operation system will allow HEIs to go paperless via online tools for their daily administrative work.

ICT infrastructure, institutional capacity-building, and teachers' professional development are essential for the digital transformation of higher education. We hope that in the future, the gaps in internet speed and penetration can be narrowed so that HEIs can have better public infrastructure towards promoting digital transformation across every domain of their activities.

Foundation For The Future

The 3rd World Higher Education Conference provided us a chance to rethink and reimagine the fundamentals of higher education – around the three critical missions of teaching and learning, research, and social engagement – from the perspectives of access, quality, and equity. The Roadmap and open knowledge products submitted to the 3rd WHEC set a good foundation for further national, international and global stakeholder debates.

The multiple cause-and-effect chains described in this paper are not deterministic but somewhat hypothetical. Considering that the national higher education dynamics and ecosystems are diverse and uncertain, convergent trends discussed here shall serve as global benchmarks to inform different countries for their national adaptations. We look forward to collecting renewed thinking and actions as we navigate towards 2030 and beyond.

The article above is the full text of a keynote speech delivered at the Asia-Pacific Quality Network (APQN) Annual Academic Conference 2022 on 26 November 2022 in Singapore. An excerpt of this speech was published in University World News on 4 December 2022 (https://www.universityworldnews.com/post.php?story=20221202135758422).

Theme Speech:

APQN's Thirteen Innovative Actions Of Quality Assurance During The COVID Pandemic

APQN President: Prof. Dr. Jianxin Zhang

At the end of 2019, the COVID-19 pandemic (hereinafter referred to as"the Pandemic") broke out unexpectedly. The Pandemic has disrupted education all over the world: school closures affected more than 1.6 billion learners . The Asia-Pacific region is one of the most disrupted regions. Approximately 1.2 billion students across the region lost about 1.1 trillion hours of in-person learning experience as a result of school closures . As a result of this unexpected situation, the way of education has changed dramatically.

One of the goals of Sustainable Development Goal (SDG) is to ensure inclusive, equitable, and quality education for all. This has been affected by the Pandemic. At such a time of need, education innovation serve as a powerful engine for **learning recovery**.

In March, 2020, the Asia-Pacific Quality Network(hereinafter referred to as"APQN") lost no time in response to a global crisis in education. During the past three years (2020-2022), APQN made thirteen innovative moves of Quality Assurance to accelerate learning recovery (see the video in the attachment, as well as the linkage at: https://www.apqn.org/events/present-events). Below is the summary of APQN thirteen innovative actions.

I. Relevance of APQN Innovation

The Pandemic challenge brings the opportunity for change. No doubt, higher education has been transformed by Pandemic, the lockdown, and the recovery. APQN believes education must adapt to new changes as soon as possible. APQN must focus on new changes in the participants, education philosophy, connotation, methods, and teacher-student relationships. There should be awareness of public social crisis. APQN must lead a speedy recovery for learning and teaching. This is APQN mission during the Pandemic.

The sudden closure of campus at the beginning of 2020 changed the traditional method of"face-to-face teaching" to "screen-to-scree teaching" which is ineffective. The New UNESCO global survey revealed the impact of the Pandemic on higher education includes "disruption of teaching and learning" "poor quality of online teaching and learning" and other twelve aspects. APQN's global survey showed that 15% of the respondents considered online teaching as ineffective and 53% considered the quality as poor.

II.Beneficiaries and Impacts of APQN's thirteen Innovative Actions

1. Beneficiary Countries. The Asia-Pacific Region covered by APQN includes all Pacific island nations and territories, New Zealand, Australia, Papua New Guinea; all island and mainland nations and territories of Asia, including Russia, Afghanistan, the other central Asian countries and Iran, but excluding the Gulf countries (which are covered by another network).

2. Beneficiaries include six groups from the Asia Pacific region and the world. The beneficiaries include (1) tens of thousands of students from the 47 countries and regions in the Asia Pacific region and around the world; (2) thousands of leaders and managers from the 47 countries and regions in the Asia Pacific region and around the world; (3) thousands of teachers and educators from the 47 countries and regions in the Asia Pacific region and around the world; (4) hundreds of researchers and evaluators focusing on the global online teaching quality assurance; (5) more than 100 external quality assurance agencies from the Asia Pacific region and Europe; (6) APQN's 268 institutional members in 47 countries/territories in the Asia-Pacific region.

3. Effectiveness. APQN has published a number of research reports and papers, and as a milestone, it developed "APQN Online Teaching Quality Assurance Standard" which was released globally on May 30, 2021. APQN also developed numerous free resources including two books to be shared with university leaders, administrators, educators, researchers, teachers and students who are interested in online teaching quality. One is "APQN Research on the COVID-19 Impact of COVID-19 on Higher Education Quality" , and the other is "COVID Response Mechanism and Impact on Quality Assurance for Higher Education in the Asia-Pacific Region".(https://www.apqn.org/images/projects/APQN_Research_on_COVID_Impact_2021-6-25.pdf)

III. Originality of APQN's Thirteen Innovative Actions

1.APQN's initial action. In March 2022, at the beginning of the outbreak of the Pandemic, APQN carried out the global survey to understand the status and responses of universities, teachers and students , in order to explore the effectiveness of unconventional measures and a series of measures taken by universities in the face of crisis and conflict.

2. APQN actions' overview

Under the severe situation of Pandemic, APQN innovative activities include **six series**:(1) four global surveys; (2) one in-depth interviews to Board Directors; (3) three international conferences and one online forum; (4) one APQN online teaching standards design; (5) one qualitative research; and (6) two books. Additionally, APQN published three academic papers on the Pandemic impact on higher education in Chinese. (see table 1).

#	Time	Innovative actions
1	March-May, 2020	APQN global survey on the COVID impact in higher education institutions(HEIs)
2	April-June, 2020	APQN survey on the COVID impact on quality assurance agencies(QAAs)
3	June-July, 2020	Interviews with APQN Board Directors on COVID impact on HE quality
4	July 28, 2020	APQN online forum "Influence of COVID on higher education quality assurance: the new normal of higher education 4.0
5	July, 2020	Survey on effectiveness of online teaching during COVID-19 pandemic
6	Nov.25-26, 2020	MPI-APQN 12th international conference on teaching and learning quality assurance in higher education under the pandemic
7	June to December, 2020	Qualitative research on effectiveness of online course during the COVID-19 pandemic
8	May 31, 2021	APQN Standard for Online-Teaching Quality Assurance
9	Nov. 22, 2021	MPI-APQN 13th international conference on education innovation and teaching quality assurance in the post-pandemic era
10	Nov. 25, 2021	APQN Academic conference on COVID response mechanism and impact on quality assurance for higher education in the Asia-Pacific Region
11	June, 2022	Anthology of selected papers of 2021 AAC (online) in Singapore under COVID Pandemic
12	June, 2022	APQN Research on the COVID Impact on the HE Quality
13	Nov., 2022	APQN academic conference “quality assurance for higher education under COVID pandemic & beyond in Asia-Pacific Region”

Table1: List of APQN’s Thirteen Innovative Actions of Quality Assurance during the COVID Pandemic.

3. APQN’s Method. APQN innovation activities are based on a method of **"finding problems - analyzing problems - solving problems".** As for **“finding problems”,** a series of timely surveys were conducted:(1) targeting key objects of internal quality assurance institutions such as global university leaders, administrators, teachers and students from 47 countries and regions; (2) targeting 101 external quality assurance agencies in Europe and the Asia Pacific region;(3) targeting the quality of online teaching for teachers and students; (4) targeting the quality assurance experts by Delphi Expert survey, mainly determining the indicators of online teaching quality standards. As for **“analyzing problems”,** APQN carried out five international conferences, in-depth interviews and SPSS analysis . As for **“solving problem”,** APQN used the Delphi expert analysis method to develop "APQN Online Teaching Quality Assurance Standard". It also proposed a set of response mechanisms, which are appropriate for universities in the crisis time in the future .

IV. Sustainability of APQN's thirteen Innovative Actions

"APQN Standard for Online-Teaching Quality Assurance" (https://www.apqn.org/images/projects/JX_APQN_Standard_for_Online-Teaching_Quality_Assurance2021-5-31.pdf) is the first standard developed with a global view focusing only on online teaching and learning. "APQN Standard" consist of 5 criteria, 14 indicators and 46 observation points. The 5 criteria are: 1) online teaching environment; 2)teachers' online teaching; 3) learners' online learning; 4) presentation of online teaching outcomes; and 5) online-teaching quality assurance.

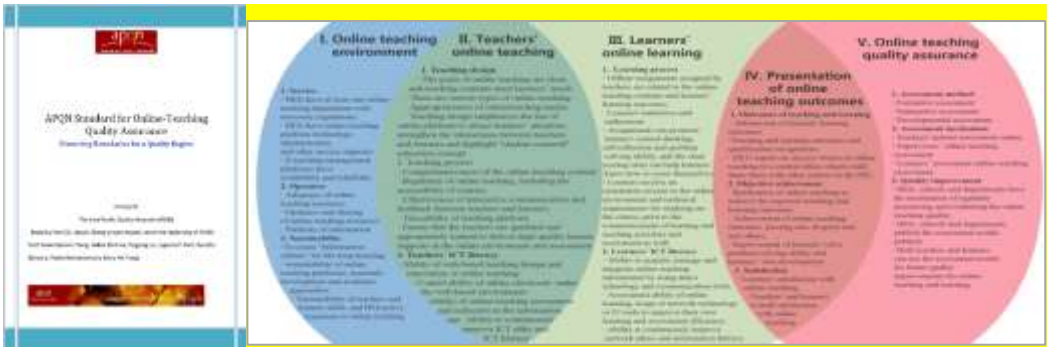

Fig. 1: The framework of "APQN Standard for Online-Teaching Quality Assurance"

APQN innovative actions can be scaled up with ease. All of APQN's work are available on APQN's website free of charge and can be replicated by educational institutions, stakeholders and other interested parties.. In addition, APQN Consultant Data provide the contact information of 234 consultants.

Conclusion

Globally and especially in the Asia-Pacific region, various innovative education policies and practices have emerged and accelerated learning recovery. APQN has had the fortune to take the first dip to develop a constructive framework. APQN wishes its initiatives would help build a stable platform for communication among fellow agencies, scholars, and educational institutions, and that .one day "APQN Standard" or other quality standards on online quality assurance standard will be carried out in real scenario, to be beneficial by all the students, teachers, university administrators s and others in the Asia-Pacific Region.

Peer Review Portal: Digitalizing Quality Assurance

Dr Sara Booth, Director, Academic,
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Abstract

The COVID-19 pandemic has disrupted the Higher Education (HE) sector with significant consequences to current technological infrastructure, capabilities, and resources. The Organisation for Economic Co-operation and Development (OECD) (22 Feb 2021) released a global report that prioritized investment in technologies and innovations that could lower costs and digitally enabled solutions. The impact of the pandemic has caused significant changes to how quality assurance, both internal and external, is undertaken across higher education. But it has also provided the HE quality assurance sector with opportunities to innovate external quality assurance by using digitally enabled solutions. The quality assurance agencies of Fiji, Papua New Guinea, Samoa, and Vanuatu, as well as the Academic Quality Agency for New Zealand Universities (AQA) recently discussed the potential for a 'Pacific Platform.' This paper will provide sector examples on how an Australian company, Online Peer Solutions Pty Ltd (OPS), provides third-party quality assurance services and a cloud-based platform, Peer Review Portal (PRP), for internal and external quality assurance in higher education.

1. Introduction

The COVID-19 pandemic has disrupted the Higher Education (HE) sector and this has had significant consequences on current technological infrastructure, capabilities, and resources. The Organisation for Economic Co-operation and Development (OECD) (22 Feb 2021) released a global report on the importance of infrastructure spending as part of a stimulus package in response to the pandemic, that prioritizes 'investment, especially in the context of technologies and innovations that could enable lower cost and digitally enabled solutions.' A majority of the organisations in the HE sector are now faced with outdated technology infrastructure. The continual changes and redevelopment costs to these technology infrastructures is costing billions…more closely to trillions in lost revenue.

The global pandemic is not only a health crisis but an economic crisis which has resulted in an ongoing global economic recession. The HE sector is also faced with the significant costs to accreditation, evaluation, and review. There are the direct costs for accreditation, monitoring, site visits and indirect costs in staff time (both administrative and academic); and the impact and costs of industry, professional accreditation bodies and accreditation agencies; and finally, the enormous costs in duplication of effort.

The impact of the pandemic has caused significant changes to how quality assurance, both internal and external, is undertaken across higher education. With the impact of social distancing requirements from COVID-19, there were delays in accreditation assessments with challenges to ensure accreditation panels were provided with secure, online solutions for panel calibration discussions, audit evidence and reporting. Not unlike the importance of security in the transition to

online exam invigilation for students, there is an increasing onus on quality assurance agencies to ensure online panel calibration discussions involve secure, automated, evidence uploads and reporting functions. The pandemic, however, has also provided the HE quality assurance sector with opportunities to innovate by using digitally enabled solutions.

1.1 Development of a Pacific Virtual Platform

The scale of the impacts of the COVID-19 pandemic, including immediate health and economic impacts on Pacific countries, led to the development of the Pacific Quality Forum as a collective community to share challenges and good practice. At the inaugural Pacific Quality Forum, one of the key measures that they explored collectively so as to strengthen resilience in response to the challenges caused by the pandemic, was the development of a shared virtual platform to facilitate accreditation and quality assurance processes. The quality assurance agencies of Fiji, Papua New Guinea, Samoa, Vanuatu, and the Academic Quality Agency for New Zealand Universities (AQA) discussed the potential for a 'Pacific Platform.' Some of the key challenges included the unavailability of international reviewers and advisors for training and quality enhancement activities; decentralised delivery models; increased demand for online training; budget cuts to agencies as well as the significant economic impact to their countries.

The main systems requirement for the 'Pacific Platform' was that it needed to be resilient, flexible, and cost effective to meet the external quality assurance requirements and assessments of each of the Pacific quality assurance agencies. The Peer Review Portal was suggested as an example of an online platform that could be used across the Pacific. The platform's functional requirements would need to include:

- A common virtual platform aligned to the mutual recognition of the external quality assurance agencies qualifications frameworks and accreditation requirements;
- Connectivity through both internet and mobile phone across all agencies;
- Training and development platforms, and the hosting of learning resources for providers as not all quality assurance agencies have learning management systems; and
- Sharing of experts on the quality assurance of education and training (Pacific Quality Forum, 2020).

This paper will provide sector evidence on how an Australian company, Online Peer Solutions Pty Ltd (OPS) provides third-party support services and a cloud-based platform, Peer Review Portal (PRP) for internal and external quality assurance in higher education which supports a *'glocal QA ecosystem.'*

1.2 A Future-Focused Approach Using Cloud-Based Solutions

OPS is an Australian cloud-based company that provides third-party quality assurance services in the HE sectors. Through its main cloud-based product, the Peer Review Portal (PRP), OPS is committed to providing a future-focused approach based on a user pays subscription model which includes working with new partnerships and cloud-based technological infrastructure. For example, OPS was commissioned to undertake a sector review report for the Chartered Accountants Australia

& New Zealand (CA ANZ, 2021) on future-focused infrastructure to support assessments suitable for an online environment.

The benefits of cloud-based solutions include flexibility, low cost, collaboration, productivity, security, data loss prevention, mobility, and software updates.

The Tertiary Education Quality and Standards Agency (TEQSA) in Australia, refers to PRP as an online support mechanism which individuals, education providers, industry, networks and professional associations in meeting national and international standards in external peer review (TEQSA Guidance Note External Referencing; TEQSA Guidance Note: ELICOS Direct Entry). The PRP is a *cloud-based quality assurance system* with no infrastructure or redevelopment costs associated with using it and works on a user pays funding model. The PRP supports the HE sectors to meet TEQSA's Higher Education Standards Framework (2021).

The PRP has 215 registered HE organisations across the globe (Australia, Columbia, Cyprus, Ecuador, Fiji, Hong Kong, India, Jamaica, Mexico, New Zealand, Norway, Samoa, Sri Lanka, UAE, UK, and the US). Five tertiary quality assurance agencies and one professional accreditation body are registered with PRP (AQA [New Zealand], CETA [Caribbean], NAAC [India], TEQSA [Australia], VQA (Vanuatu) and the Chartered Accountants ANZ [Australia & New Zealand).

OPS has a strategic focus on providing third-party cloud-based solutions and services for internal and external quality assurance in higher education, but *without the responsibility for assuring the quality of institutions or programs*. There are similar examples of HE organisations that support evaluation, accreditation and quality assurance, particularly in education, training, online solutions and services (Peregrine Academic Services , ECCTIS-Formerly UK NARIC, Commonwealth of Learning and The Centre for Testing and Evaluation of Training Quality).

1.2.1 Glocal QA Ecosystem

What makes OPS different from these HE organisations is that through its cloud-based platform, PRP, it is about building a *glocal QA ecosystem which links partners across higher education and communities*. Patel, (17 June, 2022) reported in the University World News, that higher education is a catalyst for change in leading innovative practices that will impact global development. Some examples of innovative partnerships include: Grameen Bank, Malaysia Education Blueprint, Asia-Pacific University-Community Engagement Network (APUCEN) and the Peer Review Portal (*Annual Health Check Report* (2021). The Annual Health Check Report (2021) was aligned to UNESCO's Sustainable Development Goals (SDG4) which has a global focus on providing equal access to technical/vocational and higher education, including quality assurance.

The emphasis on global partnerships is about building an ecosystem for the glocal QA community to provide access to quality assurance infrastructure and training with evidence-based practice in an efficient, cost-effective way. OPS is interested in working with global stakeholders, where possible those countries with lower resource and infrastructure bases in its review processes where applicable. It is also a long-term priority for OPS to be connected with the World Bank, industry,

partners, and students to make this a joint collaboration, not unlike the work of the Commonwealth of Learning (COL).

The formation of an 'International Advisory Group' for OPS brings together extensive experience as well as a broad outlook to the QA, accreditation, and review process for the PRP community globally. Like Peregrine Academic Services, OPS is also interested in developing a global foundation to support reward and recognition in quality assurance and review. ECCTIS provides regular webinars and transnational education quality benchmarking, similarly OPS provides regular free workshops but has also built a global review process which measures social impact, in collaboration with our global partner, OneHE. For example, the 2021 global impact assessment review focused on the impact from technological innovations as a result of COVID-19 and equity, diversity, and inclusion.

2. Digitalization of Quality Assurance

The PRP, as a cloud-based system and quality assurance service, is an example of the digitalization of quality assurance (See Diagram 1 below).

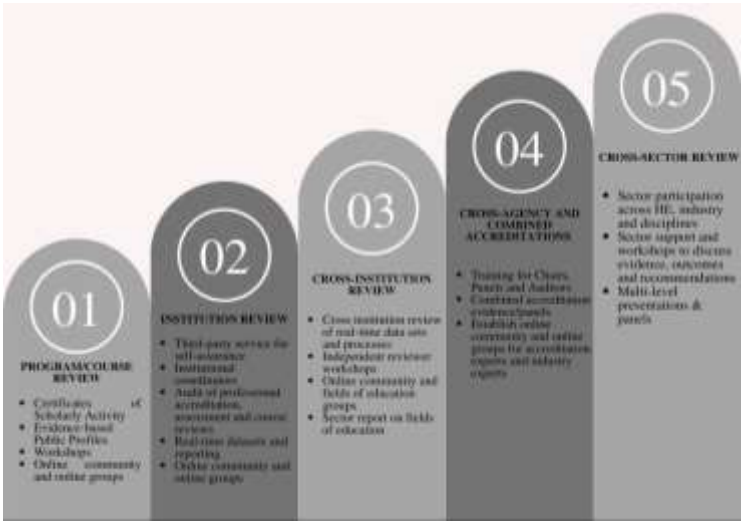

Diagram 1: Digitalization of quality assurance

There are five levels of quality assurance in higher education that have been impacted by digital and cloud-based technologies. The PRP can support all levels of quality assurance, which includes:

2.1 Level 1

Level 1 is about supporting and developing individuals and teams at the course/program level with training, scholarship and individual evidence-based profiles and connecting them through online communities and forums.

2.2 Level 2

Level 2 is about supporting HE organisations develop an institution-wide process for monitoring self assurance, including course teams, committees, and panels, and connecting them through online communities and forums.

2.2.1 Institutional Examples of Self-Assurance

Below are some examples of HE institutions across Australia that have developed policies and procedures using the Peer Review Portal for their internal self-assurance processes, including external referencing requirements.

- CQUniversity has an External Peer Review of Assessment Guideline;
- Charles Sturt University (CSU) has a comprehensive website on external review of assessment called Benchmarking at CSU;
- International College of Hotel Management (ICHM) has an Assessment Validation and Moderation Policy and Procedure;
- International College of Management, Sydney (ICMS) has an External Referencing Procedure which uses the Portal for external referencing purposes and for scholarship;
- UniSC has External Referencing: Peer Review of Assessment Procedures;
- The University of Wollongong (UOW) has an External Referencing: Peer Review of Assessment Standards Procedure; and
- Victoria University (VU) uses their External Referencing Procedure to assist them with maintaining and evidencing the quality of courses, units, teaching methods, assessment models, student progress, student experience and graduate outcomes.

2.3 Level 3

Level 3 is about supporting HE organisations to work collaboratively to meet self-assurance and external referencing requirements. This cross-institutional support includes online course conversations and calibration workshops and online disciplinary groups.

2.3.1 Example 1: Annual Health Check Report (2021)

In 2021, OPS released a sector-wide health check report involving 27 HE institutions (independent providers, a dual sector university and universities) and a review of 362 units/courses, aligned to UNESCO's Sustainable Development Goal for Education (SDG4). The methodology used for the Annual Health Check was informed by methodology developed across the Australian HE sector over the last seven years (2015-2022).

This sector report also included an analysis of sector themes across all participating Fields of Education (FOE) and institutions. The *Annual Health Check Report* (2021) provides sector findings for governmental reporting and institutional reporting.

2.3.2 Example 2: External Referencing of ELICOS Direct Entry Program Standards

OPS was commissioned to undertake a *sector benchmarking review* for the University English Centres Australia (UECA). OPS, in partnership with UECA, led the sector review using the PRP, which included the external review of assessment involving 60 assessors.

University English Centres Australia (UECA) is a network of 31 member Centres and Colleges, which deliver English Language Intensive Courses to Overseas Students (ELICOS). One of the most important roles of these Centres is to provide ELICOS Direct Entry pathway programs that develop international students' language proficiency so these students can succeed in their chosen course of

award study at an Australian university. In early 2018, the UECA Committee agreed to continue to facilitate mutual learning among member Centres through benchmarking, but this time with a focus on Centre policies, processes and assessment standards. The project has been widely recognised by participating Centres as contributing to program quality improvement and staff professional development. In doing so, it has not only benefited UECA Centres, but will ultimately benefit the vibrant Australian higher education sector and the students who access university education via our quality ELICOS Direct Entry pathways. A key national outcome was that the 31 universities were approved by TEQSA in meeting the ELICOS Direct Entry Standards and the inclusion of the PRP in the Guidance Note: ELICOS Direct Entry (TEQSA, 2019).

2.4 Level 4

Level 4 is about the importance of cross-agency collaboration to reduce the duplication of effort, particularly combined accreditations. There are increasing cost pressures for quality agencies to collaborate with professional accreditation agencies in an effort to reduce the regulatory burden on HE institutions and programs. An example is the Accreditation Organisation of the Netherlands and Flanders (NVAO) which has combined accreditations with AACSB, EAPAA, EADI, and THE-ICE. The PRP includes online panels that quality agencies and professional bodies can work together to reduce the duplication of effort but strengthen cross agency collaboration. Online sector groups can support these combined accreditation activities.

2.4.1 Example 3: Commissioned Report and Partnership with NEAS Australia

OPS was commissioned by NEAS Australia to review 127 Assessment Reports across three audit cycles (2014-2019); survey themes and survey response rates; and key themes from the survey results from the UECA external referencing project on assessment (2019).The research report, *NEAS Australia: Mapping the English Language Teaching Landscape*, profiles the importance of NEAS within Australia's education system and the lead role NEAS provides in quality assurance services to students, teachers, English Language Teaching (ELT) and vocational providers. This report focused on mapping the impact and lessons learnt from three NEAS Quality Review Visit (QRV) cycles (2014-2015, 2016-2017, and 2018-2019) and an initial review of the NEAS Quality Assurance (QA) Framework, in particular, Quality Area A: Teaching, Learning and Assessment and Quality Area B: The Student Experience.

In partnership, OPS and NEAS Australia in mid-2022 will pilot a sector review on two key themes: 1) Online delivery of English Language Teaching (ELT) and; 2) Transnational/offshore delivery, so that there is an evidence-based sector process, which will be showcased at the Qalen Symposium late 2022. Qalen is the global network in quality assurance for the English Language Teaching (ELT) sector. The pilot project will be used to promote sector-wide benchmarking of ELT standards with Qalen and other ELT sector quality assurance bodies.

2.5 Level 5

Level 5 is about the importance of working collaboratively across the HE sector to carry out cross-sector work, collaborative review projects which demonstrate social impact to improve the overall quality of HE organisations to benefit students and staff in HE.

2.5.1 Example 4: Independent Higher Education Australia

The Independent Higher Education Australia (IHEA), the peak body for independent HE providers in Australia, has involved their members in sector external referencing and benchmarking activities with the PRP (2017-onwards). In 2022, the independent HE institutions will be engaging in two sector themes: 1) Addressing contract cheating; and 2) Sector Industry Review. The Sector Industry Review is about the systematic review of all industry activities and processes across IHEA member institutions as well as across a range of stakeholders. Student survey results alone do not provide a sector-wide scope of collaborations across government, industry, and education. An example of a successful industry example is the Creative Industries Strategy (2020). The Sector Industry Review aligns closely with the Australian Government's recent announcement on an Employment Summit to bring unions and businesses together to boost workplace productivity. This Review is about using the PRP functionality as a cloud-based platform and ecosystem to connect and engage with all key stakeholders across the sector.

3. Conclusion

The significant impact from the COVID-19 pandemic in transitioning to a fully online environment has demonstrated that quality assurance, both internal and external, can be successfully conducted online at a fraction of traditional face-to-face processes. It enables HE organisations to conduct reviews more frequently and to benchmark those results against those of others which supports institutions to move beyond the threshold standards of quality assurance agencies to timely continuous improvement, with lasting sustainable impact on student outcomes. This paper is about opening the conversation with the Asia Pacific Quality Network and how the PRP can support both internal and external quality assurance in a cost-effective, efficient, secure, and collaborative way for all stakeholders, including students. OPS, through its cloud-based platform, PRP and its quality assurance support services can support glocal HE by building a glocal QA ecosystem which links partners across higher education and communities to meet UNESCO's SDG4.

References

Booth, S. (2021) Annual Health Check, Report.

Booth, S. (2019) NEAS Australia: Mapping the English Language Teaching landscape, Report.

DIIS (Department for Innovation and Skills and Government of South Australia) (2020) Creative Industries Strategy, accessed 20 July 2022. https://www.diis.sa.gov.au/assets/downloads/PDF/Creative-Industries/Creative-Industries-Strategy.pdf?mtime=20210318144423&focal=none

Organisation for Economic Co-operation and Development (OECD) (22 Feb 2021) Impact of COVID-19 on infrastructure and the need for enhanced resilience, accessed 20 July 2022. https://www.oecd.org/coronavirus/policy-responses/covid-19-and-a-new-resilient-infrastructure-landscape-d40a19e3/#section-d1e194

Pacific Quality Forum (2020) Current and future impacts of COVID-19 and responses, accessed 6 July 2022. https://eqap.spc.int/sites/default/files/resources/2021-05/Pacific%20Quality%20Forum%202020%20%20Report.pdf

Patel, F. (17 June, 2022) Universities can help humanity through glocal partnerships. University World News, accessed 6 July 2022. https://www.universityworldnews.com/post.php?story=20220614084622557

Roche, T. and Booth, S. (2019) External referencing of ELICOS direct entry program standards: UECA national report, accessed 6 July 2022. https://ueca.edu.au/initiatives/

TEQSA (Tertiary Education Quality and Standards Agency) (2019) Guidance Note: ELICOS direct entry standards, accessed 6 July 2022, https://www.teqsa.gov.au/latest-news/publications/guidance-note-elicos-direct-entry

TEQSA (Tertiary Education Quality and Standards Agency) (2019) Guidance Note: External referencing, including benchmarking, accessed 6 July 2022. https://www.teqsa.gov.au/latest-news/publications/guidance-note-external-referencing-including-benchmarking

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Digitalization Of Quality Assurance In Higher Education: Challenges & Way Forward

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Abstract

This paper discusses a theme which has become highly significant in the contemporary context of the world and in Sri Lanka. Digitalization of quality assurance in higher education has become the new normal with the outbreak of the Covid 19 pandemic in late 2019. The 4th industrial revolution, bringing artificial intelligence is at the door step. Therefore, this paper analyzes how universities adapt digitalization of quality assurance, the challenges encounter and the way forward in digital transformation. The basic challenges are resistance among actors to move towards digital operations, symbolic presentation of performance through digital platforms, lack of inclusion and involvement of actors, and administrative bottlenecks. The QA council has a wide responsibility in paying focused attention to digitalization of higher education operations. Making digitalization holistic is another important recommendation.

Keywords: Digitalization, Quality Assurance, higher education, Sri Lanka

1. Introduction

The Covid 19 pandemic has made digitalization indispensable in teaching, learning and administration of higher education institutions. Well before the Covid pandemic hit the higher education sector in 2019, government reforms on higher education such as the quality assurance system (QAS) has paid attention to promote and shape digital landscape in higher education (Xiao, 2019). Digitalization of higher education institutions can be simply introduced as use of digital technologies in institutional operations. Amidst many definitions given on Digitalization, the definition “Digitalization refers to the development and implementation of ICT systems and concomitant organizational change, it involves the transformation of socio-technical structures formerly mediated by non-digital artefacts into ones mediated by digitized artefacts” (Gebre-Mariam and Bygstad (47) well explains the concept (Reis *et al.*, 2020).

The importance of digitalization of higher education does not depreciate with the dying pandemic. The world is heading towards digital era, industry 4, where the artificial intelligence takes over most of the technical operations. Higher education institutions including state universities possess a huge responsibility of equipping future workforce with digital literacy, the administrative operations are to be transformed to digital platforms, competencies of the academic, administrative and support staff is to be developed to perform their jobs in digital world. The QAS is there to assure quality of higher education institutions to the satisfaction of stakeholders, ensure that the higher education institutions match its delivery to contemporary needs. In this hour, need of the QAS is to play a vital role in instilling higher education institutions to adapt digitalization in all of its cores, teaching, learning, and governance and management.

Digitalization brings greater benefits than costs. Although initially the institutions have to channel funds to build necessary infrastructure, training and capacity building of staff and students, once the platform is set up, the efficiency would rise in all operations. Digitalization of education solutions can accommodate personal needs, for instance, it has the capacity to repeat lectures if needed, accessing updated/upgraded content, reduce operating costs; transport, accommodation, hard learning materials, as well as lowers the environmental impact (Treve, 2021). In the current pandemic, higher education institutions use digital platforms such as zoom to disseminate knowledge across borders, maintain safety precautions by keeping the physical distance, mitigate the spread of virus by transforming lectures to distance learning mode.

In developed western countries facing Covid pandemic with digitalization of its operations, teaching, learning and support services were not a challenge. These universities have already established digital solutions to increase efficiency of its operations. According to a study on Nordic countries, administrative systems including handling student registers, exams, human resources, and financials, were digitized in the 1980s and 90s. Since, the year 2000 gradual digitalization of educational solutions; learning management systems, course websites, and library systems took place. Hence, most universities could face Covid 19 pandemic without tension (Treve, 2021).

Unlike the developed West, Sri Lankan state universities' faced challenges during the crisis. Converting their routine teaching, learning and support services to a digital platform was a mega challenge. Many university dons and students both raise negative concerns on online education, and services provided to them. The QAS introduced to state universities in Sri Lanka induce digitalization of higher education operations since a long time (Warnasuriya *et al.*, 2015). But, the grievances coming from universities on teaching and learning, and support services during Covid pandemic raise doubts on digitalization of QAS. Studies that assess digitalization of QAS with regard to higher education sector in Sri Lanka are not present in the current literature. This paper intends to answer three questions;

i. How state HE sector in Sri Lanka adapted digitalization in its internal and external QA processes?
ii. What kinds of challenges are associated with digitalization of QAS?
iii. How QAS can be effectively digitalized?

The paper is structured in four sections; section 1, introduction, section 2 methodology, section 3, findings, and last section conclusion and way forward.

2. Methodology

The findings of this paper are based on the data gathered from 15 state universities in Sri Lanka. To answer the first research question, the author studied quality assurance guidelines on institutional review and program review issued by the Quality Assurance Council in 2015 and other guidelines and documents followed. What is already in the QA guidelines, and how they are being practiced is assessed through deploying document review, interviews and observations for data collection. The second research question is answered with the data gathered via interviews, and observations.

Interviews were conducted with Academic staff, Administrative staff and support staff spread across three universities. Observations were done during meetings conducted on quality assurance at university and faculty level. The study covered a long period (2020-2022) to understand how digitalization took place in universities along with the Covid pandemic. When reviewing documents, and making observations, the use of words, 'digital, IT, ICT, computer' are considered to see how much concern the QAS has paid to digitalization of higher education.

3. Findings

The QAS guidelines (Institutional Review and Program Review Manuals) recommend using digital platforms in all operations, such as conducting lectures, delivering support services and specially educating students to use digital platforms in their learning process. For instance, under governance and management quality criterion, it is recommended "the university to incorporate use of ICT in management, communication, teaching and learning, research and community engagement". The awareness and facilitation are addressed under the same criterion "all staff and students have access to efficient and reliable networked computing facilities including access to university-wide information service and are trained to use them". Special focus on ICT-based learning practices; digital library facilities and access to IT based information are also recommended. Similar quality standards are recommended for degree programs. Although these guidelines are introduced to the universities since 2015, the implementation of these standards are not up to the expectations.

The slow progress of transformation of manual operations to digitalization is a key observation. In one university, the Director of Internal QA centre complained that the staff including academics was not even communicating via emails, where it takes lots of time and effort to arrive at decisions and implement. However, he pointed out that with Covid 19 outbreak, staff is compelled to use digital platforms to deliver lectures, do routine communication and even conducting exams. Even those who resisted digital teaching and learning fast adapted to the new system, he says. This finding is supported by actors in other universities. For instance, an Executive officer said that although for several decades' university was talking about digitalization, the real change has occurred in encountering the pandemic;

> "Now even though we share meeting agendas just before two days to the meeting, which was used to send two weeks ago earlier, members could access it. They can participate in the meeting from wherever they are located. Less absenteeism. Documents are being shared, no paper waste. We learned to work online because of Covid pandemic" (Executive Officer 1)

This statement shows that in spite of QA standards to adapt digitalization, the universities were continuing their traditional operations physically, but during a crisis, where alternatives were nearly zero, universities were compelled to convert into digital mode of operations. The resistance of staff was minimal. Albeit, it is noted that when the Covid 19 pandemic relaxes its grip, the universities were relaxing and shifting back to traditional non-digital atmosphere.

Digital solutions are given to only selected areas, mainly for academic activities such as teaching and learning, library facilities. The administrative functions are yet to be digitalized. A selected few areas like online payments are activated, but many other administrative support services take their traditional approach. Even the digitalized services like libraries are not being properly utilized due to lack of knowledge on using e-library services. A young lecturer reflected that when they were students, they didn't have knowledge and awareness on how to use e-academic resources in the university. He said it is vital to educate students how to use the e-resources of the university.

The student feedback and peer evaluation are two key areas succumb to digitalization. But, the actors of universities brought the fact that submitting online feedback is very poor in comparison to hard copy feedback. A statistician said that their effort in conducting online satisfaction surveys on academic staff is a failure, and response rate is very low. Online teaching and learning are being conducted without much complaint, but some academics are of the view that unlike physical learning in the university premises, students are not getting proper education on digital platforms. Logging into online lectures without being present there, disturbing online sessions when participants engage whole family in conversations while the meeting or lecture is happening are common downfalls of digital education. Such occurs due to the indiscipline, and poor knowledge on digital usage.

In sum, it can be concluded that state universities in Sri Lanka are yet to fully digitalize its operations. Teaching and learning are digitalized to a satisfactory level, but the real impact of online teaching and learning is yet to assess. Many academics are dubious whether they can produce a graduate with relevant qualities, enriched with knowledge, attitudes and skills over digital platforms, without a physical touch.

The administrative affairs are vital to be digitalized, which takes more routine nature. But, regrettably, unlike the systems in developed West, the administration is crawling behind digitalization. The QAS guidelines and regulations are to be strictly imposed especially on digitalization of administrative affairs. Putting up digital infrastructure is not adequate for effective digitalization of quality assurance. A proper awareness on the facilities, training and capacity building to use digital platforms effectively are to be given to the university community.

Not only the internal quality assurance processes, but external quality assurance review processes are to be digitalized. There are pros and cons of quality evaluation through digital platform. Digital quality reviews are new to Sri Lankan higher education sector. An actor of a university that faced digitalized review recently revealed that Reviewers conducted online evaluation, but not everyone participated could raise their concerns to the review panel, the meeting time was short. The absence of personal touch seems like a weakness of digital review. Whether all reviewers are skilled enough to access and assess e-documents of the university, all put similar effort in quality reviewing are determining factors of effective digitalization of QA reviews. Simultaneously training and developing digital competencies of the QA reviewers is a must to strengthen digital evaluation process of QAS. The QA manuals present blanket standards on digitalization of higher education operations. As the university actors do not implement such standards looking at the spirit of it, it

seems appropriate to include digitalization as a process across all key standards of QAS. Perhaps, it is important to introduce new criterion in QA guidelines, as 'digitalization of higher education operations', where the universities would abide to pay particular attention and take action to execute digital operations in optimum manner without delay.

4. Way Forward and Conclusion

Digitalization of QAS in higher education is a must to survive in the fast-changing globe with generations living in digital world. Revisiting quality assurance standards and introduce novel and effective ways of digitalization of universities' performance to assure quality is highly significant at this hour. Active participation in digital platforms, maintain ethical and moral behaviour in engaging with digitalized operations are imperative. A strong reason for digitalization of quality assurance in higher education is to make operations nimble, reduce cost; monetary, human, and physical, and expedite the process of QAS reviews, and QAS execution.

References

Reis, J. *et al.* (2020) 'Digitalization: A Literature Review and Research Agenda', 1, pp. 443–456. doi: 10.1007/978-3-030-43616-2_47.

Treve, M. (2021) 'What COVID-19 has introduced into education: challenges Facing Higher Education Institutions (HEIs)', *Higher Education Pedagogies*. Routledge, 6(1), pp. 212–227. doi: 10.1080/23752696.2021.1951616.

Warnasuriya, N. *et al.* (2015) *Manual for Institutional Review of Sri Lankan Universities and Higher Education Institutions, University Grants Commission*. doi: 10.1007/s13398-014-0173-7.2.

Xiao, J. (2019) 'Digital transformation in higher education: critiquing the five-year development plans (2016-2020) of 75 Chinese universities', *Distance Education*. Routledge, 40(4), pp. 515–533. doi: 10.1080/01587919.2019.1680272.

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Experiences In Online Accreditation System: Inputs To Enhancement Plan

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Abstract:
This study determined the experiences of accreditors, host institutions and Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACCUP) in the conduct of virtual accreditation along preparation and application, accreditation/ verification/ validation, and preparation of accreditation reports. It aimed to develop an enhancement plan to improve the conduct of virtual or online accreditation. It was conducted utilizing interpretive phenomenology to look into the stated research goals. Sixteen (19) participants were considered in the study. Eight (8) of which are accreditors who have had experience in virtual accreditation, eight (8) are quality assurance officers of state universities and colleges, and three (3) are staff of the AACCUP. The results implied that the experiences of accreditors, host institutions and AACCUP in the conduct of online accreditation manifest the challenge of the use or integration of technology in implementing virtual or online accreditation. Their common experience is rather technical which necessitate proper orientation and training in the conduct of online accreditation system. Based on these experiences, an enhancement plan focusing on orientation and training of accreditors, host institutions and the AACCUP staff may be designed to address the surfacing challenges of technology integration in the accreditation process.

Keywords: Virtual accreditation, quality assurance, integration of technology, enhancement plan, orientation and training

1. Background

The pursuit of excellence in state universities and colleges has always been part of their institutional mantra. They make sure that systems are in place to guarantee quality. However, systems need to be carefully designed, implemented and evaluated in order to meet the challenges of the changing time. As quality assurance is not only practiced nationally but internationally (de Lara, 2017), SUCs in the country always manifest continuous effort to improve their practices and be at par and steps were carried out in order to integrate culture of quality assurance (De Lara & Corpus, 2018; Zhang & Zhang, 2018; Nair, 2018).

This health crisis has had profound impact on education systems. In the study of Toquero (2020), she mentioned that educational institutions particularly in the Philippines, are presented with surmounting challenges in its systems. As such, the role of accrediting agencies plays crucial

significance in monitoring and evaluating higher education institutions in the delivery of their mandate for quality education. Accreditation becomes a means for institutions to assure the public of quality delivery of programs and services. However, due to this current situation, the conduct of face-to-face accreditation is also not possible hence the conduct of virtual accreditation for quality assurance.

In this time of adversity, the Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACCUP) conducted virtual accreditations in monitoring and evaluating the practices of the SUCs in education delivery. As such, accreditors and host institutions have familiarized the various phases in line with the conduct of online accreditation from pre accreditation (preparation and application), during accreditation (accreditation/ verification/ validation) up to post accreditation (preparation of reports). They may have had experiences in the online preparation and application, accreditation/ verification/ validation and preparation of accreditation reports from which we may draw implications to further improve. In this premise, this research was conceptualized in the light of the conduct of virtual or online accreditation in the time of health crisis with the aim to conceptualize an enhancement plan.

1.1. Quality Assurance in Higher Education

Quality is the utmost significant concern for all higher education institutions. As cited, "Accreditation is a review of the quality of higher education institutions and programs" (CHEA, 2014, para.1). An institution or program is granted accreditation for meeting minimum standards of quality. Accrediting agencies have developed standards and procedures to guide institutions in the process of voluntary commitment to continuous improvement, by way of application for accreditation. These standards are used by review committees as the bases for judgment and to make recommendations and decisions for the improvement of institutions' practices.

Despite the challenges of the health crisis, higher education institutions' quest for excellence never stops. As such, online accreditation was initiated in order to continue in monitoring and evaluating quality practices in higher education institutions.

1.2. Online Accreditation for Quality Assurance During Health Crisis

The accreditation of curricular programs in the Philippines, particularly for state universities and colleges, is the main function of the Accrediting Agency of Chartered Colleges and Universities in The Philippines (AACCUP), Incorporated. As stated on its mission to make the attainment of quality in education an integral part of the higher education systems more particularly among chartered state colleges and universities in the Philippines, through a sustained program of internal and external assessment- it is committed to "to develop a mechanism of, and conduct the evaluation of programs and institutions." However, due to the health crisis, actual visits to state universities and colleges to evaluate practices are not possible. As such, an online accreditation system has been introduced to evaluate higher education programs despite the challenges of the present adversity. All higher education institutions are challenged but quality assurance on top of their priorities push them to get the accreditation of their programs. As pointed out in the study of Perveen et al. in 2021, the accreditation process has high impact on the improvement of programs. This is also supported in the study of Demirel in 2016 which emphasized that accreditation leads and provides quality

assurance for education. Thus, higher education institutions commit to engage themselves in online accreditation to continuously uphold quality assurance in their respective program offerings.

1.3. Conceptual Framework

Building on the different experiences of the participants in the phases of virtual accreditation [pre accreditation (preparation and application), during accreditation (accreditation/ verification/ validation) and post accreditation (preparation of reports)], higher education institutions may develop an enhancement plan to further improve accreditation practices. The researchers investigated the experiences as they are lived and characterize their experiences with the virtual accreditation phenomenon aimed towards forwarding an enhancement plan to improve the conduct of virtual or online accreditation.

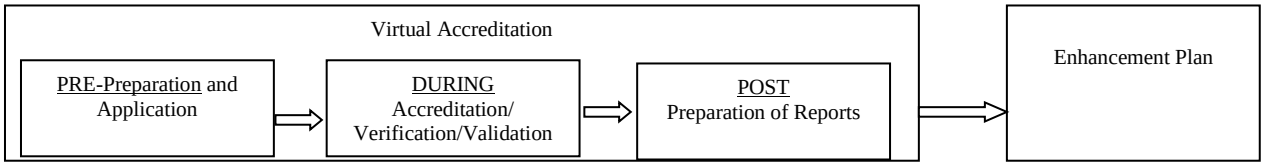

Figure 1. Framework of the Study

2. Methodology

Phenomenology was used in exploring the experiences of accreditors, host institutions and ACCUP in the conduct of virtual accreditation along pre accreditation (preparation and application), during accreditation (accreditation/ verification/ validation) and post accreditation (preparation of reports). Participants were purposively chosen and were limited to eight accreditors, eight representatives from different host institutions and three staff of the AACCUP. In addition, the participants were chosen based on the following criteria: for accreditors: (1) had been an accreditor for 5 years; (2) and had been engaged to virtual accreditation, and for host institutions: (1) had been assigned as quality assurance officer; (2) and had been engaged to virtual accreditation. Further, interview using open-ended questions and focused group discussion were done to draw and clarify the context of the answers in order to ensure that the data reach its saturation point. Furthermore, member checking was conducted and thematic analysis and coding technique were utilized to make sense of the data aligned with the conceptual framework and method.

3. Results and Discussion

The following presents and discusses the experiences of accreditors, host institutions, and AACCUP along pre accreditation, during accreditation and post accreditation.

3.1 Accreditors' Experiences in Conducting Online Accreditation System

The State Universities and Colleges (SUCs) used Google Sites to organize the files according to benchmark statements, making it easier for the accreditors to scan the records. Focal personnel

stationed at the SUCs were ready to answer the concerns of the accreditors about the Program Performance Profile (PPP).

The accreditors agreed among themselves that online accreditation was truly different from traditional in-person accreditation. For instance, digital document scanning caused eyestrain. It was also noted that some documents had not been filed under their corresponding parameters. Certain pieces of evidence were found to be insubstantial. Moreover, the accreditors were unable to view important files at certain times. Finally, it was deemed that the host SUC should have conducted an orientation about the platform used.

The documents were either insufficient or no documents were attached at all in specific areas. The links were not provided on time. The arrangement of documents was not systematic. Some Program Performance Profiles (PPPs) were not updated. The best practices were also considered to be common. Therefore, it was assumed that the program in question was still adjusting to online accreditation.

Generally, document browsing went on smoothly, but slow internet connectivity would intervene from time to time. Furthermore, the intermittent internet connection made it difficult to view and download large and numerous files. The inclusion of irrelevant files also resulted in tedious browsing. On the contrary, all supporting documents were eventually uploaded and organized. Finally, browsing became easier with the application used by the concerned SUC.

The documents were perceived to be valid and reliable; nevertheless, it was remarked that conducting a cross-validation among accreditors or an interview with counterparts and stakeholders could further verify the validity and reliability of the documents. The certification of the SUC President also contributed to the validity and reliability of the documents; however, certain documents were deemed questionable and were then subject to strict triangulation.

The design of the instrument was accreditor-friendly as it computed data automatically. Subsequently, report writing became easier since the benchmark statements only had to be reviewed with high and low ratings as the basis. The instrument also lightened the tasks of writing and improving reports as the accreditors communicated via group chats and other instant messaging apps during validation.

Submission of reports was easier than how it would have been done during in-person accreditation. In particular, submission of reports online was regarded to be manageable as it could be done immediately, provided the complete guidelines and strong internet connection were at one's disposal. Responsible and cooperative teammates were also said to have contributed to the pleasant experience.

The experiences of the accreditors in using the institutional web portal, navigating Google Sites, and accessing documents were diverse. For instance, web portals had made online accreditation easier; yet, it was remarked that an ocular on-site visit would have been more reliable than a virtual

tour because the former would have provided the accreditors with the actual situation. On the contrary, the unstable internet connection interfered with the image quality of submitted documents. Furthermore, a senior accreditor stated that some files were difficult to open and that the filing system was meant for IT experts whereas another accreditor claimed not to have encountered any problem with the platforms used as the subject was adept with such. Finally, the unique presentation of documents employed by certain SUCs as well as their progressive web portals proved to be truly satisfying.

As frequently mentioned, technical issues were among the concerns that affected online accreditation. Specifically, the basic requirements for such would include quality internet connection and a team of technologically skilled accreditors.

3.2 Host Institutions' Experiences in Conducting Online Accreditation System

The AACCUP was extremely accommodating to the SUC's request for accreditation. The guidelines for the application process provided by the AACCUP enabled the SUC to follow through with ease. Furthermore, the names and contact details of the AACCUP staff in charge of certain levels of accreditation were given in case the host institution had concerns regarding the accreditation. However, there was a delay in the confirmation for the requested schedule.

Subsequently, the accreditation committee was formed. Respective tasks were assigned. A series of meetings with the IA committee chair and members was conducted as well as meetings among chairs and members. Notably, the COVID-19 pandemic had rendered the area leaders struggling to source out the documents, especially that certain staff members were working from home. A request was made to hire Job Order Personnel per program to assist the area task forces in preparing the needed documents. Documents were gathered, classifying which could be used as pieces of evidence. A rehearsal of the online accreditation was enacted. Lastly, invitations addressed to experts from the AACCUP to visit and orient the IA committees were made.

The presentation lacked spontaneity due to unstable internet connection. Uploading of documents to the official site was hampered by the same factor. It was further explained that the internet connectivity at the university was not yet sufficient to supply the host SUC with optimal internet connection necessary for online accreditation. It was added that there had been efforts to improve the connectivity, but to no avail. Lastly, a note was made on the struggles of some accreditors in navigating the new system, particularly in accessing scanned documents uploaded to the site.

In addition to the intermittent internet connection, the virtual platform itself had its limitations. The occurrence of power outages was also taken into consideration. Furthermore, noise and other forms of interference were considered to be significant elements.

There was a delay in the submission of documents required by the accreditor due to the unstable internet connection. Fortunately, the AACCUP accreditors were found to have been very understanding of the situation as they had provided enough time for the additional documents to be supplied by the host SUC.

Meetings and consultations were frequently held between the accreditors and their local counterparts. The accreditors assisted their local counterparts in the production of documents needed as pieces of evidence for the benchmark statements.

The accessibility of documents uploaded to Google Sites was a common complaint among the accreditors. The host SUC guaranteed that the problem would be addressed immediately, and that the creation of a Google site per program would be established for future accreditation activities. As a matter of fact, training on the creation of Google sites attended by task forces had already been initiated.

The online accreditation results were found to have been released faster than it would have taken in an in-person accreditation. Post accreditation conferences were conducted to report the findings and recommendations during the survey visit. Likewise, an action plan was prepared to address the recommendations.

The following best practices were employed by the host institution in preparation for the online accreditation: the creation of an Individual Quality Assurance Unit to deal with quality assurance programs and activities; the improvement of the ICT Program to enhance internet connectivity; the conduct of workshops on document identification relevant to the benchmark statements and creation of Google sites; the hiring of job order personnel to assist in the preparation of documents; the organization of trained accreditors to inspect the relevance of the documents prepared by the program task forces; and effective use of flip books to present the documents for accreditation. The success of the online accreditation also gave hopes that high-level accreditation, such as IA, could be done with technology integration.

3.3 AACCUP's Experiences in Conducting Online Accreditation System

Schedule selection for the online accreditation was done satisfactorily as it was the host institutions' choice to have the accreditation at everybody's most convenient time.

The following were considered in the selection of accreditors: their schedule and the alignment of the programs to be accredited with their respective fields of specialization. On the contrary, accreditors who had trained for online accreditation responded favorably to the invitation of being a part of the accrediting team.

Submission of reports was hampered by the inability of certain members to forward their reports to the team leaders on time and the intermittent internet connection. On the one hand, the overall coordinators were prompt in the submission of general reports via email.

Fluctuating internet connection and unavailability of certain personnel due to their attendance at conferences or seminars was noted to have impacted the communication with the host institution.

Issuance of communication relied on the availability of specific personnel needed to sign communication documents and stable internet connection. It was also suggested that the corporate emails of all participants be used.

Aside from the delays caused by the intermittent internet connectivity, no real issues were identified as the host schools had been extremely cooperative and the AACCUP technical team delivered excellent service.

4. Conclusions and Recommendations

The experiences of accreditors, host institutions and AACCUP in the conduct of online accreditation manifest the challenge of the use or integration of technology in its implementation. Their common experience is rather technical which necessitate proper orientation and training in the conduct of online accreditation system. Nevertheless, the pursuit of quality and excellence is evident despite the challenges in the new system of accreditation brought by the adversity.

Based on these experiences, an enhancement plan focusing on orientation and training of accreditors, host institutions and the AACCUP staff may be designed to address the surfacing challenges of technology integration in the accreditation process.

References:

Corpus, M. T., & De Lara, M. G. O. (2018). Capability building best practices, and what else went wrong. Asia Pacific Quality Network. Guild of experts in the sphere of professional education. 17 – 20.

Demirel, E. (2016). Accreditation of Distance Learning. Universal Journal of Educational Research, 4(10), 2457–2464. https://doi.org/10.13189/ujer.2016.041026

De lara, M. G. O. (2017). Outcome-based Program Quality Assurance Accreditation Survey Instrument: Its Development and validation. The Normal Lights, 11(2), 1-30.

Perveen, U., Idris, M. I., & Zaman, A. Z. (2021). The Impact of Accreditation on the Improvement of Teacher Education programs/institutions in Pakistan. Journal of Education and Educational Development, 8(1), 194–217. https://doi.org/10.22555/joeed.v8i1.518

Toquero, C. M. (2020). Challenges and Opportunities for Higher Education amid the COVID-19 Pandemic: The Philippine Context. Pedagogical Research. https://doi.org/10.29333/pr/7947

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How The Innovative FIBAA Quality Seal "Excellence In Digital Education" Can Contribute To Quality Assurance In A Digital World

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Abstract

In this paper we will present the new FIBAA Quality Seal "Excellence in Digital Education" and discuss ways to assure quality in digital times. To begin with, we will explain the structure of the certification and illustrate how it focuses on digitalisation of quality assurance. The paper will address some of the learnings we have made in previously certified cases and share examples for the digitalisation of quality assurance at participating universities. One major topic in this context is the use of learning analytics. That said, we argue that – while increasingly gaining attention – the use of learning analytics currently happens at very different levels of experience at Higher Education institutions. We will illustrate this by presenting some examples. In conclusion, we will show how the FIBAA certification can help universities to develop further in the digitalisation of quality assurance of which the use of learning analytics is one component.

1. Introduction of the FIBAA Certification "Excellence in Digital Education"

Digital learning formats in Higher Education have been significantly further developed in recent years and are faced with major challenges. Quality assurance is essential here, thus FIBAA has developed a new certification called "Excellence in Digital Education" – an innovative instrument to evaluate and assure quality of digital learning. In 2020, FIBAA started the process of developing the certification for purposes of raising the profile of digital transformation in Higher Education institutions (HEIs) and educational providers. The seal is based on the European Standards and Guidelines (ESG) and the subject of „Considerations for quality assurance of e-learning provision" from the Occasional Paper 26 of the European Association for Quality Assurance in Higher Education (ENQA). The input of external experts from higher education management as well as workshops held by the FIBAA office also contributed to the development of the seal. In order to test the seal in practice, three pilot procedures with universities from DACH countries (i.e. Germany, Austria and Switzerland) were carried out in 2021. During the procedures, the participating universities were able to take a close look at their progress in the digital transformation of teaching as well as receive valuable input for future growth. On the other hand, FIBAA was able to prove the viability of the new invented seal. The pilot procedures were then followed by another evaluation of the seal's assessment criteria. The certification with the FIBAA Quality Seal "Excellence in Digital Education" is carried out in a peer review process. Representing a holistic approach, the assessment of the digital teaching and learning environment is carried out on the basis of five standards and 23 associated criteria, all anchored in a detailed assessment guide. All standards are considered equally important and need to correspond well in order to produce excellent digital learning experiences. The FIBAA assessment guide focuses on the following five areas: digitalisation strategy, staff, technology, didactic design and quality assurance as shown below:

Figure 1: The 5 Standards in "Excellence in Digital Education"

As mentioned above, all standards are considered equally important, however, for this paper, we will focus on the fifth standard: quality assurance.

2. Quality Assurance of Digital Education

The standard "Quality assurance" contains the following five underlying criteria: Integration into the quality management system, quality assurance of teaching, learning analytics, quality assurance of technology and continuous improvement. This standard deals with the question of how the quality of digital teaching is ensured at the Higher Education institution. According to standard, the successful implementation of digital teaching requires its embedding in a systematic quality management system that takes into account the specifics of digital teaching. The standard expects that the quality management system in the area of teaching and learning is suitable for ensuring the achievement of the quality standards of their digital teaching and ensures the effectiveness of teaching.

Examples for the quality assurance of digital teaching (and learning) first of all involve classic quality assurance mechanisms. This may include evaluation schemes, surveys, programme review cycles and quality analyses, executive's jour fixes, strategy meetings etc. Naturally, FIBAA asks universities about rotation, responsibility and process of the evaluation scheme, for instance. However, digital learning poses additional questions and challenges. To start with, a university may define particular quality goals for digital learning such as high user friendliness of a learning platform, technology or tools. Also, digitalisation offers a range of additional opportunities in quality assurance. At the moment, learning analytics seem to be the most pressing phenomenon in this context. In the next paragraph, we will discuss the opportunities associated with learning analytics.

2.1 Different levels of experience with Learning Analytics

Learning analytics can play an important role in the quality assurance of digital teaching as they provide insights into learning (and teaching) processes as well as learning environments, so that they can be better understood and optimised. According to the FIBAA certification standards, the Higher Education institution should collect data from students in order to measure study progress, predict study performance and identify risks that jeopardise study success in good time. The steps of learning analytics include measuring, collecting, analysing and documenting the data.

FIBAA is aware that the use of data entails a number of legal and ethical issues. Consultant Niall Sclater has carried out work in learning analytics for Jisc, a UK-based not-for-profit company that provides network and IT services and digital resources in support of Higher Education institutions. Sclater lists 86 aspects of learning analytics that are ethically and legally relevant. Among these he lists questions in the groups Ownership & Control ("Who in the institution is responsible for the appropriate and effective use of learning analytics?") and Consent ("In which situations should students be asked for consent to collection and use of their data for analytics?"), for instance (Sclater). FIBAA cannot undertake a structured review of the legal conformity of all processes within the framework of the certification procedure. However, the Higher Education institution must confront the legal and ethical issues that the use of learning analytics entails. In their self-assessment, universities will explain how they ensure that the legal framework governing data protection is communicated and adhered to. In addition to data protection, this also includes transparency, i.e. students must be allowed to object to the analysis of their data. The Higher Education institution bears the responsibility, in all processes, of complying with the guidelines and regulations regarding data protection (especially the EU General Data Protection Regulation (GDPR) and the Federal Data Protection Act (BDSG).

Apart from the legal and ethical issues, universities in the certification process are expected to explain what role learning analytics play in the quality assurance of teaching. In their self-assessment, they will describe the goals, scope and processes of data collection. The following questions are of importance here: Where is data collected (e.g. via the teaching platform)? What student data is measured (e.g. navigation, clicks and interactions in a teaching environment)? Universities will be expected to show at what stages in the learning process knowledge is gained and address the question who collects and analyses the data collected and how can it be ensured that the persons involved have the appropriate qualification for these tasks. The FIBAA standard asks how the knowledge gained is used to improve learning, the learning environment or the teaching materials. What role do learning analytics play in the institution's further development of the didactic concept (e.g. personalisation of learning/learning units)? Are the learning analytics linked to similar data collections at faculty or institution level? These are some of the questions that are asked in the assessment guide.

To fulfil the FIBAA quality requirement, learning analytics' objectives, scope and processes of data collection, analysis and evaluation must be clearly defined and communicated transparently to students. The analysis method takes into account relevant and current research on learning analytics and is scientifically plausible. Data is expected to be analysed using transparent, coordinated

instruments (across the entire institution, faculty or even across degree programmes). Findings are not only interpreted but used to react to problems (e.g. with regard to learning progress and drop-out rates). To exceed the FIBAA quality requirement, the Higher Education institution continuously collects, analyses and evaluates data that provides information on study progress, study performance and risks. There are appropriate measures to ensure that the data of as many students as possible are included in the data collection. Trends are developed from previous and current data during the analysis. The results of data collection and data analysis are used to personalise learning and/or to solve common research questions. The Higher Education institution uses the results scientifically and contributes to the further development of the quality of learning analytics (e.g. through publications).

When FIBAA drafted the standards for the new certification, the topic learning analytics made up a standard on its own. FIBAA then received the feedback from various stakeholders, however, that it was too soon to include a whole chapter on learning analytics in the assessment guide as, according to the experts, there was no recognised state of the art yet and the levels of experience regarding the use of learning analytics still differ significantly. Researchers argue that the introduction of learning analytics at Higher Education institutions should be based on consideration of a) pedagogy, b) technology and c) ethics (cf. Marjolein van Trigt). Looking at learning analytics from different perspectives seems to make more sense so and matches the holistic approach of the FIBAA standards. The following paragraph will illustrate how the use of learning analytics still differs at Higher Education institutions in the DACH region.

2.2 Findings

So far, the course self-assessments of the universities that went through the certification process show the following status. University representatives first of all mention that a common definition for learning analytics is still lacking. At the same time, the purpose of the use of learning analytics, i.e. to collect data to improve learning progress and to be able to offer more personalised academic support, seems clearer. The participating universities gained data for the following areas:

- Potential problems during the learners' study progression
- Identification of difficulties in understanding
- Information on the use / acceptancy of various study materials
- Analytics on Dropouts (identifying "students at risk")

One university reported a *trial* period with different phases and mentioned that transparency and acceptancy on behalf of the students were crucial. They wanted to learn more about possible fears on behalf of the students. Another university profited from the analytics that were provided by the Moodle platform for each module, following a descriptive and standardised method in order to introduce learning analytics. This describes an early stage of the work with data. In most cases, the expert panelists that have reviewed the certification cases have stated that universities are on a good track regarding their plans for the use of learning analytics. What seemed missing in some cases was first of all a clear and comprehensible concept for the use of learning analytics. Second of all, more attention seems to be needed regarding the interpretation of data. While the panelists

appreciated that diverse learning analytics were gathered, it was noticed that the data was not yet fully analysed to be used for the further development of the teaching. Didactical added value is only gained once the interpretation of data is used as a basis for the teacher to react upon the findings in her or his teachings. The optimisation and individualisation of learning processes can be seen as examples for a well-advanced use of learning analytics. During the FIBAA certification process, universities will gain valuable feedback from the experts regarding the use of learning analytics. This feedback is a sound basis for the further implementation of learning analytics. The above-mentioned gap of the lacking analysis of data is also addressed in research; researcher Lavinia Ionica argues that enormous challenges are still to be overcome by German universities regarding the use of learning analytics. According to her, one of the challenges is the adequate interpretation of the data in order to be able to make a point on what teachers should change (cf. Lavinia Ionica).

3. Conclusion

The findings have shown that universities still considerably differ in the use of learning analytics. "Excellence in Digital Education" can help universities to develop further in the digitalisation of quality assurance as follows: The FIBAA certification takes into account the different perspectives of online teaching and evaluates them using tried and tested standards and criteria. By dividing the seal into two different quality categories – "Advanced" and "Premium" – the Higher Education or continuing education institution is given the opportunity for further organisational development. Applying institutions not only gain insights during the self-assessment process but also receive valuable suggestions for further development from an expert panel as well as the FIBAA Accreditation and Certification Committee. Acquiring the seal offers the opportunity to advance the digital transformation in teaching and learning and to become visible to the outside world as an innovative institution. The certification looks at learning analytics from several perspectives: strategically, pedagogically and technically. FIBAA has recently published the certification's assessment guide in English language as well. It will be of major interest to gain additional insights when international Higher Education institutions will go through the process. The benchmarking of the certification will then show how the digitalisation of quality assurance differs at other universities around the globe.

References:

European Standards and Guidelines - ESG (2015): https://www.enqa.eu/wp-content/uploads/2015/11/ESG_2015.pdf (Retrieved on 2022-07-25).

FIBAA-Assessment Guide Excellence in Digital Education: https://www.fibaa.org/en/digital-education/ (Retrieved on 2022-07-25).

Huertas, E. et. al (2018): 'Considerations for quality assurance of e-learning provision', Occasional Paper 26 of the European Association for Quality Assurance in Higher Education (ENQA): https://www.enqa.eu/wp-content/uploads/Considerations-for-QA-of-e-learning-provision.pdf (Retrieved on 2022-07-25).

Ionica, L. (2016): ‚Learning Analytics in der Hochschullehre', Themendossiers Hochschulforum Digitalisierung: https://hochschulforumdigitalisierung.de/de/blog/learning-analytics-hochschullehre (Retrieved on 2022-07-25).

Sclater, N. (2015): A taxonomy of ethical, legal and logistical issues of learning analytics v1.0: https://analytics.jiscinvolve.org/wp/2015/03/03/a-taxonomy-of-ethical-legal-and-logistical-issues-of-learning-analytics-v1-0/ (Retrieved on 2022-07-25).

Van Trigt, M. (2016): How Data can improve the Quality of Higher Education: https://hochschulforumdigitalisierung.de/sites/default/files/downloads/whitepaper-learning-analytics_en-def.pdf (Retrieved on 2022-07-25).

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Digitalization Of Quality Assurance At The Lahore School Of Economics

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Abstract

The objective of this paper is to signify the impact that key Quality Assurance measures have on providing quality education at the Lahore School of Economics. The pandemic has brought forth the need to digitalize Quality Assurance measures at the Lahore School, causing a transition from the traditional teaching and managing systems to an online system. This involves the following key departments and tasks being digitized completely: (i) The Admissions office has shifted most of the task online for a smooth admission process; (ii) Programming office has merged their tasks with the Lahore School Learning Management System which has made selecting a degree, Downloading Fee Vouchers and Grade Reports more accessible and easy; (iii) Lahore School has a well maintained Online Digital Library system; (iv) The Accounts Department has made the Fee bill, salary and report generation digitized for an easier flow of tasks; (v) The Alumni department at the Lahore School is also shifting towards a more digitized approach by operating key tasks online; (vi) The Quality Enhancement Cell has also digitized many key processes such as: Peer Evaluations, Surveys, Documentation, Class Monitoring, Teaching and Course Evaluations and Course Review Reports; (vii) The Lahore School has also developed a Learning Management System, where students and faculty can both interact in a digitized manner and also constantly be updated regarding key class material, results, projects and provide evaluation at the end of each semester.

Digitization is the key factor that leads to a more conducive environment and everyone involved is more accountable for their actions. This in turn leads to more quality improvements at the education level.

Keywords: Digitalization, Learning Management System (LMS), Quality Assurance, Online, Traditional Systems, Quality Education, Accountability

1. Introduction

This paper will be focusing on the key quality measures that are followed at the Lahore School of Economics, ranked currently in the top five business schools of Pakistan, to maintain the quality of online education. The main objective of this paper is to signify the impact that Quality Assurance measures have on providing good quality online education to students.

ICT (Information and Communication Technology) has had an impact on almost every aspect of life, transforming various aspects of these fields. The impact of ICT in the age of digitalization,

globalization, and information is visible in university education (Wheeler, 2001). The use of the internet, in particular, and reliance on digital devices, has transformed approaches to learning and knowledge sharing (Arkorful & Abaidoo 2015; Sarkar, 2012). ICT has not only revolutionized and transformed classroom learning and teaching methods, but it has also influenced distance learning programs, resulting in reshaped libraries and improved access to learning materials (Farid et al. 2015). Thus, continuous technological advancement aided access to the digital world of information (Soomro et al. 2018). As a result, the digital world has helpful information accessibility to several fields.

The purpose of Higher Education Institutes (HEIs) is to develop and distribute knowledge, an interconnected and digital system becomes an excellent tool for learning and doing research. As a result, from this perspective, ICT is an acceptable and significant tool for HEIs in knowledge development and dissemination (Altamony et al. 2012). Aside from teaching and research, there are several interdependent and interrelated activities that pillars simultaneously in HEIs, such as semester planning, course allocation, course enrollment, course design, timetable, research allocation and supervision, examination planning, paper setting, results, assignments, quiz management, fee management, classroom allocation, dealing with probation students, workload management, aligning program objectives, course objective alignment, course objective alignment, course objective alignment, course objective alignment, course objective alignment, course objective alignment, course objective alignment, course objective alignment (Tolley & Shulruf, 2009). The aforementioned actions are critical for essentially solid and successful academic programs. Substantial emphasis is placed on the automation of libraries at institutions (Sani & Tiamiyu, 2005), whereas various other co - integrated and connected activities that occur concurrently are disregarded. Traditional approaches that are primarily focused on manual processes are deemed non-interactive; however, ICT enabled solutions can provide improved coordination between faculty, students, and administration, which may, in turn, assist HEIs (Agbatogun, 2013).

Education, teaching, and methodology have changed dramatically during the previous four decades. Computer innovations have compelled higher education institutions to adopt radical new approaches. Certain elements are seen to be driving forces in HEIs' use of ICT, which may thus be demonstrated using various methodologies. These variables include the adoption of new technology, an interactive learning environment, an increase in internet use, and the availability of online materials (Mostert and Quinn 2009). However, the Education Management Information System (EMIS) and Learning Management System (LMS), ICT-enabled classrooms and campuses, and e-learning are the instruments that are reshaping HEIs in both technologically advanced and emerging countries (Kukulska-Hulme and Traxler, 2007). According to Capper (2003), these interconnected technologies were found to be beneficial in assisting academicians with content areas, assisting students in understanding essential skills (successful communication, analytical techniques, teamwork, and inventiveness, among others), and assisting in the creation of a bridge between teacher, student, and management. More importantly, it has had no detrimental influence on educational quality; on the contrary, it has aided in the improvement of teacher and student abilities (Wabwoba et al. 2011).

Given the obstacles, the number of HEIs is growing, as is the utilization of ICT-driven education systems. The number of degree-granting universities/HEIs in Pakistan has skyrocketed. According to the Higher Education Commission's (HEC) records, Pakistan has 195 accredited degree giving universities/HEIs (HEC, 2019). There are 79 private sector universities/HEIs among them. The growing number of private sector universities/HEIs demonstrates the public's confidence in the quality of education delivered by the private sector (Rizwan et al. 2016). A similar trend of increased student enrolment at private sector HEIs has been noted in the literature as well (Agarwal, 2007; Halai, 2013). Despite the expansion of HEIs, there are various challenges in higher education institutions in Pakistan. Availability of trained faculty, outdated syllabus, lack of student engagement, lack of state spending, access to higher education, low levels of literacy, lack of direction on knowledge economy, joblessness, and lack of funds are some of the major impediments to higher education in Pakistan (Aziz et al. 2014; Farid et al. 2015).

2. Literature Review

Qureshi et al. (2012) emphasize the following areas of concern for private sector universities in Pakistan: technological restrictions, access to computers, English language capabilities, student reliance on teachers for learning, degree of awareness, opposition to change, and privacy concerns. E-learning has not achieved much popularity in Pakistan; nevertheless, because to the increasing number of private sector HEIs, there are indicators that learning through ICT is improving (Khan, 2007). Furthermore, Rizwan et al. (2016) highlighted five important areas for enhancing education quality in Pakistan's private sector: physical facilities, academics, learning outcomes, responsiveness, and personality development are the aspects that have increased enrolment in private sector universities.

Literature is confined to factors of successfulness, digital libraries, and students' and instructors' perceptions of LMS and ICT. Education quality is critical to success, and ICT is playing a role. As a result, there is still a significant need for reform and advancement in Pakistan's private sector HEIs (Farid et al. 2015). Classroom education has become hard to undertake in the present climate of social alienation owing to lockdown. Because all HEIs rely heavily on conventional face-to-face teaching and classroom pedagogy, traditional teaching cannot be totally replaced by ICT-based solutions. As a result, it raises concerns about the characteristics and activities provided by those HEIs' ICT systems.

Any process in which a teacher or learner uses information systems such as a desktop computer, a laptop, a smart phone, or a console to connect digital tools such as learning platforms and virtual learning classrooms to improve their knowledge and skills is referred to as digital technology for education. Teleconferencing, email, audio, television courses, radio broadcasts, interactive voice response systems, and other ICT products are included in Learning with Digital Technology (Bikas & Sanyal, 2001). Digitalization is developing and positively influencing economies all over the world, and our education system is one of the most important areas where we can incorporate more digitalization. Digitalization has recently changed the entire society, resulting in new job skills,

current cultural conditions, and novel instruments for communication and enterprise. (Newell & Marabelli, 2015).

Digitalization contributes to intellectual capital (Bejinaru, 2017), services, and states in a knowledge economy by easing commercial operations, partnerships, interaction, and the construction of complex networks via the use of digital technologies (Pînzaru, 2015). In terms of restructuring and updating the worldwide educational environment, digitalization processes in education are a prominent trend. Computers, the internet, smartphones, scanners, digital cameras, projectors, printers, and other digitalization equipment are used in teaching. Digitalization methods include online admissions, online exams, the exchange of online / web information, digital assistance materials, social groups, digital publications, and so on.

3. Digitalization at the Lahore School of Economics

Lahore School of Economics is ranked amongst the top business schools of Pakistan. Established in 1993, the institution received a charter in 1997 by the Punjab Government. The Lahore School has currently employs 102 full time faculty and 56 visiting faculty and 3100 graduate and undergraduate students. The Lahore School has made quality education a priority and each policy is made keeping in mind the best interests of the faculty, administration and students. The Lahore School has divided their academic programs in six main divisions: Business Administration and Finance, Economics, Social Sciences, Mathematics and Statistics, Media Studies and Environmental Studies.

The Lahore School has gone through the process of Digitalization in many key areas, since the start of the Pandemic. This has in turn created a very conducive environment for everyone at the Lahore School. Digitization has made the environment and tasks more transparent and has led to more accountability, keeping in mind quality as the core focus at the Lahore School.

The Admissions office at the Lahore School, has developed an online system from where students can directly apply to take admission, get notified about their Entrance test exam date and download the prospectus for their respective degree programs. This has enabled a more easy approach to admission at the Lahore school and students can easily approach the admissions office at any time.

The Programming offices at the Lahore School, have merged their tasks with the Learning Management System (LMS), which enables students to select their Degree/Courses at the start of each academic year, students can easily register and select courses online, Online fee bills are available for printing to be easily paid and furthermore students can review their Results and Calculate their CGPA/GPA for each semester.

The Lahore School has a very well maintained Online Library system, which consists of two digital libraries, external repository and internal repository. Five main Databases are involved in providing Databases at the Digital Library: JSTOR, Emerald, Science Direct, Ebsco Host and MyiLibrary. Another five databases from the Higher Education Commission include: ProQuest Dissertations &

Theses Database (PQDT), Dissertations and Theses, ProQuest Social Sciences, IMF Library and Taylor and Francis Journals.

Internal Repository: Internal Repository have 12 Communities and user can access internal repository only in the premises of LSE. Users can get access of internal repository material on intranet due the copy right Limitations. Moreover, two new main communities have been added in January 2019 in internal DSpace. The name of these communities with their collection are mentioned below with other communities with their numbers of collection. During the situation of Covid-19 when everyone worked from home our library professionals facilitated all their user's relevant textbook by adding new community of e-textbooks on internal Repository of DSpace. Numerous books have been uploaded in four different collection like as Business Textbooks, Economics Textbooks, Environment Textbooks, and Social Sciences Textbooks. So, our user can easily access all these textbooks through the VPN which is already provided by IT department.

The following is a list of internal repository:
Audio Books Collection, Case Research Centre, E-Books Collection, Lahore School Course Outlines, Lahore School Course Reserves, Lahore School Faculty Publications, Lahore School of Economics Charter, Lahore School of Economics Research Projects, Lahore School of Economics Statutory Committees, Lahore School Prospectus, Maps Collection and Rare and Antiquarian Books.

External Repository: External Repository have 19 communities and user can be accessed external repository material all over the world. The communities of External Repository mentioned below:
Academic Articles in Lahore School of Economics Journals, Census of Pakistan, E-Books, Financial Systems Pakistan- EBooks, Glossary Banking & Finance, Lahore School Centre for Research in Economics and Business Publications, Lahore School Graduate Institute of Development Studies Publications, Lahore School MPhil & PhD Theses, Lahore School Newsletters, Lahore School of Economics Campus Life, Lahore School of Economics Journals, Lahore School of Economics Review, Lahore School Video Archives, Miscellaneous Government Publications, Pakistan Economic Surveys, Pakistan Government Plans, Pakistan Stock Exchange Listed Companies Reports, Statistics of Pakistan and Rare and Antiquarian Books.

The Accounts Department at the Lahore School, has digitized receipts for payments, students can view their fee bill receipts online and keep a track of them whenever needed, Salary slips Statutory reporting, and report generation all tasks can now be done online rather than the tedious traditional system approach. Making it easier to keep track of bill payments, salaries and tasks.

The Alumni office has made online platforms more accessible for the graduate students from the Lahore School. Online sessions are regularly conducted in order to get a view from the students working at different organizations and in different sectors, this helps in getting a feedback and helps in improving the functioning of the university. Students looking to apply for Post Graduate programs outside Pakistan are given sessions regarding preparations and international scholarships. Students can apply for Alumni card via an online process that has made keeping a track of students more

easy. Alumni Talks are held Online regularly to equip the to be graduating batches with adequate information from the Corporate world. Alumni Surveys are carried out Online every year to get a regular feedback from the graduated students.

The Quality Assurance Department at the Lahore School of Economics has played a pivotal role in the implementation of Information Technology Practices at the Lahore School of Economics. The Quality Assurance Department made sure that the quality of education is maintained in every way possible. Faculty Development Workshops and Mentoring Programs are arranged in order to equip the faculty with the latest technological knowledge and to clear out any ambiguities regarding any problems they might be facing. Fifteen Faculty Development Workshops are arranged every year, to provide instructors with a platform to interact with each other, to come up with innovative learning practices that involve the usage of IT systems and to improve their teaching styles and methods. This proves beneficial and plays a pivotal role in creating more innovative teaching practices. Peer Evaluations are carried out each semester, this proves to be helpful in a way that as Senior most faculty members assess the teaching methodology of the junior faculty and make sure that any problems are sorted out and quality of education is maintained. This activity further helps in improving the teaching standards at the Lahore School of Economics and is also beneficial in keeping a check whether the faculty is performing up to the mark. Departmental meetings are also held after every two weeks; the agenda in these meetings is to extensively discuss the curriculum being followed. Curriculum at the university is also updated every year to inculcate more new concepts and ideas.

The Lahore School Learning Management System (LMS) was a platform designed to foster beneficial relationships between professors and students. The LMS system connects students to all necessary academic material. The LMS contains all of the necessary materials, including online video lectures, online course content, quiz and assignment submissions, a grading system, attendance statistics, and fee administration. The Online LMS system is a prime illustration of how information technology may be used to improve the quality of online education. The benefit that LMS provides to the Quality Assurance Department is that systems have become more transparent, and each individual is now more accountable for their actions, which creates an environment in which everyone works to improve their teaching methodology and to improve their teaching methodology and to bring in more innovations to cater to the Online students demand. The LMS has also proven to be highly advantageous for instructors because it allows them to effortlessly manage students, update course information in real time, adapt to students' needs, and fix any problems. Also, the application of information technology has proven to be very beneficial for students in the sense that they have more time to spend on studying available course material, they have more access to information which helps in learning new concepts, and this also proves to be beneficial in learning new skills such as analytical skills, a greater emphasis on teamwork, and it also equips them with the required skills for the job market in the future.

4. Conclusion

Based on the information presented above, it is obvious that effective quality measures are an essential component of establishing an efficient online education system. In a country where internet access is a concern, Lahore School of Economics has been successful in preserving education standards and providing students with high-quality education by using effective quality measures. The quality culture at the institution develops as a result of interactions between all of the institute's stakeholders. Because policies are produced by those who apply them via interactions and inventive ideas, all stakeholders have a strong feeling of ownership, giving them a strong representation in policy formation. The epidemic also serves as a wake-up call for Pakistan, since more attention is now being paid to it. This will not only make the transition to online learning and education easier, but it will also ensure that education is always available to students living in remote places.

Digitalization has enabled the Lahore School to systematize the Channeling of application resources, make admissions decisions more rapidly and with precision, save storage space of Physical data, decrease errors, and reduce labor expenses.

References

Agarwal, A.K., 2007. Biofuels (alcohols and biodiesel) applications as fuels for internal combustion engines. *Progress in energy and combustion science*, *33*(3), pp.233-271.

Agbatogun, A.O., 2013. Interactive digital technologies' use in Southwest Nigerian universities. *Educational Technology Research and Development*, *61*(2), pp.333-357.

Altamony, H., Alshurideh, M. and Obeidat, B., 2012, May. Information systems for competitive advantage: Implementation of an organisational strategic management process. In *Proceedings of the 18th IBIMA conference on innovation and sustainable economic competitive advantage: From regional development to world economic, Istanbul, Turkey, 9th-10th May*.

Arkorful, V. and Abaidoo, N., 2015. The role of e-learning, advantages and disadvantages of its adoption in higher education. *International journal of instructional technology and distance learning*, *12*(1), pp.29-42.

Aziz, F., Arof, H., Mokhtar, N. and Mubin, M., 2014. HMM based automated wheelchair navigation using EOG traces in EEG. *Journal of neural engineering*, *11*(5), p.056018.

Bejinaru, R., 2017. Universities in the knowledge economy. *Management Dynamics in the Knowledge Economy*, *5*(2), pp.251-271.

Capper, J., 2003. Complexities and challenges of integrating technology into the curriculum. *TechKnowLogia*, *5*(1), pp.60-63.

Farid, S., Meshik, X., Choi, M., Mukherjee, S., Lan, Y., Parikh, D., Poduri, S., Baterdene, U., Huang, C.E., Wang, Y.Y. and Burke, P., 2015. Detection of Interferon gamma using graphene and aptamer based FET-like electrochemical biosensor. *Biosensors and Bioelectronics*, *71*, pp.294-299.

Halai, N., 2013. Quality of private universities in Pakistan: An analysis of higher education commission rankings 2012. *International Journal of Educational Management*.

Khan, M.A., 2007. ICT training for LIS professionals in Pakistan: A needs assessment. *Program*, *41*(4), pp.418-427.

Kukulska-Hulme, A., Traxler, J. and Pettit, J., 2007. Designed and user-generated activity in the mobile age. *Journal of Learning Design*, *2*(1), pp.52-65.

Newell, S. and Marabelli, M., 2015. Strategic opportunities (and challenges) of algorithmic decision-making: A call for action on the long-term societal effects of 'datification'. *The Journal of Strategic Information Systems*, *24*(1), pp.3-14.

Pinzaru, F., 2015. Managing in the digital economy: an introductive discussion. *Pannon Management Review*, *4*(2), pp.9-31.

Qureshi, I.A., Ilyas, K., Yasmin, R. and Whitty, M., 2012. Challenges of implementing e-learning in a Pakistani university. *Knowledge Management & E-Learning: An International Journal*, *4*(3), pp.310-324.

Rizwan, M., Ali, S., Adrees, M., Rizvi, H., Zia-ur-Rehman, M., Hannan, F., Qayyum, M.F., Hafeez, F. and Ok, Y.S., 2016. Cadmium stress in rice: toxic effects, tolerance mechanisms, and management: a critical review. *Environmental Science and Pollution Research*, *23*(18), pp.17859-17879.

Sani, A. and Tiamiyu, M., 2005. Evaluation of automated services in Nigerian universities. *The Electronic Library*.

Sanyal, B.C., 2001. New functions of higher education and ICT to achieve education for all. *International Institute for Educational Planning, UNESCO*, *12*.

Sarkar, S., 2012. The role of information and communication technology (ICT) in higher education for the 21st century. *Science*, *1*(1), pp.30-41.

Soomro, A.A., Breitenecker, R.J. and Shah, S.A.M., 2018. Relation of work-life balance, work-family conflict, and family-work conflict with the employee performance-moderating role of job satisfaction. *South Asian Journal of Business Studies*, *7*(1), pp.129-146.

Tolley, H. and Shulruf, B., 2009. From data to knowledge: The interaction between data management systems in educational institutions and the delivery of quality education. *Computers & Education*, *53*(4), pp.1199-1206.

Wabwoba, F. and Mwakondo, F.M., 2011. Students selection for university course admission at the joint admissions board (kenya) using trained neural networks. *Journal of Information Technology Education: Research*, *10*(1), pp.333-347.

Wheeler, D., 2001. Racing to the bottom? Foreign investment and air pollution in developing countries. *The Journal of Environment & Development*, *10*(3), pp.225-245.

Appendix A (Learning Management System)

Appendix B: Online Digital Libraries

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Reflections On School-Running Level Evaluation Of Branch Campuses Of Shanghai Open University

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Abstract

Since 2018, Shanghai Open University has entrusted Shanghai Education Evaluation Institute to develop the evaluation index system of the school-running level of its branches and carried out the evaluation in 2020, aiming to standardize the school running of its branches and promote the development with more characteristics. The process of developing the index system and implementation offers questions to consider. Accordingly, it's suggested to introduce monitoring evaluation to enhance the objectivity, accuracy and scientificity of the evaluation, reduce the pressure evaluation pressure of branches, and improve the evaluation level and the objectivity and impartiality of the evaluation results.

Keywords: open university, branch campus, school-running level evaluation, monitoring evaluation

Contents

In China, open universities are in their infancy and there are only five open universities. Due to its special orientation of academic education, community education and non-academic training, open university has a large number of students. Taking Shanghai Open University (SOU) as an example, it has the largest number of students in Shanghai. However, with distinctive characteristics of each open university and restrictions of various factors, it has been difficult to form a unified standard to carry out school-running level evaluation nationwide. So far, there is no effective evaluation index system with a high degree of consensus. In this context, the SOU, based in Shanghai, takes the lead in carrying out the evaluation of school-running level nationwide, which is an exploratory and pioneering work.

1. Evaluation background

1.1. Policy basis

According to the guidance of the relevant documents of the Ministry of Education, it is required to further deepen the comprehensive reform of education in Shanghai and continue to promote the connotation construction of the SOU. The school-running level evaluation of SOU branches (teaching sites) serves as a measure to implement national and local requirements.

1.2. University’s requirements

The SOU is a new type of higher education university, organized by the Shanghai Municipal People's government, approved by the Ministry of Education and managed by the Shanghai Municipal Education Commission. The university, formerly known as Shanghai Television University, was founded in 1960. It is an open university conducting distance education of based on modern information technology for undergraduate in Adult HEIs. The SOU, leveraging government, industry and social resources, implements systematic school running and has more than 40 branches or teaching sites in Shanghai. These branches (teaching sites) have no direct rights of appointment, distribution and management in terms of human, financial, material and other aspects from the perspective of administrative affiliation with the SOU. The level and quality of school running between branches exist large gap. To ensure the level and quality of school running under the systematic mode, it’s necessary to jointly maintain the school-running reputation of the SOU and promote the development of branch characteristics. The SOU has entrusted Shanghai Education Evaluation Institute (hereinafter referred to as "SEEI") to develop the school-running level evaluation index system of SOU since 2018, and carried out the evaluation in 2020.

2. Development of index system

2.1. Design principles

The branches (teaching sites) are an indispensable part of the SOU, and their school-running quality directly determines that of the SOU. There are huge differences and complexity between branches (teaching sites). Therefore, when designing evaluation index, the following three principles shall be set.

Principle 1: Accurate, brief index that reflects the essence

The index should be as precise and brief as possible, which can essentially reflect the school-running level of the branches (teaching sites). The process management is one of the most essential quality elements, which requires different observation points for different types of education.

Principle 2: Measurable, evaluable and distinguishable index

From the perspective of evaluation, the index reflecting the essential characteristics of branches (teaching sites) should be able to achieve the goal of "measurable, evaluable and distinguishable".

Principle 3: Evaluation results focusing on improvement and appropriate application

The focus of school-running level evaluation lies in ascertaining the school-running situation, role in the system and shortcomings of each branch, so as to guide the branches (teaching sites) to focus on characteristics, goals, and improvement of their own, creating a “benign interaction with the SOU and orderly competition with other branches (teaching sites)”. However, for the branches (teaching sites) whose individual evaluation results are unqualified, they should strengthen their management and even be withdrew according to the relevant documents, to ensure the overall quality of school running.

2.2. Specific connotation

Under the guidance of the above principles, the current index system of branches (teaching sites) for school-running evaluation is divided into four first-class indicators (“direction and guarantee”, “conditions and resources”, “process and management”, and “reputation and characteristics”), eight second-class indicators and 20 third-class indicators. The rule of “one-vote veto” is adopted for core indicators. For example, if “extensive fraud in examinations” and “students' collective petition” occur, the branch (teaching site) will be evaluated as disqualified.

2.3. Process Optimization

Since 2018, after the trial evaluation in 2019 and the formal evaluation in 2020 and 2021, the index system of the SOU has undergone three rounds of optimization. The initial index system developed in 2018 focused on quantitative analysis. The optimized index system in 2019 focused on qualitative analysis. In 2020, quantitative and qualitative indicators were be combined. Based on the problems raised in the branch evaluation of previous year, each round was optimized according to time, branch and policy.

3. Evaluation procedure

The whole evaluation process consists of the following five main steps.

3.1. Access to advice of various parties to optimize the index system

As mentioned above, the optimization shall be conducted in accordance with time, branch and policy, based on problems raised in previous year’s evaluation.

3.2. Integrate evaluation with self-evaluation

The school-running level evaluation manual has been released to the branches, which contains the operation plan and index system. The data service platform for the evaluation has been improved at the same time. The branches (teaching sites) prepare evaluation materials and upload them to the platform as specified in the manual. The relevant functional departments of the SOU shall review the submitted materials submitted to ensure the authenticity, especially the verification and confirmation of the data and supporting materials.

3.3. Set up expert team to conduct online review

The SEEI strictly follows the branch evaluation index system and invites experts to evaluate each three-level index according to the grading system. The grading standard is mainly based on the connotation of the index, combined with the quantitative data or subjective evaluation results of each branch (teaching site). It falls into four grades, namely A level (excellent), B level (good), C level (pass), and D level (fail) by the proportion after comprehensive calculation. Integrated with the results of expert evaluation and data analysis, centralized evaluation is carried out to form a preliminary evaluation.

3.4. Form evaluation conclusions and conduct on-site investigation and guidance
Guided by “five-year cycle” and with the evaluation results as references, on-site investigation and guidance should be conducted (about 8 branches) every year and within five years, all branches shall be investigated. The emphasis lies in summarizing achievements and experience, confirming the existing problems, optimizing the improvement measures and guiding the rectification work.

3.5. Report the evaluation results and write the evaluation report
The SEEI organized experts to discuss the evaluation results and opinions of the participating branches (teaching sites), and finally formed distinct reports for different branches. Experts have been convened many times to discuss the framework, tasks and division of labor of the report, and provide it to the SOU.

4. 2020-2021 Evaluation

In 2021, there are fewer D-level branches and A-level branches, as compared to that in 2020. The amount change of D-level branches was caused by promoted awareness for the importance of evaluation, accumulated work experience and the guidance from the first evaluation. The amount change of A-level branches was mainly caused by three factors: 1) the expert team has been further optimized and expanded, bringing about more comprehensive and objective evaluation. As all branches (teaching sites) pay higher attention to improving the evaluation work, the quality of submitted materials is also improved. The experts therefore prone to selecting more excellent branches; 2) the quantitative data is more accurate since the data was collected from the SOU directly in 2021 instead of from branches (teaching points). 3) some A-level branches last year paid less attention to the evaluation, or there were large changes in staff, resulting in problems in the evaluation process.

5. Problems

5.1. Changes in policies and school development plans
In 2022, a series of policy documents about higher education and lifelong education, which has a close relation to the SOU, has been issued at the national and Shanghai level. The SOU also released the 14th Five-year Plan of Shanghai Open University. The Plan has made a new elaboration on the functional positioning and development objectives of the SOU. As a result, the evaluation methods and index system of the school-running level for the branches of SOU also need to be adjusted.

5.2. Lack of focus in current index system’s data collection
Taking the index system in 2021 as an example, the branches needed to fill in 28 index items, with as few as 2-3 data and as many as 10 data in each index item. The pressure of data collection for larger branches was even greater. It also required the staff to screen and process the huge amount of data, so as get the conclusion.

5.3. Requirements in accuracy and objectivity of data analysis

Two main reasons account for the inaccuracy of the data analysis results: 1) the deviation exists in the data provided by some branches; 2) the verification of some data requires the experience and judgment of experts, which increases the possibility of deviation caused by "human intervention". Since the trial evaluation in 2019, it is often found that there were obvious deviations in the data filled in by some branches when analyzing the data. In the field evaluation, the expert group also noticed some inaccuracies when checking the data. These deviations required the appraisers and the school to confirm carefully, which greatly increased the workload of both sides. Besides, the process, to some extent, relied on the experience of experts to make judgments, leading to lack of objectivity. If some small deviations are undetected, the data analysis and the evaluation results would be affected.

5.4. Great pressure of evaluation for branches and short rectification time

The branches that meet the evaluation conditions need to fill in the data online every year. According to the goal of a five-year cycle, about 8 branches will be evaluated on the spot every year, which puts great pressure on branches that are short of human resources. Besides, from the end of the evaluation to the application data of the second year, the time left for branches to rectify the problems found in the evaluation is usually only half a year, while the rectification does not achieve expected effect.

6. Improvement suggestions

The Notice of the Office of Shanghai Learning Society Construction and Lifelong Education Promotion of Shanghai Municipal Education Commission on Printing and Distributing the “14th Five-year Plan” for the Development of Lifelong Education in Shanghai [SMEC (2022) No. 2] points out that it is necessary to improve the level of open education, clarify the new positioning of comprehensive school running, strengthen the evaluation of the SOU, support and promote the development of branch characteristics, and improve the service level of the open education system[1]. Combined with the experience and problems raised in the school-running level evaluation of the SOU since the development of the index system in 2018, it is suggested to optimize the existing index system and introduce monitoring evaluation, to carry out data mining and analysis. On the basis of extensive collection of normal data, core data can be determined. With statistical analysis, prediction and early warning functions, branches can access to recognition of problems. Adopting modern technology to collect and analyze educational information, monitoring evaluation can help formulate educational objectives, recognize and correct problems, to ensure the smooth and efficient completion of educational objectives to the greatest extent[2].

Firstly, the introduction of monitoring evaluation to determine of the core data is conducive to branches to find problems more accurately and correct problems in a timely manner. When constructing the framework of monitoring evaluation index system, it should fully reflect the relevant national and Shanghai policies, as well as the school-running positioning and development goals of the SOU, so that the evaluation results can accurately reflect the actual school-running level of branches. The determination of core data and the normalization of data collection and analysis

contribute to a more intuitive grasp of the school-running level of the branches, a more targeted search and analysis of existing problems, and effective intervention measures.

Secondly, the introduction of monitoring evaluation can improve the accuracy of the evaluation results. Monitoring evaluation focus more on the guidance of expert experience in evaluation design, data analysis and data interpretation. Instead of relying on experts to make the final judgment conclusion, the role of data analysis is emphasized to reveal the internal potential laws of the evaluation object, reduce human intervention, promote the standardization of the evaluation scheme and evaluation process, save the evaluation cost, and improve the fairness, objectivity and accuracy of the evaluation results[3].

Thirdly, the introduction of monitoring evaluation can effectively reduce the evaluation pressure for the branches and improve the effectiveness of evaluation. Monitoring evaluation is a data-driven process, focusing on normal monitoring, which greatly reduces the need for field evaluation. The monitoring evaluation reminds schools and education departments at all levels the abnormalities in time for them to analyze the causes, take intervention measures to correct the deviation from the goal, curb possible quality problems, and continue to improve. The cancel of field evaluation does not equal to the decreased importance of evaluation, but the optimized evaluation method, which makes it possible for branches to concentrate on filling in the data, rectifying the existing problems, and improving the school-running level.

Finally, the introduction of monitoring evaluation can mobilize the enthusiasm of branches to participate in the evaluation. Monitoring evaluation emphasizes the status of the branches as the main body of evaluation, and mobilizes the enthusiasm and initiative of the branches, which can ensure the implementation of the evaluation, and highlight and strengthen the consciousness and concept of the branches as the main body of quality assurance.

References:

[1] Shanghai Municipal Education Commission (2022). (online) *Notice of the Office of Shanghai Learning Society Construction and Lifelong Education Promotion of Shanghai Municipal Education Commission on Printing and Distributing the "14th Five-year Plan" for the Development of Lifelong Education in Shanghai*. Available at: https://www.shanghai.gov.cn/gwk/search/content/17055c3b4cbd4309899602bab62b04ab [Accessed 23 July, 2022].

[2] Ma X.Z. (2020). *Implementation path and feedback mechanism of higher education monitoring and evaluation*. Modern Salt and Chemical Industry, 4 (2), pp. 87-88.

[3] Wang Z.J. (2017). *Theory and method of higher education monitoring and evaluation*. Beijing: Science Press, pp. 26-27.

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Education Evaluation: The Opportunities Challenges And Paths Of High-Quality Development From The Perspective Of Digital Transformation

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Abstract
Connectivity and interconnection, technology iteration, service transformation and intelligent optimization in the digital age are showing a trend of spiral development. In the Covid-19 post-pandemic context, higher education evaluation is actively integrating into the digital age, embracing the development opportunities of digital education evaluation, and eliminating the potential hidden dangers of education evaluation, such as ethical norms, data management, technology generalization, resource coordination etc. Empowered with science and technology, we can deeply explore the new requirements of education evaluation, reshape the education evaluation system and mechanism, strengthen the governance of education evaluation data, improve the ethical education of digital technology, promote the digital transformation of education evaluation, and explore an education evaluation path in line with Chinese characteristics, so as to improve the quality assurance system of digital education. We will promote high-quality development of higher education and promote the high-quality development of higher education.

Keywords**:** Digital transformation; Education evaluation; Digital technology; Digital strategy

1. Summary of the Connotation of High-quality Development of Education Evaluation from the Perspective of Digital Transformation

The core of digital transformation is to transform the development mode, innovate and even transform the traditional system, and finally open up new space for digital development and form a new development mode in the digital era. Education evaluation has undergone four iterative development stage of "measurement", "description", "judgment", "response" and "construction" evaluation. Driven by digital transformation, education evaluation is facing calls of introducing a new evaluation paradigm. How to better integrate digital elements into education evaluation, create a new growth pole of education evaluation, and realize the sustainable development of education evaluation will have a profound impact on the development of Chinese higher education at present and even in the future.

The development and maturity of digital technologies such as artificial intelligence technology, big data technology, cloud computing technology and blockchain technology have laid a solid technical foundation for the active development of innovative evaluation tools. The digital evaluation tools better highlight the advantages of the whole process of education, the digitization of teaching

quality, and the three-dimensional teaching evaluation, and effectively provide a panoramic, timely, accurate and credible decision-making basis for higher education evaluation.

Implement the digital strategy and improve the top-level design of the digital transformation of education evaluation. Implement the digital transformation value strategy, and strengthen the people's cognitive ability, thinking ability and digital sharing concept. Implement digital governance strategies, promote data management thinking to the height of digital governance thinking, and optimize comprehensive governance of digital resources. Implement the digital platform construction strategy, and build a complete operation and management data system and a complete and shared integrated digital data platform. Implement research, development and data analysis strategies, and build a complete and systematic related research system and digitization culture.

2. Opportunities for High-quality Development of Education Evaluation from the Perspective of Digital Transformation

2.1 The promotion of digital awareness supports the digital transformation of education evaluation on track.

China's Education Modernization 2035 issued in 2019 emphasizes the establishment of a mechanism for co-building and sharing digital education resources, promotion of the reform of education governance, acceleration of the formation of a modern education management and monitoring system, and establishment and improvement of the mechanisms for social participation in school management and education evaluation and supervision. Overall Plan for Deepening the Reform of Education Evaluation in the New Era issued in 2020 also clearly requires the systematic promotion of education evaluation reform, adherence to scientific and effective methods, improvement of result evaluation, strengthening of process evaluation, exploration of value-added evaluation, improvement of comprehensive evaluation, full use of information technology, and further improvement of scientific, professional and objective nature of education evaluation. In 2021, the Shanghai Municipal Education Commission issued the Shanghai Education Digital Transformation Implementation Plan (2021-2023), proposing that information technology should empower education management and teaching, and use big data technology to effectively support education evaluation reform.

2.2 The advancement of digital technology provides a way to realize the digital transformation of education evaluation.

Digital technologies such as artificial intelligence, big data, cloud computing, blockchain and 5G technology have gradually matured. Many advantages such as "ease of use", "convenience", "timeliness" and "reliability" have laid a solid technical foundation for the realization of digital education evaluation. From technological innovation to industrial application, digital technology constantly improves the production efficiency of information content, accurately understands the interactive experience needs of the evaluated party, and promotes the education evaluation work to be more intelligent and civilian. For example, through voice recognition technology, image recognition technology, behavior tracking technology, eye tracking technology, intelligent video tracking technique, etc., the artificial skills technology can collect the whole sample, whole process

and multi-modal education data of the evaluated objects in different scenes such as traditional classroom and learning in real time, providing real-time dynamic data for education evaluation, and data close to the real state for process evaluation and value-added evaluation, and improving the authenticity and credibility of education evaluation.

2.3 The development of online evaluation in the Covid-19 post-pandemic era provides practical exploration for the digital transformation of education evaluation.

Since the outbreak of COVID-19 at the end of 2019, China's classroom education model has suffered a great impact, but it has also accelerated the development of online education. The rapid accumulation of online education resources, such as MOOC and on-line live streaming teaching, has made the education evaluation model face the need for transformation. In the status quo of education evaluation (offline to online, and offline combined with online), education evaluation departments use information technology to consolidate the technical foundation of online evaluation, realize the requirements of transferring some offline processes to online, find a balance between offline and online evaluation, and accumulate relevant education evaluation experience, which makes a preliminary exploration for intelligent education evaluation. For example, Shanghai Sky Classroom fully utilizes big data technology in the quality analysis of large-scale online classrooms, and collects a large amount of video, voice, text, pictures and other teacher and students' behavior data in multiple dimensions, providing first-hand data collection materials for education evaluation and digital education evaluation. The work opens up new directions in analytical thinking and analytical dimensions.

3. Challenges of High-quality Development of Education Evaluation from the Perspective of Digital Transformation

3.1 There are ethical problems in the evaluation of digital transformation education.

The development of digital technology is mainly driven by data and algorithms. While making human life intelligent and convenient, it will also raise unprecedented new issues such as law, morality, and ethics. On the one hand, China has not yet established a set of scientific and systematic standards for the collection of education evaluation data, and the collection of evaluation data from colleges and universities is not perfect. What kind of visual behavioral data can be included in the education evaluation data collection database lacks the recognition of many groups such as universities, teachers and students. The establishment of educational evaluation data sample standards still lacks certain scientificity. On the other hand, whether the collected data can conform to the reality of education evaluation, truly reflect the voice of data providers, fully reflect the rationality of the setting of education evaluation indicators, and then effectively infer the quality of education evaluation of various universities and disciplines through the evaluation indicators, is still worth further exploration.

3.2 There are data management problems in the evaluation of digital transformation education.

The situation of network security is becoming more and more serious. Various network threats such as "hacker", "ransomware" and "data leak" occur frequently. Huge amount of alarm information and massive security data undoubtedly increase the difficulty of data storage. It is very important to

effectively store data and prevent data leakage. Meanwhile, in the digital field, how to better deal with data sharing and distribution is an urgent macro topic for universities, education evaluation departments and the country. Only through full flow, coordination and sharing can data, as a production factor, effectively avoid the adverse situation. Continuously boost the benefit of capital increase, and maximize the value of data. Therefore, it has become a difficult problem to realize the safe storage and open sharing of data. All departments should cooperate, prevent data management risks, find the reasonable golden dividing line on the security defense of education evaluation data storage and coordination of data sharing.

3.3 Digital transformation education evaluation has the problem of technology overuse.

The application of digital technology can greatly improve the efficiency of education evaluation, but in the perspective of digitization, it is difficult to meet the compatibility of common problems and individual problems. Relying too much on digital evaluation will lead to a lack of "warmth" in education evaluation. The evaluation index of universal education can reflect the common problems of colleges and universities, but it is difficult to fully cover the characteristics of individual cases and accurately highlight the current situation of characteristic colleges and universities. At the same time, the educational work in colleges and universities adheres to the concept of people-oriented. Education evaluation is not simply data analysis and stacking. The one-size-fits-all application of data may lead to the risk of overuse and misuse of technology, and it is difficult to show the function and significance of education. Reasonable education evaluation should not only pay attention to the selection and collection of education evaluation data, but also focus on exploring the humanistic factors behind the data analysis, so as to find reasonable points between rationality and sensibility.

3.4 Digital transformation education evaluation has software and hardware shortcomings.

The establishment and improvement of the education evaluation system not only need to invest a lot of hardware facilities, but also should improve the consciousness of education evaluation of all parties and cultivate soft cultural atmosphere. Technical equipment procurement, technical standard formulation, normative system construction, system maintenance and system operation and other aspects need to invest a lot of manpower, material resources and financial resources. Therefore, the orderly coordination of resource allocation is the key to the normal maintenance and sustainable development of digital education evaluation system. At the same time, the digital education evaluation has put forward higher requirements for the information level of personnel. The older educators have the hidden danger of marginalization and the problems caused by the digital divide are difficult to be closed in a short period of time, which will affect the establishment of a fair, just and accurate education evaluation system. Therefore, how to obtain abundant resource allocation and establish a set of age-oriented evaluation service system still requires concerted efforts of all parties.

4. Research on the Path of High-quality Development of Education Evaluation from the Perspective of Digital Transformation

4.1 Focus on interdisciplinary research, reshape institutional mechanisms, and promote reform of the education evaluation system.

First, the digital transformation of education evaluation is a comprehensive reform empowered by comprehensive digitization. The digital transformation of education evaluation needs to strengthen the top-level design of education evaluation and strategic discussion, using digital technology to systematically sort out the existing evaluation process and optimize the existing education evaluation methods, improving the whole process and all-factor evaluation system of data mining, process evaluation and behavior evaluation, and combining qualitative and quantitative evaluation, common evaluation and characteristic evaluation, governance evaluation and development evaluation, comprehensive evaluation and key evaluation to promote the revolutionary remodeling of education evaluation model. Second, as a systematic project, education evaluation needs the joint efforts of all parties,who organize the collaborative participation of interdisciplinary talents in education management, education evaluation, and digital technology empowerment, as well as related parties, and study and determine the evaluation content, evaluation standards and evaluation methods of digital education evaluation. Act together, share together, and serve all parties.

4.2 Optimize the platform construction, strengthen the integration of resources, and coordinate the digital transformation of education evaluation for sustainable development.

First, use information to build an education evaluation platform. Innovate the evaluation method, combine online and offline evaluation, adhere to the premise of paying attention to high-quality service and deepening the application of platform system, and constantly develop, build and promote the application, so as to provide strong information support for the series of education evaluation work. Second, strengthen the integration of education evaluation resources and facilitate the orderly circulation of resources. The arrangement of educational evaluation resources should be rational, based on social reality, and good at grasping main contradiction of education evaluation. At the same time, it should take into account secondary problems, effectively promote resource sharing, and lay a solid foundation for all parties to understand the current situation of education evaluation and formulate effective measures. Third, work together to promote sustainable development of digital transformation. Education evaluation departments, universities, teachers and students and society should cooperate with each other, adhere to the concept of "people-oriented", and commit to promoting the effective linkage of education evaluation among all parties, and exploring a road for the sustainable development of education evaluation that conforms to both the current situation of education and China's national conditions.

4.3 Research and develop educational evaluation data technology, set data and technical standards, and strengthen the exploration of education evaluation data governance.

First, strengthen the education evaluation of data mining collection, data processing and data security management and other technical breakthroughs. Optimize data mining and collection technology, and accelerate data collection automation, standardization, and quantization; enhance data processing technology, and improve data cleaning, calculation and evaluation; improve data

security management, standardize and refine data storage, and prepare for emergency management and disaster recovery backup. Second, strengthen the research and development of national data standards and technical standards, refine data definitions, and coordinate and unify data acquisition, data analysis and other processing methods, so as to make the data granularity smaller, ensuring that all data can be circulated in different evaluation systems to improve the dynamic data sharing mechanism, and data can serve all parties.

4.4 Improve laws and regulations, strengthen ethical education on digital technology, and foster the concept of digital development in education evaluation.

First, establish and improve laws and regulations on education evaluation. Education evaluation work must be subject to the corresponding laws and regulations, so that education evaluation work has laws and rules to follow, ensuring that the education evaluation work can make a reasonable evaluation of the quality and level of running colleges and universities, providing a basis for colleges and universities and education departments to improve the way of education management. Second, standardize scientific and technological ethics and strengthen the application of digital technology. Formulate and improve ethical norms and standards for education evaluation of science and technology, proactively analyze and regularly sort out the potential ethical risks in education evaluation, guide education evaluation staff to carry out scientific and technological work such as data collection, data storage and data analysis in a legal and compliant manner, and consciously comply with the requirements of scientific and technological ethics. Third, raise the awareness of digital education evaluation and cultivate the concept of digital transformation development. Increase information technology training, raise awareness of digital technology, narrow the gap between digital generations, lay a solid foundation for education transformation development in the whole society, and create a concept of digital education evaluation.

5. Conclusion

From the perspective of digital transformation, the state deepened the reform of education evaluation in the new era. High-quality education evaluation is an accurate examination instrument for the development of education and a more prospective baton for the high-quality development of education. With the support of government policies, the advancement of digital technology, and the promising prospects for the practical exploration of digital education evaluation in the post-pandemic era, education evaluation related parties should seize the opportunity, keep up with the situation, and pinpoint the pain points and blocking points of education evaluation, gradually reform and reshape the education evaluation system, optimize platform construction, increase resource integration, strengthen scientific research and technology research, improve laws and regulations, and finally achieve the goal of promoting reform and advancement through evaluation, and continuously promote the high-quality development of higher education.

References：

Janhua,W.(2021). On the High-Quality Evaluation of Higher Education.Educational Research,42(07),pp.127-139.

Xin,T .and Gang,L.(2020).Function Orientation and Key Contents of Education Quality Evaluation in the Era of High-quality Development.People's Education,2020(20),pp.16-18.

Jing,C.(2022).Summary of the Goal and Realization Path of High-quality Development of Higher Education Evaluation in the New Era.Reform & Openning,2022(05),pp.55-59.

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Practice And Exploration Of Information Technology Innovation In Higher Education Evaluation - A Case Study Of The Evaluation Of Bachelor's Degree Authorization In A University Of Shanghai

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Abstract
The reform of educational evaluation in the new era proposes that educational evaluation should make full use of information technology. The digitalization of educational evaluation is also a requirement by Shanghai. Taking the bachelor's degree authorization evaluation of a university in Shanghai as an example, this paper introduces, analyzes and summarizes the exploration and practice of the Shanghai Education Evaluation Institution on the innovative measures of educational evaluation with information technology in the process of organizing higher education evaluation projects to meet the digitalization of educational evaluation.

Keywords: Education evaluation reform, Higher education evaluation, Information technology innovation, Education evaluation digitalization.

Contents
The world has witnessed the trend of digital transformation in all fields, and China also puts forwards digital transformation strategy in education. To fulfill the specific plan in Shanghai and advance the digitalization of education evaluation, the third-party institution of education evaluation in Shanghai has been exploring the way to continuously innovate information technology in the practice of education evaluation for the digital era.

1. Digitalization background

A new round of scientific and technological revolution and industrial transformation have undergone further development, and the digital transformation has been accelerating in the world. The digitalization in various fields such as digital government and digital economy is under in-depth development [1].

China's comprehensive promotion of digital transformation of education has a profound strategic background. First, the implementation of the Digital China initiative. In the way of building a Digital China, it need be supported by digital education that is highly adapted to digital economy and social development. Second, the pursuit of a leading country for education [2]. It is clearly stated in the

Work Focus of the Ministry of Education for the year of 2022 that the strategic action of digital education should be implemented to accelerate the digital transformation and intelligent upgrading of education [3]. The digital transformation of education will inevitably put forward new requirements for the digitalization of educational evaluation and the application of information technology. The *General Plan for Deepening the Reform of Educational Evaluation in the New Era* emphasizes that information technology should be fully utilized to improve the scientificity, professionalism and objectivity of educational evaluation [4].

Shanghai, as the national pilot area of comprehensive education reform and the pilot area of education digital transformation approved by the Ministry of Education, will usher in a comprehensive upgrade of education concept, education system and education content. In the *Shanghai Education Digital Transformation Implementation Plan (2021-2023)*, it puts that the construction of "new environment, new system, new platform, new mode and new evaluation" of education digitalization should be actively explored, and one of the 8 main tasks proposed is "promoting digitalization of education evaluation and carrying out data-driven comprehensive education evaluation" [5].

2. Practical exploration

The digitalization of education evaluation is the requirement for the development of education in the digital era, and also the requirement for the normalization of pandemic prevention and control. In May 2022, Shanghai was at a critical stage in the fight against the pandemic. With the community quarantine requirements, the conduct of field evaluation was restricted. Shanghai Education Evaluation Institute (SEEI), under the leadership of the Shanghai Municipal Education Commission carried out the evaluation of bachelor's degree authorization for relevant colleges and universities. The whole process of the evaluation was conducted online, which brought challenges to the evaluation work and all parties involved in, and raised higher requirements for the innovation of information technology in education evaluation.

Through several video conferences, the three parties of management, school-running and evaluation strengthened consultation and communication, jointly formulated the evaluation scheme, and carefully designed each step of the online evaluation, to ensure the smooth process of the evaluation. During the evaluation, the expert panel reviews the prepared materials and gives preliminary opinions before the evaluation meetings (including expert preparatory meeting and formal meeting). At the preparatory meeting, the leaders of the Academic Degree Committee of the Shanghai Municipal Education Commission deploy work, the staff of SEEI introduces evaluation requirement, and the chair of expert panel guides the evaluation of the materials and arranges the expert division. After that, the chair of the expert panel hosts the formal evaluation meeting, which includes 1) the overall report about the institution applying for the bachelor’s degree authorization and the report of the majors applying for bachelor's degree authorization; 2) interaction between the expert panel and the school; 3) collective inspection of school public facilities, experimental training and teaching conditions; 4) group interviews, informal discussions, and access to school management system and professional system documents, examination papers, graduation thesis

(Design) and other archival materials, experts attending lectures in class, etc.; 5) The expert panel exchange views on the evaluation and fully discuss the feedback for the school. After the evaluation, relevant follow-up work will be completed. The whole online evaluation process strengthens the innovative application of information technology in education evaluation, serving as the preliminarily exploration of digital education evaluation.

First, strengthen the construction of digital platform before the evaluation. Several online conference platforms have been prepared and debugged for various meetings, including expert preparatory meeting, evaluation meeting, experts meeting and department surveys, interview with teachers and students, leadership interviews. The use and management of these platforms has been tested and optimized. Besides, an online evaluation platform has been designed. The school's self-assessment report, data and other supporting materials are uploaded to the platform. This evaluation further optimizes the function of the evaluation platform, which is convenient for experts to review and write preliminary review opinions in advance.

Second, broaden the digital application in evaluation. The experts' field investigation is an important step of the evaluation, including the investigation of the library, gymnasium and other public facilities, the teaching conditions such as training and experimental places, class attendance, access to archives, examination papers and thesis. How to move the field investigation to the online is a challenge. With the cooperation of the school, breakthroughs such as visualization have been realized. For the investigation of facilities, it is carried out through the innovative way of combining live broadcast and video recording. For the materials, it is carried out through the way of pre scanning and live reading. For the lectures, the internal monitoring system and equipment of the school is used.

Third, improve the digital feedback system for the evaluation. The digital technologies have been adopted to collect experts' evaluation opinions online. By sorting and classifying the evaluation data given by experts, education evaluation resources is integrated for the analyze of the school system, to provide the school with opinions and suggestions of development and promote the quality of school rectification.

The evaluation was conducted in an online manner throughout the whole process. It served as an exploration for the road of digitalization of education evaluation, which implemented the requirement of fully applying information technology as proposed by the education evaluation reform, and overcame the challenges brought by the pandemic. This evaluation achieved high recognition from the Shanghai Municipal Education Commission, high satisfaction from the evaluated school, and high comments on the information technology innovation and digital experience of online evaluation from the experts. Overall, the online evaluation has presented a high quality of evaluation service.

3. Summary and reflection

This online evaluation practice is carried out against the background of the reform of digital education evaluation. It is also an innovation in the context of the pandemic prevention and control. As we know the fourth generation evaluation is a form of evaluation in which the claims, concerns, and issues of stakeholders serve as organizational foci (the basis for determining what information is needed), that is implemented within the methodological precepts of the constructivist inquiry paradigm [6]. With the full construction among the main three parties of “management, school-running and evaluation”, this evaluation innovates the evaluation technology guided by the concept of digital transformation, marking an active exploration and beneficial practice.

As the "management" party, the education administration department is committed to promoting the digitalization of education evaluation, optimizing the concept, technology and tools of education evaluation, reconstructing the mechanism, persisting in advancing data empowerment, and improving the education quality monitoring and evaluation system. In this evaluation, the “management” party leads and guides the "school-running" party and "evaluation" party to actively implement the new concept of education evaluation reform and promote the exploration and practice of education evaluation digitization. Under the leadership of the Shanghai Municipal Education Commission, the third-party evaluation agency serves as a communication bridge between the "management" party and the "school-running" party. With the concept of consultative evaluation, this evaluation has achieved a breakthrough in information technology for education evaluation, and is also an active exploration of education digitization.

As the "school-running" party, the evaluated school has further realized the importance and urgency of information technology innovation and digitalization of education evaluation, which also forces it to accelerate its transformation of education digitalization. During the evaluation process, the school is urged to further consider how to transform the digital infrastructure and strengthen the construction of the digital campus. For example, the school should focus on conduct more research and application of equipment, platform tools, network security and other aspects in accordance with the education needs. The school is urged to promote the supply capacity of digital education resources in schools for the seamlessly connect with the digital requirements of education evaluation, such as strengthening the implementation of system construction and guarantee mechanism around digital resources and education data, and enhancing the digital ability of school self-evaluation from the perspective of internal quality assurance. The school is also urged to make more innovation of education and teaching in the application of digital technology, and improve teachers' and students' digital literacy and digital skills, which includes the online courses development, online teaching ability of teachers and online learning ability of students.

As the "evaluation" party, the education evaluation institution has strengthened the innovative application of information technology and explored the digitalization of education evaluation through this evaluation practice. First of all, the cultivation and ability of digital literacy for all personnel involved has been enhanced by learning and training. To be specific, the staff of the evaluation institution, through the establishment and optimization of the digital platform and

through the collection and analysis the regular data for the running of schools, are responsible for the operation and management of the online conference room, and the visualization of data analysis, the technical docking with the live broadcast of the school, which helps improve the theoretical understanding of the digital evaluation, and accumulate the practical experience of the digital evaluation; the evaluation expert panel with different academic backgrounds, through participating in all steps of the online evaluation, have further contact and practical experience of digital technology, such as how to modify their introduction, to electronic signatures, to enter school online courses, to review thesis, test papers, documentation and others with the technology assistant from the school. Secondly, it expands the new understanding of data-driven and strengthens the application level of digital technology. To be specific, the data collection and use ability has been improved. Data is the core assets generated in the process of advancing the digitalization of education. *The Opinions of the CPC Central Committee and the State Council on Building an Improved System and Mechanism for Market-oriented Allocation of Factors* lists "data" as the fifth largest factor of production alongside land, labor, capital and technology [7]. In the process of evaluation, the collection and use of education data directly affect its quality. Also, the ability of data analysis and management has been improved. For the massive data collected, scientific classification management is needed, especially the scientificity, accuracy and authenticity of the data provided to the expert panel is the premise of fair and impartial evaluation. For the data for experts to analyze, the evaluation institution needs to summarize and sort out, and the qualitative and quantitative evaluation data resources should be integrated to ensure that the opinions and suggestions fed back to the school by the expert panel can promote the continuous improvement and sustainable development of the school. In addition, data security is also the key point of data management.

Through this evaluation practice, the educational evaluation institution further innovates the information technology for the digital transformation to implement external quality assurance. It drives the evaluated school to upgrade internal quality assurance with new technology and advances the digital transformation of education. It reflects the original mission of education evaluation, that is, the evaluation is not to prove, but to improve. It is expected that through the continuous innovation and application of information technology, the future education evaluation enabled by digital technology can provide high-quality services for the continuous improvement of the evaluated party, and the digitalization of education evaluation will empower the high-quality development in education.

References:

[1] The State Council (2022). (online) *The digital economy development during "14th five-year plan" period (No.29 [2021] of the State Council)*. Available at: http://www.gov.cn/zhengce/content/2022- 01/12/content_ 5667817.htm [Accessed 21 July 2022].

[2] Yang X.M. (2022). *Opening up a new horizon of comprehensive digital transformation in Education*. China Education Daily, 7 April, p. 2.

[3] Ministry of Education (2022). *Work Focus of the Ministry of Education for the year of 2022. Available at* http://www.moe.gov.cn/jyb_sjzl/moe_164/202202/t20220208_59766 6.html [Accessed 22 July 2022].

[4] The State Council (2020). *General Plan for Deepening the Reform of Educational Evaluation in the New Era.* Available at http://www.gov.cn/zhengce/2020-10/13/content_5551032.htm [Accessed 22 July 2022].

[5] Shanghai Municipal Education Commission (2021). *Shanghai Education Digital Transformation Implementation Plan (2021-2023). Available at* http://edu.sh.gov.cn/xwzx_bsxw/20211110/9a48015bacfe4af1a4eb131abef5585b.html [Accessed 23 July 2022].

[6] Guba E.G., Lincoln Y.S. (1989). *Fourth Generation Evaluation.* Newbury Park · London · New Delhi: SAGE Publications, p50.

[7] The State Council (2022). *The Opinions of the CPC Central Committee and the State Council on Building an Improved System and Mechanism for Market-oriented Allocation of Factors*. Available at http://www.gov.cn/xinwen/2020-04/10/content_5501089.htm [Accessed 25 July 2022].

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ICT Driven Assessment And Accreditation Process Of NAAC In India

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Abstract

The usage of Information and Communication Technologies (ICTs) has increased during the last few years. The Information Communication Technology plays an important role in Assessment and Accreditation process. There are many Accreditation agencies such as NAAC, NBA and NIRF Recently the National Assessment and Accreditation council has moved from the traditional method of assessment to modern/online method of assessment using information communication technology. The following are the major changes in the online evaluation process, filling and submitting of Institutional Information for Quality Assessment (IIQA), Self Study Report (SSR), Data Validation and Verification (DVV), Peer Team Visits and Results Declaration. These evaluation processes are done through online mode. Seven criteria have been identified by NAAC as the basis for its evaluation processes. Higher education quality development and maintenance is a crucial component of HEI sustainability. Since July 2017, a new model of HEI assessment and certification has been created by India's National Assessment and Accreditation Council (NAAC). Based on its evaluation, NAAC announces the final results as a cumulative grade point average (CGPA), which ranges from 0 to 4.0 and is comprised of three components namely; a peer team report, a graphical representation based on quantitative indicators, and an institutional grade sheet. A concise presentation of the ICT Integration in the Assessment and Accreditation Process of Higher Educational Institutions has been presented in this paper.

Keywords: Information Communication Technology, Assessment and Accreditation, Higher Education,

1. Introduction

In Order to improve the quality of Higher Education Institutions in India, There are many Accreditation bodies established to evaluate the higher education institutions namely, the National Assessment and Accreditation Council (NAAC), National Institute Ranking Framework (NIRF), and the National Board of Accreditation (NBA).

In 1994, the National Assessment and Accreditation Council (NAAC) was established as an Accreditation body in India. It accredits overall performance of Higher Education Institutions using following seven criteria namely; i). Curricular Aspects, ii). Teaching-Learning and Evaluation, iii).

Research, Innovations and Extension, iv). Infrastructure and Learning Resources, v). Student Support and Progression, vi). Governance, Leadership and Management, and vii). Institutional Values and Best Practices. It provides a suitable platform to conceive and come out with a quality framework to implement quality initiatives, quality sustenance measure and quality improvement on continuous basis.

The National Board of Accreditation (NBA) was established in 1994, as a programmes accreditation body in India. It assesses qualitative competence of the courses/programs offered by technical/ professional courses. The following are the programmes accredited by NBA; Engineering, Computer Application, Catering Technology, Management, Hotel Management and Pharmacy disciplines. The Self - Assessment Report (SAR) provides the accrediting standards that the institution must use to evaluate itself. There are broadly ten accreditation criteria; i. Vision, Mission and Program Educational Objectives ii. Program Curriculum and Teaching-Learning Processes, iii. Course Outcomes and Program Outcomes, iv. Students' Performance, v. Faculty Information and Contributions, vi. Facilities and Technical Support, vii. Continuous Improvement, viii. First Year Academics, ix. Student Support Systems, and x. Governance, Institutional support and Financial Resources, which may vary from program to program in different disciplines.

On September 29, 2015, the Ministry of Human Resource Development (MHRD) launched the National Institutional Ranking Framework. It has been publishing the ranking of universities/institutions in various categories. The NRIF covers the following parameters (i) Teaching, Learning and Resources, (ii) Research and Professional Practices, (iii) Graduation Outcomes, (iv) Outreach and Inclusivity, and (v) Perception.

2. Review of Literature

According to Kumar, et.al, (2021). Knowledge and its application by the workforce is a critical factor for sustainable and economic developments. In order to gain competitive advantages, it is important for an organization to rely on manpower that has relevant skills and competencies to deliver expected results within stipulated time-frames and available resources. Higher Education (HE) plays a vital role in developing such competencies and moving industry-ready talent into a human resource. Information and Communication Technology (ICT) is a key enabler for functional efforts in the context, including quality assurance and enhancement in higher education. ICT is being used for improving the quality of education all over the world due to its numerous advantages. In this study, a survey was conducted using a Likert scale including an open-ended question related to usage and importance of ICT for improving the quality of higher education. The results show that leveraging ICT can help higher education institutions (HEIs) to enhance overall quality through benchmarking institutional data, implementation and monitoring of best practices in pursuit of excellence.

Hou, A.Y.C, et. al, (2022). Conducted a study on the impact of COVID-19 on higher education and quality assurance (QA) has received global attention and lead to discussion. QA agencies and networks quickly learned to adapt in order to carry out assessments, accreditations, recognitions,

and reviews in a full virtual mode. These practices include using shared folders for virtual desk review, video conferencing platforms for interviews, and virtual site visits. In order to respond to the 2020 pandemic, The International Network for Quality Assurance Agencies in Higher Education (INQAAHE) swiftly adopted a virtual mode of the GGP review exercise for the GGP alignment applicants. The Higher Education Evaluation and Accreditation Council of Taiwan (HEEACT) was the first case that underwent a thorough virtual review process of GGP alignment during the 2020 pandemic. In this study aims to outline the impact of the pandemic in Taiwan higher education as well as provide the meta-analysis of the virtual review process of the INQAAHE GGP alignment by using HEEACT as a case study.

Haris A.S, H. Washizaki and Y. Fukazawa (2018), have referred to numerous studies and surveys examined the utilization of Information and Communication Technologies (ICTs) in Higher Education (HE), but the lack of studies on the utilization of ICTs in Quality Assurance and Accreditation (QAA) of HE led us to perform a Systematic Literature Review (SLR). This review mainly benefits QAA agencies and researchers interested in utilizing ICTs for QAA of HE. Several contributions of ICTs to QAA of HE are identified. 1) Compared to QAA agencies, Higher Education Institutions (HEIs) are more likely to implement ICTs. 2) Most ICTs in HEIs are for Quality Assurance (QA). 3) Most previous studies were conducted in Europe, demonstrating that efforts have been made to align QAA agencies and HEI QAA units with European Standards. Consequently, ICTs are more often utilized by European HEIs. Furthermore, we investigated the QAA status in a developing country (Afghanistan) as a case study.

Education is an endeavour that is socially focused. Quality education is correlated with a high degree of personal interaction with learners through strong teachers. ICT has become an integral part of today's teaching and learning process, as the world rushes into digital media and information. Information and Communication Technologies are progressively becoming an essential part of the present education system. The Information and Communications Technology (ICT) is essentially the initiative of our society to impart useful knowledge and skills to our students.

3. Assessment and Accreditation process at NAAC

The National Assessment and Accreditation Council (NAAC) is an Accreditation agency in India, which accredits higher education institutions (HEIs) in India which has come out with a revised accreditation framework in July 2017 designed in order to provide transparency in the assessment process. This initiative is to make the process more rigorous, transparent and efficient. To assess and accredit growing number of higher education institutions in India the National Assessment and Accreditation Council has launched the online Assessment and Accreditation process; co-incidentally it also helps NAAC to handholding the HEIs during the pandemic. Earlier assessment process was done on-site by a group of assessors, now it is in two stages of assessment, of which 70% will be done off-site at NAAC which is completely ICT based.. Institutions keen to be assessed should submit an Institutional Information for Quality Assessment (IIQA) and Self Study Report (SSR) to NAAC. The data submitted will then be validated. Disciplinary measures have been taken for Higher Education institutions submitting incorrect data. After this, 30% of weitage is given to

the Peer Team Assessment. This will make the whole process more objective as it reduces the interference human element. The initial assessment will be based on various components, such as number of faculty, student strength, publication productivity of the HEIs and income and expenditure of the HEIs.

4. ICT Driven Assessment and Accreditation modules

The ICT driven Revised Accreditation Framework contains about 20 modules, Out of these modules only few are completely developed.

Figure-1: ICT Driven Assessment and Accreditation modules developed by NAAC

The online A&A process broadly consists of**:**

4.1.Online submission of Institutional Information for Quality Assessment (IIQA)
4.2.Self-Study Report (SSR)
4.3.Data Validation and Verification (DVV)
4.4.Student Satisfaction Survey (SSS)
4.5.Peer Team Visit (PTV).
4.6.Results Declaration.

4.1. Online submission of Institutional Information for Quality Assessment (IIQA).
Once the registration in the HEI portal is complete, the first step for Assessment of Higher education Institutions is submission of IIQA. Through the HEI portal, the institution must submit the IIQA application. IIQA is a procedure that determines whether an institution is accreditation ready or not. Institutional Information for Quality Assessment (IIQA) forms must be submitted online by eligible HEIs seeking assessment and accreditation.

4.2. Online submission of Self Study Reports (SSR).
Before submission of IIQA, the HEI need to prepare the SSR in prescribed format with all the supporting documents like approval letters from the regulatory bodies, Geo-tagged photos and video clips of the location can be uploaded in the assessment process and verified through the ICT enabled technology. Those documents should authenticated by Head of the institution. Once IIQA is accepted by NAAC then within 45 days of the date IIQA acceptance, HEIs must submit SSR. HEI should complete the SSR via the web portal while adhering to the seven NAAC-developed criteria.

I. Curricular Aspects
II. Teaching-Learning and Evaluation
III. Research, Innovations and Extension
IV. Infrastructure and Learning Resources
V. Student Support and Progression
VI. Governance, Leadership and Management
VII. Institutional Values and Best Practices

4.3.Data Validation and Verification (DVV).
The Self-Study Report should be submitted online to the NAAC for assessment mechanism/process. The SSR's quantitative metrics section contains information that will be subject to data validation and verification by an external party. The Student Satisfaction Survey and Peer Team Visit will be done if the institution has the Pre-qualifier score of 25%. If there are any discrepancies or factual errors, the DVV unit writes an official Deviation Report to the institution and requests further explanations. The institution must update the data and respond to NAAC within seven days. Considering this, NAAC will examine the provided data and, based on the degree of the divergence, and will give the following information to the institution: i) the peer team's visit dates. ii) Postponing the peer team's visit. iii) Preventing an Institutional Peer Team Visit

4.4.Student Satisfaction Survey (SSS).
After the Data Validation and Verification process, the NAAC will send online survey questionnaires to randomly selected students-Student Satisfaction Survey (SSS) about Teaching - Learning and Evaluation. This process may help the higher education institutions to improve their quality. Responses at the Colleges level should come from at least 10% of the student population or 100 students, whichever is less. And responses at the University level should come from at least 10% of the student population or 500 students, whichever is less. The survey must be completed by the students and submitted online to NAAC. The Student Satisfaction Survey (SSS) findings will contribute to the institutions' total grade.

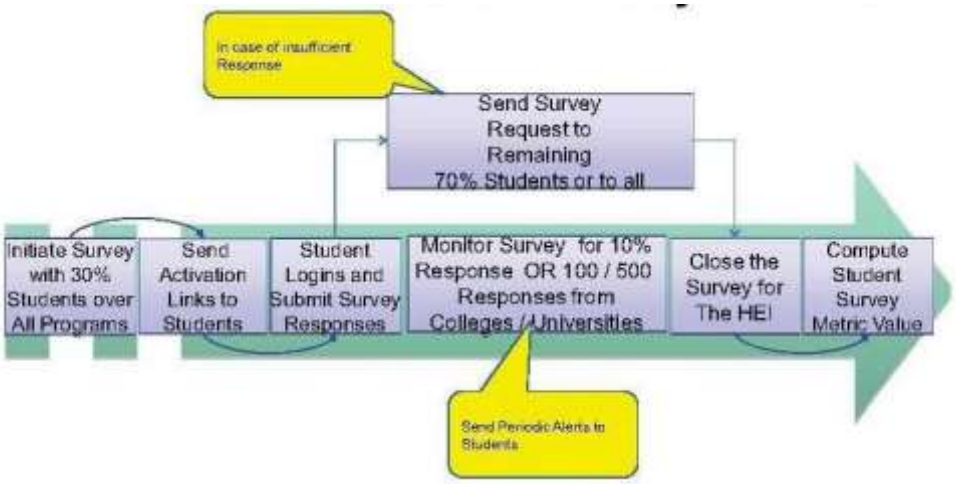

Figure-2: ICT Driven Assessment and Accreditation modules

4.5.Peer Team Visit.

The NAAC Assessment and Accreditation processes have been rendered online and for this purpose, all the stakeholders are provided with a digital space which is defined as the 'NAAC Assessor Portal'. Assessors (Peer Team Members or PTM) are also provided with dedicated portals with login credentials. At present there are 4688 active assessors are available in the assessor portal. Communications regarding Assessment and Accreditation and submissions of the reports are also to be done through this portal. To facilitate the onsite assessment process to be meaningful, an enriching experience to the HEIs as well as the PTM, NAAC has evolved the guidelines detailed below, for the Peer Team Members (Assessors)to be relied upon and followed during the onsite Peer Team Visit (PTV) to the HEIs. Depending on the size and complexity of the assessment unit, the peer team visit's duration will vary. However, it typically varies between 2 days for colleges and 3 days for universities.

4.6. Results Declaration.

After successful completion of Peer Team Visit (PTV), the Peer Team Member (PTM) has to upload their recommendation report through online using Assessor portal before leaving the institution. The HEI portal automatically calculated metric value based on the HEI inputs and peer team member directly award score to the qualitative metrics, than the portal will calculate the Cumulative Grade Point Average (CGPA), which gives the final Assessment Outcome, after applying the prescribed weightage to each Criterion, NAAC announces the final result in the form of Cumulative Grade Point Average (CGPA) between 0 to 4.0, which is a combination of evaluation of qualitative and quantitative metrics with three parts including i). Peer Team Report, ii). Graphical representation based on quantitative metric, and iii). Institutional grade sheet. Once final grade sheet is generated, the same result will be announced in the NAAC website after approval of Standing Committee (SC)/ Executive committee (EC). At the same time the final grade sheet will communicated to accredited HEIs to their registered e-mail.

Cumulative Grade Point Average (CGPA)	Letter Grade	Status
3.51 - 4.00	A++	Accredited
3.26 - 3.50	A+	Accredited
3.01 - 3.25	A	Accredited
2.76 - 3.00	B++	Accredited
2.51 - 2.75	B+	Accredited
2.01 - 2.50	B	Accredited
1.51 - 2.00	C	Accredited
<= 1.50	D	Not accredited

Table-1: NAAC Seven Criteria based Framework.

4.6.1 Grade wise distribution of accredited HEIs under RAF

As on 07-06-2022 there are 2860 HEI accredited by NAAC through online A&A process

Grade	Number of Universities	Number of Colleges	Total
A++	23	41	64
A+	28	154	182
A	27	313	340
B++	18	419	437
B+	31	470	501
B	39	841	880
C	14	404	418
D	2	36	38
Total	182	2678	2860

Table-2: Grade wise distribution of accredited Higher Education Institutions under RAF.

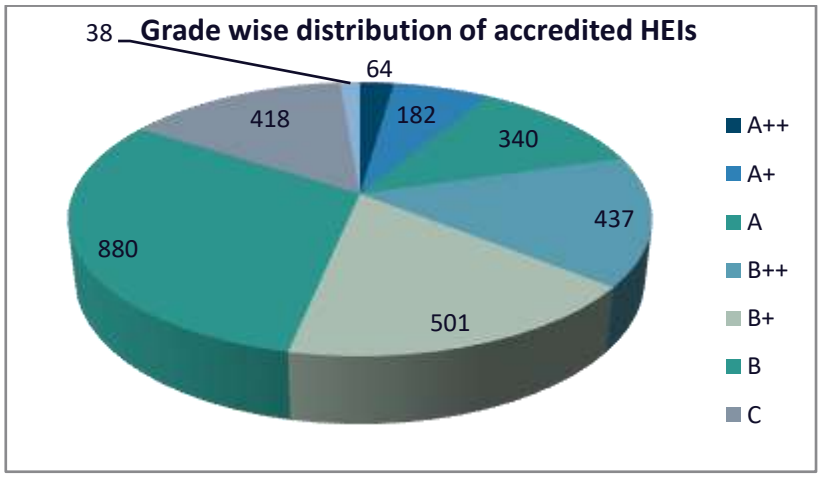

Figure-3: Grade wise distribution of accredited HEIs.

4.6.2 Cycle wise distribution of Accredited HEIs(under RAF)

The assessment and accreditation is a cyclic process once the HEI accredited by NAAC it is valid for five years. The following HEIs have been accredited by NAAC in various cycles as given below.

Type of HEI	Cycle1	Cycle2	Cycle3	Cycle4	Total
Universities	89	47	29	17	182
Colleges	1332	525	711	110	2678
Total	1421	572	740	127	2860

Table-3: Cycle wise Distribution of Accredited HEIs.

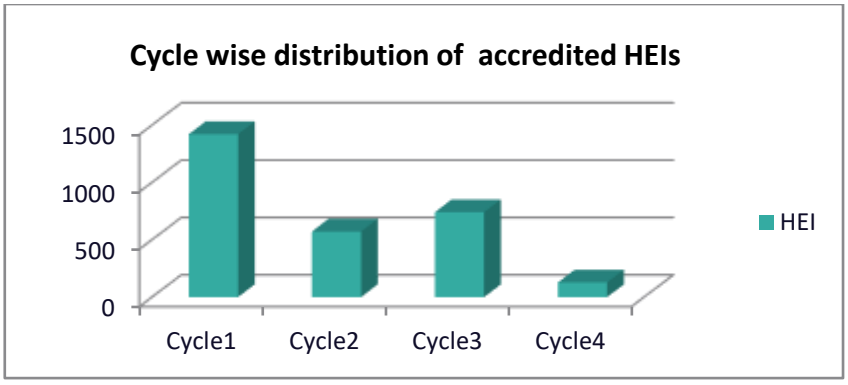

Figure-4: Grade wise distribution of accredited HEIs

5. Conclusion

In the current technology driven society, people have to access knowledge via ICT to keep pace with the latest developments. In such a scenario, education always played a critical role in the field of economics and leads to social growth of a country. Quality assurance is an integral part of the functioning of every higher educational institution in India. Quality assurance is possible when there is a quality check through internal as well as external mechanism. In order to have this process, there should be a standard methodology with maximum transparency. Periodic assessment of every higher educational institution in India is very much necessary for sustenance of quality. Those Institutions which have completed the 3rd cycle of reaccreditation process are exempted from the external peer assessment, and shall be assessed with 100% ICT enabled methodology in the 4th cycle of assessment and accreditation. Geo-tagged photos and video clips of the location can be uploaded in the assessment process and verified through the ICT enabled technology and validated with a third party. Quality and transparency must co-exist as two sides of the same coin in the entire process

References

Barman, Sourav Roy , 2022. Explained: Accrediting colleges, varsities', The Guardian, 18 February , 14 June 2022, <https://indianexpress.com/article/explained/ugc-naac-guidelines-accrediting-colleges-varsities-7779033/>

Damaama College, 2022. Information and Communications Technology, viewed 18 June 2022, <https://damdamacollege.edu.in/ict/>

Haris, A.S., Washizaki, H. and Fukazawa, Y., 2018. Systematic Review of Utilized ICTs in Quality Assurance and Accreditation of Higher Education and a Case Study of Developing Country. EAI Endorsed Transactions on e-Learning, 5(18).

Hasan, Wahidul. and Lakshman, V. 2019.'NAAC compendium 2019', National Assessment and Accreditation Council, pp.126.

Hou, A.Y.C., Lu, I., Grace, J. and Hill, C., 2022. What Has Been the Impact of COVID-19 on Driving Digitalization, Innovation and Crisis Management of Higher Education and Quality Assurance?—A Taiwan Case Study in Alignment with the INQAAHE Virtual Review. Higher Education Policy, pp.1-23.

Kumar, P., Shukla, B. and Passey, D., 2021. Leveraging ICT for Excellence in Higher Education Institutions using Standards and Criteria of Accreditation and Ranking. Assessment, Accreditation and Ranking Methods for Higher Education Institutes in India: Current Findings and Future Challenges, p.80.

Mahendra Gowda, R.V., 2022. A Comparative Analysis of NIRF Ranking, NAAC Accreditation and NBA Accreditation, International Journal of Advanced Science and Engineering, 7(1).

National Assessment and Accreditation Council, 2022. Grading, National Assessment and Accreditation Council, viewed 18 June 2022, < http://naac.gov.in/index.php/en/assessment-accreditation#grading>

National Board of Accreditation, 2022. About, National Board of Accreditation, viewed 18 June 2022, < https://www.nbaind.org/about >

National Institutional Ranking Framework, 2022. About, National Institutional Ranking Framework, viewed 18 June 2022, < https://www.nirfindia.org/About>

Patil, J., 2018. Paradigm Shift in Indian Higher Education Accreditation. In Capacity Building for Next Generation Quality Assurance in Higher Education, pp.76-89. viewed 20 June 2022, <https://www.researchgate.net/publication/341756412_Paradigm_Shift_in_Indian_Higher_Education_Accreditation>

The Hindu, 2017, 'NAAC revises accreditation process', The Hindu, 5 August, p. NA, viewed 14 June 2022, <https://www.thehindu.com/news/cities/bangalore/naac-revises-accreditation-process/article19437136.ece>

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Multi-Level Governance Analysis For Credit Transfer Systems: An Example From Mauritius

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Abstract

Wider recognition of higher education qualifications and efficient credit transfer across institutions are policy goals of many countries. However, little has been written on the influence of actors, conventions and norms on the development of national policies for credit transfer systems. Recognising this gap, we present a summary example of a Multi-Level Governance (MLG) analysis for the development of a National Credit Value and Transfer System (NCVTS) for the island nation of Mauritius.

We consider global, regional, national and local (institutional) levels of governance, identifying the core activities of an NCVTS and the key actors at each governance level. Our analysis then considers gaps and opportunities and points of tension across vertical and horizontal levels of governance, to chart where global, regional and institutional influences exert a shaping or determining role and where consensus-building is most needed. We project desirable roles and activities for an effective future credit transfer governance regime.

By analysing an example specific to the nation of Mauritius, we aim to demonstrate that an MLG analysis can contribute to a balanced and nuanced approach to policy development for credit transfer, taking account of both political and technical aspects. Our approach provides ideas for other jurisdictions to explore.

1. Introduction

Global policy for higher education supports the development of seamless credit transfer systems and mutual recognition of qualifications. Many Asian and Pacific nations are pursuing the development of regional and national credit transfer systems for tertiary education yet there is little written about the extent to which the forces of global, national and local-level governance exert a shaping or even determining influence on policy choices of governments and institutional practice on this topic.

This paper addresses this lack through an analysis of considerations for the development of a national credit value and transfer system (NCVTS) for the island nation of Mauritius. We provide a worked summary example of a Multi-Level Governance (MLG) analysis of the current and desired situation for credit transfer to demonstrate the value of this approach for development of national policy and service delivery. Our example demonstrates how the identification of potential path dependencies and areas of contestation can clarify points of intervention for a national government.

By 'credit transfer' (CT) we refer to the granting of 'advanced standing' or credit for previous studies to students by their tertiary education institutions. Credit transfer can be regarded as a subset of the recognition of qualifications (QR) but typically involves more fine-grained analysis and decision-making at institutional level than QR activities.

Internationally, there has been impressive progress in agreements for the harmonisation of qualifications and their recognition across regions and countries, such as the 2011 Asia-Pacific Regional Convention on the Recognition of Qualifications in Higher Education (Tokyo Convention), culminating in the (yet to be ratified) 2019 UNESCO Global Convention on the Recognition of Qualifications concerning Higher Education.

Seamless credit transfer in tertiary education is desirable for efficiency and fairness. However, developments in credit transfer processes lag behind those for qualifications recognition (QR), due to differing views of the evidentiary requirements for judging credit applications and acceptance of the principle of institutional academic autonomy in decision-making on applications for credit.

The general principle of recognising prior learning (not having students repeat learning they have already achieved) is widely accepted. Key building blocks, such as mutual recognition across institutions and academic banks of credit, are proceeding in a number of countries. However, effective higher education credit transfer systems are a challenge for most countries (see in respect of the UK Pollard et al. 2017; QAA 2021). A 2019 study from Australia states: "Most universities describe credit management as an overall pain point which continually features among the top student-related problems they would like to solve" (Nous Group / Universities Admissions Centre 2019, p. 6).

It should be noted that tertiary education institutions have few incentives to invest their own resources in helping students to maximise their credit or in reducing differentiation between institutions. Indeed, the requirement of the Lisbon Recognition Convention and 2019 Global Convention that foreign qualifications should be recognised unless 'substantial differences' can be shown potentially conflicts with some institutional and national desires to capitalise on the reputational dividend of their credentials (van der Wende 2008).

2. Multi-Level Governance

Any broad discussion of 'international higher education' these days should address the topic of global governance (Mundy 2007; van Damme & van der Wende 2018), defined as: "the purposeful

order that emerges from institutions, processes, norms, formal agreements, and informal mechanisms that regulate action for the common good" (Benedict 2015). As a collection of influences on regional, national and local higher education policy, global governance is exercised not only through formal agreements and conventions but also through less formal mechanisms that include emergent norms, patterns of collaboration, guidelines, standardised tests, policy borrowing and isomorphism, and market forces (Knight 2016; de Wit & Altbach 2021).

Under this general umbrella, the term 'Multi-Level Governance' refers to the ways in which influence and power is distributed and negotiated across both vertical levels of governance (global, regional, national, sub-national, local) and horizontal actors that include public, private and non-government organisations, associations, and other collectives (Bache & Flinders 2004; Stephenson 2013).

Chou et al. (2017) propose a multi-level governance (MLG) framework for analysis of higher education policy, drawing attention not only to multiple levels and actors but to the fact that many policy issues in higher education are intertwined. In particular, they draw attention to the presence of multiple actors creating both vertical and horizontal tensions over authority, roles and influences (p. 7).

MLG analysis for higher education policy has been used explicitly in analyses of the European higher education area (Vukasovic et al. 2018) but is less visible in other regions, despite the growing influence of regional networks in Asia, Africa and the Middle East (Robertson 2008; Chao 2014; Sirat, Azman & Bakar 2016; Tight 2022). Given international progress in the establishment of qualifications frameworks and the recognition of qualifications, national policy on credit transfer seems an obvious candidate for an MLG analysis.

3. Requirement for an NCVTS for Mauritius

Mauritius is a multicultural island nation of some 1.3 million people in the Indian Ocean, off the east coast of Africa. It is a developed nation, strongly influenced by its English and French colonial history; its highly internationalised higher education sector has strong Anglo, French and sub-continental influences (Ramtohul 2016; Knight & Motala-Timol 2021). Regionally, Mauritian higher education links to the African Union and the Southern African Development Community (SADC). Although a small nation, its complex mix of influences, agencies and forms of higher education create a complex environment for higher education policy.

In 2020, a new Higher Education Act came into effect, Section 18 of which states: "*The [Higher Education] Commission shall develop and issue a National Credit Value and Transfer System in order to recognise qualifications and units by awarding credits".*

An NCVTS will augment the Mauritius National Qualifications Framework (MNQF), which comes under the authority of the Mauritius Qualifications Authority (MQA), a separate body to the Higher Education Commission (HEC, see HEC 2022). Other significant actors are a new Quality Assurance

Authority and the Ministry of Education, Tertiary Education, Science and Technology. The 10-level MNQF states a credit value of 10 notional learning hours equalling 1 credit, like the UK Credit Accumulation and Transfer Scheme (CATS). However, it does not state any minimum or maximum volume of learning by level and provides no policy advice on the transfer of credit.

Credit transfer across higher education institutions is not yet well-developed in Mauritius among the nine public and many private institutions, although there is an increasing awareness of credit values and their significance. The University of Mauritius has already revised their internal credit systems to align with international models such as CATS or the European Credit Transfer and Accumulation System (ECTS), while several transnational education institutions already use one of these systems.

Development of a national NCVTS for Mauritius is thus far from context-free, needing to be guided by international and regional conventions, the dynamics of internationalised higher education, and the capabilities and flexibility of local institutions.

4. Model for MLG analysis for a Mauritian NCVTS

A Multi-Level Governance analysis for policy development is likely to require:

- listing the activities that are in scope
- identification of the key actors or influences at different levels of governance for these activities
- identification of opportunities to enhance the activities or to fill gaps
- a listing of known points of tension or contestation, vertically or horizontally
- identification of points where national policy intervention would be most likely to be impactful.

4.1. Scope of activities for an NCVTS

We start by charting the activities that would be expected of an effective NCVTS, comprising sub-systems for:

A1. Policy or regulatory requirements to offer and recognise prior learning and qualifications
A2. Identifying the elements of a qualification (Nuffic 2020)
A3. Identifying points of reference or translational tools, such as a qualifications framework
A4. Obtaining and storing evidence of the qualifications or prior learning to be compared
A5. Assessing by comparing different elements of qualifications, broadly or in fine detail and arriving at a judgement
A6. Decision-making on the judgment, e.g. how much credit to grant for prior learning or previous qualifications
A7. Codification of precedents
A8. Public information, including advice to prospective students on credit they may be eligible for.

4.2. Key actors

Next, we chart the key actors and influences for a NCVTS for Mauritius across governance levels, as shown in Table 1.

LEVEL	Key actors or influences
Global	UNESCO Global Convention on the Recognition of Qualifications concerning Higher Education; UN/Nuffic guidance on elements of a qualification and assessment of qualifications; transnational education, including offshore campuses, franchising, joint and dual degrees; international rankings (reputation)
Regional	UNESCO Addis Recognition Convention for Africa; South African Development Community; SADC-CATS; other regional HE bodies; regional qualifications frameworks; ECTS; CATS (UK)
National	Higher Education Commission; Mauritius Qualifications Authority; Quality Assurance Authority; Ministry of Education, Tertiary Education, Science and Technology; Economic Development Board; professional registration and licensing bodies
Institutional	Universities (local); universities (transnational); higher education institutions (local); higher education institutions (transnational)

Table 1: Key actors and influences for a Mauritius NCVTS at different governance levels

4.3. Opportunities, points of tension and places for policy intervention

Table 2 is a summary table that maps governance levels, roles including activities as listed in Table 1, opportunities for harmonisation, points of tension and desired future roles for an effective NCVTS.

Level	**Existing roles (Numbered activities in brackets)**	**Opportunities for harmonisation**	**Vertical and horizontal points of tensions**	**Desired future roles (Numbered activities in brackets)**
Global	Codification of QR and CT assessment practices; Conventions (A1, A2)	Continued guidance; modification of conventions to ensure ratification	Respecting academic decision making; Pushback from institutions on 'substantial differences'	Codification of assessment practices, Global QFs Making of conventions (A1, A2)
Regional	QFs (A3) Brokering QFs, CATS, MR (A3)	Increase MR by negotiation	National versus regional policy on volume of learning and QR	Regional conventions; regional CATS; more MR (A3, A6)
National (policy)	Policy (QF, MR) – under development Regulation	Volume measure Policy on maximum credit Include QR and CT in QA requirements	Differing agency positions on credit limits; Contestation over ownership of policy decisions and resources	Policy and regulation on QF, MR, CT (A1)
National (services)	International obligations Service delivery: • Assessment for QR (A5) • Decision-making for	Secure credential banks for learners; More centralised assessment for	Resourcing of new centralised systems; Respecting academic decision-	International obligations Service delivery: • Credential banks (A4)

	QR by professional bodies (A6)	CT and advice for institutions; Precedent databases for learners / public information	making for CT; Possible resistance from institutions	• Centralised assessment (A5) • Coordination with professional bodies (A5, A6) • Precedent databases (A7, A8)
Institutional	Assessment for CT (A5) Decision-making for CT (A6)	Development of pathways for learners, e.g. from TVET	Lack of incentives for more CT and pathways	Agreements on pathways (A7) Decision-making (A6)

Table 2: Multi-Level Governance Analysis of Roles and Activities relevant to development of a NCVTS for Mauritius

Key to shading for roles	**Key to acronyms**	
Strong influence and activity	CATS Credit accumulation and transfer system	CT Credit transfer
Moderate influence and activity	MR Mutual recognition	QA Quality assurance
Minor influence and activity	QF Qualification framework	QR Qualifications recognition

5. Analysis and discussion

Table 2 presents features of the existing and desired governance of an NCVTS for Mauritius. Notably, it confirms an expected finding that elements of an NCVTS are strongly influenced by global and regional governance. Specifically, international and regional qualifications frameworks influence possible Mauritian measures of the volume of learning. (Other elements of a qualification are less amenable to ready comparison and therefore are usually assessed at institutional level, especially for credit transfer.)

Additionally, Table 2 documents those activities for an NCVTS that are already undertaken, such as the assessment of overseas qualifications, and those that are under development or could be explored for Mauritius, such as the NCVTS policy framework, credit bank, and precedent database. The MLG analysis facilitates the identification of gaps in practice and a need to more clearly specify the roles actors at each governance level.

Documenting the current roles, influences and activities is a starting point to identify opportunities to improve practices, fill gaps or further harmonise credit transfer, together with points of vertical or horizontal tension that will need to be tackled. The points of tension primarily require the development of consensus positions through negotiation or agreements, thus revealing the political as well as the purely technical aspects of developing an NCVTS.

Our example projects a stronger national role for an NCVTS in policy and regulation, such as requiring higher education institutions to maximise credit transfer. However, it also projects an expanded role in service delivery, using data from institutions to streamline verification of previous credentials and to provide public information on precedents. As the transaction costs to each higher education institution of expertly assessing applications for credit transfer are high, we suggest there could be opportunities for more centralised assessment of applications for credit transfer by experts, although academic decision-making authority would remain – as it should – with individual higher education institutions. A centralised system would support accountability but streamline reporting.

Table 2 is a summary only: the analysis could be expanded through the use of additional tables to identify opportunities for harmonisation and points of tension among different individual actors at each level and across levels. For example, a desire by the HEC and MQA for more pathways for learners from TVET institutions into higher education institutions might be a point of tension for other actors that are pursuing their own policy goals.

Taken overall, we consider that an MLG analysis of the type presented in Table 2 would help those involved in policy development to take a well-balanced approach to the issues, by avoid the risk of focusing too strongly on horizontal contestation among actors without taking sufficient notice of path dependencies from global or regional governance. Ongoing calibration of the comparability of qualifications and findings of ‘no substantial differences’ will be needed, so the MLG analysis also draws attention to the role of institutional actors and ‘bottom-up’ influences in knitting together credit transfer at the sub-national level.

6. Conclusion

This brief discussion indicates that the activities needed for an NCVTS can fruitfully be mapped through an international multi-level governance (MLG) analysis, where different issues are addressed by different actors across several levels of governance. The analysis highlights aspects of credit transfer policy and activity that are already mostly determined, for example, requirements to recognise qualifications and the volume and level of learning in a qualification. It reveals activities that are under-determined, as well as potential sites of policy contestation.

National and international credit transfer models start from a laudably simple proposition, namely, that if someone has learnt something once and their learning is current, they should not need to learn it again in order to undertake additional formal learning. Widespread implementation of this logic on even a national, let alone a global, scale in higher education is proving much harder to achieve. There is little doubt that global and regional support for wider credit transfer will continue (van

Damme & van der Wende 2018, p. 105) but the slow pace of mutual recognition shows the magnitude of challenges at institutional and national level. We trust that our analysis provides a useful model for other countries in charting their next steps towards better credit transfer and contributes to understanding of the influence of global governance on higher education.

References

Bache, I & Flinders, M (eds) 2004, *Multi-level governance*, Oxford University Press, Oxford UK. DOI:10.1093/0199259259.001.0001

Benedict, K 2015, 'Global governance' in *International encyclopedia of the social & behavioral sciences*, second edition, viewed 10 June 2022. DOI:10.1016/B978-0-08-097086-8.75018-5

Chao, RY Jr 2014, 'Pathways to an East Asian Higher Education Area: a comparative analysis of East Asian and European regionalization processes', *Higher Education*, vol. 68, no. 4, pp. 559–575.

Chou, MH, Jungblut, J, Ravinet, P & Vukasovic, M 2017, 'Higher education governance and policy: an introduction to multi-issue, multi-level and multi-actor dynamics', *Policy and Society*, vol. 36, no. 1, pp. 1–15.

de Wit, H & Altbach, PG 2021, 'Internationalization in higher education: global trends and recommendations for its future', *Policy Reviews in Higher Education*, vol. 5, no. 1, pp. 28–46.

HEC 2022. HEC Overview and Highlights 2021/22, viewed 25 July 2022, <https://www.hec.mu/pdf_downloads/pub_rep_pdf/HEC_overview_highlights2021.pdf>

Knight, J 2016, 'Regionalization of higher education in Asia: functional, organizational, and political Approaches', in CS Collins, MNN Lee, JN Hawkins & DE Neubauer (eds), *The Palgrave handbook of Asia Pacific higher education*, Palgrave Macmillan, New York, pp. 113–127. DOI:10.1057/978-1-137-48739-1_8

Knight, J & Motala-Timol, S 2021, 'Tertiary education in Mauritius: increasing access through international program and provider mobility', *Journal of Studies in International Education*, vol. 25, no. 3, pp. 207–227. DOI: 10.1177/1028315320932321

Mundy, K 2007, 'Global governance, educational change', *Comparative Education*, Vol. 43, no. 3, pp. 339–357.

Nous Group / Universities Admissions Centre (Australia) 2019, *A credit management solution for the tertiary education sector*, viewed 23 May 2022, <https://www.uac.edu.au/assets/documents/business-solutions/Nous-Report-Credit-Management.pdf>.

Nuffic 2020, *The European recognition manual for higher education institutions*, viewed 11 July 2022, <https://www.nuffic.nl/sites/default/files/2020-08/the-european-recognition-manual-for-higher-education-institutions%20%281%29.pdf>.

Pollard, E, Hadjivassiliou, K, Swift, S & Green, M 2017, *Credit transfer in higher education – A review of the literature, March 2017*, Institute for Employment Studies, viewed 11 July 2022, <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/595633/Credit_transfer_in_Higher_Education.pdf>.

QAA 2021, *Making use of credit: a companion to the Higher Education Credit Framework for England*, viewed 11 July 2022, <https://www.qaa.ac.uk/docs/qaa/quality-code/making-use-of-credit.pdf>.

Ramtohul, R 2016, 'Globalisation, internationalisation and higher education in Mauritius: the compromise of quality', *Africa Development*, vol. 41, pp. 117–138.

Robertson, S 2008, ' "Europe/Asia" regionalism, higher education and the production of world order',
Policy Futures in Education. DOI:10.2304/pfie.2008.6.6.718

Sirat, M, Azman, N & Bakar, AA 2016, 'Harmonization of higher education in Southeast Asia regionalism: politics first, and then education', in. In SL Robertson, K Olds, R Dale & R. QA Dang (eds), *Global Regionalisms and Higher Education*, Edward Elgar, pp. 103–123.

Stephenson, P 2013, 'Twenty years of multi-level governance: 'Where Does It Come From? What Is It? Where Is It Going?', Journal of European Public Policy, vol. 20, no. 6, pp. 817–837.

Tight, M 2022, 'Internationalisation of higher education beyond the West: challenges and opportunities – the research evidence', *Educational Research and Evaluation*, vol. 7, no. 3-4, pp. 239–259. DOI:10.1080/13803611.2022.2041853

van Damme, D & van der Wende, M 2018, 'Global higher education governance', in B Cantwell, H Coates & R Kin (eds), *Handbook on the politics of higher education*, Edward Elgar, pp. 91–113.

van der Wende, M, 2008, 'Rankings and classifications in higher education: a European Perspective'. In JC Smart, (ed), *Higher education. Handbook of theory and research*, vol 23, Springer, Dordrecht, pp. 49–71. DOI:10.1007/978-1-4020-6959-8_2

Vukasovic, M, Jungblut, J, Chou, MH, Elken, M & Ravinet, P 2018, 'Multi-level, multi-actor and multi-issue dimensions of governance of the European Higher Education Area, and beyond', in A Curaj, L Deca & R Pricopie (eds), *European Higher Education Area: the impact of past and future policies*, Springer Link, pp. 321–344, viewed 10 June 2022. DOI 10.1007/978-3-319-77407-7_20

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Exploration On The Information Technology Innovation And New Organizational System Construction Path Of Virtual Teaching And Research Section

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Abstract:
In order to make the virtual teaching and research section (hereinafter referred to as “the section”) no longer stay at the conceptual level, truly realize the transformation of teaching and research achievements through information technology, to promote the development of higher education. This paper starts from the practical requirements that the virtual teaching and research section must face transforming under the background of information technology innovation, summarizes the characteristics of the section and the main ways to build new organizational system from three aspects: environmental construction, resource construction and teaching team construction.

Keywords: Virtual Teaching and Research Section, New Organizational System, Teaching Team Construction, Talent Training, Virtual Teaching and Research.

The section integrates excellent teaching teams, high-quality teaching resources and innovative teaching modes across time and space, schools and regions, which shares on the advanced technology platform, cultivates compound talents with creative learning ability and finally realizes the new mode of intelligent education and teaching. This kind of new idea and new paradigm of teaching organization construction and teacher training in universities is a deep transformation of the times and teaching culture in teaching and educating people at the cell level, which is of great significance for improving teaching quality, academic level of teaching and research, cultivation of creative talents.

1.The realistic requirement of constructing the new organization system of the section

1.1 Various and comprehensive teaching and research forms and teaching means have gradually replaced the traditional sense of "teaching and learning".

The most traditional form of teaching and research is that teachers use blackboard and chalk for oral teaching, inefficient "teaching", point-to-point, face to face, live and small-scale of physical "learning" between students and teachers. 21st century, emerged many information teaching means ,such as multimedia teaching, hybrid teaching, online teaching, flipped classroom, MOOCS, SPOC, teaching on the cloud and so on, which is a further discussion of teaching structure restructuring, teaching environment reengineering, teaching ecological reconstruction and teaching must be gradually develop into depth fusion.

1.2 Traditional teaching and research section can no longer meet the teaching needs, the section has become an effective organizational form of joint talent training in multiple schools.

With the large-scale rise of Internet technology in 20 years, traditional education must also reconstruct itself in the way of the Internet. However, the traditional teaching and research section faces a main bottleneck problem in the development process----"Attach importance to research,but neglect Teaching ". To solve the

fundamental problem, we must integrate new technologies, improve traditional teaching methods, obtain high-quality educational resources through multiple channels, and jointly cultivate compound talents.Therefore, The section is the upgrading of the traditional teaching and research section, and it's also a new way to realize education and teaching reforming and education equity.

1.3 Based on the normalization of the epidemic and the development of the metaverse technology revolution, The section will be filled with more possibilities.

At the same time, the normalization of the epidemic has also accelerated the exploration process of the new organizational system of the section promoted by information technology innovation. The size of the global virtual classroom market is growing at a rate of 16.24% per year. By 2024, its size will increase to $19.6 billion, which is undoubtedly a new opportunity and turning point for the reform of education model and be a pioneer in leading the reform of digital education. Compared with passive changing and adaptation, universities are more willing to actively explore "online education and precision teaching methods supported by big data" to effectively meet students' personalized learning needs, which also promotes the transformation of teachers and schools in a sense.

2. Basic characteristics of the section

2.1 From the perspective of the main body of operation,the section is an academic research community which take the school as the unit for construction, is a scholar alliance that includes a group of high-level teachers and excellent teaching and research teams to carry out research activities,and it is a practical base for teachers and students to jointly build and learn based on the construction of entity teaching and research section.

The section is based on teachers' voluntary initiation which requires strong support of college.It is generally directly led by the University Party Committee and managed and supervised by the Academic Affairs Department. The Department shall provide corresponding teaching and research activities, office facilities and funds to ensure the smooth development of teaching and research activities. The section is responsible for and reports to the department, accepts its business supervision and annual examination, and completes the obligations of school teaching reform research and training dem. onstration related to the project or theme.Surely, the department also has the power to flexibly eliminate the unqualified sections.

A good teaching and research team and leader are the key and soul of the success of the section. The leader of the section is generally who with high academic research status or high-level teachers with rich teaching experience. Most of its team members are also well-known teachers and researchers in the subject and other fields.

Enterprises provide a good physical teaching and research place for teachers and students to innovate and start businesses, and are the best channel to obtain information-based teaching resources. Virtual teaching and research technology through virtual reality equipment assisted teaching, so that students' production practice and experimental activities are no longer limited by

conditions, places and space, which greatly improves the efficiency of teachers' teaching and students' learning.

In a word, schools, teaching and research teams and enterprises constantly play the role of general commander, engineer and mentoring, making the section present a new model of information teaching, build a new teaching command system and a new talent training system.

2.2 From the perspective of construction conditions, the section is relying on the existing achievements of teaching reforming which has the characteristics of cross scope, interdisciplinary and interdisciplinary.It has a clear construction plan and the full support of its unit,it can innovate the application of teaching, evaluation, management and other means in the information platform and can be popularized and has reference value.

The establishment of the section should highlight the characteristics of problem orientation, forward-looking research, conforming to the trend of the times and have certain research value. In terms of teaching means, we should subvert the application mode of traditional teaching and research, and integrate the joint management of online teaching and research, "cloud" promotion into methodology, so as to establish a virtual teaching and research information platform.The responsibility and mission of the section is to let the latest teaching reform and research results"go out" , and "introduce" new ideas, new methods and new technologies that have proved effective in practice. Because its project content usually focuses on the docking with the national resource strategy, takes the key elements of promoting industrial scientific and technological progress and promoting the development of educational and economic integration as the starting point, uses modern information technology to build an educational resource sharing platform, and establishes a core team of industry university research integration and school enterprise cooperation to jointly solve hot issues.

In terms of construction content, teaching reform projects (especially interdisciplinary) are relatively few. From the perspective of construction scope, national and regional projects have been characterized by openness and sharing. In terms of discipline type, the discipline type of the applied project is in line with the trend of interdisciplinary integration development under the background of the construction of "Four New" majors.At the level of organization and operation, the school has always been a solid backing for the construction and development of sections. The school should not only provide organizational support and policy guarantee for its construction, but also provide sufficient financial support, teaching conditions and quality assurance for its operation. Therefore, functional departments at all levels of the school should form a good linkage mechanism with sections to ensure organization, implementation and daily management. At the same time, coordinate the two-level operation mode of entity and virtual teaching and research sections, and clarify the leadership mechanism and the responsibilities of functional departments at all levels.

2.3 From the perspective of the construction object,the teaching of curriculum (group) gradually transformed and expansioned into the network course group.Based on the output oriented concept, guide the discipline construction and achieve the construction goal.And the core of the construction of the section is teaching research and reforming.

Course group and online course group are two different concepts. The course group actually achieves the effect of "1+1>2" through the combination of multiple courses. The network course group is a new course teaching mode in the network teaching of colleges in recent years. Its purpose is to integrate and redesign the relevant courses in the same talent training category, and form a course system that integrates each other in structure and content.In terms of technology, the network course group has realized the modern teaching mode of a series of courses by changing the course presentation form and relying on the network teaching technology means and virtual teaching platform. In terms of content, the network course realizes a new course knowledge system that further refines the course content according to the learning needs, thus realizing the requirements of cultivating compound talents. In terms of sharable scope, the online course group has realized global course sharing, enabling teachers and students to more directly access high-quality course resources around the world.

In order to make high-quality majors and curriculum resources play a good demonstration and radiation role, so as to ensure the final output and construction objectives of first-class courses and majors in colleges, specialty construction will output and contribute from talent training programs, syllabus, knowledge map, specialty evaluation programs.

To reverse the guiding ideology of "emphasizing scientific research and neglecting teaching", we should pay more attention to promoting teaching research, which is also the only way to guide teachers to return to the essence of teaching and take teaching as the fundamental task.Teachers' acquiring sense in major development and identity belonging is the internal motivation that affects teachers' participation in teaching and research, which is the mystery of the realization of the new functions of the section. Explore a new mechanism to stimulate teachers to carry out teaching research and reform and cultivate a team of compound modern teaching teachers to devote themselves to teaching research and reform,the school should pay more attention for the team formation and project approval stage of the section.

3. The construction path of the comprehensive management mode of the section

3.1 Municipal Education Administrative Institutions with the government as the guide should pay more attention,give more focus and power to the implementation of the construction mechanism and platform guarantee mechanism of the section.

A good construction mechanism is the compass that effectively ensures that all parties in the school can concentrate on determining the direction of the construction of the sections. In the virtual teaching and research environment, the development of "Internet + Education Platform" is not simply to use technology to assist teaching, but to promote the deep integration of the Internet and its derived related technologies with education. Secondly, resource construction is the key to the

construction of the sections. The learning materials are no longer real books. Colleges can present their own high-quality curriculum resources on the platform, thus forming a huge virtual teaching and research knowledge system. In terms of the construction of teachers and students, colleges should establish a compound teacher team that can flexibly use modern information technology to carry out virtual teaching and research activities, so as to cultivate a group of excellent teachers and students.

3.2 All forces assisted by enterprises should work together to help the school lay a solid foundation, seize the development opportunities in the intelligent era, and do a good job in logistics support and service.

Enterprises play a decisive role in the construction of the section. School enterprise cooperation is also conducive to the transmission of excellent teachers and talents, and the help of enterprises is also conducive to the consolidation and consolidation of the construction of entity sections. The entity section not only ensures the normal operation of daily teaching organization and management, curriculum construction, teaching and research activities, but also undertakes relevant scientific research, teacher training, student innovation and entrepreneurship competitions, etc. The promotion and development of enterprises is not only related to the transformation of scientific research achievements in colleges, but also an important breakthrough in the establishment of a national technological innovation system. Therefore, enterprises also shoulder the mission of transforming scientific and technological achievements, and constantly provide platform users with the most suitable cloud and virtual teaching and research sharing platform, so as to repair and improve the known vulnerabilities and deficiencies in the use of software and platform.

3.3 The main builders with the school as the core should spare no effort, work together and concentrate to complete the construction objectives and tasks of the section, in order to establish a sound quality assurance mechanism and deepen the reform of the evaluation system and mechanism. The teaching level of the sections determines its survival, the scientific research determines its level, the specialty determines its status, the quality determines its rise and fall and the system determines its success or failure.How teachers carry out professional construction and promote their own development in the form of online teaching and research is the key to the success of virtual teaching and research activities. In recent years, China has carried out Professional Certification of International Engineering Education. "OBE Theory"is the core concept of international engineering education. Therefore, teachers in the teaching and research team should also be encouraged to carry out professional certification of excellent courses and majors to enhance their competitiveness.

The core of the section is to promote teaching, scientific research and management. Shanghai Jiaotong University plays a particularly prominent demonstration and leading role in teaching research and innovation. They not only shared "how to do a good job in the construction and application of the first-class major of the Ministry of education"online , but also invited brother universities, first-class major construction and application experts and scholars to help school to create excellent majors.

The Ministry of education plans to spend 3-5 years to build a national information platform for the sections in higher education which the ultimate goal is to establish a sound quality assurance mechanism and evaluation system and mechanism.So the research on the problems concerned by the section also solves the persistent problems in the allocation of educational resources, educational equity and traditional teaching and research forms to a certain extent.

4.The establishment of quality assurance mechanism of the section should involve all aspects of virtual teaching and research

4.1 The problem oriented mechanism of the section should be combined with the result output mechanism, which is the key to ensure the value of virtual teaching and research output results. For example, regularly carry out seminar on teaching research and teaching issues, teaching and research achievement award meeting, virtual teaching research assessment meetings, etc., effectively link assessment, awards, problem feedback and communication, truly make virtual teaching research productive, high-quality and dare to research.

4.2 The combination of the operation management mechanism and incentive mechanism of the section is the key to consolidate the solid strength of the virtual teaching and research academic community. Cross school mutual learning and visits, sharing of teaching resource platform , teacher comprehensive training, etc. can promote the maturity and improvement of the operation and management mechanism of virtual teaching and research .The incentive mechanism can solve the problem of the mobility of teaching and research personnel, attract more excellent scholars and teachers to participate in it.

4.3 The department should still establish a multi-party evaluation mechanism combining classification evaluation and meta evaluation. On the one hand, scholars should carry out classified evaluation internally and explore how to establish a basic teaching organization system with multiple fields, levels and types. On the other hand, the external evaluation of the construction effect of the section, such as student evaluation, self-evaluation between the sections, mutual evaluation within the school,etc.Finally,carry out meta evaluation, actively explore the scientificity and effectiveness of virtual teaching and research, improve competitiveness, and compare it with the same industry in the country and even the world.

Only by promoting construction, development and exploration through evaluation can we better find deficiencies, know how to make up for deficiencies, and guide scientific research and construction.

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Performance Of Higher Education Institutions In Bhutan: An Exploratory Study Of The Institutional Self-Assessment Report (ISAR) And Accreditors' Report (AR)

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Abstract

Given that quality assurance in higher education is of utmost importance, the Bhutan Accreditation Council initiated mandatory institutional accreditation in 2016 and completed the first cycle for 13 eligible higher education institutions in 2020. This stand-alone qualitative documentary analysis of the accreditation reports of the 13 HEIs (Institutional Self-Assessment Reports and Accreditors' Reports) was carried out to provide insights into the overall quality of HE and the accreditation process in Bhutan. A total of some 2182 pages of texts were analysed using a three-stage coding process (Open coding, Axial coding and Selective coding). Findings suggest that the Bhutanese HE sector, given its short history, has made a significant progress with rigorous curriculum processes in place, enhancement in the research and publication culture, infrastructure development, student services, and overall quality assurance mechanism. However, this report calls for more focused attention of the HEIs and other relevant stakeholdersto create an even more robust quality assurance culture and accountability system to be at par with international standards.

Keywords: Higher Education Institute; Quality Assurance; Standards; Accreditation; Curriculum; Research

1. Introduction

Higher Education (HE) is critical in developing quality human resources for any nation. In recent decades, Bhutan's HE system has undergone major transformation. Prior to 2003, various ministries and agencies established their own institutes and provided training to meet their own human resource requirements. Some high performing students are also sent abroad to study medicine, engineering, and law on government scholarships. However, the Royal Government ofBhutan came to realise the need for HE to be regulated to ensure a robust HE system. As a result,the Royal

University of Bhutan (RUB) was established in 2003, bringing together all the higher education institutions (HEIs). All the institutes, except the Royal Institute of Management (RIM), which was established through a Royal Charter in 1990, joined a federated system. Today RUB has nine constituent colleges. In 2014, the Khesar Gyalpo University of Medical Sciences of Bhutan (KGUMSB) was established, bringing together the two medical institutes. Following this, the Jigme Singye Wangchuck School of Law (JSW Law) was established in 2015 through Royal Charter. There are also three private institutes: The Royal Thimphu College established in 2009, the Norbuling Rigter College established in 2017, and Arura Academy of Health Sciences established in 2014. The first two institutes are affiliated to the RUB while the third one is affiliated to the KGUMSB. Currently, there are seventeen HEIs spread across the country.

Realising the importance of both Internal Quality Assurance (IQA) and External Quality Assurance (EQA) in HE (Cadena, et al., 2018; Dong, 2017; Islamović & Bajramović, 2021), the Bhutan Accreditation Council (BAC) was established in 2011 as the national autonomous body, to oversee and monitor the standards within HEIs (BAC, 2012). Currently, BAC as an EQA bodyis responsible for accreditation of HEIs and their programmes. The HEIs are responsible for theirown IQA.

The BAC initiated mandatory institutional accreditation in 2016 and completed the first cycle for 13 eligible HEIs in 2020. Accreditation is based on the six core assessment standards, 36 key aspects, and 224 questions namely: *Curricular elements (9 key aspects and 55 questions);Research, Innovative Practises and Institutional Linkages (6 key aspects and 42 questions); Governance, Leadership and Management (5 key aspects and 33 questions); Infrastructure and Learning Resources (5 key aspects and 30 questions); Student Services (9 key aspects and 48 questions); and Internal Quality Assurance and Enhancement System (2 key aspects and 15 questions)* (BAC, 2012). The intent of the exercise is to gauge the performance of the HEIs against the standards and to promote continuous quality improvement.

The accreditation exercise for each institute begins with submission of the Institutional Self-Assessment Report (ISAR) based on the six core standards, 36 key aspects, and 224 indicators/questions. The Council organises training and facilitates site visits for the recruited accreditors to assess and validate the report submitted by the HEIs. The accreditors are independent individuals recruited solely for the purpose of accreditation of a HEI based on their expertise and relevance. The key aspects are also graded to arrive at the final grading of the HEIs. The Accreditors' Report comprises the result of the accreditation process of that particularHEI that includes the strengths, areas for improvement, opportunities, challenges, and recommendations. This exploratory study is the first ever attempt to provide a comprehensive overview of the performance of Bhutanese HEIs.

2. Statement of Problem

Quality assurance in HE (both IQA and EQA) has become an inevitable phenomenon worldwide (Dong, 2017; Jarvis, 2013). Bhutan is not an exception. A lot of reforms have been initiated overthe last decade. It is crucial that HEIs demonstrate their relevance and quality to the government,public,

students and other stakeholders. This can be best achieved through the creation of a QA culture. The QA systems in the HE sector have to be viewed holistically that includes maintaining and promoting quality in curriculum, teaching-learning, research and innovation, governance, student services, and infrastructure facilities (Cadena, et al., 2018; Islamović & Bajramović, 2021). During the first ever accreditation exercise in 2016, a lot of potentially rich and useful data were collected in the form of Institutional Self-Assessment Report (ISAR), Accreditors' Report, and Grading score for each HEI. However, till date the information gathered has not been analysed and put to any meaningful use. Therefore, there is a critical needto carry out an analysis using the data collected to be able to gain insights into the strengths, areas for improvement, opportunities, and challenges in the HEIs as well as the accreditation process. There is also a general dearth of literature in the context of Bhutanese HE. Therefore, this study provides the first ever-holistic insights into the quality of the Bhutanese HE and the accreditation process.

Overarching Research Question
What do the institutional self-assessment report and accreditors' report say about theperformance of HEIs in Bhutan?

Sub-questions

1. How are the HEIs performing in terms of the six standards?
2. What are the opportunities and challenges for the HEIs in terms of the standards?
3. What recommendations could be provided for the quality assurance of the HEIs?

3. Accreditation and Quality Assurance In Higher Education

Accreditation is part of a suite of QA tools increasingly used around the world to both monitor or enforce the quality in HEIs as well as to encourage continuous improvement and productivity (Atia & El-Attug, 2021; Brenneis et al., 2005; Dattey et al., 2017; Dong, 2017, Hauptman Komotar, 2020). It is considered a form of External Quality Assurance (EQA) as in most cases itis led by an entity or agency external to the institution being assessed. This is in contrast to Internal Quality Assurance (IQA) which are self-regulatory and can (in theory) also be based on institutional policies and priorities (Aithal, 2015). However, the development of IQA systems can be created in reaction to EQA measures, recommendations by external entities such as the government (Martin, 2018; Mursid et al., 2020) or encouragement from externally funded multilateral or bilateral organisations (Martin, 2018).

Accreditation assesses institutions based on a predefined set of agreed upon standards thatare related to education and education quality (Tamrat, 2020). This allows both for comparison between institutions and of the same institution over time. If the institution is deemed able to meet the set standards, they are considered accredited for a set number of years. However, despite these positive intentions the process has also been described as time consuming and exhausting (Alibi et al., 2021; Beerkens, 2018; Mendis, 2017), costly (Atia & El-Attug, 2021; Mendis, 2017), contentious (Alibi et al., 2021) and in some cases it was even seen more as a threat than an attempt to improve

institutions (Brenneis et al., 2005; Mendis, 2017).

While accreditation is a more recent practice (Alstete, 2007) there is a long history of concerns about the quality of HEIs. Martin (2018) argues that most HEIs have long had informalmethods, located at a range of different levels of authority, and geared towards addressing quality. Vught and Westerheijden (1994) trace this concern back to mediaeval era Europe where they identify two models of quality assessment which they argue in important ways underpin the key values in modern-day QA. These are firstly the French model, where an external authority (the church) controlled assessment of quality and secondly the English model where quality wasassessed by a self-governing community of fellows. Vught and Westerheijden (1994) argue thatthe first model reflects the external values of education as a service provided to society at large while the second model reflects more internal values related to the creation and search for knowledge. They note that both these external and internal elements (research/knowledge production and accountability) are an important aspect of contemporary QA practices in HE. Each of these aspects is discussed in the following sections.

External Quality Assurance (EQA)

Most scholars trace the global proliferation of contemporary QA systems in HE to the 1980s (Dong, 2017; Saglamer, 2013). While historical, political, and economic contexts within particular nations had an important influence on the kinds of QA systems that were adopted, many of the same factors and pressure are identified at the global level. Shifting state and even regional education policies and priorities (Brenneis et al., 2005; Vught & Westerheijden, 1994) is one example. The globalisation (Alibi et al., 2021; Li, 2010; Mendis, 2017) of HE and the desirefor students to move between systems is another. Also significant is the weakening of public trust in HEIs (Alibi et al., 2021; Dattey et al., 2017; Li, 2010) particularly in the context of an unprecedented increase in the number of private institutions (Alibi et al., 2021; Dattey et al, 2017; Li, 2010; Martin, 2018; Tamrat, 2020). However, the factor that appears most often is the fact that this rapid expansion of HEIs was happening at the same time as a sharp decrease in statefunding for HE (Alibi et al., 2021; Dattey et al., 2017; Li 2010; Martin, 2018; Mendis, 2017; Saglamer, 2013; Salter & Tapper, 2000; Tamrat, 2020).

Changes in the availability and mechanism of funding for HEIs played an important role inthe development, expansion and formalisation of national QA systems. The rise of private HEIs particularly in developing nations for example seems to have pushed governments to create and formalise QA systems to regulate the quality of this new sector (Alibi et al., 2021, Atia & El- Attug, 2021, Li, 2010; Tamrat, 2020). While in the European (Beerkens, 2018; Salter & Tapper, 2000) and Australian (Beerken, 2013; Dong, 2017) contexts an ideological shift to a more market-driven neo-liberal approach to HE helped drive the development of mechanisms to measure quality of education and research productivity in order to make decisions about funding(Brenneis et al., 2005).

National contexts have an important influence on the kinds of QA systems (Dong, 2017; Martin & Lee, 2018) that were adopted and how they play out. For example, Vught and Westerheijden (1994) compare the way in which these systems in North America are driven bymarket conditions where

institutions behave much like private corporations in competition witheach other while in Western Europe there is much more state control of the process but institutions are also able to expect a level of state funding (see also Salter & Tapper, 2000). Turkey is an interesting outlier in the sense that its history of higher educational accreditation was driven by institutions, particularly engineering colleges, seeking external accreditation in order to give graduates access to the European job market (Saglamer, 2013), making it a rare bottom-up approach. In contrast, in many developing nations such as China (Li, 2010), Vietnam(Dong, 2017), and Ghana (Alibi et al., 2021) these systems were driven by government concernsand have a top-down character, which is also true in Bhutan. In developing countries, QA systems are relatively young and often overwhelmed by the need to monitor a surge in private institutions (Alibi et al., 2021). Dong (2017) also points out that in some cases like Vietnam, borrowed QA systems might lack local relevance. Regulating agencies may be struggling to provide adequate and timely professional services (Alibi et al., 2021; Dong, 2017; Tamrat, 2020), while institutions might also lack the capacity to undergo the accreditation process (Atia & El-Attug, 2021). Martin and Lee (2018c) found that in terms of the workload associated with QA both faculty and administrative staff sometimes saw the work as an extra, often uncompensated burden that was outside of their 'legitimate' duties (see also Brenneis et al., 2005). Due to lack of research, it cannot be ascertained if these challenges are also true in Bhutan.

Improvement is one key driver for modern QA practices in HE, making QA an on-going, continuous process (Dattey et al., 2017; Dong, 2017). Accountability, particularly in the face of both stakeholder concerns with the quality of education and reduced state funding is another (Alibi et al., 2021; Brenneis et al., 2005; Dattey et al., 2017). In the case of Bhutan, the government had to put the QA mechanism in place so that there is smooth mobility of graduates both for further studies as well as employment opportunities. Namgyel (2012) notes that push forQA in Bhutan comes out of a period of large-scale educational transition with a rapid increase inthe number of colleges as well as increased contact with the global community. He notes that there is also a concern about the growing number of graduates entering the job market. The local- administered, secular HE systems are relatively new in Bhutan (Hendrickson 2016, Schofield 2016) and so processes and policies are in many ways still nascent and evolving.

On a global level there are a host of different QA systems in operation each with their ownindicators and methods to collect information to measure these indicators (Martin & Lee, 2018a). While the assessment methods can vary there are a number of methods that are commonly used including the use of stakeholder interviews, self-assessment, and peer review (particularly in the form of site visits) and document review (Dong, 2017; Tamrat, 2020; Vught & Westerheijden, 1994). However, almost all systems include measures of the quality of teaching-learning or curriculum and research, two aspects that arguably should be at the heart of any HEI. Cadena et al. (2018) conducted a literature review of various different systems (lookingat over 650 different sources) and found that indicators could be grouped under six main dimensions namely: research, teaching, management, resources, links with society and students. However, they found that QA systems tend to focus on teaching and research at the expense of all other dimensions. Bhutan has six standards (curriculum, research and industrial linkages, governance and leadership, infrastructure, student services, and internal quality assurance) and each of the six standards is elucidated through different weightings

(BAC, 2020)but if HEIs are actually complying with the standards or not is unclear. Therefore, the current study was designed to look at this issue.

Much less research on QA focuses on measuring the quality of HE governance or management and investigating its potential impact on overall quality of education. Meri (2018) argues that while university governance (which sees universities managed more like corporate entities or using public administration techniques) as necessary for their success also shows that there is a wide range of different governance models at global level. Zaman (2015) attempted to investigate the links between governance indicators and educational outcomes in major regions of the world and found that this relationship is not only positive but also has an impact on the internationalisation of HEI. However, this author does note that it is important that governance policies find a balance between accountability and autonomy. The link between governance and educational outcomes is something that must be explored in the context of Bhutan. Fitriani and Muljuno (2019) found a similar connection between good governance and what they describe as"academic culture" (which covers many aspects of an HEI's setting) in the context of IndonesianHEIs. They argue that governance in HEIs is most effective when it becomes internalised into the institutional culture rather than treated as an obligation. In a study of Australian HEIs, Beerkens (2013) describes an interesting relationship between research and governance, noting that governance structures were actually reformed to successfully increase research productivity,pointing to the way in which various indications or standards of quality can be interconnected.

Research productivity and quality are important ways in which HEIs are judged both by EQA measures as well as IQA mechanisms. Research productivity is both a way to publicly demonstrate the academic calibre of an institution as well as a way to justify continued state funding (Nguyen et al., 2021). Additionally, at HEIs that have robust research agenda, research productivity is often tied to both promotions and remuneration. Beerkens (2013) points out that most universities no longer leave research up to individual interest and motivation, instead research and research productivity are part of their official policies and strategic planning (a formof IQA). Beerkens (2013) found that Australian national policies adopted in the 1980s such as performance monitoring, performance-based funding and the encouragement of competition between institutions (all examples of EQA measures) did help to increase research productivity. Overall Beerkens found that there is a positive relation between research management and research performance irrespective of which performance measures an institution chose to use. Nguyen et al. (2021) had similar findings for how institutional policies increased researchproductivity in Vietnam HEIs.

Internal Quality Assurance (IQA)

Often there is a differentiation made between EQA and IQA but in many cases the important interrelation between the two is recognised (Alibi et al., 2021; Li, 2010). Tamrat (2020), Mursid et al. (2020) and Martin and Lee (2018c) all note that a lack of integration and connection between EQA and IQA systems can actually make both systems less effective at encouraging improvement. IQA systems are often responsive to EQA requirements but can also be set up to provide information specific to an institution's own priorities and interests (Martin, 2018). Dong (2017) notes that most QA systems include both EQA and IQA and argues that most commenters see IQA as having the

greater potential for impact. Mursid et al. (2020) argue that the success of IQA measures requires not only careful implementation but also thoughtful planning and evaluation and that weakness at any stage in the process can in fact make the measures less effective. Martin (2018) similarly argues for the need to integrate IQA with an institution's strategic planning and resources allocation.

A UNESCO survey of 311 institutions from 94 countries found that the institutions adopted IQA measures to comply with external entities (stakeholders and national authorities), with the intention to improve (Martin, 2018), and enhance institution's reputation particularly at an international level (see also Hauptman Komotar, 2020). However, she also points to a numberof internal factors (basically the institutional environment) that might help foster IQA practises including leadership and staff support for IQA, clarity on the benefits of IQA and the presence ofstaff qualified to take on the procedures and processes associated with IQA. Martin and Lee (2018c) also add "financial incentives for staff, support from students, visibility of measures deduced from IQA procedures, solid data information system, transparent information on the IQA procedures, scientific evaluations on the IQA procedures, and active participation in IQA procedures" to this list (p. 257). However, they also point out that there are also important external factors that can support (or limit) effective IQA systems. These factors include EQA practices, national regulation, national quality assurance frameworks, and the desire of international accreditation.

The UNESCO survey found that while there was a range of possible foci for IQA, teaching and learning were primary focus for most institutions around the world (Martin, 2018 see also Aithal 2015). The survey also found that the majority of institutions had formalised IQAthrough written policy including strategic plans, however not all of them had a standalone policyrelated to IQA. For example, only a third of respondents had an IQA handbook. In most institutions, management played a central role in IQA. Over 60% of the institutions surveyed hada cell or a unit dedicated to IQA at the institutional level while more than 70% had an IQA committee. Due to lack of previous study, it cannot be ascertained if this would be similar for Bhutan.

As noted by Martin (2018) teaching-learning is the dominant area of IQA concern and for this reason in most institutions academic enhancement is a key concern. She described some of the new ways (beyond student course assessment) in which this is measured from workload assessment, student progression studies, and programme evaluations to student satisfaction surveys. The latter looks beyond academic experiences to also measure student satisfaction with services and extra-curricular activities. She notes that student evaluation and annual appraisals were common while classroom supervision and other measures seen as counter to academic autonomy were less popular. The focus of Bhutanese IQA system has been explored in this study.

Martin (2018) also points to the need for IQA to address the employability of graduates and notes that some institutions are already using tracer studies and employer surveys. She also notes that internships are an important way to make the link between academic institutions and the job market. However, she notes that many measures do not take a long-term view nor do theylook at graduate career progression over time within the job market. Whether Bhutanese HEIs look at the employability of their graduates and graduate career progression is unknown. Anothercommon area

examined by IQA is management (or governance). Martin (2018) notes that in many cases this has gone hand-in-hand with other kinds of reforms of management structures, often at the behest of governments. In this area, the survey found that some of the common ways in which this was measured included monitoring of strategic planning objectives (which was the most common), internal service/target agreements, evaluations of administrative units, and external certification (which was the least common).

The intended impact of QA is improvement or reform, however attempts to measure the success of these exercises in terms of the improvement that they have instigated are few and far between and their findings are mixed (Beerkens, 2018; Dattey et al., 2017; Martin, 2018; Martin& Lee, 2018b). However, Dattey et al. (2017) note that institutions show awareness that attracting students is dependent on their accreditation status, which might help drive efforts to improve. Most HEIs in Bhutan are public funded (except for a few) and there are not many competitors. So, student attraction is not an issue at least for now. However, for the private colleges, the situation would be slightly different. Martin and Lee (2018b) point out that the analysis of the effects of IQA is mostly based on "after procedure judgements" by QA officials suggesting that the analysis is not systematic or grounded in theoretical understanding (p. 235). Beerkens (2018) similarly notes that in many cases even studies that seek to look at the impact miss the most important measure, namely the impact on student learning. She notes that in general, performance data (such as graduation rate or student retention rate) showed improvement when it was measured and that QA exercises might contribute to making quality ingeneral and quality of curriculum in particular a topic of conversation among faculty. Additionally, Beerkens (2018) notes that reported changes are most likely to be seen in terms of internal governance structure and new relationships of accountability as well as the increased professionalisation of QA process which are increasingly seen as an area of expertise(see also Jinguran & Kamusoko, 2019). In contrast, Martin (2018) argues that for IQA to be effective grassroots level discussions and the inclusion of diverse stakeholders is essential.

Beerkens (2018) argues that all of this shows that universities are responsive to external incentives. However, Tamrat (2020) cautions that evidence of chance can be performed for short-term evaluation visits. Dattey et al. (2017) also caution that QA measures are in fact one ofseveral possible influences on improvements in quality. Additionally, both Hauptman Komotar (2020) and Tamrat (2020) maintain that the focus on meeting bare minimum standards might discourage efforts to exceed the threshold or innovate beyond them. In the context of Bhutan, Schofield (2016) similarly argued that while RUB policies offer close and extensive oversight ofcurriculum and assessment procedures in order to ensure quality, this might come at the expenseof innovation and flexibility.

4. Methods and Materials

This explorative study of the Institutional Self-Assessment Reports (ISARs) and the Accreditors' Reports (ARs) generated from the first cycle accreditation exercise employed a stand-alone qualitative approach of document analysis underpinned by interpretivist paradigm (Bowen, 2009; Creswell, 2014; Sommerhoff, 2018). Document analysis is a systematic process that examines, reviews, evaluates, and interprets the content in the documents to gain insights and develop

empirical knowledge (Bowen, 2009; Dong, 2017). According to Bowen (2009, p. 28), this "analytic procedure entails finding, selecting, appraising (making sense of), and synthesising data contained in documents." While documents are considered to be an unobtrusive source of information that comes in a written form, ready to be used, it has its own limitations as the data in the documents are not always precise and complete (Bowen, 2009; Cresswell, 2014).

Sample

The Bhutan Accreditation Council has accredited a total of 13 HEIs from 2016 to 2020. This first ever exercise was implemented after a successful pilot phase in 2015. For this documentary study, the ISARs and ARs of all the 13 accredited HEIs have been analysed. Besides these documents, the grading scores of all the HEIs have been also scrutinised to understand theiroverall performance.

Data Analysis

Data were collected from the ISAR and ARs of 13 HEIs. ISAR of the 13 institutes had on average 156 pages (156x13= 2028 pages) of texts in the form of responses to the 224 questions addressing the six key standards while the accreditors' report had all together 154 pages to be analysed with an average of 11.8 pages per HEI. Each of the research team members was assigned to look at one standard from the ISARs across all the 13 HEIs and the accreditors' report. Three-stage processes of coding- 'open-coding,' 'axial-coding,' and 'selective-coding' was employed to analyse the data (University of Pretoria, n.d.). Open-coding involved reading through the documents and writing down codes in the form of words and phrases for each of the six standards and key aspects. These initial codes were then compared with that of the ARs to seeif there were any differences. Axial-coding in the second phase allowed each member to review the codes and categorised them into various themes and patterns. These themes and patterns werethen further reduced to more prominent themes through a process of 'selective-coding.' Each of these themes was then elucidated with a narrative account. According to Wesley (2010, p. 8) qualitative document analysts need to "immerse themselves in their texts and produce detailed accounts of their findings," which is referred to as "soaking and poking" until the "saturation point." To enhance the quality of the findings, this study employed document triangulation, member checking, and thick description (Cooksey & MacDonald, 2019; Creswell, 2014).

Ethical Consideration

Formal written approval to use the data collected in the form of ISAR and ARs were sought from the Chairperson of the BAC. Each of the 13 HEIs is assigned pseudonyms as follows: HEI 1, HEI 2 … and HEI 13 to conceal the identity of the institutions.

5. Data Analysis and Presentation

This section presents data analysis based on the six accreditation standards.

Standard 1 - Curricular Elements

Curriculum Design, Development and Feedback

Data analysis showed that the faculty mainly carried out curriculum design and development following a rigorous process and scrutiny in line with their institution's academic regulations. While

the curriculum development and design initiatives are commendable, only a small numberof HEIs have partnered with international HEIs in the validation process. The curriculum designswithin the HEIs in most cases are carried out through stakeholder consultation and engagement with subject area experts. However, there are also practices of borrowing curriculum from other HEIs within the same university systems. Data also indicate that most HEIs do not have any international students. A few who do have a minimal number enrolled for short-term programmes.

In order to improve the curriculum, all HEIs seek feedback from stakeholders, particularly from students typically at the end of the semester. Correspondingly, formal feedback mechanisms from academic peers, employers, and other stakeholders were other credible sourcesof information to review, revise, and update the curriculum. However, some institutions (e.g., HEI 01) did not consider feedback essential to improving their curriculum. The level of rigour in using the information collected through feedback varied across the HEIs. It was evident that not all HEIs have a robust system to analyse and productively use the feedback provided. Furthermore, only a few HEIs carried out tracer studies of graduates to understand the overallemployment status of their graduates.

Teaching-Learning Process

It is evident that all the HEIs have vision and mission statements to guide their institution's activities, including the achievements of the curricular aspirations. The common observed practice was for the teaching-learning process to begin with the planning cycle, with workloaddistribution carried out well in advance. Each faculty prepare weekly teaching plans and assessment modalities for their modules. Although most HEIs use the Virtual Learning Environment (VLE) as their learning management system (to upload course-related documentsfor easy access), at the time of the accreditation exercise most of the HEIs used conventional face-to-face medium of instruction. Another interesting finding is that many HEIs did not cater to persons with disabilities. However, those HEIs who admitted such students had mainly cateredto visually impaired students.

Students in technical courses were required to undertake on-job-training (OJT) or to undertake industrial job internships, while pre-service student teachers had to undergo field practicum. Besides field placements, a significant chunk of evaluation across all HEIs is in the form of summative assessments, usually a paper and pencil test administered at the end of each semester. Furthermore, a common pattern across all the HEIs is to allow students to re-sit examsthat they failed as well as to repeat the semester if they failed multiple exams.

Faculty Recruitment and Quality

Findings from this study showed that finding competent and experienced local faculty is achallenge for many HEIs. In addition, while HR policies would allow HEIs to recruit international faculty, most HEIs did not for some reason.

Noticeably, to retain and further improve the quality of faculty, there were a number if incentive schemes such as personal laptops, qualification up-gradation opportunities with paid study leave, access to research grants, and particularly in RUB there are Annual University Research Grants (AURG) and College Annual Research Grants (CARG) made available. Most faculties in HEIs have

Masters level qualifications, with a sparse number of PhDs in the mix and even a small number of faculties with undergraduate level qualifications. While most HEIs have a conservative master level qualification entry requirement to apply for faculty positions, in somecases they have been flexible with the qualification requirement due to non-availability of qualified candidates. A rigorous 10-day induction programme in pedagogy and teaching is provided to new RUB faculty.

Standard 2: Research, Innovative practices and Institutional linkages Research culture and Publication

Most HEIs have a well-established support mechanism for research and publication with a clear policy and framework. HEIs have carried out many activities to promote research, such as; training and workshops on research, paper presentation sessions, inviting eminent guest speakers, undertaking research consultancies, publications, and national and international seminars. Individual faculty members have the liberty to research on the topic of their interests, and can avail research grants. Currently, there is no system of sabbatical leave. However, in some HEIs their typical teaching workload is reduced for those involved in research. Furthermore, all 13 HEIs are offering modules on research to upscale research skills among students and faculty withsome access to paid online databases. Interestingly to build the temper in research, all government HEIs under RUB and an autonomous HEI (13), the annual performance of the colleges is tied to the number of research activities as a success indicator in their Annual Performance Agreement (APA).

Most of the HEIs have their own research centres and journal publications except for a few(see Table 1 for the details).

Table 1: Number of Research Centres, Journals and Publications of HEIs

HEI Code	No. of Research Centre	No. of Journal	No. of Article Publication	No. of Book Chapter	No. of Book	Total publication*
01	0	0	0	0	0	**0**
02	1	1	Not Mentioned in ISAR and AR			**0**
03	0	0	70	42	18	**130**
04	6	1	30	7	4	**41**
05	1	2	79	24	4	**107**
06	0	1	11	-	3	**14**
07	0	0	7	0	0	**7**
08	2	1	92	3	2	**97**
09	2	1	43	1	0	**44**
10	4	1	Not Mentioned in ISAR and AR			
11	2	1	32	12		**44**
12	2	1	115	4	17	**136**
13	1	0	24	0	0	**24**
Total	**21**	**10**	**503**	**93**	**48**	**644**

***Please note that the total publication is inclusive of publications in other journals (both national and international) not necessarily in their own journal*

While some of the HEIs are more active, a few have been inactive in terms of research and publication. There seems to be a huge gap (highest 136 and lowest 0) in terms of publication. Furthermore, while one HEI has up to six research centres there are still a few without any research centre. There is also evidence to show that a few faculty members of some of the HEIs(04, 05, 08, 10, & 11) are recognised by the international universities for their outstanding workin the research. However, some HEIs (01, 06, &12) face challenges due to a lack of research expertise.

Research Fund

Findings from this study indicate that most HEIs have received external grants from both withinand ex-country. Some of the grants received by the HEIs were from RSPN (Royal Society for the Protection of Nature), WWF, DANIDA, ICIMOD, AURG (Annual University Research Grant), Helvetas Bhutan, Erasmus Plus (European Union), BOIC, UNESCO (Delhi), Alliance (France), Japan Trust Fund, JICA, UNFPA, GoI-PTA, and ADB. Further, to support research activities, all RUB colleges keep aside 1% of their annual fund, while some even allocate up to 2% (HEI 05). The research fund is used for up-scaling the research capacity of the faculty, research, and publication, but it was noted that there was no separate budget for students, exceptat one HEI (08).

Some HEIs (01, 03, 06, & 07) do not have a separate fund for research. These HEIs dependon external funds, which are not guaranteed. Although HEI 13 had no dedicated research fund, faculty could apply for research grants for up to One Hundred Thousand per year. Although many HEIs had separate research funds, it was evident that the fund was not adequate to supportfaculty to present and attend international seminars.

Institutional Linkages

The findings from this study showed that HEIs have maintained a good rapport between different stakeholders both within and outside Bhutan, sharing ideas and human resources. Number of agreements (MoU) was signed between HEIs and other stakeholders, mostly with HEIs from countries like the USA, Japan, Australia, India, Canada, England, and Germany. The activities like faculty and student exchange programmes, seminars and workshops, sharing of expertise, and module development (HEIs 04 & 05) were coordinated with these partner universities. However, findings suggest that the signing of MoU with international HEIs entails a lengthy andstringent process, which is often perceived as a bottleneck in establishing linkages.

Innovative Practices

According to BAC, innovative practices are defined as "New and creative approaches in education involving all stakeholders, adopting inclusive practices aimed to promote academic excellence and effective human resource development" (p. 25). HEIs have carried out numerous innovative practices, as evident in the ISAR and accreditors' reports. According to the HEIs, some of the innovative practices carried out are 'Telemedicine Research Project,' 'Wet and Dry day of college canteen,' 'Installation of CCTV,' 'Shift system,' and 'Establishment of Meditation Hall'. Some of these practices indicate that the interpretations of innovative practicesby some of the HEIs seemed to be different, and only a few HEIs have initiated the innovative practice in its true sense. In reality,

BAC aspires HEIs to focus on research-based innovative practices that help to promote academic excellence and human resource development.

Standard 3: Governance, Leadership and Management Organisational vision, structure, and leadership

Findings suggest that the vision and mission statements of all the HEIs mainly focused on imparting knowledge, creating a centre of excellence driven by the national philosophy of GrossNational Happiness (GNH), and diversification of programmes. According to the ISAR, most of the accredited HEIs promote and groom leadership through decentralisation and participative management systems. For these HEIs, such practices were mainly ensured through delegation of responsibilities, following the principle of transparency, efficiency and accountability. However,the participative management in terms of engaging students and faculty in decision-making weremainly related to academic affairs (e.g., CAC and Programme Committees). The practice of engaging students and faculties in decision-making related to management was not visible among HEIs. The findings showed that a few HEIs (HEI 03, 10, 11 & 13) had also put in place aseparate QA committee with varying nomenclature in place as required by the accreditation standard.

Human Resource Management (HRM)

It was evident that most of the HEIs did not have full administrative, HR and financial autonomy. The constituent college/faculty under the different universities followed university level HR rules and regulations. The arrangement to facilitate the optimum use of resources was based on different policies related to particular aspects. For instance, Strategic Plan and Human Resource Plan were two such policy documents of accredited HEIs. Although the Strategic Planwas in place, there were some implementation gaps in some of the HEIs (01, 02, 05 & 07).

Most of the HEIs had some form of arrangements to facilitate optimal use of available resources. However, there was no evidence of having user policy. Moreover, the quality and outcome of such utilisation of resources were checked and balanced by Quality Policy. Some HEIs (09 & 12) used the Quality Policy of RUB (The Wheel of Academic Law), HEIs (02, 03,04, 08, & 11) had created the college level Quality Policy in line with RUB Policy and some HEIs (01, 06, & 07) did not have Quality Policy in place.

Accredited HEIs had student and staff welfare schemes in place. In addition, few HEIs (06 & 13) and HEI 12 were also members of Civil Service Welfare Schemes (CSWS) and EducationStaff Welfare Scheme (ESWS) respectively. HRM also dealt with handling complaints and legal issues. Depending upon the severity, the issues were resolved at different levels. Other than HEIs07 and 08, none had been in legal issues. Furthermore, HRM implemented various measures such as fast track promotion, employing superannuated faculty on contract, low-interest loan, free Wi-Fi, computer facilities, free pick up and drop facilities, and instituted various awards such as “lecturer of the year” to attract and retain eminent faculty. Even after such measures, it was a challenge for some HEIs (11 & 13) to retain good faculties.

Academic Enhancement

Academics in all the HEIs had the opportunity to upgrade their qualifications by engaging in activities like research, continuous PD programmes, community engagement, and further studies (Masters and PhD) provided both in-country and ex-country. Events related to academics were likewise discussed and reflected in the academic calendar. However, PD programmes for support staff were not available in some HEIs (02, 06, & 07). In addition, retraining field staff on the new knowledge and skills and qualification up-gradation was a challenge for some HEIs (06, 08, & 13).

Interaction, Monitoring and Evaluation Mechanism

In order to ensure the availability of adequate information, the accredited HEIs had short meetings, tracer studies, stakeholder meetings, Google group forum, notice boards, assembly,and 360-degree feedback system in place. Although student feedback was mainly analysed inrelation to academics, some HEIs (04, 08, & 12) also sought feedback on HR and resource management. The HEI 12 was the only institute with a unique system for collecting and analysing feedback. The institute used computerised technology (*i*-Clickers) to collect and analyse feedback qualitatively. Conversely, one HEI (07) did not have a feedback system in place.

Most staff of the HEIs set targets in the beginning of the semester and also had to submit aself-appraisal at the end of the year to their respective managers. The academic committee and HR committee did the monitoring and evaluation for teaching staff and non-teaching staff, respectively. Accredited HEIs mostly followed RCSC (BCSR) and RUBHRRR 2017 performance appraisal systems. While one HEI (03) followed a self-developed performance appraisal system, and the other HEI (01) did not even have a structured performance appraisal system.

Financial resources were monitored through quarterly budget review, Budget Plan or Framework, Royal Government rules and regulations, accounting system (Tally), and Financeand Accounting Manual. Apart from one HEI (01), none of the accredited HEIs had a budget deficit. The Royal Audit Authority had done external auditing in all the accredited HEIs. However, many HEIs did not have internal auditing in place, except for a few (01, 06, 12, & 13).Interestingly, a few HEIs (02 & 09) had student audit teams to check and balance student funds.

Funding

The main funding source for the HEIs is RGoB. However, many HEIs have also introduced the system of admitting students based on self-finance. Some other sources of revenue for the HEIs were hiring of resources, research, and external project grants. As per the ISAR, some HEIs (03,04, 11, & 12) have been proactive in securing additional funds from external sources, whereas other HEIs have not mentioned much on external funding, and for HEI 01, there was no source of additional funding. Some of the common ad-hoc external funding sources came from UNESCO, Erasmus+, Helvetas, DANIDA, and GoI.

Standard 4: Infrastructure and Learning resources Guiding Policies

Infrastructural policies of HEIs are the guiding principles for creating and enhancing the infrastructures to facilitate effective teaching-learning environments. The Strategic Plans and the

Five-Year Development Plans play a crucial role in directing the infrastructural aspects of all the HEIs. These plans include provisions for enhancement of existing physical facilities, resource allocation and utilisation, security services, user and maintenance policies. However, user and maintenance policies are not articulated clearly by some of the HEIs (HEI 04 & 08) while some even do not have these policies. This study also suggests that all HEIs did not have any policy on provisions for persons with disabilities. Furthermore, it was generally observed that HEIs did not have any policies for safety measures to respond to unforeseen situations. In general, the infrastructure development and enhancement are driven by their strategic plans. However, findings also indicate that a few HEIs did not even have proper strategic plans in place.

Physical Facilities

Some of the critical structures in the ideal HEI infrastructures are curricular, co-curricular, extra-curricular, and residential facilities. ISAR and AR corroborate that almost all the HEIs have adequate essential physical facilities, but some institutions lack these critical facilities. For instance, KGUMSB institutions did not have sports facilities, one of the RUB HEIs (08) required maintenance of its old structures, and a private institution (HEI 01) was without IT and adequate science laboratories. Basic residential facilities and provisions were available in most HEIs except for some HEIs (05, 07, 08, & 11). Most HEIs also seem to have better security and safe drinking water facilities, while some HEIs (06, 07, & 11) lack some of these facilities. However, one of the HEIs (07) faced an acute water shortage.

In all the HEIs, their respective advisory committees manage the library system. Most HEIs have an automated library system, library website, OPAC, VLE, and open access to some e-journals. The Inter-Library Loan system is followed by only two HEIs (04 & 13). HEIs also seem to have a practice of collecting both verbal and written feedback from the library users. However, there is lack of evidence to show how this feedback is being used for further improvement.

As discussed above all the HEIs did not have infrastructural facilities for persons with disabilities except for the two HEIs (05 & 13). It is encouraging that at least one HEI (05) had carried out a need assessment for consideration in the future.

Additionally, no separate health care facilities are deemed necessary by most of the HEIs considering the proximity of the basic health units (BHUs) and hospitals. However, transportations are arranged for the students during emergencies to visit the health centres. It was found that two HEIs (03 & 08) have a fully operational infirmary with a senior Health Assistant and one HEI (12) also has a BHU in the campus that caters to both the institution and the community.

ICT Facilities

Findings from this study indicate that most HEIs have ICT-enabled facilities, except for some HEIs (01, 06 & 07). Findings also suggest that the classrooms, library, and ICT labs remain openon weekends, public holidays and late in the evenings in most of the HEIs, but there was no extensive use of ICT resources at some HEIs (01 & 06). All HEIs allowed students to use cell phones in the classroom as a learning tool. At the same time, one HEI (03) had been proactive indeveloping the student database and college intranet to disseminate and update information and events. Internet

bandwidth mostly ranges from 15-20 Mbps in all the HEIs, with as low as 5 Mbps (HEI 07) and a high of 50 Mbps (HEI 13) with provisions for enhancement based on the number of students.

Infrastructure maintenance mechanism

The findings suggest that all the HEIs propose maintenance through annual as well as Five Year Development Plans. In HEIs under RUB, the Estate Manager looks after the mechanism for the maintenance of infrastructure. One HEI (12) has defined the 'turn-around-time' policy for maintenance but finds it difficult when it comes to actual implementation. Limited budget for maintenance was also an issue for many HEIs (06, 07, & 13). At the same time, another HEI (02) also finds it demanding due to the vast campus area and thus, has no proper maintenance policy. Similarly, a few other HEIs (04, 07, & 10) find less scope for expansion of their campusdue to the geographical location, unfavourable landscape, and limited space. However, one HEI (10) has a plan to purchase additional land as indicated in their master plan.

Standard 5- Student services

This standard covers a wide range of related concerns and issues in terms of student experiences from admissions and academic success and progression, to campus life and support including their post-graduation employment status. While the ISAR looked at these issues from the perspective of the HEIs, the accreditor's report on this standard included interaction with students to get their perspectives and opinions. The student viewpoint is considered especially important for this standard.

Academic support: Admission, progression, performance and credit transfer

Most HEIs appeared to have transparent and fair admission policies and procedures, which wereall merit-based at the undergraduate level. HEIs with postgraduate programmes had a greater range of admission policies, most specific to their own institution and some even included aptitude testing. Some HEIs have provisions in place to support students in financial needs, however details for how these students were identified and what procedures were used to disburse funds were unclear.

The ISAR asked HEIs to discuss progress of students to the next level and employment. Most HEIs discussed the progress of students within their own programmes (in most cases offering information about what percentage of students passed at each level). However, there was little evidence that progression information was analysed or used to inform decision-makingor interventions. It is unclear if this is not happening or the current QA instruments are not able to capture this information. Documentation for progression was unclear for example drop-out rates do not appear to be tracked at most HEIs (and are perhaps therefore not analysed) nor does there appear to be much documentation of students' post- college destinations to work. Severalof the accreditor's reports explicitly mentioned the lack of a database for this kind of critical information.

The ISAR asked HEIs to provide external evidence of students' academic achievements and success beyond the expected learning outcomes at the institute. The ISAR question specifically mentions the BCSE exams so most HEI discuss success here while others have also listed other achievements in external competitions including sports.

One area where almost all the HEIs were deficient was in terms of student mobility as very few colleges were able to facilitate credit transfer. Some HEIs (out of their own initiative) appear to allow for some level of credit transfer particularly in the case of exchange programmes with international HEIs. However, there appears to be no formal mechanism for credit transfer.

Student life and support systems

All HEIs appeared to provide students with opportunities for rich and varied extracurricular activities including opportunities to participate in student governance, club activities, student publications, sports, and to volunteer. However, not much is known about how much support (for example financial support or logistics) and encouragement came from the HEIs and how much of this were the students' own initiatives and efforts.

Most HEIs offered some combination of financial, emotional, and or academic support to their students; however, there was a huge variety in terms of what was provided and how formally this support was integrated into the HEI's policies and procedures. For example, someHEIs offered orientations to first year students, some had training skills programme (related to life skills for example), others had scholarships schemes for high achievers, remedial class and tutoring for students, and some sort of counselling services (though only a few had dedicated units, others seem to offer ad hoc, informal support). Details on how widely availed these formsof support were and the quality and effectiveness of these services might give a more accurate picture.

Stakeholder relationships, employability, and alumni

Findings show that while all HEIs have some relationships with stakeholders there is a large range in terms of who they understand their stakeholders to be. For example, many of them detailrelevant international collaborations as well as interactions with key governmental entities but very few see the communities that they are embedded in as stakeholders. Additionally, parents (or families) and alumni are also largely absent even though these groups should have an influence on policies, decisions, and actions that an HEI undertakes.

Employability of graduates is a huge national concern and seems to be a key way in whichto measure the quality and effectiveness of HEIs both in Bhutan and beyond. Most HEIs make efforts to help students prepare for the job market in a range of ways including inviting guest speakers, offering career counselling and soft skills training, organising campus recruitment events and issuing letters of recommendation. However, accreditors' reports frequently noted thelack of tracer studies for some HEIs, which could provide critical information about how graduates fare on the job market. The report also noted that for several HEIs, more systematic and official help with internships is not available.

While most of the HEIs were working to establish alumni associations or networks at the time of accreditations, most had yet to formally establish these and few had a database of alumni nor have they systematically engaged with alumni. Alumni of many HEIs appeared to be willingto engage and make contributions to their alma maters. Findings also suggest that many HEIs seem to reach out to high performing, visible alumni and include them in celebrations or invite them to speak to

current students. However, at the time of the accreditation alumni were a largelyuntapped resource particularly as alumni serve as an important source of information about and link to the job market.

Standard 6- Internal quality assurance and Enhancement system

Concept of IQA

Findings affirmed that the concept of IQA seemed to be understood differently among the HEIs. While there have been some forms of IQA practice in all HEIs, all practices seem to be geared toward assuring quality of academic programmes and were not cognisant of other accreditation standards. It was found that all HEIs had an academic framework for QA in the form of academic regulation. However, the practices including the programme approval processes varied among the HEIs. While some HEIs have a rigorous and lengthy process, there are also a few where the process is not so meticulous. For instance, one autonomous institution (HEI 13) had asimple two-step approval process.

Formal IQA mechanism

Findings reveal that, except for the two HEIs (HEI 03 & 13), all others did not have an IQA cell/unit. In her global survey Martin (2018) found that over 60% of the institutions she surveyedhad a cell or a unit dedicated to IQA while more than 70% had an IQA committee.

This study found that only four (close to 31%) HEIs (03, 10, 11 & 13) had a QA committee. Other committees (such as College Management Committee, Programme Committee, College Academic Committee) as per the respective academic regulations were present at most HEIs toensure the quality of the programme. Generally, HEIs assess their achievements based on the academic performance of students and feedback. Institutes under the RUB also use the Annual Programme Monitoring and Performance Management System as a tool to assess the outcome, understand the gaps, and enhance quality of the programme. Further, some HEIs also undertaketracer studies to determine institutional effectiveness. However, interestingly, the two institutesunder the KGUMSB did not mention how the outcomes were assessed to understand the institutional effectiveness.

Research-based Evaluation and Planning

Research-based evaluation and planning practices are negligible among the HEIs in Bhutan.While it is clear that HEIs collect some forms of data through IQA practices, there is less evidence that they are consistently and thoughtful using the data collected to improve.

5. Discussion of Key Findings

A total of 30 (27 related to the six accreditation criteria and three general) key findings havebeen identified which are presented in the following sections.

Curricular Elements

In terms of the curriculum, the first finding suggests that all HEIs have well-regulated practice of curriculum *design, development, implementation, and review*. In fact, this was often the standard that all HEIs scored the highest compared to other standards. In order to further improve the curriculum, some HEIs seek feedback from various stakeholders, particularly from students,

typically at the end of the semester. However, the level of seriousness in using the information collected varied across the HEIs. It was evident that not all HEIs have a robust system to analyse feedback for improvement. It was encouraging to learn that HEIs could borrow validated curriculum from another HEI.

Secondly, the findings from this study indicate that the HEIs have not been able to use *Virtual Learning Environment (VLE)* to its full potential to make the teaching-learning process meaningful. Currently it is mostly used to upload the curriculum materials for the students to download. However, COVID-19 pandemic must have provided an opportunity to make full useof the VLE as all HEIs had to go for online teaching and learning. However, a recent study hasshown that teaching-learning in Bhutanese HEIs is dominated by teacher-centred pedagogical approaches (Sherab & Schuelka, in press).

Third, this study also found that the HEIs do not have either curriculum or any sort of policies related to the *persons with disabilities (PWDs).* It is indeed a matter of great concern thatinstitutions that provide higher education are still not cognisant of the needs of all individual citizens. With an increasing number of youths with disabilities getting into the school system (MoE, 2020) it is likely that HEIs will get an increasing number of such students in the near future. HEIs need to understand that Bhutan signed the UN Convention on the Rights of Persons with Disabilities (UNCRPD) in 2010 (United Nations, 2006). This is an indication that Bhutan iscommitted to attend to the needs of PWDs. The draft National Education Policy 2019 clearly identifies that HEIs should attend to the needs of 'special educational needs' (RGoB, 2019, p. Furthermore, HEIs need to work towards the UN sustainable goal of ensuring inclusive andequitable quality education for all (RGoB, 2019).

Fourth, one apparent finding from this study is that, HEIs have the issue of *faculty recruitment and maintaining their quality*. This is an indication amongst others that HEIs are not able to attract potential individuals to become faculty and retain them. While there could be many plausible reasons, this is something of interest for future studies. Quality evaluation and management of faculty is altogether a different issue that must be addressed. Furthermore, HRM implemented various measures such as fast track promotion, employing superannuated faculty oncontract, low-interest loan, free Wi-Fi, computer facilities, free pick up and drop facilities, and instituted various awards such as lecturer of the year to attract and retain faculty. Even after suchmeasures, it was a challenge for some HEIs (11 & 13) to retain faculties.

Research, Innovative practices and Institutional linkages

There has been some improvement in the *research, publication, and innovation* landscape of the HE. However, evidence shows that the number of publications and the availability of research funds are not promising. Findings showed that most of the HEIs scored substantially lower whilecompared to the other standards. This is an indication of the lack of robust research and publication culture amongst the academics. More interestingly, findings indicate that most publications were authored by the same small subset of faculty. Therefore, in most HEIs there are a good number of faculties who are yet to take up research and publication. This is apparentlypointing at a gap between policy and practice. This finding suggests that HEIs need to provide renewed emphasis on research as

found in other international contexts (Cadena et al., 2018; Martin & Lee, 2018a).

Second, there is evidence to show that HEIs have been working in close *collaboration* withvarious organisations and HEIs (both internal and external), to enhance academic excellence andpromote innovation through research. These efforts corroborate with the existing literature that research has a positive relationship with teaching-learning (Coate et al., 2001; Mclean & Barker, 2004; Sherab & Dorji, 2015).

Third, as per the HEIs, *various innovative practices* have been carried out; however, this study found out that some of these practices were not aligned with the accreditation standards. For instance, one HEI claimed that introduction of a 'shift system' (to manage teaching sessions)is innovation and likewise another asserted that introduction of a 'dry and wet day' in the institute canteen is an innovation. It is interesting that HEIs label such practices as innovations.

Fourth, this study found that HEIs did not keep separate *funding for the student research*except for one. Moreover, student engagement in research was found to be minimal. Judging from the international practices, student research funding and engagement are important components of HE.

Governance, Leadership and Management

Findings reveal that HEIs have clear *vision and mission statements* along with the strategies, roles and responsibilities to guide and support governance and leadership. How it is being actually implemented and operationalised at the ground level is something that must be explored further in the future through in-depth studies. For instance, this study showed that both faculty and students were not generally involved in management related decision-making processes and that there were also HEIs who implemented strategic plans inadequately. Such findings suggest that HEIs lacked strategic planning and implementation, which is likely to hinder achievement ofgoals and objectives as required by the accreditation standards (BAC, 2020). This is an indication of the lack of collaborative engagement of staff and students as required by the accreditation principles (BAC, 2020). Further, it was observed that some of the HEIs do not havea proper documentation and record maintenance system. Furthermore, there was also evidence oflack of proper documentation even when policies were in place. It is crucial for the HEI leaders in Bhutan to understand that there is a positive link between governance indicators and educational outcomes (Fitriani & Muljuno, 2019; Zaman, 2015). Without some sense of autonomy and collaborative culture, positive academic outcomes are likely to be affected. Earlierresearches (Beerkens, 2013; Nguyen et al., 2021) have also shown a positive relationship between governance and research output. This is an indication that the overall governance and leadership play a crucial role in the QA of HE.

Second, findings suggest that the *resources* are optimally utilised in all the HEIs along witha prospective plan for further development. However, this study also found that most of the HEIsdo not have proper user policies for optimum utilisation of resources.

Third, all the HEIs have an *external auditing* system carried out by the Royal Audit Authority. However, most HEIs do not have an internal auditing system, indicating lack oftransparency and

accountability.

Fourth, this study found that both the faculty and the students have some form of *welfarescheme* in all the HEIs.

Fifth, while all HEIs have some *relationships with stakeholders*, there is a large range in terms of who they understand their stakeholders to be. For example, many of them detailed outrelevant international collaborations as well as interactions with key governmental entities but very few see the communities that they are embedded in as stakeholders. Additionally, parents (or families) and alumni are also largely absent, even though these groups should have an influence on policies, decisions and actions that an HEI undertakes. Findings also showed that most of the HEIs did not have formally established alumni associations or networks and databaseat the time of accreditations.

Infrastructure and Learning resources

Findings indicate that most of the HEIs had adequate essential *basic infrastructural facilities*. However, some HEIs had unfriendly structures as well as a shortage of residential accommodations for students and staff, sports and laboratory facilities, and reading materials. One common issue observed was the non-availability of the past infrastructural blueprint as a hindrance in the implementation of the physical facilities enhancement plans. Some HEIs foundless scope for expansion of infrastructure in various areas due to limited space and unfavourablegeographical location or landscape. For a few, maintenance was an issue due to the vast campusarea.

Second, findings suggest that the *facilities for students with disabilities* and on-campus health facilities were available only in a few HEIs. Many HEIs lacked policies and strategies tocater to the students with disabilities as already discussed above under curriculum standard.

Third, in terms of *financial aspects*, budgets were allocated and utilised as per the Governing Body Budgeting Framework for respective institutions. There is evidence to show that both public and private institutions face budget crunch, as they are not able to adequately support PD programmes, travel for seminars and conferences, proper maintenance as well as coming up with new physical infrastructures. One of the private HEIs claimed to be running at aloss.

Fourth, the *ICT facilities* were adequately available in most of the HEIs. Most of the HEIsdo not face serious issues, however a few HEIs reported issues with Internet connectivity.

Fifth, *disaster management, contingency plan and response management* for unforeseen situations and natural calamities were not reported to be evident in the HEIs. However, most ofthe HEIs have basic security facilities such as security guards and round the clock CCTV surveillance in some campuses.

Sixth, the overall findings related to infrastructure and resources suggest that many HEIsdo not conduct the *needs assessment, and lacked appropriate policies and standard operating procedures (SOP)* in all areas of infrastructural facilities which would have negatively impactedtheir efficiency,

quality output, and uniform performance.

Student services

First, most HEIs appeared to have *transparent and fair admission policies and procedures*, which were all merit-based at the undergraduate level. HEIs with postgraduate programmes hada greater range of admission policies, most specific to their own institution and some even included aptitude testing. Some HEIs have provisions in place to support students in financial needs however details for how these students were identified and what procedures were used to disburse funds were unclear. None of the HEIs had a formal way in which to admit students withdisabilities and it was not even clearer if their needs were known and accommodated at the time of admission. The admission policy at the moment does not solicit any information besides marks they obtained during the high-stake examination.

Second, the ISAR asked HEIs to discuss the *progress of students to the next level and employment*. Most HEIs discussed the progress of students within their own programmes (inmost cases offering information about what percentage of students passed at each level). However, there was little evidence to show that progression information was analysed orused to inform decision-making or interventions. Documentation for progression was unclear. For example, dropout rates do not appear to be tracked at most HEIs (and are perhaps thereforenot analysed) nor does there appear to be much documentation of students' post-college destinations to work. Several of the accreditor's reports explicitly mentioned the lack of a database for this kind of critical information.

Third, one area where almost all the HEIs were deficient was in the formal mechanism for *credit transfer*.

Fourth, all HEIs appeared to provide students with opportunities for participation in richand varied *extracurricular activities* from the chance to participate in student governance, club activities, student publications and sports (including inter-college competitions), to volunteer, and to participant in educational competitions.

Fifth, most HEIs offer some combination of *financial, emotional and or academic support*to their students. However, there was a huge variety in terms of what was provided and how formally these supports were integrated into the policies and procedures. For example, some HEIs offered orientations to first year students, some had training skills programme (for examplerelated to life skills), others had scholarship schemes for high achievers, remedial class and tutoring, and some sort of counselling services (though only a few had dedicated units, others seem to offer ad-hoc, informal support). However, how widely these forms of support services were availed, its quality, and effectiveness were unknown.

Internal quality assurance and Enhancement system

Findings suggest that the *focus of IQA* is on the academic programmes. This corroborates withthe existing literature that IQA practices across the globe share this bias (Aithal, 2015; Martin,2018). Only two HEIs had a separate IQA unit, as required by the accreditation standards.

Existing literature suggests that the IQA unit is an important aspect of QA processes of HEIs (Martin, 2018) that is lacking in the HEIs. The common IQA practices across HEIs are establishment of committees such as Programme Committee, College Academic Committee, College Management Committee, engaging External Examiners and other similar arrangements in line with the respective academic regulations. These were mainly for addressing the issue related to academic quality. IQA culture in terms of overall quality of the institution is in the infancy stage. While HEIs claim that they have an internal mechanism to address the issue of IQA, it is apparent that HEIs seem to be focused only on curricular elements and some aspects ofgovernance but do not take cognizance of other accreditation standards, which are also equally important.

Second, the current *IQA practices* vary among the HEIs in terms of structure, practice, intensity, and seriousness. In most of the cases, the person responsible for accreditation (writing ISAR and site visit) is the Dean, Academic Affairs. Perhaps, this could also be one of the reasonswhy the responses to the questions related to IQA are largely inclined to academic aspects and donot adequately cover other aspects.

Third, existing literature suggests that the culture of *research-based planning and evaluation* is critical (Dong, 2017; Martin, 2018; Murside et al., 2020). Literature supports thatself-evaluation method is commonly the first step in the quality assurance process (Dong, 2018). However, such practices are negligible among the HEIs in Bhutan. While it is clear that HEIs collect some forms of data through IQA practices, there is less evidence that they are consistently and thoughtful using the data collected to improve. Similarly, Martin (2018) notes that even at a global level, there is a gap between the availability and use of information collected through IQA. According to Martin (2018) while most institutions have access to thiskind of information less than half make use of it.

General Findings

This study also captured some general findings that were not specifically related to any of the six key accreditation standards, which is worth pointing out.

First, findings suggest that some of the ISAR documents lack a sense of *accountability and ownership*. There is evidence to show that one or two individuals have prepared this important document. Thus, these documents lacked comprehensiveness in terms of coverage. All six accreditation standards were not given adequate emphasis. A few HEIs did not answer some of the questions while some did not answer appropriately. Quite surprisingly there were also strikingly similar responses between some of the HEIs, indicating that they may have copied from one another.

Second, *ISAR* had questions that were vague, repetitive, and mis-placed. For instance, under the student services standard there is a question about student publication, which could becovered under research and publication. Furthermore, there is a question on stakeholder relationship under the student services standard, which would be more relevant to be put under the governance or the institutional linkage standards.

Third, the format for the *Accreditors' report* varied from Accreditor to Accreditor. In someof the reports, information was provided just in bullet points while some are in narratives.
Information in bullet points lacked critical details making it difficult to interpret and compare.

6. Recommendations

Recommendations for the Stakeholders
Based on the key findings presented above, the following recommendations are provided

Curricular elements

1. HEIs are recommended to analyse the stakeholder feedback data to be used for future curriculum revamps and direction.
2. Need to explore how to make full use of the various features of VLE.
3. Now that there is an increasing number of PWDs completing their higher secondary school, it is important that the HEIs are cognisant of such developments. To align withthe national policy, it is time now that inclusivity becomes a part of the HE in Bhutan.
4. It is important to understand that without a quality faculty (both in terms of academics and motivation level) HEIs will not be able to provide quality education. Therefore, HEIsare recommended to be proactive in designing HR plans and policies to attract, develop, and retain quality faculty.

Research, Innovative practices, and Institutional linkages

1. The HEIs need to focus on innovative practices based on research to improve academic rigour and excellence. Further, the HEIs need to explore the possibilities of strengthening the quality of the journals published.
2. Explore possibilities for endowment fund and government research grants to promote publication in peer reviewed and recognised international journals with attractive incentives as practised in one of the HEIs.
3. In order to expand the pool of faculty involved in research, HEIs should create a support mechanism to ensure more faculties take up research, publication, and innovation.
4. HEIs need to enhance student research and engagement. Especially for those HEIs thatare upgrading their programmes to masters and even to PhD levels, it is important thatthere is some funding allocated for student research and publication.

Governance, Leadership, and Management

1. The governance indicators are positively correlated to the overall institutional performance. Leaders need to understand that the overall quality of the HEIs is dependent on their governance style. HEIs need to practise participative and decentralisedmanagement to a higher degree and further explore the possibilities of diversifying the sources of income so as to provide state-of-the-art facilities. There needs to be more collaborative effort and autonomy for the staff. Therefore, the way HEIs are governed needs rethinking and restructuring.

2. The HEIs need to prioritise incentive systems, up-gradation of the faculty qualification, enhance PD programmes not only for teaching faculty but also for non-teaching staff, institutionalise a comprehensive feedback system, and provide more focus on strategic plans.
3. The HEIs need to have written policies and SOPs in various areas. The HEIs need toensure the implementation of the written policies and plans with an internal auditingsystem and policy in place.
4. There is scope to strengthen the current performance appraisal system to make it more effective through a more rigorous 360-degree feedback system.

Infrastructure and Learning resources

1. Develop comprehensive Institutional Policies as guiding principles for the creation and enhancement of the infrastructures to promote the overall performance of the institution. The policies specifically should include creating facilities that cater to differently-abled students, health facilities, maintenance of existing structures, disastermanagement, and security and safety measures in and around the campus.
2. Maintain the record of the infrastructural blueprint to make informed decisions to create and enhance physical facilities and resources.
3. Carry out needs assessment and analysis for requirements of facilities and resources.
4. Develop a database and college intranet to maintain the profile of students and alumniand disseminate information and events.
5. Establish a formal feedback system for the users on the facilities and services provided by the institute.

Student services

1. Student views, opinions, and experiences should take a more central place for this standard. This could include collecting more data on various aspects of student servicessuch as academics, library, accommodation and food, sports, cultural, spiritual, welfare,and other activities. Information collection could focus on availability, quality and effectiveness of those services.
2. Admission based just on merit might not accommodate the range of students who couldbe part of HEIs, in particular students with disabilities. HEIs need to have a policy for periodic review of admission policy to address any shortcomings.
3. HEIs need to more systematically document students' post-graduation progression and engage more systematically and regularly with all their alumni, not just the visible ones. HEIs also need to work on enhancing relationships with stakeholders, especiallywith community and alumni. HEIs need to make concerted efforts to capitalise on the potential of its alumni.
4. Universities need to develop a more flexible credit transfer to facilitate student mobility. HEIs will have to train responsible individuals to handle the credit transfer process.

Internal quality assurance and Enhancement system

1. IQA should be more inclusive and robust, addressing all the accreditation standards. Although there are various committees to oversee and ensure institutional quality, most of them were for academic quality assurance. Therefore, having an IQA unit for assuring holistic institutional development would further enhance the overall performance of the institution. Overall, there is scope to establish a common understanding of the IQA mechanism and to strengthen the current practices to make the mechanisms broader to cover all the standards.
2. It would be also crucial for Bhutan to adopt a common threshold standard for IQA across all HEIs.
3. BAC may consider training the IQA focal persons to ensure a certain level of uniformityin practices, enhance collaboration, and provide a platform for sharing best practices in QA.
4. It is crucial that each HEI have a dedicated and credible QA focal person responsible for the following:
   - Internal QA
   - Coordinate writing ISAR by engaging the relevant staff
   - Facilitate the site visit
   - Follow up on the recommendation from the accreditation exercise
   - Maintain QA related documents on an on-going basis

Recommendations for the General Findings

1. The ISAR is an important document that must carefully capture all the practices and culture of the HEI more holistically. Therefore, the preparation of the ISAR must be a joint effort rather than depending on one or two individuals. The HEIs must make sure that the process of ISAR preparation is given utmost importance where all key stakeholders/players contribute, otherwise the outcome of the accreditation process will be negatively impacted.
2. The BAC needs to consider revising the ISAR questionnaire to avoid any vagueness, repetition, and mis-placement of questions.
3. In order for the HEIs to address the issues pointed out in the Accreditors' report carefully,it is crucial that all recommendations are fully elaborated in narrative form instead of keeping them in a telegraphic language.

Recommendations for the Future Research

1. This report on the performance of the HEIs in Bhutan is purely based on the comparative analysis of the ISARs and the ARs. This study mainly lacked stakeholder perspectives and the primary data from the relevant HEIs. Therefore, future research should focus on a sequential mixed methods approach to collect primary data using interviews/focus group discussions, observations, and a survey of the relevant stakeholders to get a holistic understanding of the performance of the HEIs.
2. This study was not able to ascertain why many HEIs found it difficult to recruit and retain experienced faculty. Therefore, future research to explore this issue would be apt.

3. The QA of HE is a fairly new practice in Bhutan. It would be interesting to explore the perceptions of faculty, staff, and management of the HEIs in terms of QA. Furthermore, looking at the perceptions of other stakeholders would add to the understanding of HE QA system.
4. The current merit-based admission to HEIs needs to be studied to make it more holistic. A comparative study with HEIs using an innovative admission system could be valuable.
5. Future studies could be also done to examine why HEIs scored much lower in researchand innovation culture compared to the other standards.

7. Conclusion

This first ever analysis of the accreditation documents provides some tentative insights into the current status of HE in Bhutan. All 13 HEIs successfully completed the accreditation exercise although there was a large variation in the performance (A+ to C). This demonstrates that the tool was sensitive enough to capture differences. Further, this first exercise also gave feedback and experiences for further improvement of the future exercises. It also provided sensitisation to all HEIs about quality standards and their measurement, which served as the springboard for further enhancement of understanding QA. University systems provide guidance for measuring academic quality and rigour, which has been helpful for all HEIs. However, there is a lot of roomfor discussing and standardising other measures of an institution's quality. For instance, researchand innovation, IQA, and student services seem to be lagging behind compared to other standards.

HE in Bhutan has come a long way in terms of fulfilling the human resource needs of thecountry. Over the years, the number of HEIs including the private has increased to meet the increasing demand. There has been a significant progress both in terms of the number of programmes offered and access to HE. However, the mis-match between the number of high school graduates seeking HE admission and the total intake capacity of the HEIs within the country still needs to improve.

References

Alabi, J., Alibim, G., Adjei, R., Dzandu, P., Utuka, G., & Munkaila, A. (2021). *Quality assurance in Ghanian higher education institutions: Opportunities and constraints.* CODESRIA Working Paper Series- Dakar.

Alstete, J.W. (2007). *A brief history of college accreditation. In College accreditation:Managing internal revitalization and public respect*. Palgrave Macmillan. https://doi.org/10.1057/9780230601932_2

Atia, A, & El-Attug, M. (2021). Profiling of accreditation in Libyan higher educationinstitutions. *Open Journal for Sociological Studies, 5*(1), 17- 20. https://doi.org/10.32591/coas.ojss.0501.02017a

Aithal, S. (2015). Internal quality assurance cell and its contribution to quality improvement in higher education institutions: A case study of SIMS. MPRA Paper No. 71434 https://mpra.ub.uni-muenchen.de/71434/

Beerkens, M. (2013). Facts and fads in academic research management: The effect of management practises on research productivity in Australia. *Research Policy,* 42(9).

Beerkens, M. (2018). Evidence-based policy and higher education quality assurance: Progress, pitfalls and promise. *European Journal of Higher Education, 8*(3), 272-287, DOI: 10.1080/21568235.2018.147524.

Bhutan Accreditation Council (2012). *Accreditation: Principles, processes and standards for the tertiary education institutions in Bhutan*. Royal Government of Bhutan.

Bhutan Accreditation Council (2020). *Institutional accreditation manual* (2nd ed.). Royal Government of Bhutan.

Bowen, G.A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal, 9*(2), 27-40.

Brenneis, D., Shore, C., & Wright, S. (2005). Getting the measure of academia: Universities andthe politics of accountability. *Anthropology in Action, 12*(1), 1-10.

Cadena, S., García, J., Loza-Aguirre, E., Ortiz, J, Pérez, A., & Segura-Morales, M. (2018) *Measuring quality of higher education.* Proceedings of EDULEARN18, Conference 2nd-4th July 2018, Palma, Mallorca, Spain.

Coate, K., Barnett, R., & Williams, G. (2001). Relationship between teaching and research inhigher education in England. *Higher Education Quarterly, 55*(2), 158-174.

Cooksey, R. & MacDonald, G. (2019). *Surviving and thriving postgraduate research (2nd ed.).*

Tilde University Press.

Creswell, J.W. (2014). *Research design: Qualitative, quantitative, and mixed methodsapproaches* (4th ed.). Sage Publications.

Dattey, K., Westerheijden, D. F., & Hofman, W. (2017). Impact of accreditation on improvementof operational inputs after two cycles of assessments in some Ghanaian universities. *Quality in Higher Education, 23*(3), 213-229. https://doi.org/10.1080/13538322.2017.1407398

Dong, N. (2017). *Quality assurance in the university sector: Comparative case studies in Vietnam and Australia.* Unpublished PhD dissertation, University of New England,
Australia.

Fitriani, S., & Muljono, H. (2019). Beyond good governance: An ultimate key success for higher education quality. *Journal of Education, Teaching, and Learning*, *4*(1), 210-216.

Hauptman Komotar, M. (2020). Discourses on quality and quality assurance in higher education from the perspective of global university rankings. *Quality Assurance in Education*, *28*(1),78-88. https://doi.org/10.1108/QAE-05-2019-0055.

Hendrickson, J. (2016). A tale of two countries: A comparison of tertiary education systems of Bhutan and Nepal. *International Journal of Multidisciplinary Perspectives in Higher Education*, 1, 2-26.

Islamović, B. & Bajramović, E. (2021). Modern approach to quality in higher education. 13th International Scientific Conference on Manufacturing Engineering. Retrieved from https://www.researchgate.net/publication/356640944

Jingura, R.M. & Kamusoko, R. (2019). A competency framework for internal quality assurancein higher education. *International Journal of Management in Education*, *13*(2), 119-132.

KGUMSB (2021). *Academic regulations* (2nd ed.). KGUMSB.

Li, Y. (2010). Quality assurance in Chinese higher education. *Research in Contemporary and International Education*, 5(1).

Martin, M. (ed.) (2018). *Internal quality assurance: Enhancing higher education quality and graduate employability.* International Institute for Educational Planning, UNESCO publishing.

Martin, M. & Lee, J. (2018a). Comparing varying understanding of IQA and associated tools. In *Internal quality assurance: Enhancing higher education quality and graduate employability* (ed.) Martin, M. International Institute for Educational Planning, UNESCO publishing.

Martin, M. & Lee, J. (2018b). What are the effects of IQA on teaching and learning, employability and management? In *Internal Quality Assurance: Enhancing higher education quality and graduate employability* (ed.) Martin, M. International Institute for Educational Planning, UNESCO publishing.

Martin, M. & Lee, J. (2018c). Which internal and external factors support effective IQA systems? In *Internal quality assurance: Enhancing higher education quality and graduateemployability* (ed.) Martin, M. International Institute for Educational Planning, UNESCO publishing.

Mclean, M. & Barker, H. (2004). Students making progress and the 'research teaching nexus'debate. *Teaching in Higher Education*, *9*(4), 407-419.

Mendis, D. (2017). *Assessing quality in higher education*. Professor Manique GunesekraMemorial Oration 2017.

Meri, M. M. (2018). Governance in universities: The institutional performance measurementsystem (IPMS). *Archives of Business Research*, *6*(4), 91-103.

MoE (2020). *Annual education statistics* (2020). MoE, Royal Government of Bhutan.

Mursidi, A., Raharjo, T. R., Sugiyo & Yuilant, A. (2020). Factual model of internal qualityassurance system of private higher education institutions in Indonesia. J*ournal of Education, Teaching and Learning, 5*(1), 46-52

Namgyel, S. (Spring 2012). Issues of quality in higher education: Some international perspectives and their relevance to the Royal University of Bhutan. *Bhutan Journal of Research and Development.*

Nguyen, N. D., Nguyen, T. D., & Dao, K. T. (2021). Effects of institutional policies and characteristics on research productivity at Vietnam science and technology universities.*Heliyon*, *7*(1), e06024.

Royal Government of Bhutan (2019). *National education policy* (draft). RGoB.

Saglamer, G. (2013). Quality enhancement in Turkish higher education. In Ray Land and George Gordon (eds.), *Enhancing quality in higher education: International perspect*ive. Routledge. pp. 189-200.

Salter, B., & Tapper, T. (2000). The politics of governance in higher education: The case ofquality assurance. *Political Studies*, *48*(1), 66-87.

Schofield, J. W. (2016). Higher education in Bhutan: Progress and Challenges. In Matthew J. Scheulka and Tom W. Maxwell (eds.), *Education in Bhutan: Culture, schooling, and Gross National Happiness*, Springer Publishing, pp. 87-102.

Sommerhoff, D., Szameitat, A., Vogel, F., Chernikova, O., Loderer, K. & Fischer, F. (2018). What do we teach when we teach the learning sciences? A document analysis of 75 graduate programs, *Journal of the Learning Sciences*, *27*(2), 319-351, DOI: 10.1080/10508406.2018.1440353

Sherab, K. & Dorji, S. (2015). Research-teaching nexus: Perceptions of RUB faculty and some personal experiences of integrating research into teaching. RABSEL: *The CERD Educational Journal*, *16*(2), 1-17.

Sherab, K & Schuelka, M.J. (2022). Happy Students in Bhutan: The Land of Gross National Happiness … and Paradoxes. Accepted for publication as a book chapter In Gerald W. Fryand Haelim Chun (eds), *Happiness Education: International Insights to Inform Effective Holistic Education*.

Tamrat, W. (2020). The nuts and bolts of quality assurance in Ethiopian higher education:Practices, pitfalls, and prospects. *Journal of Education Policy*, 00(00), 1-18, DOI: 10.1080/02680939.2020.1852604

United Nations. (2006). *Convention on the rights of persons with disabilities*. United Nations. van Vught, F. A, & Westerheijde, D. F. (1994). Towards a general model of quality assessment in higher education. *Higher Education, 28*(3), 355-371

Zaman, K. (2015). Quality guidelines for good governance in higher education across the globe. *Pacific Science Review B: Humanities and Social Sciences*, *1*(1), 1-7.

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Continuous Quality Enhancement Of Higher Education In Bhutan: A Post Accreditation Measure

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Abstract

Accreditation for higher education institutions in Bhutan began in 2016 with the establishment of the Bhutan Accreditation Council as mandated in the Tertiary Education Policy of the Kingdom of Bhutan 2010. The Council completed the first cycle of accreditation for 13 HEIs in 2019, but it is noted that there is limited study on quality assurance: process, challenges, and policies of the HEIs in Bhutan. There is rich international literature on the accreditation practices, strategies, policies and quality assurance comparison between public and private HEIs. However, there is limited study on post accreditation quality assurance processes even internationally. This study investigates the effect of the annual quality assurance process on the post accreditation quality improvement and enhancement in the accredited HEIs in Bhutan. To study this, a qualitative document analysis method was employed. One of the key findings was that adherence level did not provide insight into the quality of implemented recommendations. Furthermore, academic quality assurance was the most common initiative and recommendation implemented amongst HEIs. It was found that the most common challenge was in determining the effort of HEIs to implement the recommendations which were beyond their capacity. Finally, there was a need to review the current template and format of reporting of the AQAR and related documents. Based on the findings, recommendations were made to enhance the current IQA reporting and progress for post accreditation quality sustenance.

Keywords**:** Accreditation, IQA, HEIs, RUB, and AQAR

1. Introduction

The Bhutan Accreditation Council (BAC) was constituted through an executive order on 14 June 2011 as per the provision of the Tertiary Education Policy (2010) of the Kingdom of Bhutan. The Council is the national autonomous body for accreditation; it is responsible for the accreditation and quality assurance, including interpretation, and recognition of qualifications related to higher education in Bhutan. According to Wilger (1997), an adequate quality assurance system is mandated to do more than simply assess quality. Wilger argues that equal emphasis must also be placed upon

communicating the results of these assessments to interested parties, both to satisfy demands for accountability and to enable institutions to use the results to affect changes and improvements. Many stakeholders require such information, among them are students and their parents, state and federal officials and other policymakers, governing and coordinating boards, employers, high school educators and others with whom higher education has partnerships, the media, and the public at large. The Quality Assurance and Accreditation Division (QAAD), Department of Adult and Higher Education (DAHE), and Ministry of Education (MoE), serve as the Secretariat to the Council. It is mandated to carry out regulatory functions such as accreditation and monitoring of Higher Education Institutions (HEIs) periodically. Furthermore, the BAC also collaborates with the professional bodies both within and outside the country by seeking nominations for professionals as assessors to carry out accreditation exercises.

Institutional accreditation is mandatory for all HEIs in Bhutan to enhance the quality of higher education in the country. The council initiated the development of the Accreditation Manual (2014) in 2012. Thereafter, the council implemented the document by conducting the first-ever cycle of institutional accreditation in Bhutan in 2016 and accredited 13 HEIs. Accreditation Manual 2014 had six standards, namely, Curricular Elements; Research, Innovative Practices and Institutional Linkages; Governance; Leadership and Management; Infrastructure and Learning Resources; Student Services; and Internal Quality Assurance and Enhancement System.

Based on the experiences from the first cycle of accreditation, the Accreditation Manual 2014 was revised in 2018, and it was renamed as Institutional Accreditation Manual (IAM). As per the revised IAM, all the accredited HEIs are mandated to submit the Annual Quality Assurance Report (AQAR) to the Secretariat of BAC. The need for submission of the AQAR was to assure that the recommendations from the accreditation exercises were seriously considered and implemented. Ultimately, this report will be the basis for the monitoring of the accredited HEIs. This process is to prepare the HEIs for the next cycle of accreditation. This practice was institutionalised only in 2020, and the Secretariat received the first 13 sets of AQARs. As mentioned above, the institutions that submitted the AQARs were accredited as per the six standards of the previous (2014) manual.

In line with the submission of the AQARs, the Secretariat is also mandated to monitor and report the progress of the institutions' post-accreditation quality sustenance measures. The AQARs are meant to serve as one of the bases for monitoring and continuous quality enhancement. However, the effect of AQAR on continuous quality improvement and enhancement was never systematically studied. Hence, this study attempted to explore the effect of the AQAR on continuous quality improvement and enhancement. This study was guided by the following research objectives.

2. Research Objectives
    1. Examine the adherence strategies initiated by the HEIs to meet the assessor's recommendations,
    2. assess the implementation status of the recommendations of the accreditors,
    3. identify the challenges faced by HEIs in implementing the recommendations,
    4. explore the additional initiatives taken by the HEIs for quality assurance, and
    5. draw the lessons learnt from the post-accreditation exercises.

3. Research Question

How did the Annual Quality Assurance Report (AQAR) affect the Continuous Quality Enhancement in the HEIs?

Sub Questions

1. How did the HEIs adhere to the recommendations made by the accreditors?
2. How did the HEIs implement the recommendations provided by the accreditors?
3. What are the internal initiatives taken to assure quality within the HEIs?
4. What are the challenges faced by the HEIs in implementing the recommendations?
5. What lessons does the BAC draw from the post-accreditation activities?

4. Literature Review

The goal of this study was to explore the effect of the AQAR on the continuous quality improvement and enhancement in the 13 HEIs in Bhutan. The investigation began with five specific objectives: to examine the adherence strategies initiated by the HEIs to meet the accreditors' recommendations, to assess the implementation status of the recommendations, to identify the challenges faced by HEIs in implementing the recommendations, to explore the additional initiatives taken by the HEIs for quality assurance, and to learn the lessons from the post-accreditation exercises. The review of the literature focused on three themes: the Qualitative Document Analysis (QDA) as the only method for the study, the strategies initiated to enhance the quality assurance, and the challenges encountered in enhancing the quality assurance. In the following sections, literature on each of these themes is discussed.

Qualitative Document Analysis (QDA)

Qualitative Document Analysis (QDA) approach was employed to collect and analyse the data for this study. Most studies in communication policy research employ documents as research material in one way or another (Karppinen & Moe, 2012). According to Bowen (2009), QDA provides a systematic methodological process for eliciting meaning from documentary evidence. In the QDA approach, the interpretative process is both recursive and spontaneous as the researcher moves between concept development, sampling, data collection, data analysis and interpretation (Altheide et al., 2008). The QDA is thus an emergent process focused on the search for underlying meanings, themes and patterns, rather than a rigid set of procedures with fixed parameters. The QDA approach provides firm evidence about the world that can reveal novel, confirmatory or contradictory information; provide demographic and historical context; and be used unobtrusively to extend beyond the perspectives of interviewees and others in the field (Flick, as cited in Wood et al., 2020). Though document analysis has been mostly employed as a complement to other research methods, it has also been used as a standalone method in qualitative studies (Bowen, 2009). The literature on QDA enumerates noteworthy advantages over other approaches. According to Bowen, document analysis as a qualitative method can provide a means of tracking change and development, provide background information as well as historical insight into the phenomenon, and suggest future research questions that need to be asked and situations that need to be observed as part of the research. In a nutshell, document analysis has the advantage of being an efficient method (because

it requires less time for research), and cost-effective (because the data is already available in the documents). However, Bowen also reminds the researchers to note the lack of details in the documents and biased selectivity of the documents as the major shortfalls of the document analysis method.

Quality Assurance Mechanisms

To achieve the ultimate aim of quality assurance, that is, employability and relevance of the graduates, there is a need to ensure quality independence and interdependence of internal and external quality assurance mechanisms (Zami, 2020). The literature seems to suggest that quality assurance mechanisms and strategies are a concern of the academic intuitions in the developing countries rather than in the developed countries. Different institutions across the developing countries tended to adopt different strategies to enhance quality assurance. The strategies seem to target continuous improvement in teaching and learning processes and facilities; programme design and review; staff recruitment, welfare, and continuous professional development; service delivery and infrastructural development; as well as community engagement. For instance, Swanzy and Potts (2017) recommend transparent and merit-based staff and student recruitment processes as the roots of a quality link between internal and external quality assurance mechanisms. The staff recruitment processes for both systems should include staff induction, laying and upholding the staff rules and regulations, staff formal appraisal methods, staff workshops and seminars, further studies for staff, and short training courses for staff. The author goes on to suggest that the student recruitment process on the other hand should include student orientation, a simulated workplace for students, student academic counselling, student disciplinary associations, student graduation ceremonies, and alumni tracer studies.

On the other hand, Dada et al (as cited in Zami, 2020) suggest that the governments should set up special budgetary allocations for the national agencies to conduct accreditation and audits. Furthermore, the government should partner with existing professional associations to develop an external quality assurance process which meets both national and professional needs (Hayward, 2006). However, the government should limit their role more to facilitation rather than interference in developing and maintaining robust quality assurance systems (Mhlanga, as cited in Zami, 2020).

Challenges in Enhancing Quality Assurance

The constraints in the developing countries, particularly in the African universities present a picture of daunting, if not insurmountable challenges. Quality assurance in most of the universities in Africa is challenged by the expansion of universities, inadequate infrastructure, lack of facilities and up-to-date laboratory and instructional materials, obsolete and often non-existent equipment, outdated curricula, and limited financial resources, including the institutional inability to recruit and retain quality staff (Okwakol, 2008). Alongside the lack of physical infrastructure, lack of qualified faculty, lack of training, lack of peer reviewers, (Materu, 2007), including lack of human resources (Hayward, 2006) are found to be impeding the process of quality assurance in the developing countries. On the whole, financial constraint (Okwakol, 2008; Hayward, 2006; Materu, 2007) seems to be the main challenge university systems face in enhancing quality assurance in developing countries.

Most of the existing literature regarding academic quality assurance is on the policies, strategies, and differing systems of quality assurance mechanisms between private and public institutions. Thus, this study investigated the effect of the AQAR on the continuous quality improvement and enhancement of the academic institutions in Bhutan. In the next section, the methodological aspects of the study are discussed.

5. Methodology

As the goal of this study was to investigate the effect of the AQAR on continuous quality improvement and enhancement, a Qualitative Document Analysis (QDA) method was deemed suitable. In most, qualitative research, as well as mixed-mode research, document analysis is used as a complementary method to other methods. However, the literature suggests that document analysis, as a standalone method, may be used as an effective and efficient method to collect qualitative data (Altheide et al., 2008; Bowen, 2009; Wood et al., 2020). Researchers across a range of disciplines have sought to explicate the integral connection between their approach to documentary evidence, their QDA framework and the chosen method for data analysis. According to Wood et al. (2020), QDA can be considered an umbrella descriptor for a systematic, reflexive process that may employ a range of document analysis methods. Wood et al. further supplements that being explicit about the framework underpinning a QDA method contributes to the coherence and credibility of the study. Wood et al, emphasises that the QDA has the ability to establish that there is methodological congruence between the worldview of the researcher, the aims of the research, the nature and scope of the documents under investigation, and the analytic procedures are undertaken. As a research method, document analysis is particularly seen applicable to qualitative case studies, intensive studies producing rich descriptions of a single phenomenon, event, organisation, or program, particularly for non-technical literature such as reports and internal correspondence (Bowen, 2009).

Research Participant and Sample

The study sample included all the 13 HEIs evaluated by the BAC in Bhutan. Of the 13 HEIs, 9 HEIs were the constituent of or affiliated to the RUB; three HEIs were constituent of or affiliated to the KGUMSB, and one autonomous institute. Of the 13 HEIs, 11 HEIs were public institutes, and two were private institutes. The 13 HEIs are constituted of varying subject disciplines. Five of the HEIs were social science and humanity institutes, three were medical science institutes, three were science institutes, and two were business and management institutes. All of these HEIs were located in different parts of the country: two in the eastern region, one in the central region, and the rest in the western region.

Data Methods

The study used the Annual Quality Assurance Report (AQAR) submitted in 2021, Institutional Self-Assessment Report (ISAR), Accreditors' Report (AR) of the 13 HEIs, and Institutional Accreditation Manual (2020) as the source of data. The study followed a simple three-step procedure recommended by Bazeley (2009). In this approach, Bazeley proposes a simple 'Describe-Compare-Relate' procedure to analyse qualitative data, particularly, documentary data. In the 'Describe' stage, the context for the study was outlined and the details about sources of data, such as the

demographic features of the sample and the interrelationships between these features were identified. These gave necessary background against which further analyses would be done, as well as providing a basis for comparative analysis. Then the analysis moved to the major categories or themes. In the 'Compare' stage, differences in the characteristics and boundaries for the categories or themes across contrasting demographic groups or across variations in context were compared. The data were scanned for the frequency of themes and semantic variations across different groups. The associated meanings of the themes were also recorded, which prompted further questions. Besides noting the associated meanings, the absence of the associations was also noted. Finally, in the 'Relate' stage, the interconnections between the themes and categories were made. This stage of the analysis explored the conditions, forms and circumstances of the similarities and variations between the themes and categories.

Quality Measures and Ethical Considerations

A number of quality measures were taken for the study. Firstly, the research studied all the 13 HEIs applied for accreditation, so we studied the population. The data were elicited from the authentic report documents procured from the Bhutan Accreditation Council (BAC) office in hard copies, hence, there was no dilution or distortion of data in any form. Secondly, the data analysis procedure employed what Morse et al. (2002) termed as 'rigour'. According to them, 'rigour', as a quality measure in a qualitative study, is the quality of being extremely thorough, exhaustive, and accurate in analysing the data. The researchers formed three groups, and each group focused on certain themes and aspects of the data. Each group did a close reading of every word and sentence of the reports and drew common themes from the data. Then, the groups noted and recorded the common instances and occurrences across all the samples. Another quality assurance mechanism suggested by Morse et al. is verification. "Verification is the process of checking, confirming, making sure, and being certain" (Morse et al., 2002, p. 17). Whenever confusion arose with the information in the AQAR documents, the researchers repeatedly cross-checked with the corresponding AQAR reporting template document. The ambiguous concepts and definitions were also cross-checked with the mother document, IAM 2020. Finally, the final report was read by a senior faculty of the RUB for any technical lapses, as the interdependence of qualitative research demands that the question match the method, which matches the data and the analytic procedures (Golafshani, 2003).

For ethical considerations, all the 13 institutions were coded with pseudonyms (HEI 1, HEI 2, HEI 3 etc.). This would protect the identity of the institutions studied. Since the study was on the academic quality of the institutions, it was felt that the identity of the HEIs must not be disclosed. Another sensitive aspect of the study pertained to the overall grades awarded to the institutions. Any data pertaining to the grades of the individual HEIs were not directly mentioned and disclosed either in the data or the findings.

6. Limitation

The first limitation of the study is a methodological one. Though many qualitative researchers would argue that the data elicited from multiple sources such as interviews, observations and document analysis would yield more credible findings, the data for this study was limited to document analysis only. This would limit, firstly, the scope to triangulate document data with other sources. Secondly,

document analysis as the sole source of data also limited the researchers to elicit additional information whenever information in the documents was not clear and elaborate. The second limitation of the study is that the accreditation exercise in some of the HEIs was conducted first in 2016, and the follow-up AQAR was submitted after a long gap in 2021. This gap would have indirectly impacted the quality of the data in the AQARs. Finally, the study did a focussed review of the literature. In other words, the literature review was conducted on the three significant themes that appeared in the research questions. Hence, the study did not review other aspects of the literature which may pertain to accreditations but not to the themes mentioned in the research questions.

7. Data Presentation, Discussion and Findings

This section presents the results of the data in line with the objectives of the study. It commences by analysing and discussing the results and findings in reference to the research objectives. The objective of the study was to investigate the effect of the AQAR on continuous quality improvement and enhancement. The study presents the findings in line with the five research questions the study had set to investigate.

I. How did the HEIs adhere to the recommendations made by the accreditors?

The adherence level of the HEIs to the recommendations provided by the accreditors varies from institute to institute. In some HEIs, almost all of the recommendations were adhered to while in others, very few recommendations were incorporated. The table below presents the cross-tabulation result of each HEIs' adherence to the recommendations.

HEI Code	Recommendations Implemented		Plans to Implement Recommendations		Gross Adherence Level	
	Adherence Level	Adherence %	Adherence Level	Adherence %	Adherence Level	Adherence %
1	3.5/9	39	2/9	22	3.5/9	39
2	3.5/10	35	4/10	40	6.5/10	65
3	2.5/5	50	2/5	40	2.5/5	50
4	1/2	50	0/2	0	1/2	50
5	2/7	29	3/7	43	2/7	29
6	6/7	86	3/7	43	6/7	86
7	1/3	33	1/3	34	1/3	33
8	0/6	0	2/6	33	2/6	33
9	4/7	57	3/7	43	5/7	71
10	1/3	33	2/3	67	2/3	67

11	4/8	50	0/8	0	4/8	50
12	3/6	50	4/6	67	5/6	83
13	5/6	83	1/6	17	5/6	83

Table 1: HEIs' adherence to recommendation

As shown in the table, the HEI 6 adhered to the recommendations by initiating six (either by incorporating the whole recommendation or by initiating activities) out of the seven recommendations made by the accreditors. On the other hand, HEI 8 did not adhere to any of the six recommendations given by the accreditors. However, the institute planned to initiate two activities to adhere to the six recommendations. Whether the two new initiatives had been taken as a response to the accreditors' recommendations is not clear in the data. However, the overall adherence level of the institutions improved from 0% in the recommendation stage to 33% in the future plans initiated by the HEIs. It was felt that this was necessary to highlight because depending on the HEIs years of establishment and their affiliation with the University, most HEIs had an existing structure for QA at different levels, for example, the RUB institutes already had extensive QA structure and mechanisms in place for academic quality assurance. Similarly, most HEIs had taken initiatives that directly or indirectly contributed to the fulfilment of the recommendations made by the accreditors. Since recommendations were mostly written in phrases (not in complete sentences) in the form of bullet points, the interpretation of these recommendations was left to the HEIs. This made it ambiguous what and how the recommendations could be implemented. Hence, measuring adherence level is complicated in this context. For example, HEI 2 was recommended to establish an internal quality assurance cell, but there was no elaboration on what the cell might be constituted of and how and what it was supposed to do.

It was observed that measuring adherence to the level of recommendations of accreditors from the AQAR might not give a better understanding of the quality of the internal quality assurance mechanisms in place at HEIs. However, if the document data were supplemented with other sources of data such as monitoring and evaluation visits, interviews and focus group discussions, it would give better insights on whether adherence was of quality and made an impact on the internal quality assurance.

II. How did the HEIs implement the recommendations made in different key aspects?

The data in this section pertains to the initiatives taken to adhere to the recommendations provided by the accreditors. The data suggested three broad areas of implementation strategies initiated by the HEIs to fulfil the recommendations provided by the accreditors. Most of the HEIs initiated quality assurance measures in enhancing and upgrading academic competence and capacity, infrastructure development and student services.

Enhancing and upgrading academic competence and capacity

As an academic enhancement mechanism, most of the HEIs initiated three strategies to enhance quality assurance. The three strategies included collecting academic-related feedback from the students, diversification and up-gradation of the existing programmes, and quality evaluation of the faculty. In the feedback mechanism, the students, faculty and the relevant units and departments at

the HEIs were asked to provide feedback related to the academic quality enhancement. For instance, some HEIs instituted student feedback systems, while others increased the student representation in different relevant committees to engage student representation. On the other hand, some HEIs conducted tracer studies amongst relevant stakeholders to understand and get feedback on their programmes and graduates. Finally, some HEIs reported to have conducted programme level student performance evaluation and moderation of question papers centrally to enhance the quality. HEIs 6 and 11 conducted peer observation in teaching practice as a measure for quality enhancement. The aspect of the evaluation process and reforms under curricular elements were implemented as per the recommendations. Few HEIs are reported to have enhanced the library resources such as reference books and internet Wi-Fi connections. Many HEIs conducted professional development training for their staff and students. The topic of the training ranged from pedagogy training to system-specific training such as student databases.

On the programme diversification and up-gradation front, most HEIs either reviewed or planned to review the existing programmes at the respective HEIs. In a few HEIs, new postgraduate (PG) programmes were initiated. Few of the HEIs discontinued the programmes that were not relevant to the job market. For instance, for the diversification initiative, HEI 3 initiated offering short term training programmes for other stakeholders such as agencies and individuals outside the HEIs.

Infrastructure development and student services

The establishment of new infrastructure and the enhancement of the existing facilities emerged as the second quality assurance mechanism to the recommendations provided by the accreditors. Most of the HEIs either created new infrastructure facilities or enhanced the existing facilities, including campus landscape facelifts at differing levels and degrees. For instance, HEI 9 initiated the construction of campus road, staff and academic block, and procured additional ICT and laboratory equipment. HEI 10 upgraded the college internet server, enhanced water supply and connection on the campus, procured smart boards and projectors for teaching and learning, and installed heating systems in the classrooms.

As a measure to enhance student services, the most prominent service provided to almost all the HEIs was the establishment of the wellbeing and happiness centres. Furthermore, these centres were provided with full-time certified counsellors. Some HEIs enhanced their facilities for students, such as establishing student lounges, open reading spaces, free Wi-Fi connection in the hostels, academic spaces, student cafes, and providing workspaces for student leaders. Based on the feedback collected from the students, initiatives were taken to improve the hostel mess food. The final initiative taken to enhance the student services was the initiation to institute alumni networks.

III. What are the internal initiatives taken to assure quality within the HEIs?

This section of the data pertains to the internal initiatives, in addition to the initiatives taken to adhere to the recommendations, taken to assure quality within the HEIs. There were five common initiatives found in the AQAR 2021 report of the HEIs. The five common themes were: academic-related, infrastructure and student services, governance and management, research and institutional linkages, and Initiation and reactivation of the internal quality assurance systems.

On the academic enhancement front, as an internal quality measure, except in one HEI, the rest of the HEIs either started new programmes or reviewed their existing programmes. Furthermore, some of the HEIs discontinued redundant courses based on the feedback from their stakeholders. Regarding the infrastructure and student services, 10 HEIs were found to have enhanced their online library services by connecting free internet Wi-Fi and procuring additional resources such as reference books and open-source integrated library system software. As an infrastructure and student services enhancement measure, all the HEIs have initiated numerous refurbishments and construction of academic and residential infrastructure, and procurement of learning resources.

On the governance and management front, guidelines for use of services or facilities were developed. Few HEIs made major changes and initiatives in the SOP such as sustainable waste management, safety measures related to disaster, hostel rules and regulation, installation of CCTV on the campus, and improving water services were also found to be the measures initiated by some of the HEIs. A special case of an internal initiative taken by a few science-related HEIs was the recruitment of deans and deputy deans with clear roles and responsibilities and a change in the composition of various committees.

Although research and institutional linkages did not emerge as a common theme, except for one HEI, all the HEIs have numerous updates in terms of research and institutional linkages as a measure to enhance IQA. These were evident from the increased publications in various national and international peer-reviewed journals, framing research policies, organising seminars and conferences, securing research funds and grants, and developing research capacity development for faculty. Furthermore, some of the HEIs also started research-based PG and specialised courses in the technical fields. In general, there was a growth in terms of collaborations and linkages by the HEIs. While some HEIs were working towards establishing partnerships with various internal and external agencies, many consolidated the links through MoUs, initiated scholarship partnerships, and renewed membership.

Initiation and reactivation of the internal quality assurance systems

One of the common initiatives taken by the HEIs was the initiation and reactivation of the internal quality assurance systems. It was found most HEIs had some internal quality assurance systems in place, however, it seemed that these systems were not active. Hence, these systems were reactivated or streamlined. In a few HEIs, initiatives to institute independent review teams to review the performance of each HEI or creation of new IQA systems. Additionally, two HEIs also initiated preparation for accreditation by an international accreditation body. HEI 2 secured membership to one of the international accreditation bodies while HEI 8 was in the process of receiving support from international projects to accredit programmes.

IV. What are the challenges faced by the HEIs in implementing the recommendations?

As documents were the only sources of data, the study was not able to discover concrete evidence for the challenges faced by the HEIs. However, the available data suggested three common challenges: the inability to construct additional infrastructure, the diversification of the existing programmes, and pertaining to the recommendations that were beyond the capacity of the HEIs. For instance, HEIs 12 and 10 were recommended to construct additional facilities for people with special

needs. However, the existing structure did not have any provisions to construct additional structures. In regard to the diversification of the programmes, the programmes were not validated and got nullified because these programmes overlapped with the existing programmes. The final challenge the HEIs faced pertained to the recommendations that were not within the capacity of the HEIs to execute. The HEI 13, for instance, was recommended to acquire full autonomy from the government; however, the HEI did not have the full authority to do so. It is noteworthy to inquire in what light was such a recommendation made for the HEIs by the accreditors. It is not clear whether these recommendations were made by the Accreditors' understanding and assessment of the future potential of the HEIs. One of the challenges as per the observations on the accreditors' report is that there was no clear description of the recommendations which led to varied interpretations and reporting in the AQAR.

V. What lessons does the BAC draw from the post-accreditation activities?

Besides exploring the effect of AQAR, a key objective was also to draw upon valuable lessons learnt from the whole exercise. The process of data analysis suggested several lessons which pertained to three common themes; the themes pertained to the organisation and the structure of the AQAR template, the quality of the documentation, and the mismatch of recommendations by accreditors and initiatives on QA in the AQAR.

Organisation and the structure of the AQAR template

Although a separate standard for Teaching, Learning, and Assessment is included in the IAM 2020, many HEIs did not give due consideration to reporting about teaching, learning, and assessment approaches. Adapting to new teaching-learning approaches and assessment practices to ensure quality had an insignificant mention in the AQAR. Only two HEIs reported adapting to the blended learning approaches due to the challenges posed by COVID-19 in normal contact teaching and learning processes. Therefore, there is a need to give more emphasis on innovations by HEIs on policies, systems, and practices related to teaching, learning and assessment approaches to enhance quality.

The current template has three parts, and the general observation of these three parts was that the parts did not align with each other in terms of coherence in the information gathered. Furthermore, some assessment questions had no connection with the other parts. For instance, part B of the template attempted to elicit information about updates of changes on institutional level innovations and enhancement. However, the data showed that this part of the template consisted of updates on all the six standards. A similar confusion in the template was also observed in part C. Therefore, it is fair to conclude that the template was not adequate enough to elicit the required information in that particular part.

Quality of the documentation

The two sources of data, the accreditors' recommendation document and the HEIs' AQAR were compared in conjunction. Two major themes emerged from the data: the quality of the recommendation statement by the accreditors and the quality of the documentation of the AQAR. In both the documents, inconsistencies in the quality of the reporting mode and system were found. One of the common quality issues was the use of language in both documents. For instance, in the

accreditors' report, 10 out of 13 reports were found to be using phrases (instead of complete sentences) in bullet point form. The same pattern was also found in the AQAR. For instance, the AQAR for HEI 1 contained 13 implemented recommendations in the form of phrases, such as, 'collected student feedback', 'peer evaluation among faculty' etc. A typical example of a report done in the phrasal form in the accreditors' report occurred in the HEI 12: 'develop a database for students and alumni, QAC/IQAU to ensure: holistic quality assurance, accreditation follow up'.

It was observed that most of the content of the AQAR report read as if it was written by one or two people from each HEI, which is understandable since such a report required language consistency. However, some reservations were made on the authenticity and credibility of the report on the representation of the whole HEIs, and the actual internal quality assurance system in place. It might be a good idea to constitute a group or a team compiling the report together and the name of the team reflected in the report. This team could consist of representatives for each standard. In some accreditors' recommendations, a committee was asked to form to analyse and prioritise areas of improvement from the accreditor's report; however, this was partly implemented by the HEIs, leading to questions on the authenticity and credibility of the AQAR.

Mismatch of recommendation by accreditors and initiatives on QA in the AQAR

In some of the AQAR, HEIs initiated or explained plans or activities that were not mentioned in the recommendation, but the AQAR explained as a major point from the accreditors' report or consultation meeting during the accreditation. This was a confusing point while reviewing the documents for analysis because these points were not present in the recommendations. As AQAR's first part 'A' mainly focussed on internal quality assurance and the HEIs plans or actions taken against the recommendations made by the accreditors' report. There needs to be better alignment of section 3 on the overall analysis of the accreditors' report with recommendations in section 4. Currently, some of the initiatives taken by HEIs in AQAR did not match recommendations; however, initiations were taken due to some findings in the accreditors' report.

8. Key Findings

The current system of collecting AQAR from the HEIs as a post accreditation continuous quality enhancement measure for HEIs do not serve the purpose as intended. Hence, the study identified ten key findings.

RQ 1

i. Measuring adherence level in the current AQAR reporting format is daunting, ambiguous and complex. If adherence level measurement is necessary, a tool for this has to be developed. Adherence 33 -83%

RQ 2 & 3

i. The most common recommendation was to establish or institute IQA in the HEIs. However, a common update on the recommendation was described as "activated" or "streamlined", indicating that the system was in place but not functional or specific.

ii. While the HEIs have taken initiatives to implement accreditors' recommendations, adherence or status of recommendation implemented does not give an insight into the quality and the impact on the IQA.
iii. The most common implemented recommendation was enhancing and upgrading academic competence and capacity, infrastructure development, and student services. For example, programme review and diversification were the most common from the academic theme.
iv. There was overlap between common implemented recommendations and initiatives taken by HEIs for internal quality assurance.
v. Research and institutional linkages emerged as one of the prominent initiatives among HEIs.

RQ 4

i. The study identified only three common challenges due to limited sources of data. The challenges are the inability to construct additional infrastructure, diversification of existing programmes, and pertaining to recommendations beyond the capacity of HEIs.

RQ 5

i. The existing AQAR template was found to be inadequate, hence revision of the AQAR template was found to be necessary after analysing the 13 HEI AQARs.
ii. Training on reporting for AQAR and accreditors' reports was found to be necessary due to the quality of the reporting.
iii. Instituting and working on monitoring and evaluation procedures and tools was found to be necessary for the progress and enhancement of the internal quality assurance of the HEIs. If the same study is to be carried out again there is a need to supplement qualitative document analysis with other sources of data such as interviews, focus group discussions, and observation as a tool of monitoring and evaluation.

9. Recommendations to BAC

After studying and analysing the AQAR, recommendations are made in three broad themes. These recommendations are on the findings presented above. The three broad themes are: review the AQAR template, review of the reporting format of AQAR and accreditors' recommendations, and to develop monitoring and evaluation procedures and tools.

The theme on 'organisation and structure of the AQAR template' under the section on 'lessons learnt' from this study provides evidence for the recommendations to review the AQAR template. Hence, three recommendations are made on the AQAR template.

- Revise the format of the AQAR to establish alignment with the three parts (A, B, and C). There is a need to provide clear instructions for each part and its sub-sections to avoid ambiguity in the reports and also for the consistent reporting across all the HEIs. For example, part C needs a clear definition of the difference between an initiative and an action plan.
- The details on appropriate initiatives such as research publications, professional development training, and consultancy services provided by the HEIs may be quantified.

- AQAR must encourage the reporting of innovative practices in all the standards for enhancement of quality and also make the documentation consistent with the IAM 2020. For example, 11 out of 13 HEIs did not mention any initiatives or updates on innovative practices during the COVID pandemic. However, it is a matter of common knowledge that most HEIs had to switch to online teaching-learning due to the pandemic and the government's directives. It is interesting to note that only two HEIs have reported on blended learning approaches.

The theme 'quality of the documentation' under the section lessons learnt from this study provides evidence for the recommendations to review the reporting format of AQAR and accreditors' recommendations. The updates in the AQAR on IQA is mostly on the routine mechanisms and structures that are in place. However, the intention of the AQAR was to evaluate progress and initiative taken by the HEIs after accreditations, and this was not reflected in most of the AQAR 2021. Hence, four recommendations are made of which two are for AQAR reporting format and two for the accreditors' recommendation format.

- To match the intention of AQAR, HEIs need to be oriented on writing a critical self-appraisal report.
- To ensure the quality and authenticity of AQAR, the AQAR document compilation at the HEIs should be done by a team. This recommendation is made on the basis of evidence from lessons learnt from the theme 'quality of documentation'.
- The accreditors' report needs to be more descriptive to enable the HEIs to acquire specific directives to work on. This is to address the ambiguity and confusion due to inconsistencies in the quality of the reporting mode and system found in this study.
- The accreditors' recommendations need to be aligned with the overall analysis present in section three of the accreditors' report. This is to address the theme 'mismatch of recommendations by accreditors and initiatives on QA in the AQAR'.

According to chapter six of the IAM 2020 on Post Accreditation, it states that withdrawal or suspension of accreditation status is applicable "if HEIs fail to maintain the standard at any point of time." For the future direction of the AQAR and its intention for the progress of IQA of the HEIs, the data suggest a need for monitoring and evaluation procedures and tools.

References

Altheide, D., Coyle, M., DeVriese, K., & Schneider, C. (2008). Emergent qualitative document analysis. *Handbook of Emergent Methods*, 127–151.

Altheide, D. L. (2000). Tracking discourse and qualitative document analysis. *Poetics*, *27*(4), 287–299.

Bazeley, P. 2009. Analysing qualitative data: More than 'identifying themes.' *Malaysian Journal of Qualitative Research, 2*(2), pp.6–22.

Bhutan Accreditation Council. 2020. *Institutional Accreditation Manual*. Bhutan Accreditation Council.

Bowen, G. A. 2009. Document analysis as a qualitative research method. *Qualitative Research Journal*.

Dotong, C. I., & Laguador, J. M. 2015. Philippine quality assurance mechanisms in higher education towards internationalization. *Studies in Social Sciences and Humanities*, *3*(3), pp.156–167.

Golafshani, N. 2003. Understanding reliability and validity in qualitative research. *The Qualitative Report*, *8*(4), pp.597–607.

Hayward, F. M. 2006. Quality assurance and accreditation of higher education in Africa. *Conference on Higher Education Reform in Francophone Africa: Understanding the Keys of Success*, pp.1–61.

Hendel, D. D., & Lewis, D. R. 2005. Quality assurance of higher education in transition countries: Accreditation-accountability and assessment. *Tertiary Education & Management*, *11*(3), pp.239–258.

Karppinen, K., & Moe, H. 2012. What we talk about when we talk about document analysis. *Trends in Communication Policy Research: New Theories, Methods and Subjects*, pp.177–193.

Karppinen, K., & Moe, H. 2019. *Focusing on Texts I: Collecting Policy and Industry Documents*. The Palgrave Handbook of Methods for Media Policy Research. Basingstoke ….

Kayombo, J.J., 2015. Strategic harmonization of higher education systems in Africa: The dominance of cross-state organizations, government treaties and international conferences in higher education accreditation and quality assurance. *Journal of Literature, Languages and Linguistics*, *5*, pp.26-30.

Materu, P. N. 2007. *Higher education quality assurance in Sub-Saharan Africa: Status, challenges, opportunities and promising practices*. World Bank Publications.

Ministry of Education. 2010. *Tertiary Education Policy of the Kingdom of Bhutan*. Ministry of Education, RGOB.

Morse, J. M., Barrett, M., Mayan, M., Olson, K., & Spiers, J. 2002. Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods*, *1*(2), pp.13–22.

Okwakol, M. J. 2008. Challenges and prospects for quality assurance in science and technology education in African Universities. *The Uganda Higher Education Review Journal of the National Council of Higher Education*, *5*(2), pp.17–26.

Swanzy, P., & Potts, A. 2017. Quality assurance strategies in higher education: The case of Ghanaian Polytechnics. *Education Research and Perspectives*, *44*(December 2017), pp.100–127.

Wilger, A. 1997. Quality assurance in higher education: A literature review. *National Center for Postsecondary Improvement, Stanford University*, pp.*10*.

Wood, L. M., Sebar, B., & Vecchio, N. 2020. Application of rigour and credibility in qualitative document analysis: Lessons learnt from a case study. *The Qualitative Report, 25*(2), pp.456–470.

Zami, D. 2020. Autonomy and interdependence of higher education quality assurance mechanisms in Africa. *London Journal of Research in Humanities and Social Sciences*.

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The Database Of External Quality Assurance Results Of The Asia-Pacific Quality Register As A Key Tool For The Development Of QAAs And HEIs

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Abstract
This article is the result of a study of the main trends in higher education and quality assurance in the Asia-Pacific region and the European experience in quality assurance in recent years. The authors investigated why and how the Database of External Quality Assurance Results (accredited HEIs or study programmes by internationally recognized QAAs) could be a key instrument for all interested stakeholders inside and outside the Asia-Pacific Region. The launch of the Database of External Quality Assurance Results in the Asia-Pacific Region could become an important milestone in the whole work of the Asia-Pacific Quality Network towards enhanced transparency of external quality assurance procedures carried out by the APQR-registered agencies.

1. Introduction

External quality assurance has become one of the most important items on the policy agendas of higher education systems worldwide. Nowadays quality assurance agencies (QAAs) along with HEIs and governmental bodies have become an integral part of national educational systems. The main activity of QAAs aims at assessment, monitoring and quality assurance of higher education.

Information on accredited HEIs and programmes should be published and transparent to all interested stakeholders. However, search and analysis of this kind of data usually cause many difficulties to users due to lack of information or impossibility to understand an unknown language. Creation of a single database with an easy access could solve these problems and facilitate exchange of data and recognition of qualifications.

In this article, we set ourselves a challenge to investigate the mechanisms, which could increase recognition and awareness of HEIs and programmes on the international level. We will try to find out the main reasons and advantages of creating databases, we will analyze a European example of such a database and will discuss the possibilities of creating a database for the Asia-Pacific Region (APR).

2. APQN and APQR: the next step in the development

In the field of quality assurance the concept of a register is relatively new and very attractive. Following in European Quality Assurance Register (EQAR) footsteps the Asia Pacific Quality Network (APQN) has also made a very bold attempt. After studying a good experience from EQAR, in 2012 the APQN AGM has supported an idea for the establishment of the Asia-Pacific Quality Register (APQR). APQR would be a register of external QAAs, which demonstrated certain thresholds of maturity. Inclusion of a QAA into APQR is based on a review of the agency against its adherence to compliance with the criteria for recognition by the APQR-Chiba Principles.

The primary purposes for establishing the APQR according to the Board of APQN are the following:

- provide an inspirational target
- serve as a quality hallmark and qualification to accredit HEIs and programs
- provide a basis for mutual recognition of cross-border operations of QAAs and HEIs
- offer a reference to global stakeholders on trustworthy external quality assurance agencies in APR

In accordance with the APQN principles, QAAs who have been registered in APQR by the on-site review panel can accredit international HEIs and programs in guidance along with APQN. Thus, APQR is an important measure to promote internationalization of higher education in the APR.
Currently 10 QAAs representing 8 countries are listed in APQR. So far, ten years have passed since 2012 when APQN launched the initiative to create APQR. For sure, a substantial progress has been made. However, we can't observe a rapid development of APQR. In comparison with APQR, EQAR for the same period was in full swing and recognized 46 QAAs. That is why we suggest that the promotion of APQR is still one of the ambitious agenda of APQN and a lot needs to be done to enhance the image of APQR.

3. Main objectives for creating the Database of accredited HEIs / study programmes

A database is an organized collection of structured information or data, typically stored electronically in a computer system. A database is an information that is set up for easy access, management and updating.

The main objectives of the database of accredited HEIs and study programmes could be the following:

- Database and source of information

Usually QAAs publish results (reports and decisions) of their external quality assurance activities on their own official websites. In this case, different users have difficulties with accessing such information, especially from other countries, because QAAs mainly publish this kind of information in a local language. Some QAAs don't publish any results at all. That is why easy access to QAA's reports could contribute to the transparency of quality assurance outcomes and improve the collective knowledge on the quality assurance of HEIs and programmes. A single register could be a valuable source of information about a QAA, its external quality assurance activities, its accredited HEIs and programmes.

- Map the diversity of external quality assurance frameworks

The database could also contain valuable information about a country's system of higher education, quality assurance system, its national quality assurance requirements and cross-border procedures. Moreover, it will be able to find out what kinds of accreditation and external quality assurance procedures agencies, what levels of higher education are assessed. Thus using a database stakeholders could find clear and reliable information.

- Diploma recognition

International student mobility and recognition of their diplomas in one country by an institution in another country has been a constant concern within higher education throughout the 21st century. Since the 1970's, UNESCO has initiated six regional conventions on the recognition of higher education qualifications with the aim to promote free movement of students across borders. In Europe, this concern has grown since the large-scale institutionalization of international mobility with programmes such as Erasmus+. As for the APR international conventions, such as the Bangkok Convention (1983) and the revised Tokyo Convention (2011) reflect a joint commitment to international norms.

- Source for scientific research

Information contained in the database could be a valuable source for different scientific research. Hosting a huge number of reports the database could allow scholars, researchers, students, HEIs, QAAs and policy makers to access the database, analyze the specifics of national external quality assurance requirements, make statistics on the number of accredited institutions and programmes, compare different approaches to conducting external reviews.

- Relevance of research

The issues of globalization and internationalization, student mobility, cross-border education and academic recognition have been constantly raised on different levels worldwide. Student movement is one of the major indicators of internationalization. The APR traditionally has been characterized by the outbound student mobility, it has more students going out to study abroad (e.g. to USA, UK, Germany, Canada) than students coming to study in the region. According to the data analyzed by the National University of Singapore, the largest countries in numbers of outbound students are China and India with nearly 65% of the total outbound students from the region. However, in recent years, we have been observing a reverse tendency. The APR makes great efforts not only to attract but also to increase inbound mobility. According to the UNESCO Institute for Statistics, the number of inbound students to Asia has increased almost three-fold from 1999 to 2016. Japan, Australia, China and South Korea are the main destinations for the inbound student mobility (especially from such countries as UK, Canada, Germany and France). Asia-Pacific universities are becoming very attractive for students to study, because they ensure a high-quality education. Thus for example according to the global aggregated rating portal made by the national Guild of Experts in Education, in 2022 China comes the second after the USA with 25 universities in TOP-1 (1% of the best universities in the world). All these trends confirm that the APR sets competitive goals, improves the quality of higher education, uses innovative approaches and focuses on new challenges for

development and modernization. It makes our research actual and relevant, because DAQAR could become the most ambitious project for the whole higher education system in the APR.

4. European experience in creating and promoting DEQAR

In May 2018, EQAR launched a Database of External Quality Assurance Results (DEQAR) in order to make quality assurance reports and decisions more easily accessible and understandable. DEQAR is the Database of results on activities performed by EQAR-registered QAAs. DEQAR not only collects the reports and decisions but also helps to understand reports in their context by describing the national QA frameworks of the European Higher Education Area (EHEA) countries.

Currently DEQAR comprises over 75 000 reports from more than 3000 HEIs. There are 43 EQAR-registered agencies in the database; information on 45 countries of the EHEA and 38 countries outside EHEA is presented in DEQAR. Each year DEQAR unique page views is more than 58 000 (that is over 5000 views per month) which shows real demand for this kind of information among applicants and other stakeholders from all over the world.

DEQAR offers a range of filter options by decision, cross border review, status and report language to help users obtain the most accurate results. Advanced users can also search directly by quality assurance report as well as by institution. DEQAR website represents a list of countries both in EHEA and non-EHEA. Clicking on a country a user could see the list of HEIs accredited by EQAR-registered agencies. The external review outcomes are represented both at institutional and programme levels. Such information as the name of an accredited programme, its level, qualification, the decision and the terms of decision as well the links to reports are available for every programme and HEI.

DEQAR provides easy access to external QA results across Europe and maps the diversity of external quality assurance frameworks in Europe for a broad range of users. DEQAR gives agencies, institutions and countries more exposure of its work, and can be used as a basis for studies, allowing researches to tap into thousands of quality assurance reports.

By analyzing the effectiveness of DEQAR, we suggest that there are all the preconditions for APQN to start up its own Database of External Quality Assurance Results in the Asia-Pacific Quality Register - DAQAR.

5. DAQAR: vision, mission and technologies

The development and internationalization of quality assurance policies and practices in the system of higher education, the growth of the number of QAAs in the APR, accredited HEIs and programmes as well as the need for a single data storage encourage the possibility of creation of the Database of Asia-Pacific Quality Assurance Results (DAQAR).

The development of DAQAR could enhance access to quality assurance reports and decisions on HEIs and programmes externally reviewed by APQR-registered agencies. Through this database, APQR thus could contribute to the transparency of external quality assurance in the APR as a whole and facilitate diploma recognition in the future. The basis for such statements serves the Tokyo Convention. Its main purposes are to facilitate international mobility and recognition of qualifications in higher education. The Tokyo Convention also requires the establishment of the Asia-Pacific Network of National Information Centers (APNNIC) on academic mobility and recognition, similar to ENIC-NARIC Network, which is operating in Europe. APNNIC provides free information on the recognition of qualifications to help facilitate student mobility. According to APNNIC portal 12 countries with such information centers are available. Our research and findings could confirm that the development of DAQAR will be a helpful instrument for APNNIC in order to facilitate diploma recognition.

DAQAR is also expected to attract a broad range of users:

- HEIs

DAQAR could become one of the valuable instrument to increase the visibility, competitiveness and international recognition of HEIs. Full and reliable information on accredited programmes would be a relevant advantage in comparison with other institutions that are not presented in the database. Moreover, using the database HEIs will be able to choose a potential partner represented by an APQR-registered agency for conducting the external review procedures, because all information about QAA's previous activities will be also available for users.

- Students

For students the database could be a helpful source of objective information related to quality assurance procedures when choosing where to study abroad and what programme to choose. An accredited programme presented in DAQAR could enable students to participate in academic mobility programmes and cross-border education and to apply for different grants.

- QAAs

DAQAR could be one more platform for QAAs to upload and disseminate their external review results. They will also have an easy access to all their previous external quality assurance procedures. Furthermore, the database could raise an agency's brand and image, attractiveness and competitiveness (if necessary and applicable).

- National authorities

The more HEIs and programmes are presented in the database, the higher and stronger positions could have a national system of higher education as a whole. DAQAR will be a reliable source of information about the number of national QAAs, registered in APQR, their external quality assurance activities and their results.

Visually DAQAR will represent a list of countries both inside and outside the APR where users could find accredited HEIs and programmes. All information will be presented in a readable and consistent manner. By clicking on a HEI, accredited by one of the APQR-registered agency, there

will be basic information about the location, website and unique APQR ID of a HEI. The external review outcomes will be represented both at institutional and programme levels. Institutional level accreditation will provide information on the accredited agency, type of accreditation (national, international or joint accreditation), its status (voluntary or obligatory), decision (positive, positive with conditions or negative), dates of accreditation and will have links to supporting documents. The programme accreditation besides all this information will provide data on the name of an accredited programme, its qualification and level.

The information about accredited HEIs and programmes will be uploaded into DAQAR by APQR-registered agencies themselves. Take into account different agencies' needs and technical possibilities, three methods for submitting data could be offered:

1. A manual upload, which will be performed through an admin interface provided for every APQR-registered agency and will allow to submit small amounts of data. This kind of upload method will be suitable for agencies without IT developers.
2. CSV method will be also performed through an admin interface. Users could work manually on the dataset before submission them into the database and it will be possible to submit big amount of data in a batch.
3. An API (application programming interface) method, which is an advanced upload method suitable for large amounts of data, which will be available for agencies with IT developers. This type assumes that an agency could create a link directly to its local system to keep in synchronized with DAQAR. It will be possible to send data automatically in JSON format.

All three upload methods will be interoperable and could be used in different situations by the same agency. Every agency could determine which option or options will best suit their possibilities.

6. Conclusion

The results of the study show that DAQAR can be created in a relatively short time, since there are only a few agencies that have passed an external international assessment and are included in the APQR. It can be done in a relatively simple way since there is a European experience. DAQAR could become a new instrument in the sphere of higher education system in the APR. It could firstly raise awareness and improve recognition of all APQR-registered agencies because the results of their external quality assurance activities will be transparent and stored in a single database. Secondly, the database will provide a free, open access and use to public and all interested stakeholders.

References

EQAR. (2022). *Database of External Quality Assurance Results* [online]. Available from: https://www.eqar.eu/qa-results/search/ [accessed 04 July 2022].

APQR. (2022). *ASIA-PACIFIC QUALITY REGISTER (APQR)* [online]. Available from: https://www.apqr.co/ [accessed 04 July 2022].

APQN. (2022). *ASIA-PACIFIC QUALITY NETWORK (APQN)* [online]. Available from: https://apqn.org/ [accessed 04 July 2022].

National University of Singapore. (2021). *Student Mobility in the Asia-Pacific and South Asia: Trends and Impact of COVID-19* [online]. Available from: https://www.isas.nus.edu.sg/papers/student-mobility-in-the-asia-pacific-and-south-asia-trends-and-impact-of-covid-19/ [accessed 14 July 2022].

Aggregator of an independent assessment of higher education. (2022). *Global aggregated rating* [online]. Available from: https://best-edu.ru/ratings/global/globalnyj-agregirovannyj-rejting?name=&year=2022&top=1& [accessed 14 July 2022].

NIC-Japan, National Information Center for Academic Recognition Japan. (2022). *The Tokyo Convention on the Recognition of Qualifications in Higher Education and NIC Network of the Asia-Pacific Region (APNNIC)* [online]. Available from: https://www.nicjp.niad.ac.jp/en/site/TokyoConvention.html [accessed 18 July 2022].
APNNIC. (2022). *Asia-Pacific Network of National Information Centres (APNNIC)* [online]. Available from: https://apnnic.net/ [accessed 18 July 2022].

Galina Motova, Vladimir Navodnov (2021) *Aggregated Ranking as a Tool for Quality Evaluation and Positioning of Asia-Pacific Universities at the Global Level*, An Anthology of Selected Papers of APQN Annual Academic Conference Nov 25, 2021, Singapore (Virtual Event) P.18-24. Available from: https://apqn.org/images/contents/library/AAC%20Proceedings/APQN_Anthology_of_2021_AAC.pdf

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Internationalisation of Quality Assurance

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Abstract

NEAS Australia is a global leader in quality assurance for the English Language Teaching (ELT) sector. This paper will provide a snapshot of NEAS's Quality Assurance (QA) Framework for ELT and Australia's English Language Intensive Courses for Overseas Students (ELICOS) programs and showcase how NEAS quality assures the ELT community globally. It will go on to explain the influence that the global pandemic has had on the international ELT sector and highlight some of the positive changes that have emerged out of it. It will also explore the needs of students of the future and what Generation Alpha will look like and what kind of skills Generation Alpha will be expected to demonstrate. It will talk about repurposing ELICOS in an international context by embedding 21st Century skills into ELT/ELICOS programs and turbo-charging such skills to meet the needs of Generation Alpha and beyond. It will provide some key indications of how 21 Century attributes can become and integral part of ELT/ELICOS programs and provide a picture of the changing look of certification in the future with the introduction of electronic badges. This paper will conclude these are all elements of the internationalisation of Quality Assurance, a key theme for the APQN Academic Conference (AAC) and Annual General Meeting (AGM) 2022.

1. Quality measures in the internationalisation of Quality Assurance (QA)

NEAS Australia started as a national not-for-profit English Language Teaching (ELT) accreditation scheme in Australia over 30 years ago and has since become a large charity registered with the Australian Charities and NotforProfit Commission (ACNC). NEAS is not only the national leader of Quality Assurance in ELT in Australia, but also the forerunner of Quality Assurance in English Language Teaching internationally, including ASEAN, China and the Middle East. Within the ELT community NEAS conducts Quality Assurance for organisations from all sectors of international education in universities, high schools, vocational colleges, independent colleges and online providers. As part of the NEAS remit, the organisation has added stand-alone QA for specific products, which are: ELT Qualifications, Education Agents, Products and Services, ELT Professionals, Transnational Delivery and Foundation Programs. NEAS promotes a streamlined global approach to QA and stands at the helm of innovation within the internationalisation of QA.

1.1 QA Framework - Core and Stand-alone Areas

Crucial to NEAS Quality Endorsement is a commitment to continuously improving quality. Feedback on all aspects of the Centre's operations is systematically sought from multiple stakeholders and integrated into its quality improvement cycle. This is done with students at the focal point. The NEAS QA Framework consists of core Areas (A to G), essential to all ELT organisations, and 6 Stand-alone Areas that can be individually quality endorsed, or as add-ons to the core Areas.

The core Areas are:

- Area A: Teaching, Learning and Assessment
- Area B: The Student Experience
- Area C: Resources and Facilities
- Area D: Administration, Management and Staffing
- Area E: Promotion and Student Recruitment
- Area F: Welfare of Students Aged Under 18 Years
- Area G: Strategy, Risk and Governance

Stand-alone Areas are:

- Area H: Online Delivery
- Area I: ELT Qualifications
- Area J: Products and Services
- Area K: Education Agents
- Area L: ELT Professionals
- Area M: Transnational Delivery
- Area N: Foundation Programs

Areas H to N have been developed over the last few years, with areas N and M being the most recent areas to be successfully piloted.

NEAS Australia has a team of highly qualified and experienced QA Assessors, who use their expertise to drill down into the QA Framework Areas to ensure quality is not compromised in ELT centres and programs, but that it is ensured and maintained in a cycle of constant improvement. QA Assessors conduct desk audits, premises inspections, and interviews with focus groups and rely on their sharp observations to create constructive reports, which assist centres to reflect on their practice and continue striving for excellence.

1.1.1 Living with COVID 19, while ensuring QA in ELT

Since the beginning of 2020, when the wave of COVID 19 first hit Australian shores, NEAS Australia pivoted rapidly and created a plan to brace for the onslaught of change; to ride the waves of repeated lockdowns and border closures; and to emerge from the eye of the pandemic storm intact, ready to thrive as they now boldly welcome the future. The first activities to be adapted were NEAS' Quality Endorsement and QA visits. These had traditionally been face to face and on the premises of the ELT centre, but NEAS quickly realised, that with some adjustment, they could continue to conduct their visits virtually. Thus, Virtual Quality Reviews became the norm. Throughout the toughest years of the pandemic (2020 and 2021) it remained and continues to remain a priority at NEAS to support everyone in the ELT community and provide ongoing advice, information, guidance and innovation. As the Thrive stage, the last of NEAS' 3-step plan to guide the ELT Community through the pandemic, is now truly underway, they continue to innovate by developing new QA Framework Areas, such as N and M, but they are also intensely active globally with participation in numerous conferences and roundtable discussions. NEAS hosted their first online conference for Education Agents in 2021, as well as the Vietnam Workshop Series 2021 and

the Thailand Workshop Series this year in March. The successful NEAS Australia 2022 Management Conference entitled "Going Glocal – Embracing ELT Communities of Practice", highlighted NEAS' continued dedication to the internationalisation of QA, as they hosted participants from all over the world, both physically and online in a hybrid conference. Although COVID 19 remains a threat, it is one that we are learning to live with. Part of innovation at NEAS Australia has been to create global Communities of Practice (CoPs), which have become an integral part of the ELT community where ELT professionals can share knowledge and build better practices in a supportive environment that promotes QA. NEAS has actively connected ELT practitioners from around the world to form the CoPs and supported them to better understand the QA Framework and what it means for their ELT centres to remain quality assured.

1.2 Context with University English Language Centres in Australia

English language programs for international students in Australia are closely monitored, benchmarked and regulated (Pheasant, P. & Dutcher, L. 2016). Many of the University English Language Centres of Australia (UECA) are benchmarked regularly on scope, size, scale and relationship to their parent university. From these benchmarking activities, it is revealed that within these programs before COVID, approximately 50,000 students per annum studied 600,000 weeks of English language in direct entry programs. UECA ELICOS is only a part of the full ELICOS market in Australia but this provides a snapshot of the size and scope of ELICOS. Almost all of the universities have enterprise relationships with their language centres including full ownership, joint ventures and subsidiaries, with sizes of these centres benchmarked ranging from 300 students to 3,200 students and revenues from AU$1.4mil per annum to AU$21million pre-COVID. The centres are regulated by the Tertiary Education Quality and Standards Agency (TEQSA) against the National Standards for ELICOS providers and courses (ELICOS Standards) and Education Services for Overseas Students Act 2000 (ESOS Act). Analysis reveals that many of the programs are focused on testing and test preparation. Pressures for international students to perform well on these tests heavily influence course design and limit more communicative, task and arts based methodologies (Pheasant, P. 2019).

2. Growth

From the NEAS perspective, as observed through NEAS membership, it has become clear that NEAS' own growth reflects that of the ELT sector and that the organisation's growth trajectories run parallel. COVID 19 has accelerated growth, which is particularly evident in the emergence of English for Academic (EAP) courses, now very popular in source countries, such as Cambodia, Vietnam and Thailand. Within NEAS, new areas in the QA Framework, such as Area L: Education Professionals and Area K: Education Agents, have been developed in reaction to the needs of the ELT industry within Australia and internationally. Such development highlights the increasing importance of professional standards to ensure that the pathways from ELT to higher education are quality endorsed and regularly assured.

2.1 Understanding global students of the future (Gen A)

As we grow and as pathways to higher education become re-established we need to understand our students of the future. According to McCrindle (2020), understanding Generation Alpha is "key to the future". Generation Alpha represents the children that were be born from the year 2010, with Millennials (also known as Generation Y) as their parents and Generation Z as their older siblings. Generation Alpha, primary school students at present, the first generation to be born in the 21st Century, will be young adults and Higher Education students in the late 2020s. With this in mind, it is prudent to recognise the expected attributes – also known as 21st Century skills – that Generation Alpha will need to have, and to start engaging with international students, by embedding these skills in ELICOS programs now. Thus, we should repurpose ELICOS and turbo-charge our practice to align with Higher Education and the expected graduate attributes for global career readiness in the future. Research by Donleavy (2012) demonstrates the top five attributes in all Australian universities for 21st Century skills as being:

1. Communication skills (32)
2. Ethical conduct and sense of social responsibility (32 lower rank sum than communication skills)
3. Global perspective and sense of citizenship (30)
4. Critical thinking (28)
5. Teamwork skills (28 lower rank sum than critical thinking).

Although we are familiar with Critical Thinking, Teamwork and Communication Skills, the surprising attributes might be Ethical Conduct, Social Responsibility and a Sense of Citizenship from a Global Perspective. In particular the latter attribute points towards internationalisation and 'glocalisation' – the theme of the 2022 NEAS Management Conference – and indeed forewarns us of the need to aid Generation Alpha to truly become global citizens, by showing ethical conduct and social responsibility on a global scale.

In ELICOS, we should no longer be confined to the four Cs of Critical Thinking, Creativity, Collaboration and Communication that are already significant elements of Australia's ELT programs, but we must turbo-charge the predicted 21st Century skills as identified in the research of Australian universities by Donleavy (2012). Donleavy (2012) proclaim graduate attributes of Australian universities as including:

"sustainability, social justice, tolerance and indigeneity, which are all ethically laden attributes so should be taken into account when critically reviewing a university's commitment to producing ethical graduates".

This message is relevant to the ELT sector globally, so that such attributes can be gradually infused into ELT programs internationally, but specifically intensified in ELICOS programs or their international equivalent, so that international students are prepared for the kinds of skills they will be required to engage in when they commence graduate and othe higher education programs in countries such as Australia.

2.1.1 Top ten 21st Century Skills

Now there is clarity around the kinds of student attributes Generation Alpha will need, the teaching of 21st Century skills can be made an essential component of ELT and ELICOS programs and included in the Internationalisation of Quality Assurance. The question that remains, however, is: How are we going to do that? NEAS Australia has designed a list of teaching methodologies so that we can really engage global students to start thinking about sustainability, social justice, tolerance and indigeneity. They are:

1. Make the classroom content all about current state versus future state
2. Use more inquiry-based teaching and learning
3. Use more task or project-based teaching and learning
4. Use arts-based teaching and learning
5. Use real life projects as powerful learning tools
6. Change assessment tools and modes
7. Reinvent the needs analysis
8. Flip the classroom
9. Use Common European Framework of Reference for Languages (CEFR) – descriptors to guide and align syllabus design
10. Design courses and train teachers and facilitators to specifically train 21st Century skills (digital badges).

3. Design changes for embedding 21Century skills

As we maintain a close eye on the internationalisation of QA, NEAS recommends that ELT and ELICOS centres should now foster the changes that COVID 19 brought about and focus on the current state versus future state. By embracing the current state (that is, changes from COVID), this "ultimately helps you and your organization … to improve your organization" (Transforming Solutions Inc., 2022). To help jump-start changes in ELT/ELICOS curriculum design, the Common European Framework of Reference for Languages (CEFR) (The CEFR Levels, 2022) is a good place to start for curriculum design and changes in needs analyses and assessment formats. By thinking about what will make our students global citizens with substantial career readiness in the early 2030s, we should design ELT/ELICOS courses that specifically incorporate 21st Century attributes and skills. For the internationalisation of quality to be retained, we must also turbo-charge teacher training, so that teachers are confident in teaching those skills and this should be supported by the provision of ongoing professional development (PD). Students should be encouraged to continue practicing the digital skills that they have become familiar with during the COVID pandemic and teachers can do so by flipping the classroom. This means that via a Learning Management System (LMS), or simply through emails or text messages, teachers can post a task for students to complete prior to classroom time, with the intent of using classroom time to concentrate on practicing, developing and scaffolding skills in real time, rather than using classroom time for explanations.

3.1 The power of enquiry-, task-, arts-, real life- based projects

Furthermore, NEAS urges ELT practitioners to immerse students in themed projects that meet their interests and needs. Adapt projects by making them fit for purpose and relevant to students' lives. Encourage students to delve deep into questions around sustainability, social justice, tolerance and indigeneity within a project so that they may develop 21st Century skills such as Ethical Conduct and a Sense of Citizenship from a Global Perspective. All the while, students should be encouraged to hone their skills of Critical Thinking, Teamwork and Communication Skills by using these skills to conduct projects, while remaining enquiry, task, arts and real life focused.

3.1.1 Digital Badging

To maintain momentum of such dynamic movement within education into the future, with Generation Alpha attributes as our guiding light, we should also think about changing how we distribute assessment and awards, such as course and non-award certificates. Awards are imperative in confirming the satisfactory completion of courses and stages of learning. With Digital Badging companies such as Learning Vault, future certification will become paperless and convenient. As the Learning Vault website (2019, accessed 24 May 2022) says

> "Digital badges are a virtual acknowledgement of an earned credential, demonstrated skill or professional achievement, along with many other uses. Every badge earner has a portfolio (known as a 'backpack') of evidence with each awarded badge, backed by machine-readable metadata. Digital badges are portable, sharable and most importantly, verifiable."

With badging, the quality of a student's education can be demonstrated and shared easily and efficiently in the secure knowledge that the integrity of the awards is not compromised. The awards remain safely encrypted and inaccessible to third parties without permission. Since most Generation Alpha children are technological natives and the most globally connected generation in existance and they "are deemed social, global and mobile as they will work, study and travel between different countries and multiple careers" (McCrindle, 2022), this is a change also worth embracing to ensure quality in an international environment.

4. Conclusion:

In conclusion, it is clear to NEAS that the internationalisation of Quality Assurance will continue to expand in importance as it synchronises with the global push towards ensuring quality ELT and ELICOS programs for 21st Century students. By understanding the needs of future generations and the attributes they are predicted to have at their command, teachers and ELT/ELICOS providers would be wise to invest time, energy and resources into developing and delivering courses that are fit for purpose for Generation Alpha and beyond and ensuring these programs are quality assured and benchmarked against local and international standards. NEAS Australia will continue to drive Quality Assruance internationally and adjust its QA Framework to meet the needs of the international ELT community, where students, as always, will reman the principle focus.

References:

Donleavy, G. (2012), "Proclaimed graduate attributes of Australian universities: patterns, problems and prospects", *Quality Assurance in Education*, Vol. 20 No. 4, pp. 341-356.

Learning Vault, (2019) Learning Vault. Available at: https://www.learningvault.com.au/digital-badging/ (Accessed: 23/5/2022)

McCrindle, M. and Wolfinger, E. (2020) Understanding Generation Alpha. Norwest, Australia: McCrindle Research Pty Ltd. Available at: https://mccrindle.com.au/insights/blog/gen-alpha-defined/ (Accessed: 24/5/2022).

Pheasant, P., & Dutcher, L. (2016). University English language centres: An emerging space for research. University of Sydney Papers in TESOL, 11, v-xvi. University of Sydney, Sydney.

Pheasant, P. (2019). Engagement in Process Drama for Language Education. University of Sydney.

The CEFR Levels (2022) Council of Europe. Avaialble at https://www.coe.int/en/web/common-european-framework-reference-languages/level-descriptions/ (Accessed: 23 May 2022)

Transforming Solutions Inc. (2021) 'Current State vs. Future State: How to Embrace the Change', Transforming Solutions Inc. 19 July 2021 [Blog]. Available at https://transforming.com/2021/07/19/current-state-vs-future-state-how-to-embrace-the-change/ (Accessed: 25 May 2022).

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Rethinking Institutional Review Methodology To Enhance The Expression Of Results Reflecting A Better Image

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Abstract

The Quality Assurance Council (QAC) of the University Grants Commission in Sri Lanka has hitherto conducted 2 cycles of Institutional reviews on the 15 State Universities which were operational between 2005-2021. In its 2nd cycle, the UGC adopted a review procedure which spanned 10 review criteria comprising 145 standards. The criteria had varying number of standards. Also, the weightage on a thousand scale assigned to each criterion was unequal. Insight to the results (outcomes) of reviews show a possibility of a somewhat flawed picture/image when these two aspects are considered together. In retrospect, it is believed that the varying number of standards in criteria should have been considered when allocating marks. Thus, an amended procedure is proposed so that both the reviewed institute and the review panel are treated more fairly. It is intended that review procedures for quality assurance should be fair and convincing if such reviews are to be accepted at an international platform while preserving the contextual basis of the review. It is hoped that the advantages of this move are to enhance the expression of results giving more importance to the institutional aspects and also that the reviews become more transparent and objective offering potential for enhancing the quality of higher education to acceptable international standards.

1. Introduction

Quality assurance is a driver for institutions to achieve excellence in higher education as the growing demand for quality education increases. (Hou, 2012; Varonism, 2014). A common framework for a quality assurance review scheme would provide consistent assessment of institutions in relation to its operations, teaching-learning process, and pedagogy (Puzziferro & Shelton, 2008).

Impact of quality assurance review schemes is a function of the characteristics of external quality assessment system (Stensaker, 2008). Based on the context in which it emerged, the main purposes of quality assurance reviews can be summarized into three key areas such as improvement, accountability, and compliance. Improvement is meant to maintain and improve the performance quality of higher education institutions. Accountability is considered as the obligation to report to others, to explain, to justify, to answer questions about how resources have been used and to what effect" (Trow, 1996). Compliance is to ensure that higher education institutions do what governments want them to do (Billing, 2004).

Most of the impact studies that were based on quality assurance reviews focus on the characteristics of the evaluation system, while some of them take the different contexts of institutions into account

(Brennan and Shah, 2000). The quality assurance system operational for the Sri Lankan State Universities under the aegis of the Quality Assurance Council (QAC) of the University Grants Commission (UGC) comprises two levels of external reviews- Institutional Review (IR) and Programme Review (PR). The quality assurance review mechanisms in Sri Lanka, which functioned over a decade, have gained both recognition and invited criticism. Although, several studies have been conducted in many countries to explore the impact of external quality assessment schemes on internal changes of higher education institutions (Banta 2010; Brennan and Shah, 2000; Harvey and Williams, 2010; Hayes and Winyard, 2002; Shah 2012) no such empirical work has been explored in Sri Lanka. This analysis is an effort to explore the Institutional Review and its scoring system, and whether the weightages given appropriately reflect the University in relation to its functions.

2. Institution Reviews in Sri Lankan QA system

The Institutional reviews (IR) of the Universities was initiated in 2006 and the first cycle was completed with reviewer panels comprising totally of local reviewers. There was a guideline manual for the reviewers which evaluated Universities on 8 criteria. The criteria had specific aspects that were reviewed but did not contain any standards for each criterion. In 2015, a new manual was introduced for the Institutional Reviews which comprises ten criteria covering all the important aspects of a higher educational institute. Under the ten criteria quality principles are stated as best practices that are adopted by universities to enhance quality that led towards excellence.

The IR of the second cycle was expected to have developed a number of capacities over the first cycle. All the universities were expected to have capacities to set and realize their university goals and objectives in the Strategic Management plan and Action plans. Further, the capacity to implement strategies and procedures in accordance with the codes of practice, compliance with Sri Lanka Qualification Framework (SLQF) when developing new programmes of study or modifying existing ones was expected. A desire to engage in a constructive critical self-evaluation without threat or hindrance, and willingness to submit oneself and the institution to external peer review with a sense of 'ownership' of the process of inquiry and review at all levels was also expected. By the time of starting the second cycle of reviews one of the essential pre-requisites for external quality assurance was a well-established internal quality assurance system entrenched within the university itself.

Each standard in a criterion could be scored on a 0 to 3 scale where the following score guide was used to evaluate the evidence supporting the claims in a Self- Evaluation Report submitted by the reviewed Institute: 0 – inadequate, 1- barely adequate, 2- adequate, 3- good. The totals in each criterion were then given a weightage on a predetermined 1000 scale. During the review, the evidence given against each standard by the University were carefully and objectively analyzed and assessed by the review team. Based on the documentary evidence and facility visits, assessment of the extent to which each standard has been achieved by the University was recorded on the 4-point scale from 0-3. Then the performance of each criterion was derived by tallying the scores given for all the standards in respect of the criterion. The value obtained is the ‘raw criterion-wise score’. Finally, the ‘raw criterion-wise score’ was converted into an ‘actual criterion-wise score’. The

university-wise score was derived by totaling all the 'actual criterion-wise scores' of the ten criteria and converting the total to a percentage.

3. Research problem

The Institutional Review manual established by the QAC of the UGC contains 145 standards described under ten criteria (Table 1). Each criterion contains different number of standards varying from 29 to 6 and recognizing the variance of the relative importance, criteria have been given different weightages on a thousand scale. These weightages have been given without considering the number of standards under each criterion leading to a variation of score per standard from 17.1 to 3.1. Due to this reason when applying this scoring system for IRs, the distribution of scores among the ten criteria do not reflect a fair image of the Institution because different standards under different criterion varied across a wide range.

Criterion No.	Criterion	No. of Standards	Max. score achievable	Weightage on a 1000 scale
1	Governance and Management	29	87	180
2	Curriculum Design and Development	15	45	120
3	Teaching and Learning	10	30	100
4	Learning Resources, Student Support and Progression	14	42	80
5	Student Assessment and Awards	15	45	100
6	Strength and Quality of Staff	11	33	100
7	Postgraduate Studies, Research, Innovation and Commercialization	25	75	100
8	Community Engagement, Consultancy and Outreach	06	18	60
9	Distance Education	13	39	40
10	Quality Assurance	7	21	120
Total		**145**	**435**	**1000**

Table 1. Review criteria, standards, and relative weightages applied in the current scoring system.

4. Proposed criterion wise weightage

As a measure to avoid this shortcoming in the existing system, a weightage system is introduced in this paper, by considering the relative importance of each criterion and number of standards of that criterion. Also, these two weightage systems were compared giving equal weightage to all the standards to understand the differences of the two weightage systems.

5. Methodology

In the proposed system (system 3), the relative importance of the 10 criteria were considered from the point of view of an Institutional review. Since an IR must be a reflection of how well an Institution is governed and managed, which is closely correlated with the strength and quality of

staff and since these two criteria are interwoven with the quality assurance system of that Institution the criteria numbers 1, 6 and 10 were given higher scores per standard amounting to 9.14, 9.09 and 9.29 score per standard (Table 2). These in turn gave higher weightages of 265, 100 and 65 in a thousand weight scale. Five out of seven of the remaining criteria were given an approximate score of 6.00 per standard considering they are also reviewed in each program review of the Institution.

The weightages of the existing scheme (Scheme 2) were compared with the proposed scheme (Scheme 3) to see the statistical difference between the two schemes. There is a significant difference in the existing (Scheme 2) scores per standard, t(9) = 2.26, p = 0.29, M = 7.99, SD=3.98), over proposed Scheme 3 (M = 6.6, SD = 1.92) score per standards of the ten criterion. Similarly, weightage distributions among the criteria of the two Schemes were significantly different (t (9) = 2.26, p = 1, system 2 (M = 100, SD = 37.71), Scheme 3 mean (M = 100, SD = 66.79).

Criterion No.	Standards/Criterion	Weightages for Criteria and Score per standard on equal basis (Scheme 1)		Existing weightages for Criteria and score per Standard (Scheme 2)		Proposed weightages for Criteria and score per Standard (Scheme 3)	
		Weightage	Score	Weightage	Score	Weightage	Score
1	29	200.0	6.90	180	6.21	265	9.14
2	15	103.4	6.90	120	8.00	90	6.00
3	10	69.0	6.90	100	10.00	60	6.00
4	14	96.6	6.90	80	5.71	90	6.43
5	15	103.4	6.90	100	6.67	90	6.00
6	11	75.9	6.90	100	9.09	100	9.09
7	25	172.4	6.90	100	4.00	150	6.00
8	06	41.4	6.90	60	10.00	20	3.33
9	13	89.7	6.90	40	3.08	70	5.38
10	07	48.3	6.90	120	17.14	65	9.29
		1000		**1000**		**1000**	

Table 2: Different criterion wise weightages used for analysis in this study

The suggested scoring Scheme 3 was applied to five universities and scores were calculated using the scores given by the review panel and recalculated to observe the difference between the two schemes, to check whether the new scoring system (Scheme 3) can better reflect the image (performance) of the University at the review.

Criterion No.	Criterion wise score				
	Rajarata	Jaffna	Sabaragamuwa.	Ruhuna	Kelaniya
1	134.5	111.7	99.3	146.9	144.8
2	82.7	78.7	72.0	104.0	82.7
3	60.0	71.7	76.7	70.0	76.7

4	64.8	53.3	62.9	62.9	72.4
5	75.6	74.4	80.0	82.2	80.0
6	63.6	77.3	63.6	75.8	84.8
7	54.7	77.3	56.0	89.3	77.3
8	46.7	51.7	43.3	56.7	46.7
9	29.1	27.7	17.4	28.7	30.8
10	91.4	114.3	114.3	114.3	85.7
Total	**703.0**	**738.1**	**685.5**	**830.7**	**781.9**
%	**70.30**	**73.81**	**68.55**	**83.07**	**78.19**
Grade	**B**	**B**	**C**	**A**	**B**

Table 3. Five universities and their raw criterion wise scores obtained during the IRs conducted from 2016 to 2021 (Scheme 2).

The above criterion wise scores were analyzed against the suggested weightages (Scheme 3) designed based on relative importance of the criterion and number of standards as described in the Table 2.

6. Results

The result of the analysis shows that the overall grading is the same except the results of the Rajarata University. Although the gradings are the same when compared with the Scheme 2 results, with the suggested Scheme 3 the scores for the criterion are significantly different for the other universities.

In the case of Rajarata University the difference between Scheme 2 results and Scheme 3 results varied as $t(9) = 1.83$, $p = 0.48$, Scheme 2 ($M = 70.29$, $SD=28.7$), over Scheme 3 ($M = 69.9$, $SD = 48.8$). Also, significant variations were observed in the criteria 1, 7, 9 and 10 as described in the Figure 1(a).

The Jaffna University results showed a difference of $t (9) = 1.83$, $p = 0.41$ with the Scheme 2 ($M = 73.80$, $SD=26.17$), over the Scheme 3 ($M = 71.43$, $SD = 41.29$). Noticeable variances can be seen of the criteria 1, 2, 3, 4, 6, 7, 8, 9 and 10 (Figure 1(b)).

Results of the Sabaragamuwa University are given in the Figure 1(c) showing a difference of $t(9) = 1.83$, $p = 0.33$ with the Scheme 2 ($M = 68.55$, $SD=27.30$), over the Scheme 3 ($M = 64.34$, $SD = 35.38$). Sabaragamuwa scores are significantly different at the Criteria 1,2,3,4,6,7,8,9 and 10 (Figure 1 (c).

The University of Ruhuna results are given in the Figure 1(d) showing a difference of $t(9) = 1.83$, $p = 0.46$ with the Scheme 2 ($M = 83.07$, $SD= 33.0$), over the Scheme 3 ($M = 82.1$, $SD = 55.7$). However, it can be identified that all the scores of the criteria are different (Figure 1 (d))

Similarly, Results of the Kelaniya University are given in the Figure 1(e) showing a difference of t(9) = 1.83, p = 0.46. with the Scheme 2 (M = 78.18, SD=29.55), over the Scheme 3 (M = 79.1, SD = 54.33). The differences of the two schemes (Scheme 2 vs. scheme 3) are given in Figure 1(e).

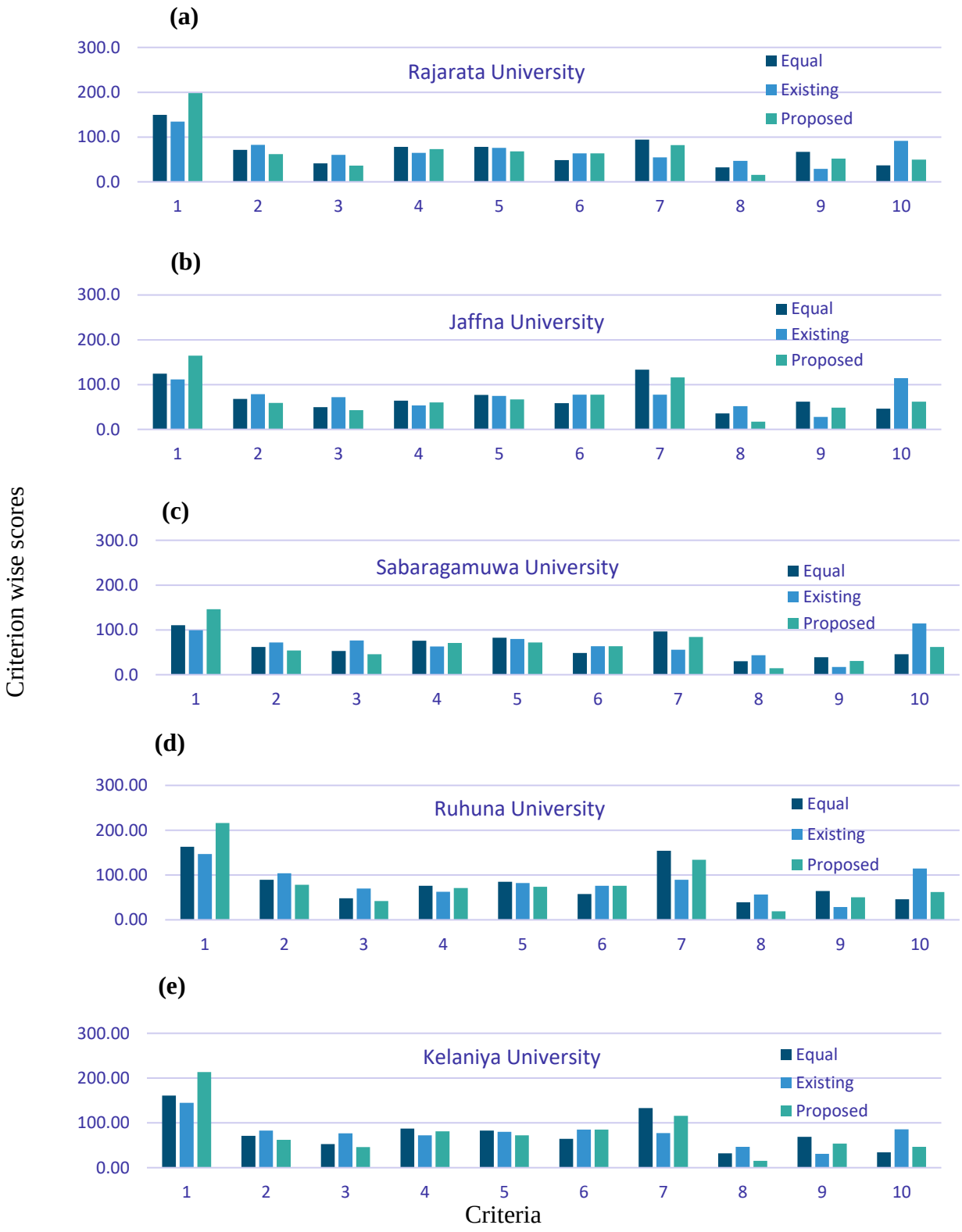

Figure 1. Criterion wise scores for the equal basis, existing and proposed systems

Criterion	Rajarata		Jaffna		Sabaragamuwa.		Ruhuna		Kelaniya	
	Exsist	Propo.	Exsist	Propo.	Exsist	Propo.	Exsist	Propo.	Exsist	Propo.
1	−	+	−	+	−	+	−	+	−	+
2	+	−	+	−	+	−	+	−	+	−
3	+	−	+	−	+	−	+	−	+	−
4	−	−	−	−	−	−	−	−	−	−
5	−	−	−	−	−	−	−	−	−	−
6	+	+	+	+	+	+	+	+	+	+
7	−	−	−	−	−	−	−	−	−	−
8	+	−	+	−	+	−	+	−	+	−
9	−	−	−	−	−	−	−	−	−	−
10	+	+	+	+	+	+	+	+	+	+

+ denotes a higher score for the criterion in the proposed system (Scheme 3) and − denotes a lower score for the criterion in the proposed system (Scheme 3) compared to the equal basis (Scheme 1).

Table 4. Relative adjustment of existing and proposed weightages for criterion wise scores of five universities.

7. Discussion

As shown in Table 4, in the proposed system, the score for Criterion 1 – Governance and Management would be higher reflecting better performance by all 5 universities in this criterion. In criteria 6 and 10, all 5 Universities also show higher scores in the proposed system. Thus, if the overall totals were calculated it would give a better image of the performance of each University where these vital criteria are concerned.

As shown earlier with the existing scoring, the marks/standard varied in different criteria and ranged from 3.1- 17.1 which is a significant variation on a thousand scale. Also, it was obvious that as this is an Institutional Review, though the criterion on Governance and Management was given the highest weightage, when it was divided by the number of standards, score per standard received only 6.2 while the criterion Quality Assurance which is also of high significance was assigned 120 where the number of standards was 7, gave the highest score per standard which was 17.1.

Due to this reason the results of such a review may not reflect the correct image of an institution. Hence the proposed system was to overcome this deficiency, so that the relative importance of the Criterion was identified and the score for criterion was decided based on the number of standards.

It is imperative that tertiary education provision and its quality assurance is an essential commodity to be ensured by any country that is aspiring to be in the global arena of higher education.

As such, it is necessary for the UGC- the apex body in providing higher education and maintaining standards through its Quality Assurance Council (QAC), to update/refine review methodology so

that the outcome of a review provides a more accurate image of an Institution. Hence, the primary objective of this initiative was to promote trust through transparency, enhance credibility and scope of the review and be accountable to all stakeholders in higher education.

Results of this analysis of Institutional reviews of 5 Universities in Sri Lanka over the period of 2016 to 2021 showed that Quality Assurance agencies could and should review their methodology so that the most reflective, transparent and fare system is employed when applying a review system. It is important that both the reviewed and reviewing entities believe and have confidence in the system to move forward. More importantly the public and especially students and potential students should be able to have faith in the system of quality assurance if the entire process should have an impact on the quality of higher education. It should also be e reflection of good practice on an international quality assurance platform giving credibility to a country's education system. Thus, it is hoped that the QAC of Sri Lanka can take into consideration this proposed methodology and continue to rethink and refine its quality assurance mechanisms to be accepted globally.

References

Banta, T. W. (2010). Impact of addressing accountability demands in the United States. Quality in Higher Education, 16(2), 181–183.

Billing, D. (2004). International comparisons and trends in external quality assurance of higher education: Commonality or diversity. Higher Education, 47(1), 113–137.

Brennan, J., & Shah, T. (2000). Managing quality in higher education: An international perspective on institutional assessment and change. Buckingham: OECD, SRHE and Open University Press.

Harvey, L., & Williams, J. (2010). Editorial: Fifteen years of quality in higher education (part two). Quality in Higher Education, 16(2), 81–113.

Hayes, D., & Winyard, R. (2002). The Mcdonaldisation of higher education. Westport: Bergin & Garvey.

Hou, A. (2012). Mutual recognition of quality assurance decisions on higher education institutions in three regions: A lesson for Asia. Higher Education, 64(6), 911–926. http://dx.doi.org/10.1007/s10734-012-9536-1

Puzziferro, M. & Shelton, K. (2008). A model for developing high-quality online courses: Integrating a systems approach with learning theory. Journal of Asynchronous Learning Networks, 12(3–4). Newbury, MA: Online Learning Consortium.

Shah, M. (2012). Ten years of external quality audit in Australia: Evaluating its effectiveness and success. Assessment and Evaluation in Higher Education, 37(6), 761–772.

Stensaker, B. (2008). Outcomes of quality assurance: A discussion of knowledge, methodology and validity. Quality in Higher Education, 14(1), 3–13.

Trow, M. (1996). Trust, markets and accountability in higher education: A comparative perspective. Higher Education Policy, 9(4), 309–324.

University Grants Commission, 2015. Manual for Institutional Review of Sri Lankan Universities and Higher Education < https://www.eugc.ac.lk/qac/circulars.html> access on 23rd July 2022.

Varonism, E. M. (2014). Most courses are not born digital: An overview of the Quality Matters peer review process for online course design. Campus-Wide Information Systems, 31(4), 217–229. http://dx.doi.org/10.1108/CWIS-09-2013-0053

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Establishing QA For Erasmus+ Project Management

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Abstract
This article discusses the role of QA for Erasmus+project management. It analysis the fundmentas of project management in the areaof international standards like ISO and PMBOK® Guide. It gives the outline of the integral part of QA suitable for such initiative of Erasmus+ as Capacity building in Higher Education and Jean Monnet Actions

Key words**:** Quality assurance, QA Agency, project management, Erasmus+, Capacity building in Higher Education, Jean Monnet Actions, internationalization.

1. Introduction

QA continues to be an area of dynamic development in the European Higher Education Area (EHEA). In this article, the authors consider Quality assurance (QA) is an integral part of Erasmus+ project management (Zvezdova and SAfonina,2021). Erasmus+ is the EU's programme to support education, training, youth and sport in Europe. It has an estimated budget of €26.2 billion. (2014-2020) (2021).

The 2021-2027 programme places a strong focus on social inclusion, the green and digital transitions, and promoting young people’s participation in democratic life. It supports priorities and activities set out in the European Education Area, Digital Education Action Plan and the European Skills Agenda. The programme also supports the European Pillar of Social Rights, implements the EU Youth Strategy 2019-2027, develops the European dimension in sport, as well as other opportunities. Erasmus+ offers mobility and cooperation opportunities in higher education, vocational education and training, school education (including early childhood education and care), adult education, youth and sport (https://erasmus-plus.ec.europa.eu/about-erasmus/what-is-erasmus). In this article, the authors mostly cover such projects as Key 2 activities, i.e. Capacity building in Higher Education and Key Action 3, Jean Monnet Actions (Erasmus+ Programme Guide, 2022).

For Eramus+ projects QA can be considered as a single point of reference for the project management. It aims to ensure that project objectives are met in the most effective way. It defines the quality control and quality assurance activities that will be carried out throughout the project in order to ensure smooth implementation, continuous monitoring and high-quality level of the project results and the project outcomes. All project partners should understand QA and be able to use it effectively as a process.

The recent trend of enrolling QA Agencies as full partners for Erasmus+ projects provides a unique opportunity to employ the deep knowledge of QA process for the project management traditionally run by Higher education Institutions. QA Agencies manage to use their QA methodologies for continuously supporting the enhancement of quality and innovation in the area of higher education.

2. Materials and Methods

The study employs the results of previous studies in the field of QA, project management and International Standardization. In this article, the authors intend to apply the procedure described within the ISO 21500 Guidance on Project Management, ISO 21500:2021 standard "Project, programme and portfolio management — Context and concepts", ISO 9001:2015 Quality Management Systems – Requirements, a Guide to the Project Management Body of Knowledge (PMBOK® GUIDE), adapting the suggested process to the specific features of the Erasmus+ projects.

The International Standard ISO 21500 provides guidance on concepts and processes of project management that is important for and has the impact on the performance of projects. It provides high-level description of concepts and processes that are considered to form good practice in project management. In accordance with "ISO 21500 Guidance on Project Management", project management is subdivided into subjects and performed through processes (a set of interrelated activities) (ISO 21500, 2021). The International Standard ISO 21500 identifies the recommended project management processes to be used during a project as a whole, for individual phases or both. The processes should be aligned in a systemic view. Each phase of the project life cycle should have specific deliverables (which are described and evaluated as below). These deliverables should be regularly reviewed during the project to meet the requirements of the financing authority, beneficiaries and stakeholders (ISO 21500, 2021).

Currently, ISO 21001: 2018 standard "Educational organizations. Management systems for educational organizations. Requirements, including application guidelines an innovative for educational organizations tool" is also proposed for project management. The ISO 21001: 2018 standard is a stand-alone standard for management systems and it is correlated with the ISO 9001 standard. The standard is focused on the management systems of educational organizations, as well as on the influence of these systems on students and other stakeholders (ISO 21001, 2018). All requirements of the Standard are applicable to any educational organization that uses curricula to sustain competence through learning, studying or research, regardless of the type, size or methods of performing these activities. That is why Erasmus + projects, which operate in the basis of education institutions seem to fit these standards.

The benefits of implementing a management system based on the ISO 21001 standard for Erasmus+ academic partners can be the following (ISO 21001, 2018):

- better alignment of the goals and activities of the University with its policy, mission and vision;
- increasing social responsibility through the provision of inclusive and equal quality of education for all students;

- personalized training and better response to the needs of all students, especially to the students with special needs, those who study on-line, with the possibility of creating LLL;
- interrelated assessment processes and tools to demonstrate and improve performance and effectiveness;
- improvement image of University;
- demonstration of the commitment of University to the best management practices in education;
- introduction and development of the culture of organizational excellence;
- better participation of stakeholders;
- motivation for innovation and excellence.

Identifies a subset of the project management body of knowledge that is generally recognized as good practice. Thus, generally recognized means the knowledge and practices described are applicable to most projects most of the time, and there is consensus about their value and usefulness. Good practice means there is general agreement that the application of the knowledge, skills, tools, and techniques to project management processes can enhance the chance of success over many projects in delivering the expected business values and results (PMBOK, 2013).

The project manager works with the project team and other stakeholders to determine and use the appropriate generally recognized good practices for each project. Determining the appropriate combination of processes, inputs, tools, techniques, outputs and life cycle phases to manage a project is referred to as "tailoring" the application of the knowledge described in this guide.

QA for project management includes the processes for incorporating the organization's quality policy regarding planning, managing, and controlling project and product quality requirements in order to meet stakeholders' objectives. It also supports continuous process improvement activities as undertaken on behalf of the performing organization.

3. Results

QA activities, aims and other relevant aspects are usually described in a special work package "Quality Plan". Its main role is to assure that the activities performed in the project are completed in time and with desired high level of quality. Moreover, the project is to be systematically evaluated to assess and improve the planning, implementation and impact of the project. Three main tasks are to be performed for the project management purposes:

1) A quality strategy consisting of internal and external quality assurance and monitoring, which are created and refined during the process of project communication.
2) The projects areas are systematically evaluated by QA experts to identify design flaws or missed opportunities in the project.
3) The project includes the developed system of project outcomes which are evaluated at the end of the project to understand the real usefulness of the intervention for all participating countries.

In order to achieve these tasks project manager considers two types of quality evaluation: internal and external. Thus, the aim of internal quality evaluation is to assess the coherence of the planned activities with the designed activities; to monitor the correspondence of the activities carried out with the planned activities and the on-time assessment of the planned project results; to assess the quality of the project results.

For QA control and monitoring of project activities the project partners set up a special bogy to perform internal evaluation. Their meetings usually coincident with project's regular seminars and meetings both face-to-face and on-line on a regular basis (i.e. every 3 months) to discuss performance of the project, indicators, assess possible risks, problematic areas from QA perspective. It sets up methodologies, criteria and performance indicators for the control of procedures and processes and conduct regular surveys (i.e. Needs Analysis, Awareness, and Satisfaction Surveys). It prepares monitoring and quality reports. The members of this group are selected from project management group and partners Universities. The representatives of the coordinator are not involved into this group in order not to affect their reports.

This special group for internal evaluation performs everyday monitoring of the project activities and achieved results, timetable, fulfilment of specific activities of the project in each partner organisation using performance indicators set by them within regular work management procedures. They evaluate all possible incoming problems, their impact on project activities. It addresses and evaluates such problems as delays, lack of resources, underestimated necessary efforts and any other risks or problems and proposes possible solutions to the project management group for conflict resolution.

External quality evaluation is be performed for 1) the project 2) the developed final outcomes of the project. External experts are invited to do this task. The external evaluation provides the project higher degree of objectivity into the evaluation work and adds to the credibility of the project. It also enhances the accreditation processes in higher education institutions inside and outside the project consortium.

QA and monitoring process is guaranteed from the very beginning of the project through forming the special group to carry out the internal evaluation and developing QA strategy with the criteria for the performance of internal QA, based on the indicators for progress elaborated by this group on the basis of the main tool of project management – Long Frame Matrix. It represents a control list to assess any progress and the rate of success of project activities in relation to specific objectives and expected results.

Control Quality takes a special place within project QA. It is the process of monitoring and recording results of executing the quality management activities in order to assess performance and ensure the project outputs are complete, correct, and meet customer expectations. The key benefit of this process is verifying that project deliverables and work meet the requirements specified by key stakeholders for final acceptance. In other words, the Control Quality process determines if the project outputs do what they were intended to do. Those outputs need to comply with all applicable standards, requirements, regulations, and specifications. This process is performed throughout the project.

The tools Control Quality are meant to check and measure processes and outputs during the project development and evaluate it at the end. Different categories of tools are devised, in accordance to what is described above ('internal' monitoring and 'external' evaluation). The full set of tools includes, but is not limited to:

- Logical Framework Matrix.
- Check lists. They are used as preventive actions to ensure smooth development of specific project activities, through the control of any steps needed for the achievement of the results.
- Evaluation questionnaires. They are used as means to assess the outcomes of specific project activities carried out and to take corrective measures for the critical issues which will be outlined through these tools. Progress reports. A narrative section in which the advancement within the different tasks, any problems within the partnership, the communication and visibility actions launched, the interchange of knowledge and experience to be described. Moreover, any modification to the initial planning can be mentioned and reasons for changes or delays can be given, as well as the measures adopted for facing difficulties or delays can be mentioned as well. The degree of achievement of program indicators, strategic indicators and specific project indicators are measured on occasion of the interim and final report.
- External QA audit report.

4. Discussion

Interpreting the results presented in this article, QA plays a crucial role in managing Erasmus+ projects. QA for project management purposes outlines the strategy for how the quality control mechanisms can be applied so that the operational, management and working procedures are comprehensively monitored and improved throughout the project duration. The article provides a set of scheduled activities and defines the objectives, roles and responsibilities; includes established indicators, methodology and procedures for evaluation of project activities and results. For each task it determines, timeframe and tools of implementation, the expected results or products, as well as the respective quality criteria.

It is based on the set of criteria, approaches and methods. The correct approach of project QA, the set of indicators allows to evaluate the quality of project deliverables. Evaluation indicators vary according to the result or process which is being evaluated. The project is going to use both qualitative and quantitative indicators, internal and external QA which help to get information in progress on the project effectiveness in achieving the objectives and efficiency in the optimal use of resources, and the relevance of the project activities to the needs identified.

5. Conclusions

QA and monitoring take place during the whole lifespan of the project. The article defines the general approach to QA, quality control, internal and external evaluation, and the procedures to be followed by the partners of the projects for effective communication as well as production and documentation of the Project deliverables. It highlights project quality management processes as the process of identifying quality requirements and/or standards for the project and its deliverables, and

documenting how the project will demonstrate compliance with quality requirements and/or standards, as well as control quality, or the process of monitoring and recording the results of executing the quality management activities to assess performance and ensure the project outputs are complete, correct, and meet customer expectations.

References

A Guide to the Project Management Body of Knowledge (PMBOK® Guide), Fifth Edition (2013). Project Management Institute. Available at: https://repository.dinus.ac.id/docs/ajar/PMBOKGuide_5th_Ed.pdf (Accessed: 12 July 2022).

Erasmus+ Programme Guide (2022) Available at: https://erasmus-plus.ec.europa.eu/sites/default/files/2022-01/2022-erasmusplus-programme-guide-v2_en_0.pdf (Accessed: 28 July 2022).

ISO 21001: 2018 "Educational organizations. Management systems for educational organizations (2018). Available at: https://www.iso.org/standard/66266.html (Accessed: 10 July 2022).

ISO 21500, Guidance on Project Management (2012). Available at: http://www.isopm.ru/download/iso_21500.pdf (Accessed: 10 July 2022).

ISO 21500: 2021, Standard "Project, programme and portfolio management - Context and concepts" (2021). Available at: https://www.iso.org/obp/ui/#iso:std:iso:21500:ed-2:v1:en (Accessed: 10 July 2022).

What is Erasmus+? (2021). Available at: https://erasmus-plus.ec.europa.eu/about-erasmus/what-is-erasmus (Accessed: 26 July 2022).

Zvezdova, A. Safonkina O. (2021) QA in the Allvet Project: Yesterday, Today, Tomorrow, *DIGEST OF PAPERS of International Conference «The ALLVET project transfers the principles of the Bologna Process and the competence-based approach to the TVET system through an effective alliance of higher and secondary vocational education», conducted as part of the ALLVET project (HE and VET alliance establishment according to Bologna Principals implementation via VET teachers' capacity building; 609952-EPP-1-2019-1-RS-EPPKA2-CBHE-JP), funded by Erasmus +, Almaty, 2021.* Available at: http://allvet-erasmus.com/uk/wp-content/uploads/sites/3/2021/08/Digest_ALLVET_30.03.2021_compressed.pdf (Accessed: 29 July 2022).

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Impact assessment of Outcome-Based Education (OBE) Paradigm in universities of Bangladesh

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Abstract

This study determined the status of Outcome-based Education (OBE) implementation in terms of practices and environment as well as its usefulness in terms of academic, attitude, and instruction among faculty members of different universities of Bangladesh. This study was conducted using a descriptive method of research wherein the quantitative data were gathered by an online survey questionnaire. Using the weighted mean, it was found that OBE is being implemented in terms of practices and environment, however, a moderate extent of implementation in creating a mindset towards a clear direction of learning, motivating the students to be independent and developing the study habits of the students and a moderate extent of providing a chance for the students to undergo remedial or other corrective actions for learning were found during the survey report. The respondents reported a great extent of knowledge of the outcome-based education mainly the use of different techniques to assess student learning, though there is a moderate extent of support for OBE from all role-players due to the extensive level of consultation and stakeholder involvement, which promotes values formation and character traits ideal for different employment settings. Faculty members together with the students and concerned authorities shall coordinate to identify the needs of the students and provide possible solutions and actions to enhance the implementation of the new learning system.

Keywords: Outcomes-Based Education, Survey report, Faculty members, students learning.

1. Introduction

Within the confront of changing and competitive global economy, sustainable socio-economic development of any nation depends on knowledge, creativity, and innovation. It is a fact that quality higher education forms the basis of a comprehensive system of knowledge, creativity, and innovation. Thus, improving the quality of higher education is essential to avail of the opportunities offered by globalization and place the economy of Bangladesh on a sound footing.

The higher education ecosystem in Bangladesh is quickly developing. In the year 2022 around 54 public and 108 private universities are offering degrees in general education, engineering, agriculture, and medical science (UGC, Bangladesh). University curriculum, in the meantime, are said to be of limited relevance to the needs of the industry. In 2017, 16 percent of university graduates were unemployed (Bangladesh Employment and Labor Market Watch, 2018). Industry partners place a high value on graduates' competence in terms of the relevance of their knowledge and proficiency in research work discipline, communication skills, and computer skills, whereas

entrepreneurial skills are the least valued (Laguador & Ramos, 2014). In selecting and maintaining memorandums of understanding among industrial partners that may truly provide broad and related training and experience, the Internship Office may take into account the students' evaluations of the companies (Chavez, 2014). Numerous Bangladeshi companies allegedly favor better-taught foreign graduates.

For every 10 children who start their primary education, only six go on to continue with their secondary education, and four will manage to enter college. Crucially, Bangladesh has severe capacity shortages reflected in a low tertiary gross enrollment ratio (GER) merely 17.6 percent in 2017 (UNESCO data). Seats at Bangladesh's top tier of competitive public universities are so limited that some 95 percent of upper-secondary school graduates are unable to attend these institutions; 17 applicants competed for a single public university place in 2015 (Stefan Trines, World Education News and Review, 2019). Those that are admitted face overcrowded classrooms because of a shortage of lecturers. This is why the government responds effectively to the changing needs and conditions of the present through a system of educational planning and evaluation. Bangladesh Accreditation Council (BAC) is responsible for shepherding quality assurance in higher education in Bangladesh through implementing the national qualifications framework (NQF) and accrediting academic programs and higher education institutions.

Exploring new ways of designing tertiary education is a worldwide interest. To be able to manage the international standards of foreign universities and colleges, higher education is seeking new ways of designing education to improve the existing educational system of the country as well as to provide both professional knowledge/skills and all-round attributes to the graduates so to enable them to face the diversified global challenges of the 21st-century society. Outcome-based education (OBE) is radical as compared to the conventional system, started a modern period in the arena of higher education in achieving excellence and its implementation requires noteworthy changes in the institutional policies, processes, structures, and mindsets of faculty members. It is required to be implemented precisely to move education forward and assess the quality of teaching-learning.

In view of the benefits associated and challenges involved in implementing OBE, this study focuses on determining the level of OBE culture and understanding of different processes and terms related to OBE by faculty members of different universities in Bangladesh. From this study, we came to learn how far the OBE paradigm impact quality of higher education and how helpful it is in universities.

2. Methodology

2.1 Respondents of the Study

A survey had been conducted to get the responses of faculty members (no. of samples surveyed were 60, n=60) of different public universities in Bangladesh on processes and opinions about outcome-based education. The respondents of the study consisted of faculty members. Proportional Stratified Random sampling was applied to choose the respondents regardless of their faculty program.

2.2 Instrument

The researchers constructed a self-prepared questionnaire that was customized based on past studies related to the subject and individual questions made by the researchers. The researchers consulted for the preparation of the questionnaire, which was consisting of two steps related to the particular title. The first part was consisting of questions about the status of implementation of OBE as perceived by the faculties in terms of practice and environment in different areas respectively. The second part of the questionnaire consisted of questions about the level of use of OBE in terms of academics, attitudes, and instruction respectively. The questionnaire was validated through content validation and test-retest analysis.

2.3 Procedures

The questionnaire was distributed via google form to faculties of different public universities in Bangladesh. The content of the questionnaires was explained to them clearly over the mobile phone and stated that answers were treated with confidentiality and were used for this study only. Their identity was not disclosed. One hundred percent retrieval rating of the accomplished questionnaires was done after the distribution.

2.4 Statistical Treatment

Weighted Mean was applied to consolidate the answers of respondents to each question. The ranking was used to derive the highest and lowest points of the weighted mean from the set perceptions and determinants of OBE. Composite Mean was used to get the average mean to come up with the general result of the response for each part of the questionnaire. It was used to determine the usefulness of OBE and the status of its implementation in response to faculty members. Likert Scale was used with corresponding values from 1 to 5 scales, one being the lowest and four being the highest. The computed mean ratings evaluated according to the following interval scale as follows: 4.49--5.00: Very Useful (VU)/ Very Great Extent (VGE); 3.50 – 4.49: Useful (U)/ Great Extent (GE); 2.50 – 3.49: Moderately Useful (MU)/ Moderately Extent (ME); 1.50 – 2.49: Less Useful (LU)/Less Extent (LE); 1.00 – 1.49: Not Useful (NU)/No Extent (NE).

3. Result

Practices	WM	VI	Rank
1. OBE ensures that the learners know exactly what is expected from them as unit standards make it very clear what is required from them.	4.30	GE	1
2. OBE provides well-defined assessment criteria that are clear to both assessors and learners on how the assessment will take place.	4.10	GE	2
3. OBE ensures a more objective assessment and a fair result of the predetermined criteria.	4.03	GE	3
4. OBE provides a chance for the students to undergo remedial or other corrective actions for learning	3.43	ME	5

5. OBE requires the students to keep their exams and activities in a portfolio for analysis	3.93	GE	4
Composite Mean	3.96	GE	

Table 1: Status of OBE Implementation in Terms of Practices

Table 1 shows the status of OBE implementation in terms of practices. It is highly implemented in ensuring that the learners know exactly what is expected from them as unit standards make it very clear what is required from them providing well-defined assessment criteria that are clear to both assessors and learners on how the assessment will take place. Ensuring a more objective assessment and a fair result of the predetermined criteria is also being implemented by requiring the students to keep their exams and activities in a portfolio for analysis, while it is moderately implemented by providing a chance for the students to undergo remedial or other corrective actions for learning obtained the least weighted mean score. The composite mean score of 3.96 signifies that OBE Practices in universities are being implemented.

Environment	WM	VI	Rank
1. There is greater support for OBE from all role-players due to the extensive level of consultation and stakeholder involvement.	3.46	ME	4
2. OBE fosters a better integration between education at university and industry	4.20	GE	3
3. OBE provides a learning environment that caters to the development of students as future professionals	4.27	GE	2
4. OBE promotes values formation and character traits ideal for different employment settings	3.40	ME	5
5. OBE ensures a better way of delivering instruction through appropriate teaching methodology and classroom management	4.33	GE	1
Composite Mean	3.93	GE	

Table 2: Status of OBE Implementation in Terms of Environment

Table 2 shows the status of OBE implementation in terms of the environment. OBE ensures a better way of delivering instruction through appropriate teaching methodology and classroom management and provides a learning environment that caters to the development of students as future professionals which is being implemented. Fostering a better integration between education at university and industry is another objective that is also being implemented. There is greater support for OBE from all role-players due to the extensive level of consultation and stakeholder involvement also being implemented. Promoting values formation and character traits ideal to different employment settings is one objective of OBE which ranked last with a weighted mean of 3.77 which signifies implementation.

Academics: OBE is useful in…	WM	VI	Rank
1. Helping the students measure their own performance	3.70	U	3
2. Promoting the responsiveness of the activities towards the enhancement of students' academic performance	4.00	U	1
3. Developing the study habits of the students	3.37	MU	4
4. Strengthening the capabilities and skills of the students	3.93	U	2
Composite Mean	3.75	U	

Table 3: Level of Usefulness of OBE in Terms of Academics

In Table 3, the composite mean score of 3.75 signifies that the OBE is considered useful in the area of academics. This shows that university students in Bangladesh have a clear perception that OBE is useful in terms of academics. Students believe that OBE promotes the responsiveness of university activities towards the enhancement of students' academic performance through strengthening their capabilities and skills. OBE also helps the students measure their own performance because of assessment examinations and portfolios which are required of students. Students are not fully aware that OBE develops their study habits.

Attitude: OBE is useful in…	WM	VI	Rank
1. Challenging the students to become more competitive	3.83	U	2.5
2. Practicing collaboration rather than competition	3.87	U	1
3. Creating a mindset towards a clear direction of learning	3.43	MU	5
4. Motivating the students to be independent	3.47	MU	4
5. Helping learners to accept responsibility for learning, as they are now at the center of the learning process.	3.83	U	2.5
Composite Mean	3.69	U	

Table 4: Level of Usefulness of OBE in Terms of Attitude

Table 4 shows the status of OBE implementation in terms of attitude. OBE is useful in practicing collaboration rather than competition, helping learners to accept responsibility for learning, as they are now at the center of the learning process and challenging the students to become more competitive. It is also moderately useful in motivating the students to be independent and in creating a mindset towards a clear direction of learning. The composite mean score of 3.69 signifies that the OBE is useful in developing the attitude of the students.

Instruction: OBE is useful in	WM	VI	Rank
1. Requiring faculty members to master their subjects being handled.	3.63	U	4
2. simplifying the execution of the lessons	4.03	U	1
3. Asking the teachers more of a facilitator than a lecturer.	4.00	U	2
4. Creating a conducive atmosphere for the teaching and learning process	3.83	U	3
5. In providing learning skills necessary for the industry	3.57	U	5
Composite Mean	3.81	U	

Table 5: Level of Usefulness of OBE in Terms of Instruction

Table 5 shows the level of usefulness of OBE in terms of Instruction. OBE is considered useful in simplifying the execution of the lessons and in making the teachers more of a facilitator than a lecturer. It is also considered useful in creating a conducive atmosphere for the teaching-learning process and requiring faculty members to master the subjects being handled. OBE is also considered useful by the respondents in improving learning skills necessary for the industry since OBE develops the skills of every student and enhances using the new learning system. The composite mean score of 3.81 implies that the OBE is useful in delivering appropriate instruction.

4. Conclusion

The respondents believed that Outcome-Based Education is being implemented in terms of practices and environment. The respondents believed that Outcomes-Based education is useful in terms of academics, attitude, and instructions. Outcome-Based learning can change students' learning experience, and educational institutions need to adapt it to improve their knowledge & skills. Practice, seminars, the intensive orientation of syllabus and assessment procedure, and conducting field trips and training may be proposed to enhance and improve the knowledge and skills of students to meet the requirements of the new learning system.

5. Recommendations

The universities should have continuous and sustainable monitoring for the implementation of OBE through the use of a database system. Improve the monitoring system of OBE through seminars and additional assessment examinations. The curriculum must always be updated with the current trends and needs of the industry. The curriculum should be designed to prepare the graduates and demonstrate the core competencies expected of them in the workplace (Valdez, 2010). The faculty and students should attend seminars that will help them gain knowledge for the implementation of OBE to easily develop a solution or action for its effective implementation. There should be also parents' involvement and attendance in every meeting and seminar to help the institution in encouraging the students to understand the essence of OBE and to monitor their own performance. By conducting a related study about the significant relationship between the implementation and usefulness of OBE and the different programs, will provide additional information and learning that will help the university to identify possible modifications and improvements. Knowing the students

better through interviews will give a surface analysis of problems that will open to a deeper sense and cause of the academic dilemma inside the classroom (Laguador & Pesigan, 2013).

References

Bangladesh Employment and Labor Market Watch (2018). https://www.thedailystar.net/opinion/education/news/why-are-university-graduates-failing-meet-market-needs-1686997

Borsoto, L. D., *et.al.* (2014). "Status of Implementation and Usefulness of Outcomes-Based Education in the Engineering Department of an Asian University". International Journal of Multidisciplinary Academic Research, 2(4), 14-25.

Chavez, N.H. (2014). Developing Students' Competencies and Academic Performance through Academe- Industry Partnership, Asia Pacific Journal of Education, Arts and Sciences, 1(5), 1-10

Guzman M.F.D.D., Edaño D.C., Umayan Z.D. (2017). Understanding the Essence of the Outcomes-Based Education (OBE) and Knowledge of its Implementation in a Technological University in the Philippines. Asia Pacific Journal of Multidisciplinary Research. 5(4): 64-71.

Imelda L.AN. (2014). Impact of Outcome-Based Education Instruction on Accountancy Students in an Asian University. Asia Pacific Journal of Education, Arts, and Sciences, 1 (5): 48-52.

Jadhav M.R, Kakadea A. B., Jagtap S. R., Patil M.S. (2020. Impact assessment of outcome-based approach in engineering education in India. Procedia Computer Science 172: 791–796

Laguador, J. M. & Ramos, L. R. (2014). Industry-Partners' Preferences for Graduates: Input On Curriculum Development, Journal of Education and Literature, 1(1), 1-8

Spady, W. (1993). "Outcomes-based education: Critical issues and answers". Arlington, VA: American Association of School Administration.

Stefan Trines (2019). World Education News and Review: Education in Bangladesh. https://wenr.wes.org/2019/08/education-in-bangladesh

UGC Bangladesh. http://www.ugc-universities.gov.bd/public-universities.

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The Conceptual Framework: HEIs And QA Practices During The Covid-19 Pandemic – Challenges, Adaptation And Way Forward From The Malaysian Perspectives

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Abstract

The COVID-19 global pandemic has caused massive disruptions in many sectors of society including higher education. The outbreak has caused Higher Education Institutions (HEIs) and the Malaysian Qualifications Agency (MQA) to embrace online learning and online assessment due to the Movement Control Order (MCO). This paper presents the conceptual framework showing the indicators: online learning and online assessment act as an enabler to embark the flexible education in Malaysia without compromising the quality of a programme and the competency of a graduate.

Keywords: HEIs; MQA; online learning; online assessment; flexible education; quality programme; competent graduate

1. Introduction

In response to the Covid-19 crisis, higher education institutions across the world adjusted all their activities to an emergency, remote mode. During the academic year 2020/2021, institutions moved from this emergency mode to exploring a large variety of hybrid or fully online arrangements as the national Covid-19 safety measures shifted depending on the status of the pandemic. Against this backdrop, the role of quality assurance in ensuring that quality standards are maintained and supporting the university community in their work, while providing assurance to the public of the status of quality in higher education, has become paramount. The Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG,2015) establish a set of shared principles for quality assurance. According to the ESG, higher education institutions have the primary responsibility for quality and quality assurance, meaning that internal quality assurance is at the core of quality attainment and the development of a sustainable quality culture. Consequently, this principle is reflected in the design and arrangements of external quality assurance systems, and in the work of quality assurance agencies and higher education institutions, across Europe. The sudden shift in the mode of operations caused by the pandemic raised questions around the effectiveness, relevance and flexibility of internal quality assurance arrangements. This paper aims to provide an insight into how internal quality assurance continued to operate during the first year of the Covid-19 crisis; for instance, how the higher education's response to post Covid-19, how the Malaysian Qualifications Agency (MQA) react to the post Covid-19, what are the challenges faced on online learning and assessment, what are the lessons learnt that should be considered while moving forward and do all these factors impacted the quality of a programme offered.

The following sections discuss the stakeholders' response to post Covid-19 pandemic in Malaysia, the quality assurance agency in Malaysia, the online learning and assessment during the Covid-19 pandemic and the impact to the quality of a programme offered. The paper concludes with a conceptual framework of the way forward in education without comprising the quality as well as the competency of graduates in Malaysia.

1.1 Introduction to Malaysian Qualifications Agency

The establishment of a new entity which merges the National Accreditation Board (LAN) and the Quality Assurance Division, Ministry of Higher Education (QAD) was approved by the Government on 21 December 2005. This entity is responsible for quality assurance of higher education for both the public and the private sectors. The new entity, the Malaysian Qualifications Agency (MQA), was established on 1 November 2007 with the coming in force of the Malaysian Qualifications Agency Act 2007. The main role of the MQA is to implement the Malaysian Qualifications Framework (MQF) as a basis for quality assurance of higher education and as the reference point for the criteria and standards for national qualifications. The MQA is responsible for monitoring and overseeing the quality assurance practices and accreditation of national higher education.

1.2 Malaysian Qualifications Framework (MQF)

MQA is entrusted with implementing the national framework known as the Malaysian Qualifications Framework (MQF) to accredit higher educational programmes and qualifications, to supervise and regulate the quality and standard of higher education providers, to establish and maintain the Malaysian Qualifications Register and to provide for related matters. The implementation of MQF means that there will be a unified system to bind and interlink all the qualifications awarded in Malaysia (which includes higher education qualifications and Malaysian Skills Certificates – SKM Level 1 to 5) and serve as a reference point for all Malaysian national qualifications. MQF is an instrument that develops and classifies qualifications based on a set of criteria that are approved nationally and are on par with international good practices at the level of learning attained by the learners. MQF has eight levels of qualifications in two national sectors, namely, the academic sector which is the higher education sector; and the TVET sector which consists of the skills, vocational and technical sectors. The MQF is further illustrated in the following diagram:

MQF LEVEL	GRADUATING CREDIT	SECTOR		LIFELONG LEARNING
		ACADEMIC	TVET *	
8	No credit rating	PhD by Research		*Accreditation of Prior Experiential Learning (APEL)*
	80	Doctoral Degree by Coursework & Mixed Mode		
7	No credit rating	Master's Degree by Research		
	40	Master's Degree by Coursework & Mixed Mode		
	30	Postgraduate Diploma		
	20	Postgraduate Certificate		
6	120	Bachelor's Degree	Bachelor's Degree	
	64 **	Graduate Diploma	Graduate Diploma	
	34 **	Graduate Certificate	Graduate Certificate	
5	40	Advanced Diploma	Advanced Diploma	
4	90	Diploma	Diploma	
3	60	Certificate	Certificate	
2	30	Certificate	Certificate	
1	15	Certificate	Certificate	

* Technical and Vocational Education and Training ** Inclusive of 4 credits for U1 courses from general studies

Table 1: Malaysian Qualifications Framework

2. Literature Review

2.1 Higher Education's Response to Post-COVID 19 Pandemic in Malaysia

Malaysian universities have endured enough problems to tackle before the emergence of Covid-19 pandemic. Now, the Covid-19 has added salt to the wound, unleashing a crisis of global proportions. There is much added uncertainty within higher education sector. Along with health devastation, Covid-19 pandemic is forcing institutions to close. The global lockdown of education institutions is going to cause major interruption in students' learning; disruptions in internal assessments; and the cancellation of public assessments for qualifications or their replacement by an inferior alternative.

An immediate response by higher education institutions (HEIs) was to pivot teaching and learning (T & L) activities online as much as possible, giving rise to various new terms for the process, such as "remote learning", "home-based learning". and "emergency remote education", besides existing terms for technology-enabled learning at a distance, such as "online learning" and "distance learning" (Bozkurt & Sharma, 2020). HEIs also suspended all physical face-to-face teaching and meetings, closing of all buildings to physical access and keeping their students at home. International students were forced to remain in their host countries, or were repatriated by their respective governments, as borders were closed for international travel. The immediate main concern of policy makers, administrators, and practitioners was to secure the well-being of their students and staff, as well as to ensure continuity in academic delivery in the foreseeable future.

2.2 Online Learning

In Malaysia, the effect of the global pandemic has hampered the learning institutions during the mid-semester break of undergraduate programs and the ongoing second semester of pre-university programs. To further tackle the alarming infection rate of the deadly coronavirus, the Malaysian

government had issued a movement control order (MCO) that fully dampen the learning institutions' operational activities. Thus, the change must be well planned and appropriately designed to avoid further disruptions caused by the MCO. However, online learning comes with massive challenges. Firstly, the students need to have technology access as the primary indicator of the online learning readiness. As students also take their learning independently, instructors may also need more time to design their content delivery effectively as learners will most definitely be facing technical and adapting difficulty.

Highlighting a report from UNESCO reported that over 87% of the world's student population from more than 160 countries were impacted by the lockdown. In Malaysia, this unprecedented crisis has provided an opportunity to improve online education for almost 5 million school students and 1.2 million university students. Besides, web-based training tools have been widely used by physicians in the US as learning resources, and has been demonstrated to be successful. Thus, universities, colleges, and schools have resorted to online learning. Meanwhile, technology-enhanced distance learning (TEDL) is linked with the 'modern teaching machines'. However, adapting to the new normal is not a straightforward process.

In response to the MCO, higher education institutions across the nation must revoke in-class teaching methods. They must execute online electronic communication platforms to facilitate teacher-student interaction. Nevertheless, this approach may be inadequate for certain field like hands-on medical or technical education. While the pandemic has shocked conventional face-to-face instruction, it has now provided learning institutions with a unique opportunity. Thus, there is a need to refurbish the existing way of delivering learning. Commonly, formal education has always depended on a traditional face-to-face approach. For example, it was reported that despite the current popularity of online learning, only less than 5% of classes utilized it. Therefore, it is the time for educational institutions to adopt disruptive learning technologies, especially during the disease outbreak, and its consequent recovery period.

COVID 19 has given rise to a sheer necessity of online and blended learning approaches. Blended learning is critical to distance and open education mostly during the emergence of the pandemic, as it is especially useful for teaching and learning processes in the rural areas. Teachers and educators need to keep up with the evolving learning and tools theories to support learners' needs. As a result, online cloud-based platforms such as ZOOM Cloud Meeting and Google Drive are presently essential to support diverse and geographically disperse learners from all four corners of the globe. The educators' role has changed from the "sage on the stage" to "the guide on the side". Various teaching and learning modes like media social (Facebook, WhatsApp, Telegram), live video conferences (Zoom, Microsoft Teams) as well as pre-recorded lecture videos (YouTube) were deployed. The situation has appeared as an opportunity for learners to consume and instructors to diversify via the flexibility on the delivery and timing of online learning. The synchronization of online classes can help students feel a stronger sense of connection to their peers and instructors. Students would have full control and freedom to complete their course learning materials at their own time from any location with Internet access.

2.3 Online Assessment

Online assessment is more flexible compared to the traditional assessment as it allows the students to review their work or learning anytime and anywhere with a stable internet connection. Take for example, it provides a greater flexibility for the students on how to do their assignments since they have the privilege to decide on where and when to do it. To put it simple, the students can complete their tasks like tests, exams, quizzes, assignments and more at a place and time that is convenient for them. According to Kebritchi, Lipschuetz and Santiague (2017), students need to be a self-directed and self-motivated learner due to the flexibility of online assessment. This is because, students have a greater control over their learning in an online learning environment compared to the classes in a traditional learning environment. Hence, the students tend to schedule and manage their time effectively as well as plan their coursework accordingly so that they are able to submit their work on time.

Apart from that, online assessment has the tendency to provide immediate feedback to the students as compared to the paper assessment. Alruwais, Wills and Wald (2018) stated that online assessment offers direct and immediate feedback to the students. Similarly, Rolim and Isaisas (2018) also claimed that a detailed and frequent feedback can be given to the students through online assessment. Additionally, immediate feedback facilitates the students' learning and improves their performance in a particular subject matter as it motivates them to obtain good scores and showing good progress. The finding of a study conducted by Romeu Fontanillas, Romero Carbonell and Guitert Catasus (2016) revealed that the teachers' feedback is really useful for the students and helped them to improve their learning process. Thus, as stated by Marisa Yoestara, Zaiyana Putri, Meta Keumala and Zahratul Idami (2020), online assessment enhances students' performance.

It is an undeniable fact that the students' perception plays a pivotal role in making an effective decision regarding the teaching and learning process. It helps the educators to assess the effectiveness of their teaching. As stated by Rosa Amalia/ Amalia (2018), the students' perception is essential as it helps the educators to modify their decision regarding the teaching and the way of delivering content or material to their students. Therefore, the students' perception of online assessment is very important as it provides some insights to the educators on what the students think about doing the assessments online, what are the obstacles they face, what types of online assessments they prefer and how to conduct the online assessments effectively that meet the students' needs. Despite that, the students' negative and positive perceptions need to be considered when conducting an online assessment as it assists the educators to assess the students' academic performance without any undesirable consequences and to measure the learning outcomes at the same time.

Hence, it is necessary to identify students' positive and negative perceptions toward the implementation of online learning and the usage of online assessment in order to ensure a positive impact to the development of flexible education without compromising the quality as well as the competency of a graduate.

2.4 Flexible Education

In April 2018, MoHE published "Framing Malaysian Higher Education 4.0: Future-Proof Talents", a document that outlined the Ministry's aspiration in redesigning higher education for the country. At the system level, MoHE introduced the concept of Higher Education 4.0, where students are envisioned as curators of knowledge, content producers, and connection makers, the web as the open global curriculum, and educators as the resource guide. For the HEIs, it outlined a four-quad future university mode, recommending HEIs to be adaptive, flexible, and to offer lifelong learning pathways for individuals through nano- or micro- certification programmes, which are stackable and industry driven. It also encouraged HEIs to adopt a fluid and organic curriculum approach which allows convergence of disciplinary content areas, implementation of gap year and inter-university collaborations, as well as promoting access to education anytime, anywhere. Evidently, it takes a global pandemic to drive home the message that Higher Education 4.0 is a concept ripe for implementation in a post COVID-19 world.

3. The Conceptual Framework

Figure 1 below shows the conceptual framework that will used as a basis for a future empirical analysis on post Covid-19 pandemic in Malaysia. The framework consisting of enablers that include online learning and online assessment that drive the flexible education in Malaysia without compromising the quality of a programme and the competency of a graduate.

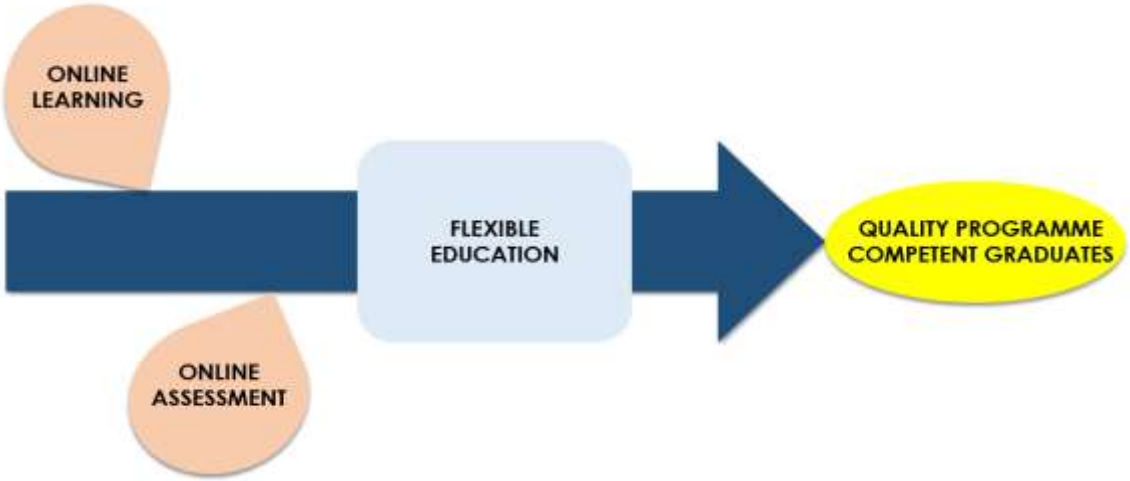

Figure 1: Conceptual Framework

References

Alruwais, N., Wills, G., & Wald, M. (2018). Advantages and Challenges of Using e-Assessment. International Journal of Information and Education Technology, 8(1), 34-37. doi: 10.18178/ijiet.2018.8.1.1008.

Bozkurt, A., Jung, I., Xiao, J., Vladimirschi, V., Schuwer, R., Egorov, G., Lambert, S., Al-Freih, M., Pete,J., Olcott Jr, D., & Rodes, V., 2020, 'A global outlook to the interruption of education due to COVID-19pandemic: Navigating in a time of uncertainty and crisis', Asian Journal of Distance Education, 15(1), pp.1–126.

Bozkurt, A., & Sharma, R. C. (2020). Emergency remote teaching in a time of global crisis due to CoronaVirus pandemic. Asian Journal of Distance Education, 15(1), i-vi. https://doi.org/10.5281/zenodo.3778083.

European Association for Quality Assurance in Higher Education (ENQA), 2020, 'External Quality Assurance in the Time of Covid-19: Case Examples from ENQA Member Agencies' (Brussels, ENQA). Available at: https://enqa.eu/wp-content/uploads/2020/06/External-QA-in-times-of-COVID 19_caseexamples.pdf (accessed 18/03/2021).

European University Association (EUA), 2020, 'European Higher Education in the Covid-19 Crisis'. Briefing (Brussels, EUA). Available at: https://www.eua.eu/downloads/publications/briefingeuropean%20higher%20education%20in%20the%20covid-19%20crisis.pdf (accessed 18/03/2021). European University Association (EUA), 2021, 'Universities without walls – A vision for 2030' (Brussels,EUA). Available at: https://www.eua.eu/downloads/publications/universities%20without%20walls%20%20a%20vision%20for%202030.pdf (accessed 18/03/2021).

Evans, C., & Bunescu, L. (Eds.), 2020, 'Student Assessment: Thematic Peer Group Report. Learning
& Teaching Paper #10' (Brussels, EUA). Available at: https://www.eua.eu/downloads/publications/eua%20report%20student%20assessment_web.pdf (accessed 18/03/2021).

Kebritchi, M., Lipschuetz, A., & Santiague, L. (2017). Issues and Challenges for Teaching Successful Online Courses in Higher Education: A Literature Review. Journal of Educational Technology Systems, 46(1), 4-29. https://doi.org/10.1177/0047239516661713

Lengnick-Hall, C.A. and Beck, T.E.(2005). Adaptive Fit Versus Robust Transformation: How Organizations Respond to Environmental Change. Journal of Management, 31, 738-757.

Marisa Yoestara, Zaiyana Putri, Meta Keumala & Zahratul Idami. (2020). Pre-Service English Teachers' Perception towards Online Assessment Method. IJELR: International Journal of

Education, Language and Religion, 2(1), 1-10. https://doi.org/10.35308/ijelr.v2i1.1933 or Retrieved from http://jurnal.utu.ac.id/IJELR/article/view/1933

Rolim, C., & Isaias, P. (2018). Examining the Use of E-Assessment in Higher Education: Teachers and Students' Viewpoints. British Journal of Educational Technology, 50(4), 1785-1800. https://doi.org/10.1111/bjet.12669

Romeu Fontanillas, T., Romero Carbonell, M., & Guitert Catasus, M. (2016). E-assessment process: giving a voice to online learners. International Journal of Educational Technology in Higher Education, 13(1), 1–14. https://doi.org/10.1186/s41239-016-0019-9

Rosa Amalia. (2018). Students' perception of Online Assessment use in Schoology in EFL Classrooms (Undergraduate thesis, Universitas Islam Negeri Sunan, Ampel Surabaya). http://digilib.uinsby.ac.id/28639/

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Application of Module Approach in the Education Evaluation Projects - Take the Performance Evaluation of Phase I Construction and Demonstration of Phase II Construction Scheme of Shanghai New Type Research Institute as an Example

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Abstract
In order to solve the problems of high requirements and tight timeline of the entrusting party in the evaluation project, the lack of experience of some personnel in the project team, the balance of evaluation results between individual experts and expert groups, and the lack of evaluation experience of most evaluation objects, this paper proposes modular evaluation approach. It mainly includes: disassembling the evaluation content and process, matching personnel and other resources and reengineering the process according to the characteristics of the different module, and through continuous communication, provision of templates and overall coordination for module integration. This will facilitate to achieve efficient, smooth, coordinated and creative completion of the evaluation work.

Key words**:** module, disassembly, integration, personnel matching, process reengineering

1. Project background

In November 2014, the Ministry of Education and the Shanghai Municipal Government signed a seven-year strategic cooperation agreement on deepening the comprehensive reform of education in Shanghai. The two sides would cooperate on 24 key tasks in five areas and establish relevant cooperation guarantee mechanisms. One of the key tasks of the agreement is to rely on universities affiliated to the Ministry of Education located in Shanghai to construct a number of high-level new-type research institutes, focusing on the major theoretical and practical issues of national reform and development, the important tasks undertaken by Shanghai as the forefront of comprehensively deepening reform, striving to improve the scientific and technological innovation ability of colleges and universities, and striving to build into a high-end think tank, a high-end talent training base, high end international exchange and cooperation platform and cutting-edge research base of relevant disciplines. According to the agreement, the Ministry of Education and Shanghai Municipal Governance have built seven research institutes relying on Shanghai Jiaotong University, Tongji University, East China Normal University, Shanghai International Studies University and Shanghai University of Finance and Economics. In April 2021, in view of the completion of the Phase I of construction and the upcoming start of the Phase II of construction, Shanghai Education Evaluation Institute was entrusted to evaluate the performance of the Phase I of the construction of these high-level research institutes and demonstrate the Phase II of construction scheme.

2. Problem for Solution

The entrusting party requires to complete the evaluation and demonstration work of seven research institutes in three weeks, that is, to complete the scheme design work in one week, to complete the field investigation work in one week, and to complete the report writing and review work in one week; and put forward some requirements for the evaluation. As the evaluated objects, most of the seven institutes have not participated the similar evaluation earlier and lacked experience in interpreting indicators, preparing materials and writing self-evaluation reports. As project reviewers, most experts can only participate in the evaluation and demonstration of one research institute due to time and professional constraints. As the project organizer, our project team has 5 members and 2 new recruits. Therefore, the important problem that this project has to solve is: under the existing conditions, how to ensure that the evaluation and demonstration of the seven research institutes can be completed in a standardized, efficient, fair and consistent manner in the short term?

3. Main Practices

In order to properly solve this problem, we adopt the approach of module disassembly and integration. That is, we carry out "no overlap, no omission" modular disassembly of the evaluation content, evaluation process and work tasks, and then carry out professional division of labor according to the characteristics of different modules, so that people can make full use of their talents, optimize and reengineer the work process, synchronously promote parallel work, and improve the overall work efficiency; At the same time, we should pay attention to "seamless and traceless" collaboration through training, clear requirements and interactive exchanges, so as to maintain standardization and consistency, and realize the cohesion and coherence of the whole work. The main measures are as follows:

1. Module disassembly. The whole evaluation work can be divided into: scheme preparation, selection and liaison of experts, on-site investigation and later report writing; during the on-site investigation, the work content can be divided into: listening to presentation of the institute, observation the classroom teaching, interviewing school leaders and the head, backbone teachers, students and graduate representatives, etc. The content of phase I performance evaluation, that is, the index system, can be divided into: construction objectives (contribution and influence), construction tasks (think tank construction, discipline construction, base construction, international exchange platform construction and talent training) and supporting conditions (system and mechanism and financial management). From the perspective of the project team, nine process modules are divided according to three subjects and three stages, of which three subjects are: the entrusting party, the Research Institute as the evaluation object and the experts as the reviewer; the three stages are: before entering the school, during and after leaving the school (See Table 1 for details).

	Before On-site Visit	On-site Visit	After On-site Visit
The Entrusting Party	1. Consultation of the evaluation plan, 2. Confirmation of the experts	1. Communication arrangement and progress	1. Solicit comments on the draft report, 2. Submit the final report
The Evaluated Object	1. Clarify the requirements of on-site investigation, 2. Respond to consultation, 3. Urge self-assessment materials, 4. Negotiate the agenda and logistics arrangements	1. Communication for meeting arrangements (admission, expert meeting, report meeting, interview, data review, etc.), 2. organization of staff, teachers and students selected by the experts team	1. Verify the information about the draft report
Expert Team	1. Selection of experts, 2. Contact experts, 3. provision of guideline for the evaluation and self-assessment materials, 4. response to consultations, 5. communicate on-site visit arrangements	1. Brief training, 2. Internal communication, 3. response to consultation	1. The expert team leader fine-tuned the draft report, 2. Editing and sorting the draft report, 3. Individual expert team review the draft report, 4. Joint expert team review of the draft report, 5. SEEI Academic Committee finalization and approval the report, 6. Cost settlement

Table 1. Module Disassembly for the Evaluation Process

Note: for each stage, the number is indicated the order of the action, and the actions with the same number are parallel, and could be advanced at the same time.

2. Personnel matching and process optimization. The content and process modules can be distinguished according to the following characteristics but not limited them: (1) Series and parallel, the former refers to that there is a sequence between different work, and the next work can't be carried out without the completion of the earlier work; In the latter, there is no priority between different work, which can be promoted synchronously. (2) Professional and transactional work, the former refers to the work that needs to have certain professional ability or experience to complete, such as index design and review of financial statements; the latter refers to the work that can be competent without special training, such as copying materials, arranging travel services, etc. (3) Recurring work and special work. The former refers to the work that often occurs, the whole procedure and content are relatively clear, and can be standardized; the latter refers to some exceptions that need to be dealt with pertinently. On the basis of these distinctions, the task division and match of the people and resource could be targeted, such as allocating the main review contents according to the professional background and work experience of experts; arrange the professional or transactional work according to the skills and experience of the project team personnel; for series work, pay close attention to the key links, and strictly implement the time node of each work; for parallel operation, synchronous multi head propulsion can be used to ensure the smoothness and efficiency of the whole work.

The self-evaluation report on phase I construction performance mainly focuses on the completion of construction objectives and tasks, the construction of systems and mechanisms, discipline construction and future development planning, and can summarize relevant experience and results in combination with relevant landmark achievements or typical cases; In view of the existing problems and bottlenecks, this paper analyzes the relevant reasons and puts forward improvement measures. The report needs to be reasonable, illustrated, concise and clear; The accuracy, standardization and consistency of relevant data shall be ensured; The total number of words shall be controlled within 10000 words, and the problems and suggestions shall not be less than 1000 words; The font size is small four, and the line spacing is 1.5 times.

The second phase construction plan mainly focuses on the target vision, strategic path, institutional mechanism and funding investment (specific items can be adjusted by the school); The total number of words shall be controlled within 6000; Fill in the attached table 2. Completion of annual objectives and tasks of phase II construction; The font size is small four, and the line spacing is 1.5 times.

Information Box 1. Template for the Self-assessment Report

3. Module integration. The main measures include: (1) The personnel of the project team should coordinate as a whole, including the design, coordination, consultation and supervision of the whole scheme, and participate in the evaluation of the seven research institutes throughout the process, so as to understand the tightness of the evaluation scale of each expert group and the achievements and shortcomings of the construction of each research institute, so as to provide reference for the overall balance in the later stage. (2) The evaluation experts will have the division of evaluation content, but they also intersect with each other, and keep at least 3-4 experts for each criteria (see Tabale 2 for details), and provide multiple discussion and exchange sessions; The leader of the expert group is responsible for the coordination of opinions within the group and the integration of reports; The draft reports of the seven research institutes will be circulated among the leaders of the seven expert groups for deliberation, and the project team will make necessary modifications according to their opinions; Then it will be examined and approved by the Academic Committee of Shanghai Education Evaluation Institute. (3) Provide a series of templates, such as the Institute's self-evaluation report (See Information Box 1), financial data sheet, expert evaluation report and on-site investigation work schedule, including both framework content requirements and font size and other format requirements, so as to ensure the relative unity of the format and content of the working document, and quickly search and compare the relevant content.

4. Summary and discussion

Module and integration is essentially a "total-cent-total" way of thinking and behavior, which is widely used in various activities including evaluation. The evaluation project of the Research Institute jointly built by the Ministry and the Municipal City has consciously strengthened this way of thinking and behavior, trying to make it an operable approach. This approach first requires "no overlap, no omission" disassembly of modules, which requires in-depth learning, practice and reflection. We should be familiar with both the evaluation content and the evaluation process. Secondly, the approach requires a full understanding of the characteristics of each module, and appropriate personnel matching, so that people can give full play to their talents, give full play to the enthusiasm and initiative of all parties, and at the same time, carry out process reengineering to

avoid delays and promote the smooth and efficient completion of all work; This requires being familiar with the characteristics of project team members, evaluation objects and evaluation experts, as well as the requirements of time requirement and working environment. Finally, the approach requires "seamless and traceless" module integration to promote the coherence and collaborative innovation of the whole work, which requires continuous communication, consensus and action. In general, the project not only promoted the efficient and smooth completion of all work, but also promoted the comfortable and healthy growth of all parties. Of course, modular evaluation approach has just started, and it also needs in-depth learning, sharing and exchange, and iterative optimization, so as to divide modules and collaborative integration more accurately and smoothly.

	Modula	Team Leader	Academic Expert 1	Academic Expert 2	Academic Expert 3	Academic Expert 4	Financial Expert 1	Financial Expert 2	Financial Expert 3	**Summary**
Performance Evaluation for Phase I	Contribution and influence	1	1	1		1				**4**
	Think tank construction		1	1	1	1				**4**
	Discipline construction	1	1		1					**3**
	Base construction		1	1		1				**3**
	Construction of international exchange platform		1	1	1					**3**
	Talent training system and mechanism	1			1	1				**3**
	Financial management						1	1	1	**3**
Demonstration of Phase II Scheme	Objective and vision	1	1	1	1					**4**
	Development Plan	1			1	1				**3**
	Institutional mechanism	1		1		1				**3**
	Budget						1	1	1	**3**
Summary		**6**	**6**	**6**	**6**	**6**	**2**	**2**	**2**	**36**

Table 2. Division and Intersection of the Experts' Task

Note: Number "1" in the table means the expert will be in charge of the criteria.

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Improving Relevance And Responsiveness: Aotearoa New Zealand's Early Micro-Credentials Journey

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Terry Neal

Abstract
In 2018, Aotearoa New Zealand introduced micro-credentials into its regulated education and training system. Introducing micro-credentials is expected to contribute to higher national productivity, support lifelong learning, increase equity of outcomes for learners, maintaining social cohesion and improving the recognition and quality assurance of shorter skills programmes. This paper outlines use of micro-credentials in Aotearoa New Zealand since their introduction and, through three case studies, illustrates how learners and employers have benefited from this type of education product.

1. Introduction

In 2018, Aotearoa New Zealand introduced micro-credentials into the regulated education and training system as one means of increasing the relevance and responsiveness of the qualifications system. In this paper, we describe what Aotearoa New Zealand hoped for from the introduction of micro-credentials and reflect on our progress in achieving our desired outcomes.

2. Tertiary education challenges

Aotearoa New Zealand, like other countries, faces a range of challenges and opportunities in its post-secondary education:

- Skills mismatch to jobs contributes to low national productivity. Over 70 years, Aotearoa New Zealand has dropped from being one of the world's most productive countries to below the Organization for Economic Cooperation and Development (OECD) average.
- Tertiary education policy settings have privileged younger learners in full time study over lifelong learners. The focus on qualifications, as the primary education product, has assumed that education and training would happen soon after a learner leaves school, and only needed to happen once.
- Tertiary education struggles to deliver equitable outcomes for Māori, Pacific and disabled learners, which leads to inequity of income and wellbeing.
- Opportunities for lifelong learning can mitigate the risk of social cohesion being undermined as a result of the rapid emergence of the relatively ungoverned world, growing immigrant-related diversity and increasing inequality.
- Limited recognition and variable quality assurance of shorter skills programmes. Historically, sub-qualification short courses were informal with minimal regulatory oversight.

3. Theory of change for micro-credentials

Figure 1 outlines the theory behind Aotearoa New Zealand's approach to micro-credentials, anticipating improved outcomes for industry, individuals, communities and the skills system. At the heart is formally recognised, quality assured, short courses with evidence of industry or community demand, which can stack towards larger qualifications.

Micro-credentials can increase the **relevance** of educational products. Micro-credentials developed with industry can more rapidly respond to emerging needs and provide opportunities for lifelong learners to upskill and reskill throughout their working lives. This will reduce the skills mismatch and thus improve productivity. Micro-credentials also enable government and community organisations to respond to changes in civil society, and new entrants to Aotearoa New Zealand to upskill and reskill. This decreases the likelihood of lower social cohesion over time.

Assuring the **quality** of micro-credentials supports formal recognition and portability of skills developed beyond first, larger qualifications. Individuals can carry a greater range of learning (validated through assessment) with them throughout their lives, and employers can better understand and trust the skills developed. This leads to an improved skills system that better supports a greater range of skills development needs. Aotearoa New Zealand has achieved this through extending the prescriptions of the New Zealand Qualifications and Credentials Framework (NZQCF) to include sub-qualification credentials. Approved micro-credentials were given a credit value between 5 to 40 credits in size and providers could apply for approval of micro-credentials at any level on the NZQCF. In this way, employers could understand the duration (credits) and the complexity (level) of the training, learners gain improved recognition for the learning completed and can have micro-credentials cross credit into qualifications. With standard quality assurance processes applying, learners and employers could be confident in the quality and value of micro-credentials.

Micro-credentials can increase **equity** by reducing barriers to gaining qualifications through providing more flexible pathways. Learners who are not able to study full time or want to test their ability to fit study into their budgets and time commitments can gain recognition for small chunks of learning as they build credits towards a larger qualification.

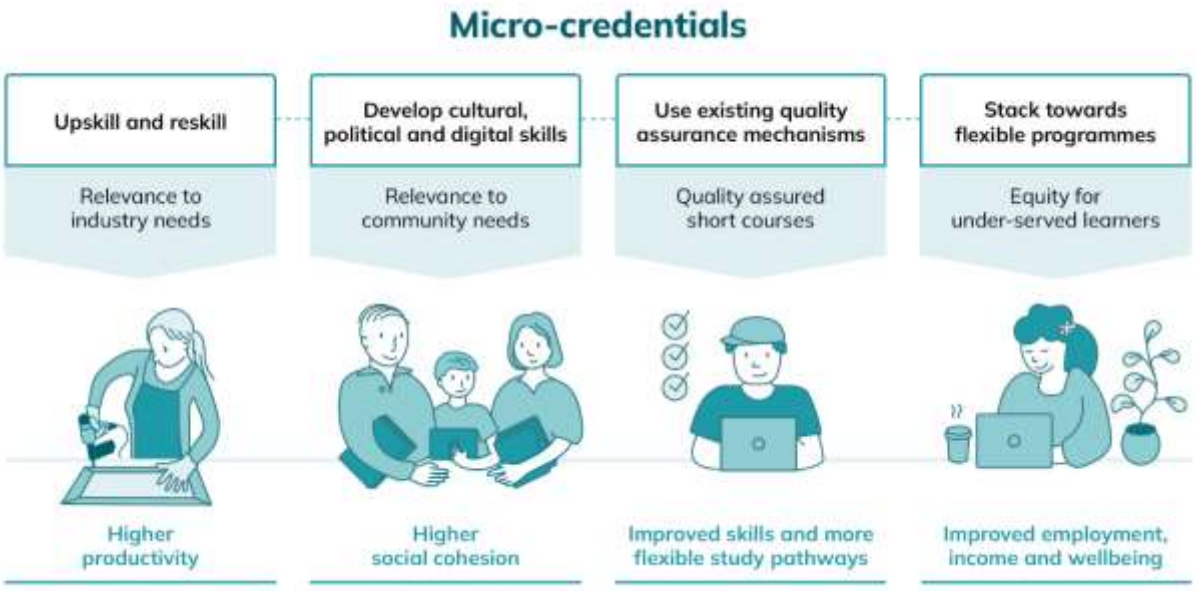

Figure 1: Theory of change for micro-credentials in Aotearoa New Zealand

By building on existing infrastructure and quality assurance approaches, Aotearoa New Zealand has achieved these new ways of working in a **sustainable** way.

4. Use of micro-credentials

Following three micro-credentials pilots between mid-2017 and mid-2018 and national consultation, NZQA enabled micro-credentials to be submitted for approval from August 2018. By late May 2022, there were 246 micro-credentials on the Register of NZQA-approved Micro-credentials. These are being offered by a range of tertiary education organisations (see Table One), and across all of NZQA's 12 NZSCED subject areas (see Table Two).

Provider type	Level of micro-credential offered										
	One	**Two**	**Three**	**Four**	**Five**	**Six**	**Seven**	**Eight**	**Nine**	**Ten**	**Total**
Te Pūkenga (Polytechnics)	0	3	14	16	17	9	3	4	0	0	66
Work-based learning	0	12	49	19	3	0	0	0	0	0	83
PTE	0	4	19	21	30	11	5	7	0	0	97
Wānanga	0	2	0	0	1	0	0	0	0	0	3
Total	0	21	82	56	51	20	8	11	0	0	249

Table 1: NZQA-approved micro-credentials by provider type and level on the NZQF, at June 2022

Subject Area (NZSCED)	5-10 credits	11-20 credits	21-30 credits	31-40 credits	Total
Agriculture, Environmental and Related Studies	12	16	8	3	39
Architecture and Building	3	1	3	5	12
Creative Arts	8	0	0	0	8
Education	1	4	0	0	5
Engineering and Related Technologies	25	17	13	3	58
Food, Hospitality and Personal Services	16	2	2	4	24
Health (+n/a one)	11	9	3	1	24
Information Technology	10	2	6	2	20
Management and Commerce	12	8	3	0	23
Mixed Field Programmes	8	5	1	2	16
Natural and Physical Sciences	0	0	0	1	1
Society and Culture	10	5	4	0	19
Total	116	69	43	21	249

Table 2: NZQA-approved micro-credentials by credit number and subject area, at June 2022

The main driver for New Zealand's introduction of micro-credentials was increasing the relevance of education products for employers, industry, communities and learners.

Immediately after NZQA enabled approval of micro-credentials in late 2018, a significant number of micro-credentials were approved. Numbers then dropped off, increasing in late 2020 with a rapid rise in the second half of 2021. In 2019, funding policy was changed making micro-credentials eligible for government funding. By February 2022, 80 micro-credentials had been approved for funding, supporting just over 6,000 learners to study.

Aotearoa New Zealand universities also develop micro-credentials, with universities able to approve micro-credentials themselves, but as at February 2022 these had not yet been placed on the Register. University uptake has been relatively low with only four of the eight universities offering micro-credentials by October 2021.

5. Micro-credentials case studies

In Aotearoa New Zealand, micro-credentials approved to date fall into three use case types:

1. a '**taster'** which can provide a **pathway** to full qualification enrolment
2. **upskilling** of existing employees, career changers or non-working learners
3. fast to market responses to **new or emerging skill needs**.

5.1 Taster and pathway micro-credential case study

MITO supports on-job learning for people working in the automotive, commercial road transport, extractives, gas and logistics industries. In 2007, MITO launched a programme called *StartUp*®, designed to create a pipeline of talent from secondary schools to employers in the automotive industries. In the programme, learners earn credits towards Level 2 of NCEA (New Zealand's national school qualification) through completing unit standards while gaining practical experience in the workplace.

When micro-credentials were introduced into New Zealand's regulated education and training system in 2018, MITO saw an opportunity and applied to NZQA to make *StartUp*® into three micro-credentials. The change meant learners could gain a discrete credential for their Record of Achievement, instead of just holding a collection of unit standards. This made the training easier for both learners and prospective employers to engage with and understand. Automotive industry associations signalled strong support for this change.

These micro-credentials benefit learners by enabling those who have an interest in the automotive industry the opportunity to explore this career path via a 'mini apprenticeship' while gaining credits towards their NCEA. Other advantages include gaining valuable work experience for their CV and building a relationship with potential employers. Employers appreciate the opportunity to meet potential candidates for an apprenticeship, developing positive relationships with local schools and giving back to the community through mentoring young people.

For Devansh, *StartUp® Ignition* was the stepping stone into his current career. He had always had an interest in the automotive industry and with the guidance of his career counsellor, enrolled in *StartUp® Ignition* while in year 11. Devansh enjoyed the experience – in particular, the broad programme which gave him exposure to different aspects of the automotive industry and allowed him to figure out which career he wanted to pursue. He received excellent support from both the school and his workplace. The next year, he completed *StartUp® Accelerate* with a different employer doing Certificate of Fitness repairs and servicing, and was able to demonstrate that he had the skills he needed to excel in the role. That employer hired Devansh and he moved to complete a New Zealand Apprenticeship with them. He says doing *StartUp® Ignition* had a highly positive impact on his career and would recommend it for any learners looking to get into the automotive industry.

5.2 Upskilling micro-credential case study

In August 2019, NZQA approved The Mind Lab (a private training establishment) to offer a Level 7, 15-credit micro-credential to support workers across a range of industries to confidently use digital tools relevant to their work. Anticipated benefits for learners included greater productivity, improved well-being, and an ongoing ability to adapt and use evolving digital technologies. Anticipated benefits for employers included filling a skills gap to support innovation and economic growth.

Just over 700 learners had studied the *Digital Skills for the Workplace* micro-credential between February 2020 and 2021. The first cohort started before the COVID 19 pandemic struck, which, as businesses moved to work online, accelerated the uptake of digital technologies. In response to the pandemic, The Mind Lab moved the micro-credential to be offered fully online at no cost. This saw a rapid increase in numbers during late 2020. In May 2020, for the third cohort, the institution started offering two parallel streams – one for employees and one for small business owners – as it became clear that these two groups had different needs and would benefit more from online collaborative projects if they were able to work with others facing similar challenges.

For Pete, running his own accounting business, the credential was important because he could choose to add to it later. The length of the micro-credential was good, 'covering off my needs for now.' For him, all the tools covered seemed relevant and working with tutors and peers in a safe inclusive environment gave him the knowledge and motivation to evaluate different software options, which he had been meaning to do. After the formal study ended, Pete was continuing to apply what he had learned, as he worked to implement the various options he had selected.

For Jen, working in a small-town public library, a micro-credential was easier to sell to her manager as it involved a smaller study commitment. She was already working with digital tools but found the study helpful in deepening her confidence with tools with which she was already familiar. Learning how to use new tools relevant to her role in managing digital projects for the library helped Jen develop in her use of tools, and also as a project manager. Through starting with a small chunk of learning, Jen was able to see how study fitted into her life and 'hoped to see more learning opportunities for ordinary people.'

5.3 Urgent skill needs micro-credentials case study

Careerforce supports New Zealand workplaces to run workplace training programmes in the health, wellbeing, social and community sectors.

In March 2021, Careerforce was approached by the New Zealand Ministry of Health to develop an education product for the Ministry's new training and assurance programme for COVID-19 Vaccinators Working Under Supervision. The Ministry had identified that there would be a surge in requirements around COVID-19 vaccines and that the vaccination workforce would need to increase to support the vaccination programme. However, there was no capacity to expand within the existing pool of regulated health professions such as pharmacists, nurses and doctors. Instead, they decided to focus on upskilling kaiāwhina (unregistered workers in the health sector such as healthcare assistants) to administer these vaccinations, under the supervision of a health practitioner. They also aimed to increase the diversity of the vaccinator workforce, with a particular focus on Māori and Pacific representation.

Careerforce found there were no existing suitable qualifications, micro-credentials or unit standards on the NZQCF specifically around vaccination, because vaccinating had previously been a function of the regulated workforce. Working with Ministry of Health representatives and product developers, and with advice from the Immunisation Advisory Centre, Careerforce decided to create two new vaccination unit standards and a Level 3, 9 credit micro-credential that would wrap around

them. A concerted effort between these parties and NZQA meant development and approval of the unit standards was completed by July 2021, and the subsequent development and approval of the micro-credential was completed by November 2021 – an expedited timeframe. To meet the urgent and pressing need, some learners completed the training prior to the formal approval of the micro-credential, later gaining the credential through a Recognition of Prior Learning process.

As of May 2022, 460 learners had met the requirements of the micro-credential *Vaccinate a Person with a COVID-19 Vaccine in a Vaccination Setting* and been authorised to administer the COVID-19 Pfizer vaccine. Of these learners, 55% identify as Māori and 12% as Pacific, meeting the micro-credential's intended outcome of increasing the representation of Māori and Pacific in the health workforce. This has benefited the health sector, with the increase in vaccinators taking pressure off the regulated workforce. In addition, it has helped enable outreach into the more rural areas of Aotearoa New Zealand, with three or four trained vaccinators working in mobile clinics with one supervisor.

One of the learners, Mere, joined a vaccination centre in Auckland in April 2021. Prior to that, she had been working as a landscaper at the community gardens of her iwi (Ngāti Whātua ki Ōrākei), before being encouraged by the CEO to join the vaccination centre. Mere was nervous, as she didn't have experience in this area, and it was out of her comfort zone. Mere found she was supported by leaders and her colleagues at the centre, and in the end found the experience "amazing."

The Ministry of Health and Careerforce are highly positive about the micro-credential's impact and see it as a 'win' for Aotearoa New Zealand. For Careerforce, it was an excellent demonstration of how micro-credentials can meet emerging needs, with quick development and approval times.

6. Conclusion

Micro-credentials promise value across the measures of relevance, quality, equity and sustainability. NZQA will work with partners across Aotearoa New Zealand's education and training system to keep adjusting its approach and settings to maximise benefits across these fronts.

Since introducing micro-credentials onto its national Framework, Aotearoa New Zealand has proven the value of formal pathways for short, relevant training in meeting the needs of learners and employers, the two end-users of qualifications and credentials. There is opportunity for greater benefit – both in terms of specific responses to unmet skill needs and in how micro-credentials can support qualification achievement by learners.

The design of micro-credentials sought to provide a formal pathway to ensure short, relevant training could be credentialed and quality assured. But it also sought to encourage more lateral thinking among all stakeholders about the qualification system, the relevance of education and training and the place of end-users. The goal was to shift policy, funding and regulatory settings that may have privileged the interests of tertiary education providers over end-users of education and training.

Micro-credentials will remain a term covering a wide range of education and training some of which will be subject to recognised quality assurance process and some of which will not. As we continue our journey towards a more flexible, responsive system of lifelong learning the formalising and standardising of micro-credentials should not obstruct innovation and diversity. Above all, in the creation of more flexibility we seek to enable informed choices that lead to long-term benefits for Aotearoa New Zealand.

Author Bio

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Eve joined NZQA in 2007 to implement a new quality assurance framework and lead improvements to the qualifications system and framework. She became Manager Quality Assurance Strategy in 2016 and was appointed as Deputy Chief Executive Quality Assurance in 2020.

Eve has held a range of positions primarily across the health and education sectors. She holds a Bachelor's degree from the University of Canterbury and a Master's degree in Education from the University of New South Wales.

Analysis Of Criteria I And II of NAAC Assessment And Accreditation Process In Ihe State Universities Of India: Quality Assurance Perspective

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Abstract

In this era of dramatic expansion in education, quality education is being prioritized globally, with an emphasis on internationally acceptable standards. As a result, countries have established quality assurance mechanisms and are constantly improving them. The faculty members are primarily responsible for quality, but how to ensure quality at various stages of teaching and learning is the real challenge. In this context, NAAC is an example of external quality assurance agency in India. In its assessment process, it employs seven criteria as well as numerous key indicators and metrics. Curricular Aspects and Teaching-Learning and Evaluation are the two essential criteria among them to assess higher educational institutions. The focus at the institutional level is on how quality assurance can be done internally without the intervention of an external agency. Based on the essence of the NAACs Assessment and Accreditation process, this paper attempts to analyse the Criteria I and II of NAAC assessment scores of 128 State Universities. The Design Expert stat tool was used to examine the relationship between state university rankings and performance in curricula, teaching, learning, and evaluation. The analysis reveals that Criteria I and II have a positive correlation with institutional scores. Improving these criteria will undoubtedly improve the accreditation status. It also emphasises the various types of tools used for assessing the outcome-based Teaching learning process.

Keywords: Teaching Learning and Evaluation, Curricular aspects, Higher educational Institutions, and NAAC

1. Introduction

Higher education is becoming increasingly popular. The number of universities and colleges has increased significantly over the last decade. The student population is growing in lockstep. Since Higher Education Institutions (HEIs) contribute to the knowledge economy, it is difficult to compete in a globalised world unless the quality is improved.

Higher education institutions must take appropriate initiatives and quality assurance measures in this regard. Many Accrediting Agencies in India, such as the National Assessment and Accreditation Council (NAAC), the National Board of Accreditation (NBA), and the National Institutional Ranking Framework (NIRF), are involved in Accrediting and Ranking Higher Educational Institutions. Among these, NAAC has done a tremendous service by accrediting institutions and assisting them in maintaining quality. It has nearly twenty-five years of rich experience, with 603 university accreditations and 13,256 college accreditations completed under various cycles across India. The Revised Assessment and Accreditation Framework, which was released in July 2017, represents a clear Paradigm Shift, making it ICT enabled, objective, transparent, scalable, and

robust. NAAC has retained 7 criteria, 34 Key Indicators, and approximately 115 metrics (varies for Universities and colleges)

The Seven Criteria followed in the Accreditation Process are

1. Curricular Aspects
2. Teaching – Learning and Evaluation
3. Research Innovations and Extension
4. Infrastructure and Learning Resources
5. Student Support and Progression
6. Governance, Leadership and Management
7. Institutional values and Best Practices

Among all the above criteria Teaching and Learning has been given more weightage.

1.2 Curricular Aspects

This criterion is very important in assessment because it is the foundation for all other quality elements and criteria. As a result, curriculum design and development are thought to be very important dimensions in assessing educational quality in institutions. The post-COVID era has brought about an online education system that students and teachers have easily adapted and adopted. The need to align our education with the needs of industry or companies has necessitated the need to update and develop curriculum, based on the needs of stakeholders. Educationists and Academicians must assess the current situation and reflect in order to transform educational institutions to meet today's challenges (**Director, NAAC, Best practices in Curricular aspects, 2008**). NAAC has been involved in the tasks of organizing workshops to analyze the existing curriculum in institutions and to amend the curriculum on the need based, flexible and interactive models suggested to the institutions. Teaching–Learning is based on the Curriculum, hence. It is the Curriculum that paves way for Teaching –Learning. Thus, the quality of the Curriculum influences the quality of teaching which in turn influences quality of learning.

1.3 Teaching – Learning and Evaluation

As discussed in the NAACs manual, the diversity of learners' backgrounds, abilities, and other personal characteristics will influence the extent of their learning. The institution's teaching-learning modalities are expected to be relevant for the learner group. Learner-centered education facilitates effective learning by utilising appropriate methodologies such as participative learning, experiential learning, and collaborative learning modes. Teachers offer a variety of learning opportunities, including both individual and collaborative learning. When interactive and participatory approaches are used, learners develop a sense of responsibility and learning becomes a process of knowledge construction. Digital learning resources have recently become available, making learning more individualised, creative, and dynamic. The quality of learning provided in the institution is largely determined by teachers' readiness to draw on recently available technology supports and the initiative to develop such learning resources to enrich teaching-learning; on teachers' familiarity with Learning Management Systems (LMSs), other available e-resources, and how to meaningfully incorporate them into one's scheme of teaching-learning process.

2. Criteria I of NAAC (www.naac.gov.in)

Key indictors include:

- ✓ Curricular Planning And Implementation
- ✓ Academic flexibility
- ✓ Curriculum Enrichment
- ✓ Feedback system

3. Criteria II of NAAC

Key indictors include:

- ✓ Teaching Learning and Evaluation
- ✓ Student Enrolment and Profile
- ✓ Catering to Student Diversity
- ✓ Teaching-Learning Process
- ✓ Teacher Profile and Quality
- ✓ Evaluation Process and Reforms Student Performance and Learning Outcomes
- ✓ Student satisfaction Survey

With changing times and advances in science and technology, particularly post-COVID era warrants changes in the Teaching, Learning and Evaluation (TLE) system. In this context, the TLE and Curricular aspects of 128 state universities in India (**Table 1**) were assessed based on the performance of these universities in NAAC accreditation. Scores of the first two criteria of NAAC assessment were taken and response surface methodology applied to analyze the results. Three factors namely State, Criteria I and Criteria II were taken for analysis (**Table 2**). State was considered as a categorical factor. State universities in Uttar Pradesh and Punjab had low and high scores in Criteria I and II respectively and are hence assigned minimum and maximum. Pearsons correlation plot (Fig.1) shows undefined correlation between institutional CGPA and the State. On the other hand, the correlation of institutional CGPA with Criteria I Curricular aspects and II TLE reveals good correlation (r=0.779 and 0.833 respectively). From the Pearson correlation plots, both CIGPA (Pearson correlation co-efficient = 0.779) and CIIGPA (Pearson correlation co-efficient = 0.833) are found to have strong positive correlation to Institutional CGPA.

CIIGPA has relatively more impact on institutional CGPA than CIGPA. Two models were attempted for analysis (**Table 3**). The **Model F-value** of 20.01 implies the model is significant. There is only a 0.01% chance that an F-value this large could occur due to noise. **P-values** less than 0.0500 indicate model terms are significant. In this case state(A), CIGPA(B), CIIGPA(C) are significant model terms. The **Lack of Fit F-value** of 1.36 implies the Lack of Fit is not significant relative to the pure error. There is a 46.61% chance that a Lack of Fit F-value this large could occur due to noise. Non-significant lack of fit is good as one expects the fit model.

Fit Statistics

Std. Dev.	0.2071		**R^2**	0.8498
Mean	2.87		**Adjusted R^2**	0.8074
C.V. %	7.22		**Predicted R^2**	NA
			Adeq Precision	20.3745

Adeq Precision measures the signal to noise ratio. A ratio greater than 4 is desirable. A ratio of 20.374 indicates an adequate signal.

Model Comparison Statistics

PRESS	NA
-2 Log Likelihood	-72.76
BIC	67.95
AICc	2.99

Table 4 gives the Coefficients in Terms of Coded Factors (Sum Contrasts). It is quite obvious from Table 4 that the coefficient estimate represents the expected change in response per unit change in factor value when all remaining factors are held constant. Per unit change in CIIGPA represents 0.7928 unit change in Institutional CGPA while per unit change in CIGPA represents 0.3505 unit change in Institutional CGPA.

Final Equation in Terms of Coded Factors

Institutional CGPA	
+2.58	
-0.0076	A[1]
-0.1237	A[2]
-0.6733	A[3]
+0.2282	A[4]
-0.1906	A[5]
-0.0771	A[6]
-0.3116	A[7]
-0.0025	A[8]
+0.1053	A[9]
+0.1222	A[10]
+0.1784	A[11]

-0.0306	A[12]
-0.0063	A[13]
-0.1159	A[14]
+0.0669	A[15]
+0.1098	A[16]
+0.0619	A[17]
-0.0890	A[18]
+0.0207	A[19]
-0.0066	A[20]
-0.0347	A[21]
+0.1666	A[22]
+0.0683	A[23]
+0.1355	A[24]
+0.0981	A[25]
+0.0925	A[26]
+0.3505	B
+0.7928	C

The equation in terms of coded factors can be used to make predictions about the response for given levels of each factor. The coded equation is useful for identifying the relative impact of the factors by comparing the factor coefficients. The perturbation plot of Institutional CGPA and deviation from reference point is given in **Figure 4.** The steep slope of CIIGPA (C) reveals this criteria to be relatively more important than CIGPA (B) with moderate slope. The one factor plot (**Figure 5**) and interaction plots (**Figure 6a and 6b**.) illustrate the relative difference in the overall CGPA for the extreme values of CIGAP and CIIGPA (minimum in black and maximum in red). The gap is more for the two extremes of CIIGPA than CIGPA. The potential relationship between the three variables namely Institutional CGPA, CI and CII is given in **Figures 7 and 8**. The three-dimensional relationship in two-dimensions and the interaction effect is quite obvious from the figures. A good correlation exists between predicted and actual CGPA values as in seen from **Figure 9**. The yellow region in the Overlay plot highlights the CGPA score between 3.5 to 4.0 and the corresponding CIGPA and CIIGPA values (**Figure 10**). Attempts were made to maximise overall CGPA to 4 using optimization studies, which yielded 100 solutions, with Gujarat ranking first with a CGPA close to 4 **(Table 5**).

In Model II analysis was made without considering the states as categorical factor. The ANOVA for Reduced Linear model include:

- Forward Regression
- Adding terms that improve AICc
- Selecting and adding the intercept to the final model.
- Selecting C-CIIGPA to be included in the final model (AICc = 22.609048).
- Selecting B-CIGPA to be included in the final model (AICc = -17.918797).

The results tabulated (**Table 6**) show the **Model F-value** of 222.12 implying the model to be significant. There is only a 0.01% chance that an F-value this large could occur due to noise. **P-values** less than 0.0500 indicate model terms are significant. In this case CIGPA (B) and CIIGPA (C) are significant model terms. The **Lack of Fit F-value** of 1.58 implies the Lack of Fit is not significant relative to the pure error. There is a 40.53% chance that a Lack of Fit F-value this large could occur due to noise. Non-significant lack of fit is good as a fit model is required.

Fit Statistics

Std. Dev.	0.2228		**R^2**	0.7804
Mean	2.87		**Adjusted R^2**	0.7769
C.V. %	7.77		**Predicted R^2**	0.7686
			Adeq Precision	64.8010

The **Predicted R^2** of 0.7686 is in reasonable agreement with the **Adjusted R^2** of 0.7769; i.e. the difference is less than 0.2. **Adeq Precision** ratio greater than 4 is desirable. The obtained ratio 64.801 indicates an adequate signal.

Model Comparison Statistics

PRESS	6.54
-2 Log Likelihood	-24.11
BIC	-9.56
AICc	-17.92

Coefficients in Terms of Coded Factors (Sum Contrasts)

Factor	**Coefficient Estimate**	**df**	**Standard Error**	**95% CI Low**	**95% CI High**	**VIF**
Intercept	2.59	1	0.0244	2.54	2.64	
B-CIGPA	0.4433	1	0.0631	0.3185	0.5681	1.83
C-CIIGPA	0.7539	1	0.0757	0.6040	0.9038	1.83

The coefficient estimate represents the expected change in response per unit change in factor value when all remaining factors are held constant. Per unit change in CIIGPA represents 0.7539 unit change in Institutional CGPA while per unit change in CIGPA represents 0.4433 unit change in Institutional CGPA

Final Equation in Terms of Coded Factors

Institutional CGPA	
+2.59	
+0.4433	B
+0.7539	C

The equation in terms of coded factors can be used to make predictions about the response for given levels of each factor. The coded equation is useful for identifying the relative impact of the factors by comparing the factor coefficients.

Final Equation in Terms of Actual Factors

Institutional CGPA	
-0.173740	
+0.368937	CIGPA
+0.644369	CIIGPA

The equation in terms of actual factors can be used to make predictions about the response for given levels of each factor.

The perturbation plot given in Figure 11 reveals a steep slope for CIIGPA (C) indicating it to be relatively more important than CIGPA (B) with moderate slope. Interaction plots (**Figure 13**) illustrate the relative difference in the overall CGPA for the extreme values of CIGAP and CIIGPA (minimum in black and maximum in red). The gap is more for the two extremes of CIIGPA than CIGPA

The potential relationship between the three variables namely Institutional CGPA, CI and CII without taking state as categorical factor is given in **Figures 14 and 15**. The three-dimensional relationship in two-dimensions and the interaction effect is quite obvious from the figures. A good correlation exists between predicted and actual CGPA values as in seen from **Figure 16**. The yellow region in the Overlay plot highlights the CGPA score between 3.5 to 4.0 and the corresponding CIGPA and CIIGPA values (**Figure 17**). Attempts were made to maximise overall CGPA to 4 using optimization studies, which yielded 100 solutions **(Table 7**). If CIIGPA is increased from the given maximum of 3.9 to 3.95, then Institutional CGPA is improved from 3.79 to 3.823.

Number	**CIGPA**	**CIIGPA**	**Institutional CGPA**	**Desirability**	
1	3.933	3.950	3.823	0.928	Selected

If CIGPA is increased from the given maximum of 3.933 to 3.95, then Institutional CGPA is improved from 3.79 to 3.797

Number	**CIGPA**	**CIIGPA**	**Institutional CGPA**	**Desirability**	
1	3.950	3.900	3.797	0.918	Selected

This shows that increase in CIIGPA has relatively greater influence on Institutional CGPA than CIGPA

4. Conclusion

Accreditation mechanisms though less than a decade old contribute to quality check adopting flexible strategies. Among the seven criteria used for assessment of various educational institutions, Curricular aspects and Teaching, Learning and Evaluation contribute significantly to the accreditation status. Increase in the score of Criterion II significantly increases the CGPA compared to CIGPA. The Design Expert stat tool gives the relationship between state university rankings and performance in curricula, teaching, learning, and evaluation. Positive correlation of Criteria I and II with institutional score shows that improvement in these scores can undoubtedly improve the accreditation status. This paper also focuses on the use of statistics tools like Stat Ease- Design Expert software to analyse data.

S.No	Name of the University	State	CIGPA	CIIGPA	Institutional CGPA	Grade
1.	Mahatma Gandhi Kashi Vidyapeeth, Varanasi-221 002, Uttar Pradesh (Third Cycle)	Uttar Pradesh	1.63	1.85	1.52	C
2.	Kolhan University, Chaibasa – 833202 (First Cycle)	Jharkhand	1.67	1.9	1.6	C
3.	Sido Kanhu Murmu University, Santa Pargana, Dumka-814 101, Jharkhand (First Cycle)	Jharkhand	1.53	2.81	1.61	C
4.	Maharaja Krishnakumarsinhji Bhavnagar University,Sardar Patel Campus,Bhavnagar - 364001 (Second Cycle)	Gujarat	1.79	1.56	1.65	C
5.	Magadh University, Bodhgaya, Gaya – 824234 (First Cycle)	Bihar	2.2	2.05	1.76	C
6.	Sant Gahira Guru Vishwavidyalaya, Sarguja, Ambikapur (First Cycle)	Chhattisgarh	2.9	1.69	1.76	C
7.	Uttarakhand Sanskrit University, Delhi-Haridwar National Highway, PO Bahadrabad, Haridwar-249 402 (First Cycle)	Uttarakhand	2.47	2.79	1.83	C
8.	Davangere University, Shivagangothri, Davangere-577002 (First Cycle)	Karnataka	2.33	2.55	2.05	B
9.	University of Kota, Kota – 324005 (First Cycle)	Rajasthan	2.2	2.35	2.11	B
10.	Chaudhary Devi Lal University, Sirsa – 125055 (First Cycle)	Haryana	1.53	2.05	2.13	B
11.	Kannur University, Kannur – 670002 (First Cycle)	Kerala	2.33	2.75	2.19	B
12.	Dravidian University ,Srinivasavanam, Kuppam,Chittoor - 517426 (First Cycle)	Andhra Pradesh	2.6	2.94	2.23	B
13.	Thiruvalluvar University,Serkkadu,Vellore - 632115 (First Cycle)	Tamil Nadu	2.5	2.95	2.25	B
14.	Potti Sreeramulu Telugu University, Lalitha Kala Kshetram, Public Gardens, Nampally, Hyderabad-500 004, Telangana (Second Cycle)	Telangana	2.6	2.61	2.25	B
15.	Babasaheb Bhimrao Ambedkar Bihar University, Muzaffarpur – 842001 (First Cycle)	Bihar	2.33	2.8	2.27	B
16.	Chhatrapati Shahu Ji Maharaj University, Kanpur, 208024 (Second Cycle)	Uttar Pradesh	2.47	2.25	2.3	B
17.	University of Gour Banga, Malda – 732103 (First Cycle)	West Bengal	2	2.4	2.3	B
18.	Palamuru University, Ayyappa Complex, Opp. Police Head Quarters, Mahabubnagar – 509 001 (First Cycle)	Telangana	3.4	2.78	2.31	B
19.	Mahatma Gandhi University, Nalgonda – 508254 (First Cycle)	Telangana	2.87	2.45	2.32	B
20.	Dr.Babasaheb Ambedkar Technological University, Raigad Dist, 402103 (First Cycle)	Maharashtra	2.87	2.15	2.35	B
21.	Awadhesh Pratap Singh University, Rewa – 486003 (Second Cycle)	Madhya Pradesh	2.33	2.7	2.37	B
22.	Rayalaseema University, Pasupula Village, Nandyal Road, Kurnool – 518 002 (First Cycle)	Andhra Pradesh	3.2	3.02	2.45	B
23.	Lalit Narayan Mithila University, Kameshwarnagar, Darbhanga, 846004 (Second Cycle)	Bihar	2.53	2.6	2.46	B
24.	Tilka Manjhi Bhagalpur University, Bhagalpur – 812007 (Second Cycle)	Bihar	2.67	2.85	2.5	B
25.	Barkatullah University, Bhopal, 462026 (Second Cycle)	Madhya Pradesh	2.67	2.8	2.5	B
26.	Kannada University, Hampi (Third Cycle)	Karnataka	2.93	3.6	3.02	A
27.	Islamic University of Science and Technology, Awantipora – 192122 (First Cycle)	Jammu & Kashmir	2.67	2.8	2.52	B+
28.	Fakir Mohan University, Balasore – 756020 (First Cycle)	Odisha	2.87	2.95	2.52	B+
29.	Tamil University, Thanjavur-613 010, Tamil Nadu (Second Cycle)	Tamil Nadu	2.53	3.18	2.52	B+
30.	Shri Jagannath Sanskrit Vishvavidyalaya, Puri – 752003 (First Cycle)	Odisha	1.87	3.15	2.53	B+
31.	Yogi Vemana University Kadapa (Cuddapah) – 516003 (First Cycle)	Andhra Pradesh	2.67	2.75	2.54	B
32.	Veer Bahadur Singh Purvanchal University, Jaunpur – 222003(Second Cycle)	Uttar Pradesh	2.53	3.05	2.54	B+
33.	Gautam Buddha University, Greater Noida, District-Gautam Budh Nagar, Uttar Pradesh – 201 308 (First Cycle)	Uttar Pradesh	3.07	2.83	2.54	B+
34.	Sidho-Kanho-Birsha University, Administrative Building, Purulia Zilla Parishad, Jubilee Compound, Purulia – 723101, West Bengal (First Cycle)	West Bengal	3.07	3.06	2.54	B+
35.	Patna University, Patna–800 005, Bihar (First Cycle)	Bihar	3.57	3.21	2.55	B+

S.No	Name of the University	State	CIGPA	CIIGPA	Institutional CGPA	Grade
36.	Mahatma Jyotiba Phule Rohilkhand University, Bareilly – 243006 (Second Cycle)	Uttar Pradesh	2.67	2.6	2.55	B
37.	North Orissa University, Takatpur, Baripada – 757003 (Second Cycle)	Odisha	2.53	2.65	2.56	B+
38.	Telangana University, Dichpally, Nizamabad – 503322 (First Cycle)	Telangana	2.67	2.95	2.61	B
39.	Karnataka State Women's University, Bijapur – 586108 (First Cycle)	Karnataka	2.87	2.75	2.62	B
40.	Solapur University, Kegaon, Solapur – 413255 (First Cycle)	Maharashtra	2.53	2.75	2.62	B
41.	Jawaharlal Nehru Technological University Kakinada, East Godavari, Kakinada – 533003 (First Cycle)	Andhra Pradesh	3	2.8	2.67	B+
42.	Kameshwar Singh Darbhanga Sanskrit University, Darbhanga – 846008 (Second Cycle)	Bihar	2	3	2.7	B
43.	Rani Durgavati Vishwavidyalaya, Jabalpur, 482001 (Second Cycle)	Madhya Pradesh	2.73	2.8	2.71	B
44.	Veer Surendra Sai University of Technology, Sambalpur – 768018 (First Cycle)	Odhisha	3	3.05	2.76	B
45.	Vinoba Bhave University, Hazaribag – 825301 (First Cycle)	Jharkhand	3.07	3.25	2.77	B
46.	Doon University, Dehradun – 248001 (First Cycle)	Uttarakhand	2.33	3.05	2.77	B++
47.	Dr. Bhim Rao Ambedkar University, Agra – 282004 (Second Cycle)	Uttar Pradesh	2.87	3.2	2.79	B++
48.	Ranchi University, Ranchi – 834001 (First Cycle)	Jharkhand	2.87	3	2.8	B++
49.	Mother Teresa Women's University, Kodaikanal, 624101 (Second Cycle)	Tamil Nadu	2.87	3.15	2.8	B
50.	Bundelkhand University, Jhansi – 284128 (Third Cycle)	Uttar Pradesh	2.53	3.2	2.8	B++
51.	Ch. Charan Singh University, Meerut – 250005 (Second Cycle)	Uttar Pradesh	2.67	2.75	2.84	B
52.	Sri Krishnadevaraya University Anantapur – 515003 (Third Cycle)	Andhra Pradesh	2.87	3	2.85	B
53.	Gujarat University, Ahmedabad, 380009 (Second Cycle)	Gujarat	3.2	3.05	2.85	B
54.	Kavikulaguru Kalidas Sanskrit University, Ramtek, Nagpur – 441106 (First Cycle)	Maharashtra	2.8	3.25	2.85	B++
55.	Maulana Abul Kalam Azad University of Technology, Salt Lake, Kolkata – 700064 (First Cycle)	West Bengal	2.67	2.75	2.87	B++
56.	Dharmsinh Desai University, Nadiad – 387001 (Second Cycle)	Gujarat	3	2.75	2.88	B++
57.	Gulbarga University, Gulbarga – 585106 (Third Cycle)	Karnataka	2.73	2.9	2.91	B
58.	Tamil Nadu Physical Education and Sports University, Chennai – 600127 (First Cycle)	Tamil Nadu	2.87	3	2.92	B++
59.	Berhampur University, Berhampur – 760007 (Second Cycle)	Odhisha	3	3.1	3.01	A
60.	Jawaharlal Nehru Technological University Hyderabad – 500085 (Second Cycle)	Telangana	3	3.2	3.01	A
61.	Pandit Ravishankar Shukla University, Raipur – 492010 (Third Cycle)	Chhattisgarh	3	3.25	3.02	A
62.	Hemchandracharya North Gujarat University, Patan – 384265 (Second Cycle)	Gujarat	3.2	3.3	3.02	A
63.	Veer Narmad South Gujarat University, Surat – 395007 (Third Cycle)	Gujarat	2.53	2.75	3.02	A
64.	Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Sonepat – 131039 (First Cycle)	Haryana	3	3.2	3.02	A
65.	Rajiv Gandhi Proudyogiki Vishwavidyalaya, Gandhi Nagar, Bhopal – 462033 (First Cycle)	Madhya Pradesh	3	3.25	3.02	A
66.	University of Kerala, Thiruvananthapuram, 695034 (Second Cycle)	Kerala	2.87	2.9	3.03	A
67.	Vikram University, Ujjain – 456010 (Second Cycle)	Madhya Pradesh	2.87	3	3.03	A
68.	Gauhati University, Gopinath Bardoloi Nagar, Guwahati- 781 014 (Third Cycle)	Assam	3.17	3.15	3.04	A
69.	Indraprastha Institute of Information Technology, Okhla Industrial Estate, Phase-III , 110020 (First Cycle)	Delhi	3.13	3.2	3.04	A
70.	Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, Satna – 485334 (First Cycle)	Madhya Pradesh	3.33	2.9	3.04	A
71.	Kumaun University, Nainital – 263001 (Second Cycle)	Uttarakhand	2.87	3.15	3.04	A

S.No	Name of the University	State	CIGPA	CIIGPA	Institutional CGPA	Grade
72.	Presidency University, Kolkata – 700073 (First Cycle)	West Bengal	2.87	3.35	3.04	A
73.	Kuvempu University, Shankaraghatta, Shimoga – 577451 (Third Cycle)	Karnataka	3	2.8	2.85	B++
74.	North Maharashtra University, Jalgaon, 425001 (Third Cycle)	Maharashtra	2.87	3.2	3.05	A
75.	University of North Bengal, Darjeeling – 734430 (Third Cycle)	West Bengal	2.8	3.15	3.05	A
76.	Jiwaji University, Gwalior, 474011 (Second Cycle)	Madhya Pradesh	3.2	3	3.06	A
77.	Swami Ramanand Teerth Marathwada University, Nanded, 431606 (Third Cycle)	Maharashtra	2.67	3.45	3.06	A
78.	Sant Gadge Baba Amravati University, Amravati – 444602 (Third Cycle)	Maharashtra	2.87	3.2	3.07	A
79.	Acharya Nagarjuna University, Guntur – 522510 (Third Cycle)	Andhra Pradesh	3.87	3.1	3.08	A
80.	Pt. B. D. Sharma University of Health Sciences, Rohtak – 124001 (First Cycle)	Haryana	3	3.05	3.08	A
81.	YMCA University of Science and Technology, Faridabad – 121006 (First Cycle)	Haryana	3	3.25	3.08	A
82.	Cochin University of Science and Technology, Cochin – 682022 (Second Cycle)	Kerala	3.53	3	3.09	A
83.	Gujarat National Law University, Gandhinagar – 382007 (First Cycle)	Gujarat	3.33	3.15	3.1	A
84.	Sri Padmavati Mahila Visvavidyalayam, Tirupati – 517502 (Third Cycle)	Andhra Pradesh	2.87	3	3.11	A
85.	Bharathiar University, Coimbatore – 641046 (Third Cycle)	Tamil Nadu	2.87	2.8	3.11	A
86.	University of Burdwan, Bardhaman – 713104 (Third Cycle)	West Bengal	3.33	3.05	3.11	A
87.	University of Kalyani, Kalyani, Nadia – 741235 (Third Cycle)	West Bengal	3	3.35	3.12	A
88.	University of Calicut, Malappuram – 673635 (Third Cycle)	Kerala	2.67	3	3.13	A
89.	Ravenshaw University, Cuttack – 753003 (First Cycle)	Odisha	3.33	3.3	3.13	A
90.	Manonmaniam Sundaranar University, Abishekapatti, Thirunelveli-627 012 (Third Cycle)	Tamil Nadu	3.79	3.26	3.13	A
91.	King George Medical University, Lucknow – 226003 (First Cycle)	Uttar Pradesh	2.87	3.2	3.14	A
92.	Chanakya National Law University, Patna – 800001 (First Cycle)	Bihar	3.67	3.65	3.15	A
93.	Gujarat Forensic Sciences University, Gandhinagar – 382009 (First Cycle)	Gujarat	3.13	3	3.15	A
94.	Sambalpur University, Burla – 768019 (Second Cycle)	Odisha	2.67	3.5	3.15	A
95.	Periyar University, Salem, 636011 (Second Cycle)	Tamil Nadu	3.53	3.25	3.15	A
96.	Dibrugarh University, Dibrugarh – 786004 (Third Cycle)	Assam	3	3.05	3.16	A
97.	The Maharaja Sayajirao University of Baroda, Vadodara – 390002 (Third Cycle)	Gujarat	2.87	3.15	3.16	A
98.	Bangalore University, Bangalore – 560056 (Third Cycle)	Karnataka	3	3.2	3.16	A
99.	Karnataka State Law University, Hubballi – 580025 (First Cycle)	Karnataka	3.33	3.75	3.18	A
100.	University of Calcutta, Kolkata – 700073 (Third Cycle)	West Bengal	3.2	3.3	3.2	A
101.	Himachal Pradesh University, Shimla – 171005 (Third Cycle)	Himachal Pradesh	3	3.4	3.21	A
102.	University of Rajasthan, Jaipur – 302004 (Second Cycle)	Rajasthan	3	3.15	3.21	A
103.	Delhi Technological University, Shahbad Daultapur, Bawana Road, Delhi -110042 (First Cycle)	Delhi	3.8	3.09	3.22	A
104.	Dr. Babasaheb Ambedkar Marathwada University, University Campus, Near Soneri Mahal, Aurangabad-431 004, Maharashtra (Third Cycle)	Maharashtra	3.73	3.21	3.22	A
105.	Mahatma Gandhi University, Athiramguzha, Kottayam – 686560 (Third Cycle)	Kerala	2.87	3.05	3.24	A
106.	Sardar Patel University, Vallabh Vidyanagar – 388120 (Third Cycle)	Gujarat	3.4	3.1	3.25	A
107.	Gujarat Ayurved University, Jamnagar – 361008 (First Cycle)	Gujarat	3.53	3.4	3.28	A
108.	Devi Ahilya Vishwavidyalaya, "Nalanda Parisar", 165, R.N. Tagore Marg, Indore.-452 001 (Fourth Cycle)	Madhya Pradesh	3.77	3.31	3.3	A+
109.	University of Kashmir, Hazratbal, Srinagar-190 006, Jammu & Kashmir (Third Cycle)	Jammu and Kashmir	3.67	3.18	3.31	A+
110.	National Law University, Cuttack – 753015 (First Cycle)	Odisha	3	3.2	3.32	A

S.No	Name of the University	State	CIGPA	CIIGPA	Institutional CGPA	Grade
111.	Rajiv Gandhi National University of Law, Patiala, 147001 (First Cycle)	Punjab	3.53	3.35	3.32	A
112.	Bharathidasan University, Palkalaiperur, Tiruchirappalli-620 024, Tamil Nadu (Third Cycle)	Tamil Nadu	3.67	3.52	3.32	A+
113.	University of Madras, Chepauk Campus, Chennai, 600005 Tamil Nadu (Third Cycle)	Tamil Nadu	3.4	3.2	3.32	A
114.	Punjabi University, Patiala – 147002 (Third Cycle)	Punjab	3.53	3.15	3.34	A
115.	Panjab University, Sector 14, Chandigarh, 160014 (Third Cycle)	Punjab	3.2	3.2	3.35	A
116.	Kakatiya University, Vidyaranyapuri, Hanamkonda, Warangal – 506009(Third Cycle)	Telangana	3.47	3.4	3.36	A
117.	Maharishi Dayanand University, Rohtak-124 001, Haryana (Third Cycle)	Haryana	3.73	3.5	3.44	A+
118.	University of Mysore, Mysore, Karnataka (Third Cycle)	Karnataka	3.13	3.56	3.47	A
119.	University of Jammu, Jammu – 180006, (Third Cycle)	Jammu and Kashmir	3.67	3.65	3.51	A+
120.	Sri Venkateswara University, Tirupati, Chittoor - 517502 (Third Cycle)	Andhra Pradesh	3.67	3.25	3.52	A+
121.	Kurukshetra University, Kurukshetra – 136119 (Third Cycle)	Haryana	3.53	3.7	3.52	A+
122.	Osmania University, Hyderabad – 500007, (Third Cycle)	Haryana	3.67	3.6	3.52	A+
123.	Utkal University, Bhubaneswar – 751004 (Second Cycle)	Odisha	3.33	3.9	3.53	A+
124.	National Law University, Sector 14, Dwarka – 110078 (First Cycle)	Delhi	3.27	3.85	3.59	A
125.	Andhra University, Visakhapatnam – 530003 (Third Cycle)	Andhra Pradesh	3.933	3.6	3.645	A
126.	Savitribai Phule Pune University, Pune – 411007 (Third Cycle)	Maharashtra	3.33	3.25	3.6	A+
127.	NALSAR University of Law, Hyderabad – 500101 (First Cycle)	Telangana	3.87	3.8	3.6	A
128.	Alagappa University, Alagappapuram, Sivaganga, Karaikudi-630003 (Third Cycle)	Tamil Nadu	3.87	3.55	3.64	A+

Table 1: NAAC Criteria I, II score of selected State Universities in India

Factors

Factor	Name	Type	Sub Type	Mini-mum	Maxi-mum	Coded Low	Coded High	Mean	Std. Dev.
A	State	Categoric	Nominal	Uttar Pradesh	Punjab			Levels	27.00
B	CIGPA	Numeric	Continuous	1.53	3.93	-1 ↔ 1.53	+1 ↔ 3.93	2.95	0.5097
C	CIIGPA	Numeric	Continuous	1.56	3.90	-1 ↔ 1.56	+1 ↔ 3.90	3.03	0.4132

Responses

Response	Name	Units	Observations	Minimum	Maximum	Mean	Std. Dev.	Ratio
R1	Institutional CGPA		128.00	1.52	3.645	2.87	0.4718	2.40

Table 2: Design Expert RSM results for the state universities accredited in NAAC

ANOVA for Linear model
Response 1: Institutional CGPA

Source	Sum of Squares	df	Mean Square	F-value	p-value	
Model	24.02	28	0.8580	20.01	< 0.0001	significant
A-State	1.96	26	0.0755	1.76	0.0249	
B-CIGPA	1.06	1	1.06	24.78	< 0.0001	
C-CIIGPA	4.24	1	4.24	**98.83**	< 0.0001	
Residual	4.24	99	0.0429			
Lack of Fit	4.15	96	0.0432	1.36	0.4661	not significant
Pure Error	0.0952	3	0.0317			
Cor Total	28.27	127				

Table 3: Response Surface Method: MODEL 1(with states): Linear

Term	Coefficient Estimate	df	Standard Error	95% CI Low	95% CI High	VIF
Intercept	2.58	1	0.0286	2.52	2.64	
A[1]	-0.0076	1	0.0722	-0.1508	0.1356	
A[2]	-0.1237	1	0.1188	-0.3594	0.1121	
A[3]	-0.6733	1	0.2131	-1.10	-0.2505	
A[4]	0.2282	1	0.0803	0.0688	0.3876	
A[5]	-0.1906	1	0.0796	-0.3486	-0.0326	
A[6]	-0.0771	1	0.1484	-0.3715	0.2173	
A[7]	-0.3116	1	0.1452	-0.5997	-0.0235	
A[8]	-0.0025	1	0.0749	-0.1512	0.1461	
A[9]	0.1053	1	0.1437	-0.1799	0.3904	
A[10]	0.1222	1	0.0796	-0.0357	0.2801	
A[11]	0.1784	1	0.0925	-0.0051	0.3619	
A[12]	-0.0306	1	0.0724	-0.1741	0.1130	
A[13]	-0.0063	1	0.0686	-0.1424	0.1298	
A[14]	-0.1159	1	0.0802	-0.2749	0.0432	
A[15]	0.0669	1	0.0746	-0.0812	0.2149	
A[16]	0.1098	1	0.0746	-0.0382	0.2577	
A[17]	0.0619	1	0.0749	-0.0868	0.2106	
A[18]	-0.0890	1	0.2011	-0.4880	0.3099	
A[19]	0.0207	1	0.0814	-0.1409	0.1823	
A[20]	-0.0066	1	0.1430	-0.2904	0.2772	
A[21]	-0.0347	1	0.1185	-0.2699	0.2004	
A[22]	0.1666	1	0.1432	-0.1175	0.4507	
A[23]	0.0683	1	0.1195	-0.1688	0.3055	
A[24]	0.1355	1	0.2010	-0.2633	0.5343	
A[25]	0.0981	1	0.2019	-0.3026	0.4988	
A[26]	0.0925	1	0.1467	-0.1985	0.3836	
B-CIGPA	**0.3505**	1	0.0704	0.2108	0.4902	2.64
C-CIIGPA	**0.7928**	1	0.0798	0.6346	0.9511	2.35

Table 4: Coefficients in Terms of Coded Factors (Sum Contrasts)

Solutions- 100 Solutions found

Number	State	CIGPA	CIIGPA	Institutional CGPA	Desirability	
1	**Gujarat**	**3.933**	**3.900**	**3.951**	**0.980**	**Selected**
2	Gujarat	3.919	3.900	3.947	0.979	
3	Punjab	3.933	3.900	3.938	0.975	
4	Gujarat	3.933	3.879	3.937	0.974	
5	Gujarat	3.868	3.900	3.932	0.973	
6	Punjab	3.905	3 .900	3.930	0.972	
7	Gujarat	3.828	3.900	3.920	0.968	
8	Gujarat	3.933	3.845	3.914	0.965	
9	Kerala	3.933	3.900	3.901	0.960	
10	Punjab	3.933	3.840	3.898	0.959	
11	Assam	3.933	3.900	3.889	0.955	
12	Kerala	3.933	3.867	3.879	0.951	
13	Gujarat	3.662	3.900	3.872	0.948	
14	Uttarakhand	3.933	3.900	3.858	0.943	
15	Haryana	3.933	3.900	3.845	0.938	
16	Uttarakhand	3.933	3.879	3.844	0.937	
17	Kerala	3.726	3.900	3.841	0.936	
18	Uttarakhand	3.933	3.864	3.834	0.933	
19	Maharashtra	3.933	3.900	3.833	0.932	
20	Rajasthan	3.933	3.900	3.828	0.931	
21	Uttarakhand	3.933	3.853	3.826	0.930	
22	Himachal Pradesh	3.933	3.900	3.821	0.928	
23	Haryana	3.933	3.861	3.819	0.927	
24	Kerala	3.651	3.900	3.819	0.927	
25	Maharashtra	3.880	3.900	3.817	0.926	
26	Rajasthan	3.933	3.882	3.816	0.926	
27	Maharashtra	3.933	3.875	3.816	0.926	
28	Jammu and Kashmir	3.933	3.900	3.815	0.926	
29	Himachal Pradesh	3.913	3.900	3.815	0.925	
30	Himachal Pradesh	3.905	3.900	3.813	0.924	
31	Rajasthan	3.933	3.871	3.808	0.923	
32	Haryana	3.933	3.842	3.806	0.922	
33	Jammu and Kashmir	3.933	3.876	3.799	0.919	
34	Rajasthan	3.822	3.900	3.796	0.918	
35	Haryana	3.933	3.821	3.791	0.916	
36	Delhi	3.933	3.900	3.791	0.916	
37	West Bengal	3.933	3.900	3.790	0.915	
38	Madhya Pradesh	3.933	3.900	3.785	0.913	
39	Delhi	3.910	3.900	3.784	0.913	
40	Jammu and Kashmir	3.933	3.847	3.779	0.911	
41	Rajasthan	3.933	3.825	3.777	0.910	
42	West Bengal	3.933	3.880	3.776	0.910	
43	Haryana	3.684	3.900	3.772	0.908	
44	Delhi	3.933	3.872	3.772	0.908	
45	Madhya Pradesh	3.933	3.881	3.772	0.908	
46	Jammu and Kashmir	3.773	3.900	3.769	0.907	
47	Maharashtra	3.708	3.900	3.767	0.906	
48	Assam	3.505	3.900	3.765	0.905	

49	Haryana	3.652	3.900	3.763	0.904	
50	Rajasthan	3.933	3.800	3.760	0.903	
51	Kerala	3.436	3.900	3.756	0.902	
52	Odisha	3.933	3.900	3.743	0.897	
53	Madhya Pradesh	3.790	3.900	3.743	0.896	
54	Rajasthan	3.640	3.900	3.743	0.896	
55	Jammu and Kashmir	3.933	3.792	3.742	0.896	
56	Uttarakhand	3.520	3.900	3.738	0.894	
57	Odisha	3.913	3.900	3.738	0.894	
58	Himachal Pradesh	3.933	3.773	3.735	0.893	
59	Odisha	3.933	3.881	3.730	0.891	
60	Uttarakhand	3.481	3.900	3.726	0.890	
61	Delhi	3.933	3.801	3.724	0.889	
62	Karnataka	3.933	3.900	3.720	0.887	
63	Tamil Nadu	3.933	3.900	3.717	0.886	
64	Odhisha	3.933	3.900	3.716	0.886	
65	Uttar Pradesh	3.933	3.900	3.715	0.885	
66	Karnataka	3.933	3.879	3.706	0.881	
67	Tamil Nadu	3.933	3.880	3.703	0.880	
68	Tamil Nadu	3.883	3.900	3.702	0.880	
69	Karnataka	3.848	3.900	3.695	0.877	
70	Madhya Pradesh	3.933	3.767	3.695	0.877	
71	Uttar Pradesh	3.933	3.870	3.695	0.877	
72	Karnataka	3.837	3.900	3.692	0.876	
73	Andhra Pradesh	3.933	3.900	3.692	0.876	
74	Uttar Pradesh	3.852	3.900	3.692	0.876	
75	Andhra Pradesh	3.924	3.900	3.690	0.875	
76	Uttar Pradesh	3.841	3.900	3.688	0.874	
77	GUJARAT	3.933	3.900	3.688	0.874	
78	Kerala	3.191	3.900	3.685	0.873	
79	West Bengal	3.569	3.900	3.683	0.872	
80	Uttar Pradesh	3.823	3.900	3.683	0.872	
81	Karnataka	3.933	3.819	3.665	0.865	
82	GUJARAT	3.847	3.900	3.663	0.864	
83	GUJARAT	3.831	3.900	3.658	0.862	
84	Karnataka	3.710	3.900	3.655	0.861	
85	Chhattisgarh	3.933	3.900	3.646	0.857	
86	Punjab	2.926	3.900	3.644	0.857	
87	GUJARAT	3.933	3.835	3.644	0.857	
88	Chhattisgarh	3.933	3.892	3.640	0.855	
89	Jammu & Kashmir	3.933	3.900	3.634	0.852	
90	Chhattisgarh	3.875	3.900	3.629	0.850	
91	GUJARAT	3.933	3.810	3.627	0.850	
92	Andhra Pradesh	3.933	3.803	3.627	0.849	
93	Chhattisgarh	3.851	3.900	3.622	0.848	
94	Tamil Nadu	3.606	3.900	3.621	0.847	
95	Uttar Pradesh	3.597	3.900	3.617	0.846	
96	Chhattisgarh	3.829	3.900	3.615	0.845	
97	Andhra Pradesh	3.664	3.900	3.614	0.844	
98	Chhattisgarh	3.933	3.851	3.612	0.844	

99	Telangana	3.933	3.900	3.607	0.842	
100	Kerala	2.918	3.900	3.605	0.841	

Table 5: Design Expert Optimization of the score to maximize
Overall CGPA to 4

MODEL 2 (without states) : Reduced Linear

Source	Sum of Squares	df	Mean Square	F-value	p-value	
Model	22.06	2	11.03	222.12	< 0.0001	significant
B-CIGPA	2.45	1	2.45	49.40	< 0.0001	
C-CIIGPA	4.92	1	4.92	**99.06**	< 0.0001	
Residual	6.21	125	0.0497			
Lack of Fit	6.11	122	0.0501	1.58	0.4053	not significant
Pure Error	0.0952	3	0.0317			
Cor Total	28.27	127				

Table 6: Response 1: Institutional CGPA (without state)

Constraints

Name	Goal	Lower Limit	Upper Limit	Lower Weight	Upper Weight	Importance
B:CIGPA	is in range	1.53	3.933	1	1	3
C:CIIGPA	is in range	1.56	3.9	1	1	3
Institutional CGPA	is target = 4	1.52	4	1	1	3

Table 7: Optimization to maximize overall CGPA to 4

Solutions
100 Solutions found

Number		CIGPA	CIIGPA	Institutional CGPA	Desirability	
1		**3.933**	**3.900**	**3.790**	**0.915**	**Selected**
2		3.933	3.900	3.790	0.915	
3		3.933	3.900	3.790	0.915	
4		3.933	3.900	3.790	0.915	
5		3.933	3.900	3.790	0.915	
6		3.933	3.900	3.790	0.915	
7		3.933	3.900	3.790	0.915	
8		3.933	3.900	3.790	0.915	
9		3.933	3.900	3.790	0.915	
10		3.933	3.900	3.790	0.915	
11		3.933	3.900	3.790	0.915	
12		3.933	3.900	3.790	0.915	
13		3.933	3.900	3.790	0.915	
14		3.933	3.900	3.790	0.915	
15		3.933	3.900	3.790	0.915	
16		3.933	3.900	3.790	0.915	
17		3.933	3.900	3.790	0.915	
18		3.933	3.900	3.790	0.915	
19		3.933	3.900	3.790	0.915	
20		3.933	3.900	3.790	0.915	
21		3.933	3.900	3.790	0.915	
22		3.933	3.900	3.790	0.915	

23		3.933	3.900	3.790	0.915	
24		3.933	3.900	3.790	0.915	
25		3.933	3.900	3.790	0.915	
26		3.933	3.900	3.790	0.915	
27		3.933	3.900	3.790	0.915	
28		3.924	3.900	3.787	0.914	
29		3.922	3.900	3.786	0.914	
30		3.922	3.900	3.786	0.914	
31		3.919	3.900	3.785	0.913	
32		3.918	3.900	3.785	0.913	
33		3.933	3.891	3.785	0.913	
34		3.933	3.891	3.784	0.913	
35		3.915	3.900	3.784	0.913	
36		3.933	3.890	3.784	0.913	
37		3.913	3.900	3.783	0.913	
38		3.913	3.900	3.783	0.912	
39		3.913	3.900	3.783	0.912	
40		3.912	3.900	3.783	0.912	
41		3.910	3.900	3.782	0.912	
42		3.933	3.886	3.782	0.912	
43		3.933	3.885	3.781	0.912	
44		3.906	3.900	3.780	0.911	
45		3.903	3.900	3.779	0.911	
46		3.901	3.900	3.779	0.911	
47		3.933	3.881	3.778	0.911	
48		3.933	3.881	3.778	0.910	
49		3.898	3.900	3.777	0.910	
50		3.933	3.879	3.777	0.910	
51		3.933	3.878	3.776	0.910	
52		3.892	3.900	3.775	0.909	
53		3.933	3.876	3.775	0.909	
54		3.933	3.876	3.775	0.909	
55		3.933	3.876	3.775	0.909	
56		3.933	3.874	3.774	0.909	
57		3.933	3.874	3.773	0.909	
58		3.933	3.874	3.773	0.909	
59		3.884	3.900	3.772	0.908	
60		3.882	3.900	3.772	0.908	
61		3.933	3.871	3.772	0.908	
62		3.882	3.900	3.771	0.908	
63		3.881	3.900	3.771	0.908	
64		3.933	3.869	3.771	0.907	
65		3.933	3.869	3.770	0.907	
66		3.933	3.867	3.769	0.907	
67		3.875	3.900	3.769	0.907	
68		3.874	3.900	3.769	0.907	
69		3.933	3.866	3.768	0.907	
70		3.933	3.865	3.768	0.906	
71		3.870	3.900	3.767	0.906	
72		3.933	3.864	3.767	0.906	

73		3.933	3.863	3.766	0.906	
74		3.864	3.900	3.765	0.905	
75		3.933	3.860	3.765	0.905	
76		3.862	3.900	3.764	0.905	
77		3.933	3.855	3.761	0.904	
78		3.933	3.852	3.759	0.903	
79		3.848	3.900	3.759	0.903	
80		3.933	3.851	3.759	0.903	
81		3.845	3.900	3.758	0.902	
82		3.844	3.900	3.757	0.902	
83		3.933	3.849	3.757	0.902	
84		3.841	3.900	3.756	0.902	
85		3.837	3.900	3.755	0.901	
86		3.830	3.900	3.752	0.900	
87		3.829	3.900	3.752	0.900	
88		3.933	3.840	3.752	0.900	
89		3.828	3.900	3.751	0.900	
90		3.933	3.839	3.751	0.900	
91		3.822	3.900	3.749	0.899	
92		3.933	3.835	3.749	0.899	
93		3.820	3.900	3.749	0.899	
94		3.818	3.900	3.748	0.898	
95		3.933	3.834	3.748	0.898	
96		3.933	3.833	3.747	0.898	
97		3.933	3.830	3.745	0.897	
98		3.803	3.900	3.742	0.896	
99		3.803	3.900	3.742	0.896	
100		3.803	3.900	3.742	0.896	

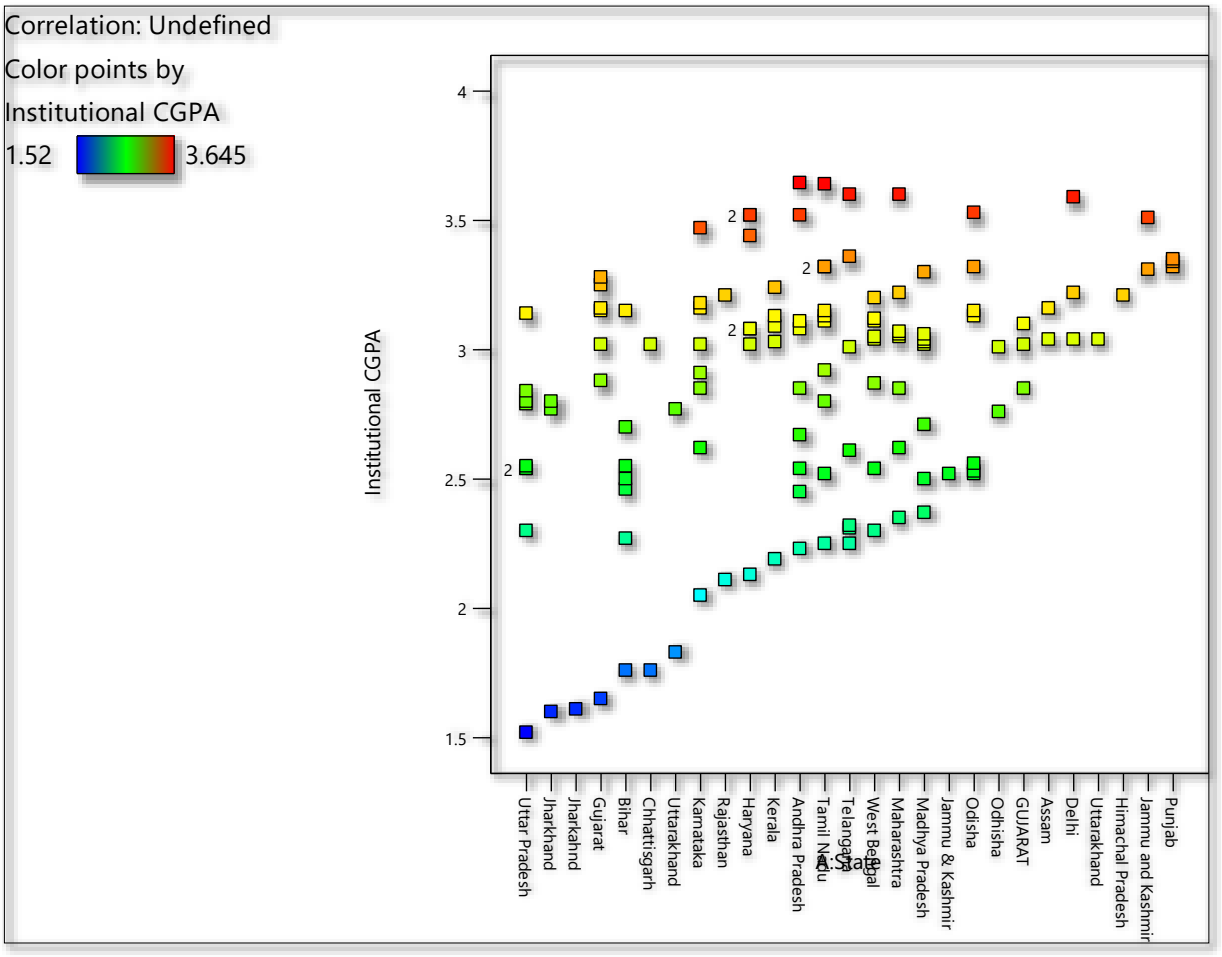


Figure1: Pearson's Correlation plot of Institutional CGPA Vs Categorical factor State

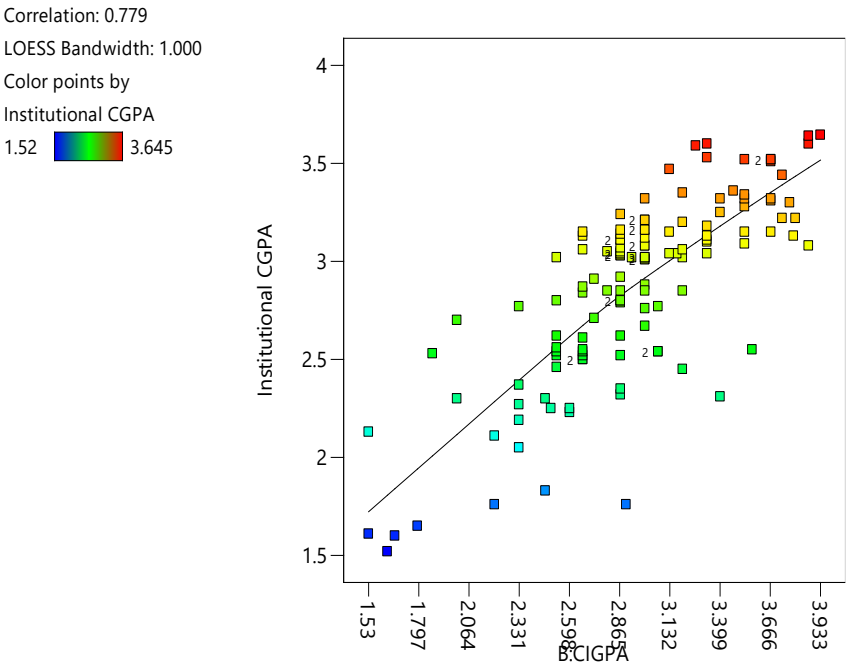


Figure 2: Pearson's Correlation plot of Institutional CGPA Vs Criteria I

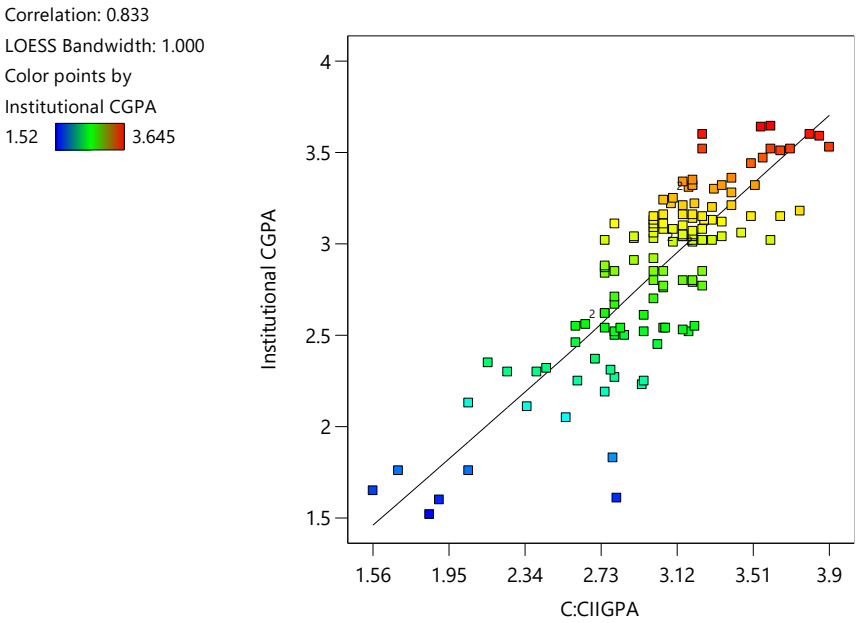


Figure 3: Pearson's Correlation plot of Institutional CGPA Vs Criteria II

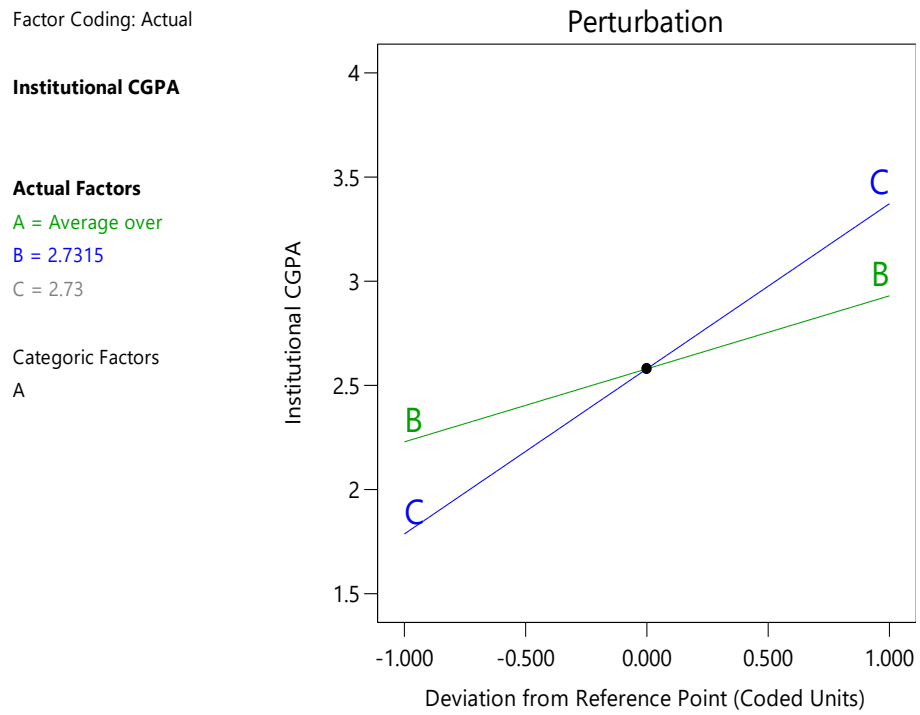


Figure 4: Perturbation plots of Institutional CGPA and deviation from reference point.

Factor Coding: Actual

Institutional CGPA

X1 = A

Actual Factors

B = 2.7315

C = 2.73

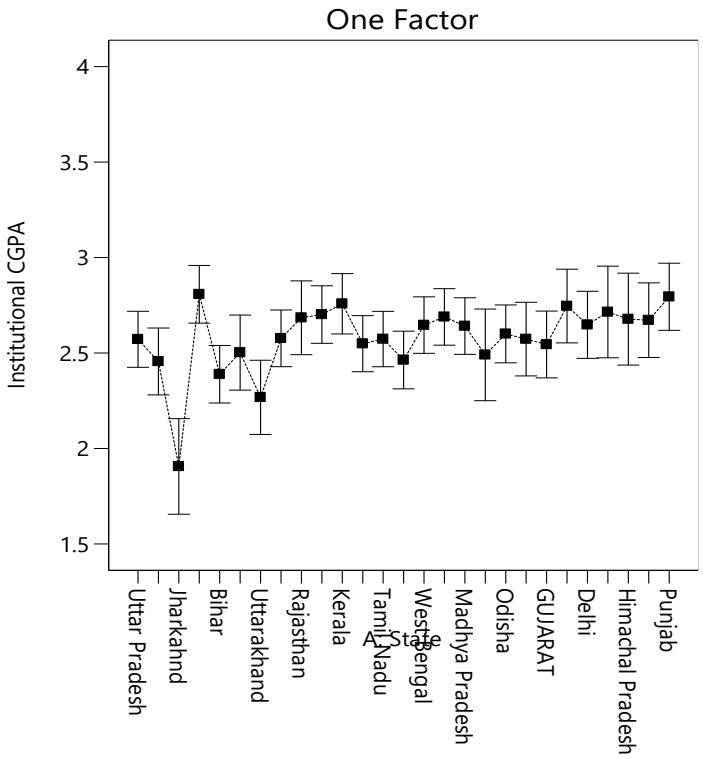


Figure 5: One factor plot

Factor Coding: Actual

Institutional CGPA

X1 = A

X2 = B

Actual Factor

C = 2.73

B- 1.53

B+ 3.933

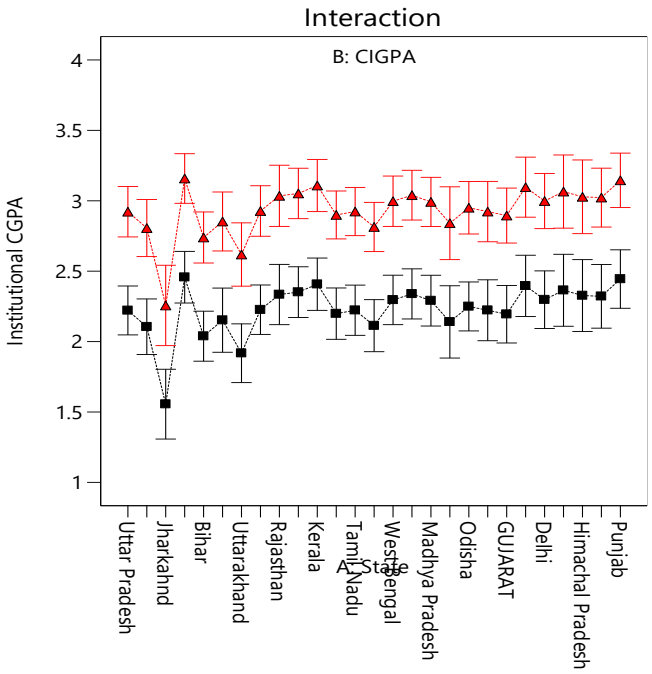


Figure: 6a Interaction plot

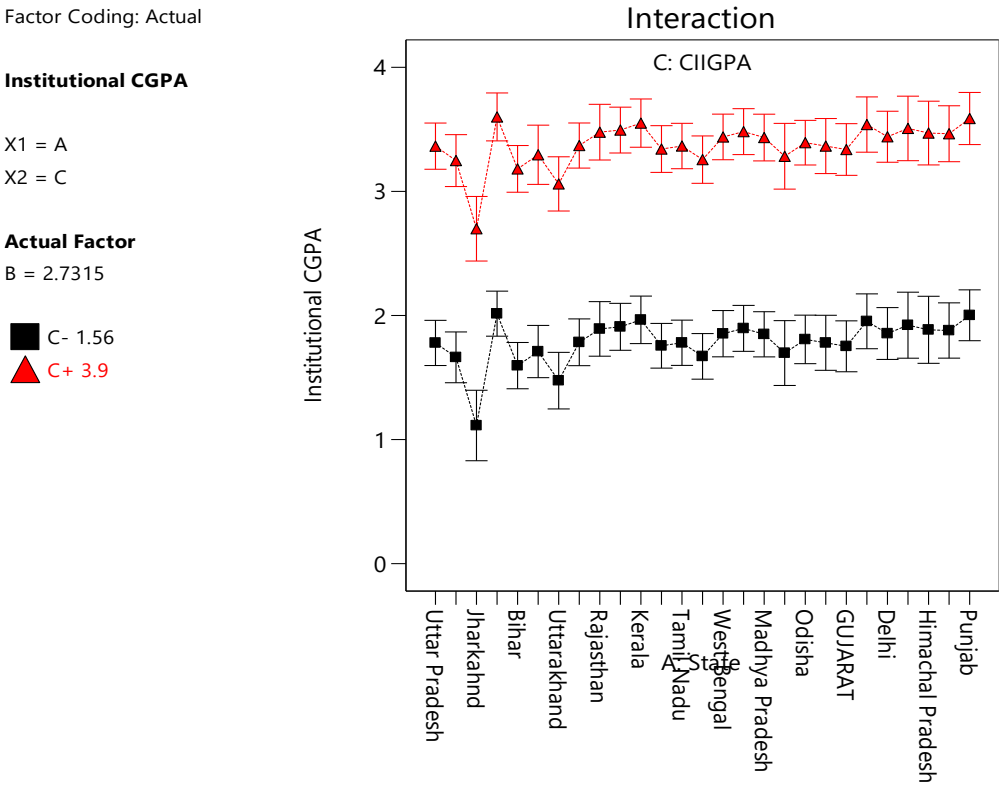


Figure 6b: Interaction Plot

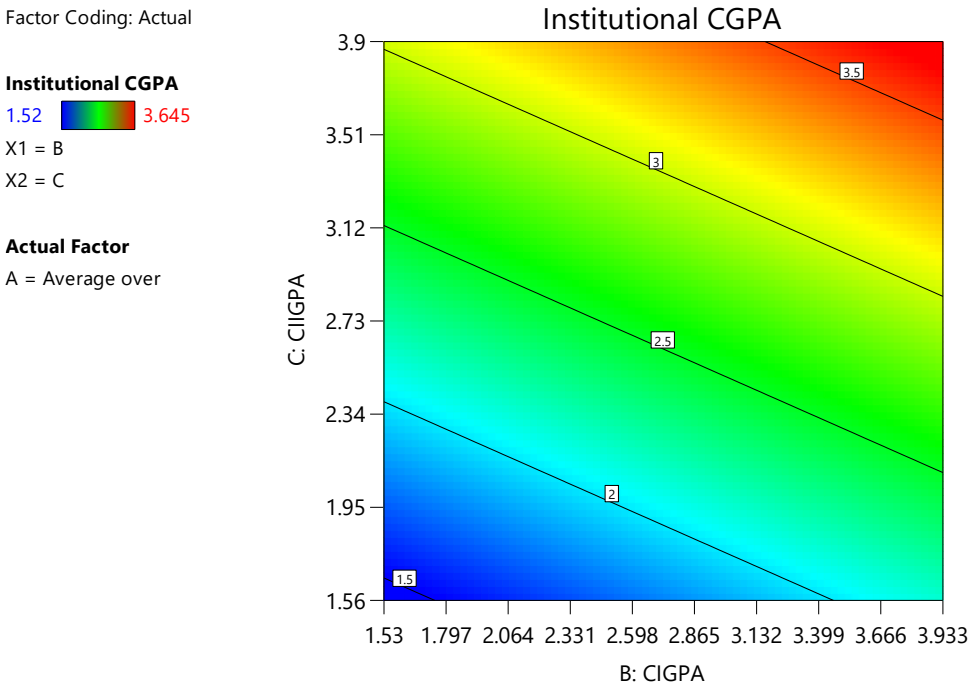


Figure 7: Contour Plot

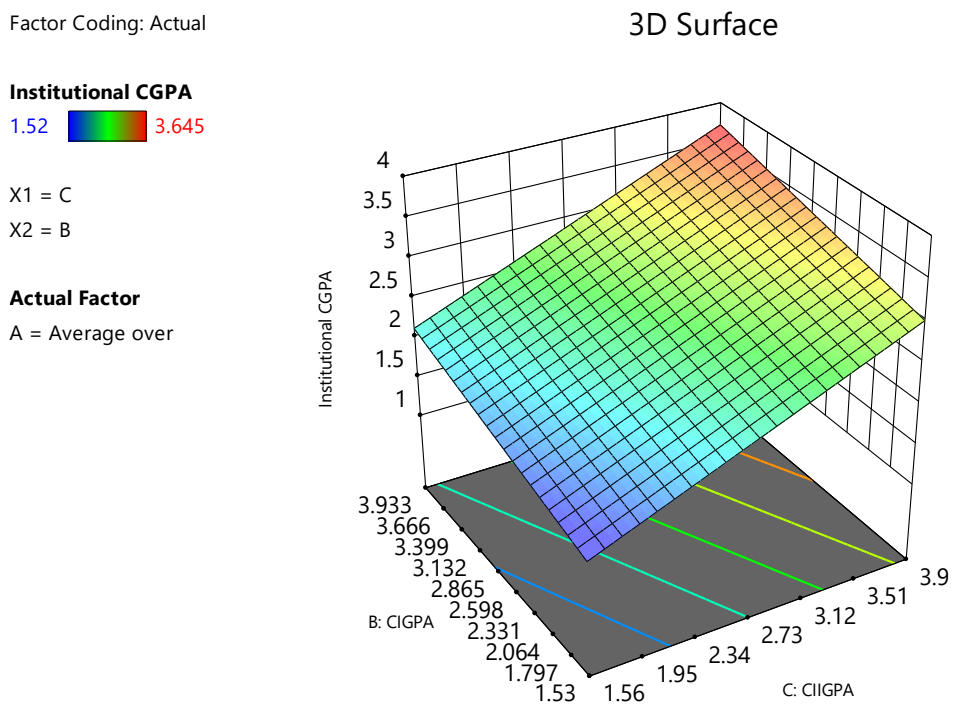


Figure 8: Three-dimensional Response Surface Plot

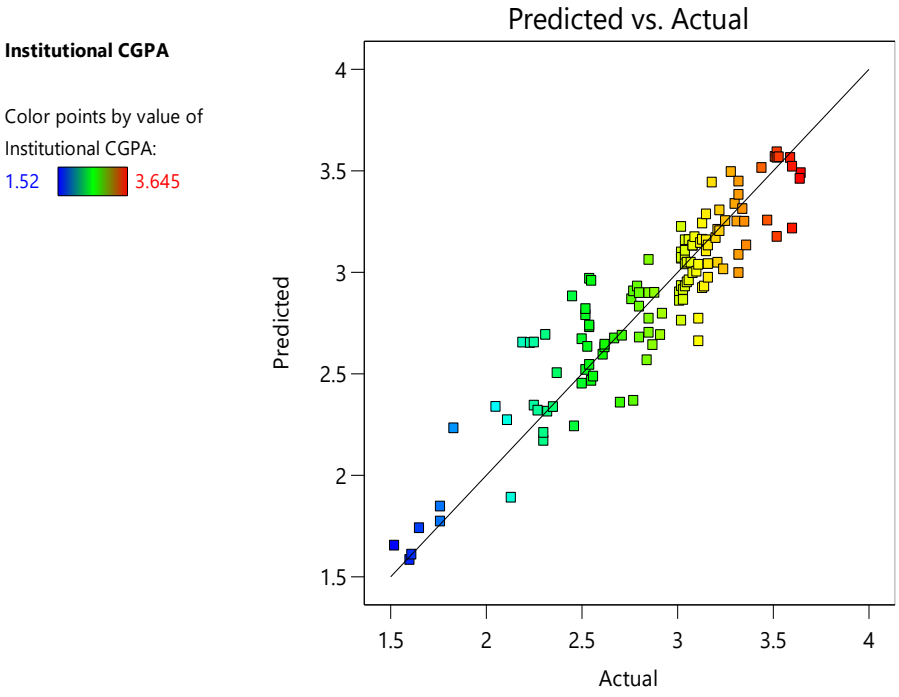


Figure 9: Plot of Predicted Vs Actual CGPA of institutions

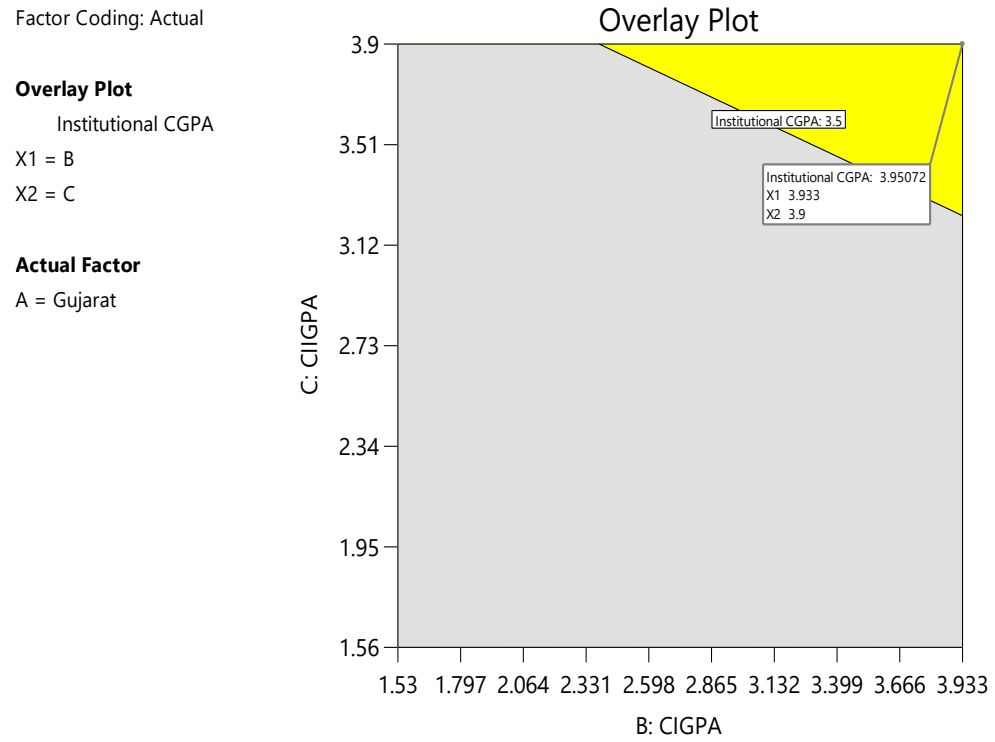


Figure 10: Overlay Plot of CII vs.CI

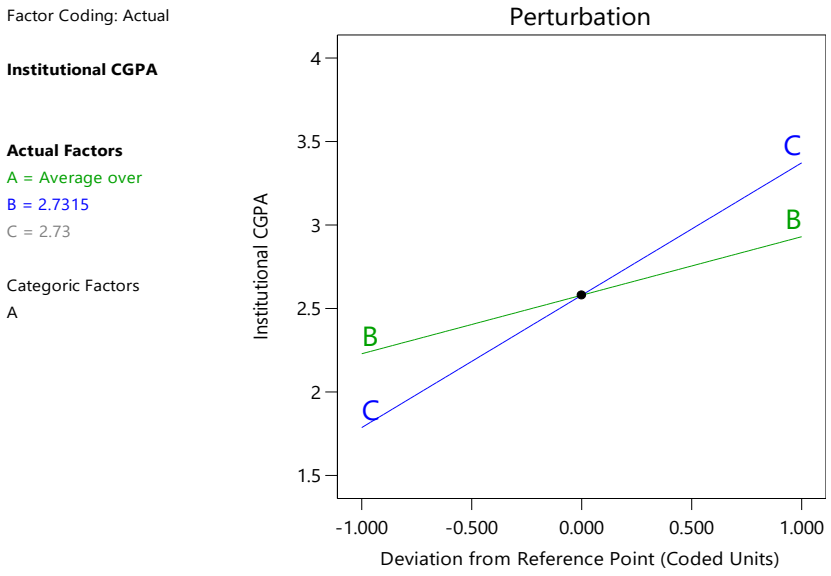


Figure 11: Perturbation plot

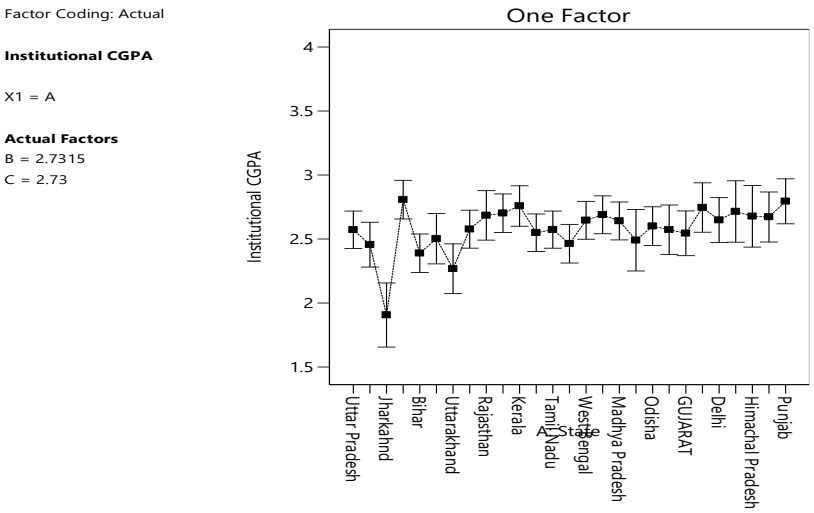
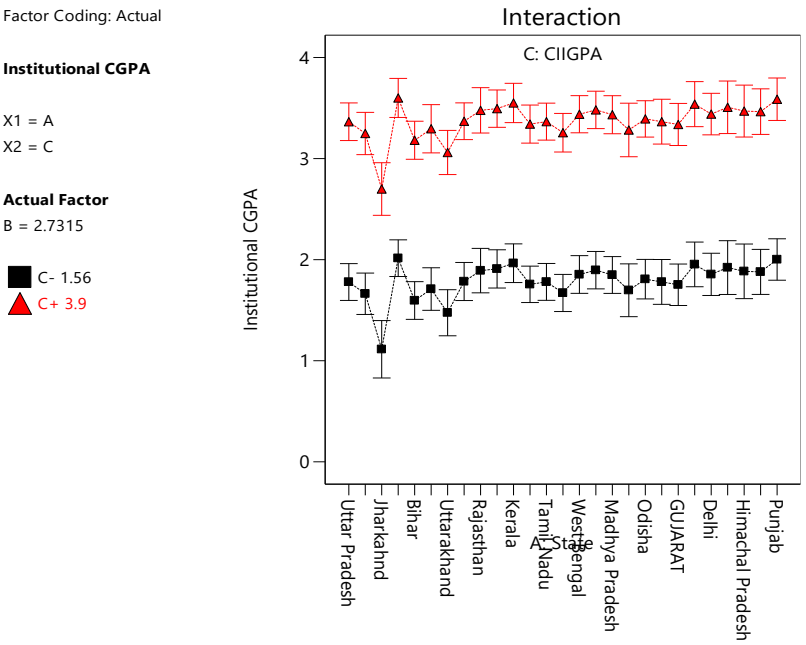


Figure 12: One factor plot



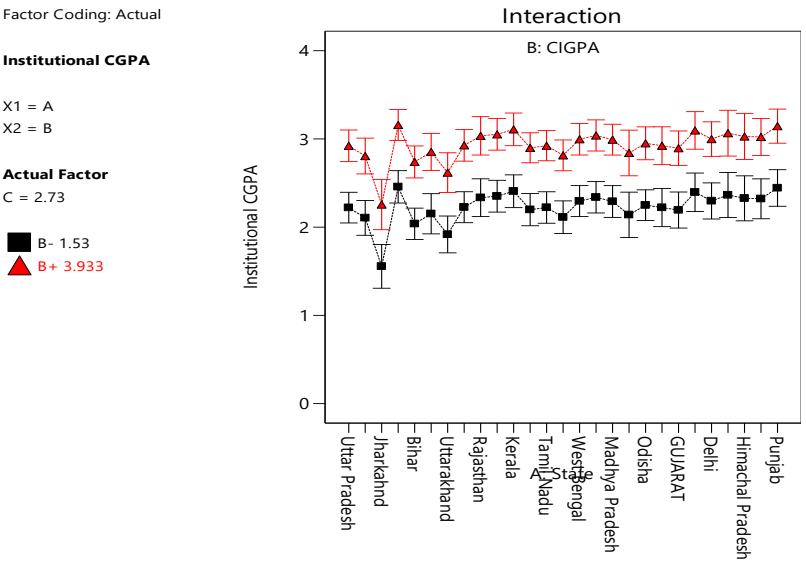


Figure 13: Interaction plots

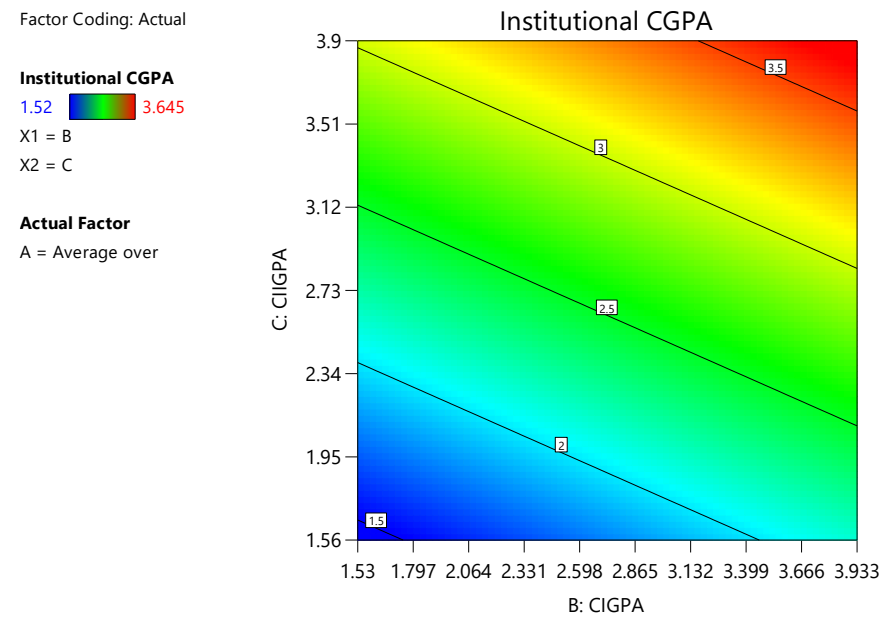


Figure 14: Contour Plot

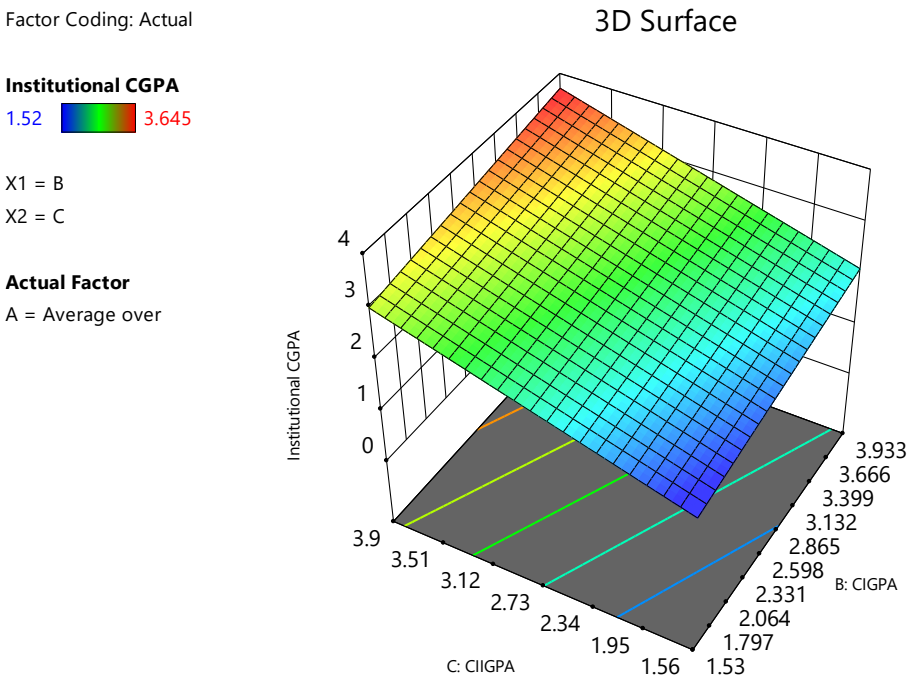


Figure 15:Three-dimensional Response Surface Plot

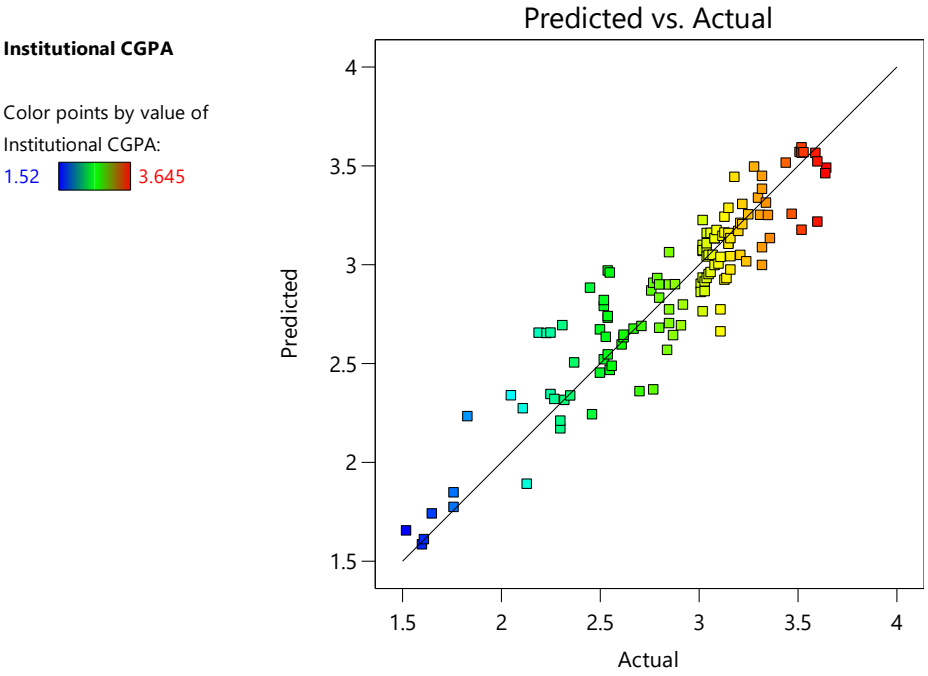


Figure 16: Plot of Predicted and actual CGPA values of Institutions

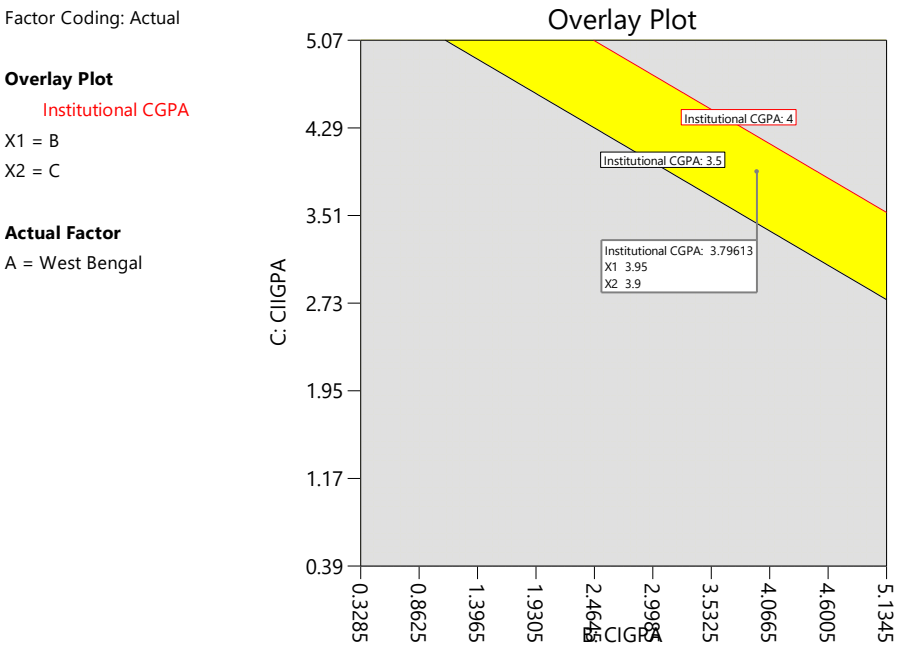


Figure 17: Overlay plot

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References

European Consortium for Accreditation in Higher Education. (2013) 'Learning outcomes in quality Assurance and Accreditation principles, recommendations and practices', European Consortium for Accreditation in higher education, pp. 1-88. Viewed on 27-07-2022. <https://ecahe.eu/wp-content/uploads/2021/06/Publication-Learning_ Outcomes _in_Quality_Assurance_and_Accreditation.pdf.>

National Assessment and Accreditation Council. (2022) 'criteria weightage', National Assessment and Accreditation Council, viewed on 27-07-2022. < http://naac.gov.in/index.php/en/assessment-accreditation#criteria>

Stella, Antony. (2003) 'External quality assurance in Indian higher education: case study of the National Assessment and Accreditation Council (NAAC),New trends in higher education, International Institute for Educational Planning'. Paris: IIEP Publications, pp.1-228. Viewed on 27-07-2022. <https://unesdoc.unesco.org/ark:/48223/pf0000131494/PDF/131494eng.pdf.multi>

Wang, Q. (2006). 'Quality Assurance-Best Practices for Assessing Online Programs', *International Journal on E-Learning, 5*(2), pp.265-274. Viewed on 27-07-2022. <https://www.learntechlib.org/primary/p/5601/>

Author Bio

Dr. S.C Sharma is an educationist, researcher, administrator, technocrat and a musician. Currently, he is the director of NAAC. With ten doctoral conferment for his research contribution, he has published more than 376 research papers in international refereed journals (h-index: 50, i-10 index: 374). He has vast experience with administration as a teacher, principal, vice-chancellor, member of various boards and as the director. He has received many awards like THERMAC-2013, Karnataka State Rajyotsava Award etc. Under his leadership, NAAC has ushered in ICT enabled assessment and accreditation process, customised manuals and methodologies.
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Study on Quality Assurance Of Higher Education And Outcome-Based Education In Bangladesh

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Abstract
Education is a vital tool for socioeconomic development of a country and higher education institutions need to serve quality education to upgrade student's required skills to increase their professional career. Present world is a global village and our students should have global standard quality education to serve the global society. Outcome-Based Education system has attracted significant interest from industries, academicians, governments, accreditation agencies and students due to global initiatives. The success of Outcome-Based Education process depends upon sustainable quality assurance practices by higher education institutions. Objectives of this article are to find some elements which can influence on quality assurance system and uplift the skills of the graduates. Promoting quality assurance process of OBE requires careful planning and active collaboration among stakeholders. There was an alarming increase of jobless graduates in Bangladesh. Government has taken strong steps recently to enhance the quality assurance in HEIs in Bangladesh. We should introduce work oriented learning at higher level of education. For this, some prerequisites steps such as modifying the current curriculum, designing and offering work oriented courses, make strong connections with potential employers. Strong motivation work are required to change the mindset of our youths to come back work oriented learning.

Keywords: Quality assurance, sustainable quality practices, higher education, quality assessment, Outcome-Based Education.

1. Introduction

Why quality Assurance in higher education?
Education is the main key to develop human resources and knowledgeable workers. So, most of the countries have been giving a lot of emphasis to their higher education. Because they require graduates who have creativity, innovative idea, attitude, values and knowledge. These skills are most required to make the economy as well as the country into a high income and developed country. For this reason countries have invested huge amount of money in their education sector. Quality assurance cannot be achieved without team work of all units of a HEI. Conventional system of instruction such as lecture-based session developed before textbooks were mass-produced by which quickly delivering information was possible. But there are some

difficulties in lecture- session due to some students may be poor participants in the lecture. This type of instruction has allowed students to be passive in the lecture session. Students did not know how to be active participants in the lecture session. They have relied on transcripts, memorizing and repetition for learning.

We have found a great deal from cognitive science research on the nature of learning. Students create new learning process. They get benefit from working together and they may learn best from teaching each others. This is known as group work system in the learning process. Literature review also suggests that students learn best in context of a compelling problem (Ewell, 1997) [1], they learn through experience. Bouslama, F. et al (2002) [2] assessed a new academic model using Artificial neural networks. They have stated that how technology can be used to facilitated the learning and assessment process and how assessment is used to learning outcome elements working effectively. It is hybrid learning system composed of Outcome-Based Education and Grade Point Average system.

University Grants Commission (UGC) of Bangladesh is the authority that acts as the intermediary between the Government and the universities for regulating the affairs of all the universities. As a part of strategic plan UGC has implemented Higher Education Enhancement Project (HEQEP) with the help of the World Bank to enhance the quality assurance in HEIs of Bangladesh from 2009 [4]. UGC created Quality Assurance Unit (QAU) as a unit of UGC to help the universities to create IQAC in all universities. At first the HEQEP took initiatives for enhance quality assurance among universities. The Institutional Quality Assurance Cell (IQAC) was established in most of the universities with the help of World Bank for three years. After successful completion of 3 years project period every university established IQAC in their own capacity to develop a mechanism for the review of institutional activities and study programs and to enhance quality teaching-learning, research, knowledge generation and support service standards level. Objectives of HEQEP has three components: (a) improving the strategic capacity of University Grants Commission (UGC); (b) strengthening universities' institutional capacity and (c) raising the connectivity capacity of the higher education sector. This activity established Bangladesh Research and Education Network (BdREN) [5].

University Grants Commission stated that Outcome-Based Education is composed of Program outcomes, Curriculum development, Curriculum delivery and Curriculum assessment with learning outcomes. W G Spady, (1994) [3] stated that Outcome-Based Education means starting with a clear picture of what is important for students to be able to do on completion a program. Objectives of outcome-based education are purpose of the program, learning outcomes of the program, assessment and employability. Learning outcomes means learners must be do-able, observable, measurable and assessable. The three main components of O B E are Program Outcomes (P O) with course outcomes, Teaching-Learning Outcomes (T L O) and Program Assessment (P A). The TLO consist of lecture delivery, lab work, and Problem-based learning activities. Program Assessment consist of Final examination, test, tutorial test, classroom test, Assignment. Outcome-Based Education process is the integration of it's three components. Mathematically it may be expressed as follows.

$$OBE = \int (PO, TLO, PA)$$

Where, OBE = Outcome-Based Education, PO = Program Outcome,
TLO = Teaching-Learning Outcome, PA = Program Assessment.

Government of Bangladesh (GoB) has realized about the situation of higher education and currently established Bangladesh Accreditation Council (BAC) in 2018 that would guarantee quality instruction through certifying the higher instructive establishments and its educational plan exercises, shaping separate accreditation advisory group for each order, deciding the states of the accreditation under sensible ground.

1.1 Quality Education in Practices

The youth graduates coming out of the higher education institutions must be well equipped with requisite qualifications and skills that the global society wants for achieving higher socioeconomic development. Quality of graduates has been defined as fitness of purposes (Woodhouse, 1999), Quality education includes (UNICEF, 2000) the following.

1.1.1 Quality of learners with commitment and interest to explore their potentials maximizing the learning opportunities;

1.1.2 Environments of campus should be healthy, safe, protective and gender-sensitive and provide adequate resources and facilities;

1.1.3 Content of learning that is reflected in relevant curricula and materials for the acquisition of basic skills, attitude, values and knowledge

1.1.4 Processes by which effective and students oriented teaching learning and meaningful assessment to facilitate learning process and reduce disparities and

1.1.5 Outcomes that includes knowledge, skills, attitudes, values and are linked to national objectives for education and positive participation in global society.

1.1.6 Teaching Performance and Teacher's Development (TPTD)

Teachers must be qualified and dedicated, they are the pilots of the education system. Teachers are also acts as fuel of the education system as a machine. Talented graduates are the output of the education system. Thus teaching performance and teacher's development should be subsystems within the greater system of higher education. For this reason, Recruiting and Retaining qualified teachers, teacher's academic achievement and experience, teacher's compensation and remuneration, teaching technology as a tool, Evaluation of teacher's performance, Job environment, Opportunity for higher education and Research facility are very important to achieve Quality assurance in HEIs.

1.2 Quality Assurance System

Quality comes from a well structured system. This system indicates institutional arrangements with infrastructure, evidence of good practices and good principles for education. Quality assurance system indicates that graduates achieved the prefixed standard in terms of knowledge, skills, attitudes and values that expected by the stakeholders. The quality assurance system consist of

designing academic programs, with specific ILOs strategies, implementation, and review of the system to measure the effectiveness and continuous improvement. Quality assurance system is combination of 1) Internal Quality Assurance and 2) External Quality Assurance.

1.2.1 Internal Quality Assurance

Internal quality assurance system is composed of the arrangements within the institution to provide assurance of learning with people's confidence. Internal quality assurance is considered as a in house supervisor of Q A in higher education. In this process, everybody working in the HEIs must be responsible and accountable to develop the quality culture. Director IQAC is responsible to verify the policy and procedure, periodic review of policy and procedure for effectiveness, acquired benchmark quality and promoting continuous improvement.

Institutional Quality Assurance Cell (IQAC)

To perform the internal quality assurance Institutional Quality Assurance Cell is required in HEIs according to QA principles. The numbers of Higher education institution have been increasing rapidly in Bangladesh for two decades both in public and private sector. There is diversity in the programs also occurring due to demand of the globalization era. Some small and new universities may run their programs following their own system. Most of the universities are accepted the QA principles set by UGC and BAC to maintain their quality of education to the benchmark label.

1.3 External Quality Assurance

External Quality Assurance system is a external body of HEIs which is empowered by the government or higher authority to guide and supervise or monitor the HEIs in the country. Bangladesh Accreditation Council acts as an external quality assurance body in Bangladesh. External Quality Assurance system supply HEIs the necessary documents to compare their academic programs and standards with equivalent national and international standards and to set

benchmarks for further improvement. Quality assurance system works under some principles across the country. The principles are mainly to guide the quality assurance move toward greater accountability, transparency and credibility. QA system of a HEI is primarily responsible for quality assurance in education. Q A system should focus on safeguarding the interest of major stakeholders.

Some description of Higher Education in Bangladesh

From the beginning of Bangladesh the Higher Education was started. The total number of university was 6 in 1971 the independent year of Bangladesh. The number universities have been increasing rapidly from 2000. The present situation describes the phenomena of quality assurance of higher education in Bangladesh.

Year	No. of universities			Total number of Teachers	Total number of Students	Teacher-Student Ratio
	Public	Private	Total			
1970	6	--	6	1434	26390	1: 18.40
1975	6	--	6	2147	27553	1: 12.83
1980	6	--	6	2386	36530	1: 15.31
1985	6	--	6	2705	41780	1: 15.40
1990	7	--	7	2887	51780	1: 17.94
1995	11	16	27	4501	72872	1: 16.19
2000	13	19	32	6315	110656	1: 17.52
2005	21	53	74	10339	207577	1: 20.08
2020	46	105	151	31594	1169590	1: 37.02

Source: Bangladesh Bureau of Educational Information and Statistics; BANBEIS

Table 1. Growth of number of universities by teachers and students

1.4 Global Perspectives on Quality Assurance

Establishing quality assurance system in HEIs is a global issue now. Demand for quality assurance mechanism is increasing at national and internationally. The universities and HEIs around the world have been established IQACs with formal institutional approach and documentation. So, the Q A in HEIs has become an increasing and important international trend. Management of HEIs become more aware about the performance in terms of quality of graduates that ability to meet the needs of the global society. As it is global concern some Q A Networks have been established among the member countries for cooperation among them and develop the quality of education. Such as Asia-Pacific Quality Networks (APQN),

Q A Network for African Higher Education (AfriQAN), Arabs Network for Q A in HE (ANQAHE), Caribbean Area Network for Q A in Tertiary Education (CANQATE), European Association for Q A in Higher Education (ENQA). The International Network for Q A Agencies in Higher Education (INQAAHE) was established in 1991 with more than 200 Q A Agencies as members. India, Pakistan, Srilanka, Maldives, Nepal and Bhutan are full members of the INQAAHE. World Bank and UNESCO created a Partnership that launched the Global Initiatives for Quality Assurance Capacity (G I Q A C) to enhance the evolution of quality assurance in higher education in the developing countries. Bangladesh Accreditation Council has become intermediate member of Asia Pacific Quality Network (A P Q N) in 2002 [www.bac.gov.bd].

2. Literature Review

Dill, D D and Van Vught, F A [6] studies found that innovation of skills; techniques have now become the vital means of economic growth & productivity. David D. Dill [7] , reviewed new forms of external quality assurance in national policy of higher education. He found that public policies described to enhance higher education to assure and improve the quality and cost of education. D. Dill,[8] identified quality assurance in higher education as graduate's learning outcomes having

specific levels of knowledge, skills and abilities that graduates achieved. Ryan, P.(2005) [9] found that quality of educational programs meets local and global standads simultaneously has become a great challenge in many countries, so need emerges for coopration of Q A agencies and acceptance of quality assurance review decisions.

Markus Seyfried, Philipp Pohlenz [10], showed that support by higher education institutions' higher management and cooperation with other education institutions are relevant preconditions for larger perceived degrees of quality assurance effectiveness. James Williams & Lee Harvey[11] stated that since the 1980s, quality assurance in higher education has grown dramatically, has come to affect every level of the sector and has become an accepted and

integral part of academic life. Concomitantly, quality assurance has become, as Rosa and Amaral (2014, p. 9) describe it, a 'professionalized' and internationally networked activity. The of principles of Council for Higher Education Accreditation (CHEA) International Quality Group[12] are consistent with existing international standards and guidelines such as the 2005 UNESCO-OECD Guidelines for Quality Provision in Cross-Border Higher Education, the 2007 INQAAHE Guidelines of Good Practice for Quality Assurance. The 2008, Chiba Principles: Higher Education Quality Assurance for the Asia Pacific Region developed by APQN, 2015, Revised European Standards and Guidelines for Quality Assurance. Bashir Bhuiyan, et al13] stated that major factors that determine the quality of higher education include teaching performance and teachers' development, academic policy environment, students' development and evaluation processes and adjustability of the institutions with changes. Andaleeb, S. (2003)[14] found that the important areas such as teaching method, content, peer quality, direct & indirect facilities and political environment are required to improve. He also stated that QAHE depends upon Teaching performance and Teacher's Developments, Academic Policy environment, Student Development Process and Adjustability of the institution with changes.
Linda Darling-Hammond [15] studied an analysis on education policy and their result suggests that policies adopted by states regarding teacher education, licensing, hiring, and professional development may make an important difference in the qualifications and capacities that teachers bring to their work. W. Bank stated that one in three graduates unemployed in Bangladesh, The Daily Star, and Dhaka 2019 [16].

3. Research Methodology

Descriptive survey method [17] is applied in this research work. For this secondary data and information are collected and used compile the study. Secondary data have been collected from manuals, scholarly research papers, books, reports, news papers etc. The author is acknowledged to researchers and writers of those documents I have searched for. Results are explained in description process and tabular form.

4. Recommendation and Conclusion

We are in globalization era and our students should have global standard quality education to serve the global society. The success of Outcome-Based Education process depends upon sustainable quality assurance practices by higher education institutions. Teacher's recruitment should be fare and competence. Government agencies should monitor and assess the quality of HEIs and Program offering entity properly. Academic competition among the universities can improve the quality of education. Outcome-Based Education system has attracted significant interest from industries, academicians, governments, accreditation agencies and students due to global initiatives. We should introduce work oriented learning at higher level of education. Strong motivation work are required to change the mindset of our youths to come back work oriented learning.

References

1.Ewell,P.T. (1997) "Organizing fo learning: A new imperative", AAHE Bulletin, 50(4)

2.Bouslama,F., Lansari, A, AL Rawi,A, Abonomah,A (2003), " A novel Outcome-Based Educational model and it's effects on students learning curriculum development and assessment", Journal of Information Technology Education, 203- 214.

3. W G Spady, " Outcome-Based Education : Critical Issue and Answers, ERIC,1994

4.IQAC Funding Operations Manual of UGC of Bangladesh August 2014.

5. Bangladesh – Higher Education Quality Enhancement Project, *World Bank. Retrieved 17 March 2021*

6. Dill, D. D. and Van Vught, F. A. "National Innovation Policies: Governments as Innovation Agents of Higher Education and Research. In L. E. Weber and J. J. Duderstadt (eds), University Research for Innovation, 107-124. London, Paris and Geneva: Economica, 2010.

7. D. Dill, "Can public policy promote academic quality?: An assessment of policy instruments for instruction and research" University of North Carolina, College of Arts and Science, April, 2018.

8. D Dill Quality assurance in higher education: Practices and issues Elsevier, International Encyclopedia of Education (Third Edition) 2010, Pages 377-383

9. Ryan, P. (2015). Quality assurance in higher education: A review of literature. Higher Learning Research Communications, 5(4). http://dx.doi.org/10.18870/hlrc.v5i4.257.

10. Markus Seyfried, Philipp Pohlenz, "Assessing quality assurance in higher education: quality managers' perceptions of effectiveness" , May 2018, European Journal of Higher Education ,DOI: 10.1080/21568235.2018.1474777

11.James Williams & Lee Harvey , “Quality Assurance in Higher Education”, https://link.springer.com/book/10.1007/978-1-137-45617-5

12. The Principles of CHEA International Quality Group (CIQG), 2015, USA

13.Bashir Bhuiyan, Kawsar Ahmmed, Mohammad & Shahansha Molla,” A THEORETICAL FRAMEWORK FOR QUALITY ASSURANCE IN HIGHEREDUCATION OF BANGLADESH”, Journal of Business, Society and Science, Leading University, Volume.01, No. 01, 2009, PP: 27-51, ISSN: 2072-5701

14. Andaleeb, S. Revitalizing Higher Education in Bangladesh: Insights from Alumni and Policy Prescriptions. *High Educ Policy* 16, 487–504 (2003). doi.org/10.1057/palgrave.hep.8300036

15. **Linda Darling-Hammond, “**Teacher Quality and Student Achievement”, **DOI:** https://doi.org/10.14507/epaa.v8n1.2000 .

16. W. Bank, “One in three graduates unemployed in Bangladesh”, The Daily Star, Dhaka 2019.

17. Dwarakanath S., Blessing L.T.M., Wallace K.M. 1996: Descriptive Studies: A Starting Point for Research in Engineering Design. In: T. S. Mruthyunjaya (ed.): *International Conference on Advances in Mechanical Engineering*, 1996. Naros Publishing House, New Delhi.

A Study On Online Teaching Of The "Artificial Intelligence" Course Using Outcomes-Based Teaching And Learning (OBTL) Framework

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Abstract
Artificial Intelligence (AI) has grown to be very popular in today's world. In order to make students to understand and use AI, and to improve their skills of solving professional problems, our college had set up a general course “Artificial Intelligence” to popularize relevant technologies and theories. Since the global spread of COVID-19 on 2020, to ensure teaching quality, the Outcomes-Based Teaching and Learning (OBTL) framework had been used in this course, and attempts were made in the online teaching process. Taking the online teaching implementation of "AI" course as an example, this paper studied the OBTL teaching method, and found that the use of OBTL conception could stimulate students' learning enthusiasm, get a good teaching result, and ensure the quality of online teaching.

Key words**:** OBTL, teaching quality, online teaching, artificial intelligence

1. Introduction

At the end of 2019, the sudden outbreak of COVID-19 had changed people’s life all around the world and made tremendous changes in education. Online teaching has become a common teaching method in many regions, and its teaching effects are becoming more and more important. Now the virus is still raging around the world, new variants are emerging with a constellation of mutations, and many regions are affected(Zhang Lina and Cao Ling, 2021). Thus, online teaching has become a norm, and the quality of online teaching has become a hot topic of teaching method research. Colleges and universities also respond actively, by carrying out a series of online teaching work (Shen Hongxing et al. 2020) (Zhu Zhiting et al. 2020).

OBTL is an education framework which is student-centered and achievement-oriented, and is designed on the premise that everyone can learn about (Wang Guicheng et al. 2009). Its concept, which sets education to meet the requirements of future positions and cultivates students' sustainable development potentials, is consistent with the educational goals of cultivating high-oriented skilled talents in application-oriented colleges (Wu Xiaohong, 2009).

With the coming of information age, the basic theories and applications of AI become a basic course for applied colleges students. Taking the school general public platform class “AI” online teaching as an example, we studied OBTL framework applied to online teaching practice, explored the methods to effectively ensure the quality of online teaching for other courses.

2. The AI online teaching system based on OBTL

2.1 OBTL Framework

OBTL framework refers to the results-based teaching framework which emphasizes what "learning objectives" students can achieve by using "methods" on "a certain premise". The OBTL framework mainly consists of three parts: Articulate Learning Outcomes, Design Learning Activities and Design Assessment. Articulate Learning Outcomes reflects the results that students expect to reach at the end of the course. In order to ensure the learning results, the teaching targets, teaching contents, teaching activities and teaching evaluations are reversely guided by the expected learning results. The specific process of the overall teaching targets is shown in Figure 1.

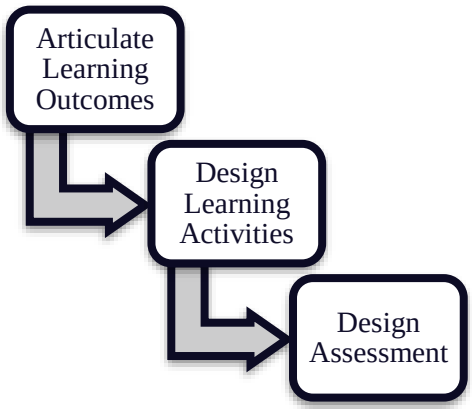

Figure 1: OBTL framework of teaching process

2.1.1 Articulate Learning Outcomes

At beginning of the course, teacher clarifies the expected learning output targets of the course, including declarative knowledge (theoretical knowledge points) and functional knowledge (technical skill knowledge points).

2.1.2 Design Learning Activities

After setting the learning output targets, the teaching activities should be designed according to the targets, including guiding learning, classroom cases, extracurricular practice, check and review, extracurricular homework and so on.

2.1.3 Design Assessment

In order to let students to check the efficiency and effect, and determine specific evaluation standards in the learning process, especially in the independent learning, evaluation standards need to be specifically quantified, clear and easy to understand, and highly operable.

2.2 AI online course system

2.2.1. The whole course designs

For students majored in digital publishing, our AI course teaching, which highlighted "student-centered" and "goal-oriented" principles, designed seven tasks: introduction to artificial intelligence, intelligent multimodal interaction, etc. (in Table 1).

Order	Content module	Targets
Task 1	Introduction to Artificial Intelligence	Understand the concept of AI methods, development history, research field, *etc*. Can distinguish different applications of AI. Be able to use automatic image recognition tools.
Task 2	Intelligent Multi-modal Interaction	Understand computer vision, machine translation, biometric recognition technology and other concepts. Can use face recognition and other functions for short video shooting and creation. Can use tools for machine translation and text recognition.
Task 3	Intelligent Internet of Things	Understand the Internet of Things, intelligent Internet of Things and other concepts. Can distinguish smart Internet of Things applications. Be able to write simple mobile applications with
Task 4	Intelligent Robot	Understand the concept of robots and the AI technology in robots. Can distinguish common intelligent robot applications. Be able to use platform tools to create customer service
Task 5	Programming Thinking	Understand the basic concepts of programming languages. Master the programming foundation and the basic programming structure. Be able to program according to the requirements and output the correct results.
Task 6	Machine Learning	Understand the concept of machine learning and the types of Machine Learning. Can distinguish the applications of machine learning. Be able to do art creation with AI tools.
Task 7	Cloud Computing and Big Data	Understand the relevant concepts and technologies of Cloud Computing and Big Data. Can use cloud computing platform services for speech recognition. Can use big data tools to do simple analysis

Table 1: Design of the course task module

2.2.2 the online teaching activities

(1) Course contents design

The hot spots related to AI were sorted out to enrich teaching cases, and the current "interesting" and "useful" cases were shared to stimulate students' interests in learning. More than 30 cases were sorted out for the teaching design, some of them were shown in Table 2.

Order	Content module	Case contents
Task 1	Introduction to artificial intelligence	Baidu Animal Identification. Farmer crossing the river problem. Natural language processing.
Task 2	Intelligent multi-modal interaction	Image processing. The application of computer vision in fighting against the epidemic.

Table 2: Some of the task modules and corresponding cases

A case of computer vision course (Figure 2.), combined with the practical application of machine vision technology in the fight against the epidemic, led to interactive discussion topics: the specific application of AI technology in the fight against the epidemic, which let students to understand the importance of rejuvenating the science and technology.

Figure 2: Machine vision case design and feedback from students

Scenario cases helped to organically combine knowledge teaching with practical applications. For example, for the machine learning task (Figure 3.), two scenarios of AI technology were proposed (direction asking by foreigners and video subtitles generating) to trigger students' thinking and discussion.

Figure 3: The case of machine learning and feedback from students

(2) Presentation slides design and production

To avoid the learning burnout caused by pure online theoretical teaching, the course presentation slides were optimized and enriched when the course contents were designed. According to the course design, it was divided into 7 task points, corresponding to 7 course presentations (Figure 4.).

Figure 4: Example of a presentation slide

(3) Class organization and design

In the organization and design of the AI course, the pre-class tasks were released online before class, students were required to read the e-books to preview before class, and make good records of the pre-class questions. In the class, the online tools were utilized for live broadcast to systematically answer the questions existing in the class preview and to solve their problems. After class, homework tasks were released online to supplement the reading contents. As shown in Figure 5, the course used some online tools that were commonly used by students to post discussion questions before class to guide the reading and discussion.

Figure 5: Publish the online discussion content before class

(4) Quality assurance of online teaching

The theoretical contents of AI course are relatively complex and abstract. In order to realize students' self-learning, we had organized and constructed online teaching resources according to the teaching outline, including courseware, homework database, exercise pools, etc. (Figure 6.).

Figure 6: Examples of online teaching resource library

In the online learning scenario, we had created appropriate interaction opportunities, so that students could have more interaction opportunities with teachers, classmates, media resources and other factors(Jiao Jianli et al. 2020). Among them, the use of live broadcast tools or conference system to conduct online live broadcast teaching is the most direct and effective teaching method on network. But the online live broadcast was prone to a variety of teaching problems, such as online teaching environment and equipment restrictions, poor presentation effect, less class interactions, and limited course assessments.

In order to ensure the quality of this course, the following actions had been taken in teaching practice:
Firstly, to ensure that the lecture progress is smoothly synchronized with the information received by the students, during a live class with computer, a tablet or a mobile phone was also used for logging into the live room to monitor the picture and sound in real time. Secondly, the function of the display home screen and the laptop secondary screen was used to simulate the offline teaching environment. And laser pointer, fluorescent pointer, magnifying glass and other functions in the PPT presentation view were fully used, to improve the prompt effect of the teaching key contents in the live broadcast. Thirdly, the live chat window was displayed on the home screen to receive the feedback from the students in time, and the voice response or external keyboard were used to maintain real-time text interaction with students. Fourthly, the various applications in the online tools were used to carry out interactive teaching, main of which were check-in, voting, etc. Lastly, online tools were used for in-class tests and homework release.

Through a semester of teaching practice, it had been proved that some problems in online teaching, such as lag, attendance and delay, can be solved.

2.2.3 Curriculum assessment, evaluation and incentive mechanisms
Traditional course evaluations usually took the test results as the evaluation results. Constructivist learning theory believes that learning is the process of knowledge construction (Ren Chunmei, 2012), so it is more important to evaluate how learners can construct knowledge rather than to evaluate the results (Sanders, L., and Chan, S. 1996).

The "AI" course improved the learning evaluation system based on the OBTL framework, and established the assessment, evaluation and incentive mechanism in the learning process. The

evaluation was reflected in the form of comprehensive results and calculated through the following formulas:

Total score = daily attendance evaluation (10%) + learning process evaluation (20%) + homework (10%) + final exam (60%)

(1) Daily attendance evaluation
Generally, it is difficult to evaluate attendance in online teaching. If students leave the classroom only after signing in, teachers are not easy to find out while concentrated in teaching, which will eventually lead to unsatisfactory teaching effects. With help of the online time duration data recorded in the online tool, the results obtained through data analysis were used as an important basis for attendance evaluation.

(2) Learning process evaluation
In the online teaching, some students are randomly selected to answer questions, and the corresponding scores were given according to the answers. Due to the large proportion of the scores and the strong randomness, it would guide the students to pay attention to the course. In order to stimulate students' awareness and creativity of using AI technology, this course also set up discussions on the online tool, those students who could actively participate and make the correct answers would get extra scores. Learning process evaluation was completed through these ways.

(3) Homework
Homework of each chapter was assigned on the super star learning, focused on the assessment of the basic knowledge of AI, and urged students to pay attention to the quality of lectures. Referenced to the homework results, we could understand the students' learning effect timely, in order to adjust the teaching arrangement.

(4) Final exam
The AI final exam paper contained 5 types of questions, divided into 100 points, including single choice, multiple choice, judgment as fixed standard objective questions, which scored 40 points; short answer questions and discussion questions as subjective questions, scored 60 points.
Among the digital publishing majored students who took the exam this semester, the highest score was 94 points, the lowest score was 0 points (not taking exam), the average score was 80.7 points, pass rate was 93.8%, and excellent rate (above 90 points) was 9.88%.

(5) Final survey analysis
In order to understand the students' cognition of some relevant technical concepts in the course, a relevant survey was launched after the course was ended, and the 16 concepts involved in the course were investigated, as shown in Figure 7.

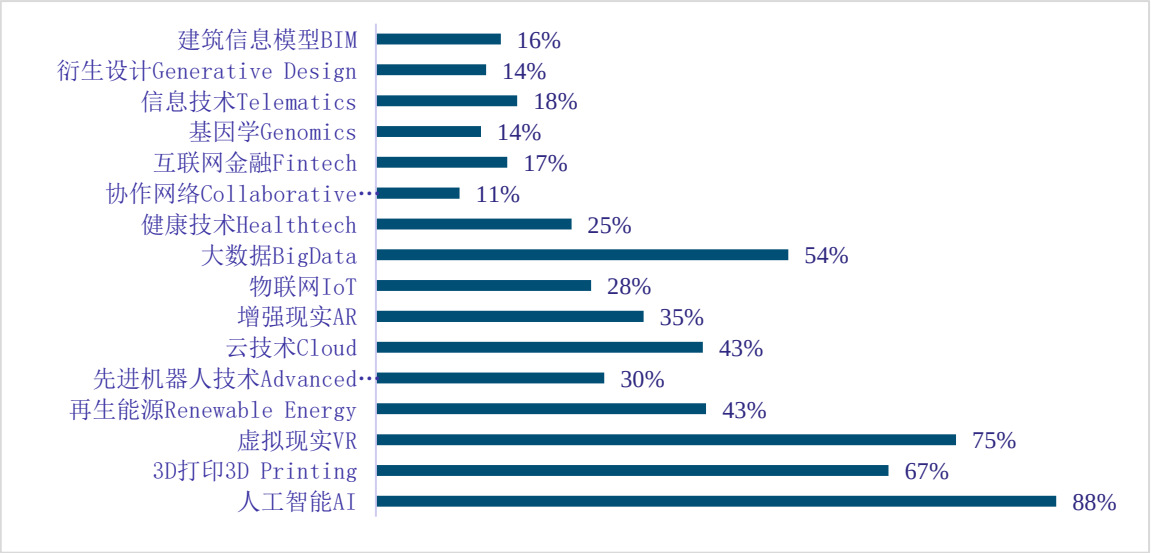

Figure 7: scores for the 16 technical concepts

From this survey, it is not difficult to see that the students had better cognition on technical concepts such as AI, 3D Printing, VR, among which 88% of the respondents know artificial intelligence well. At the same time, more than 50% students get the awareness of Big Data, VR and 3D Printing. In order to further knew how did students understand the relationship between technical concepts and employment, whether the technology concepts are related to employment was also counted (Figure 8). It shows that AI, Big Data, VR and 3D Printing have the top four correlations for students.

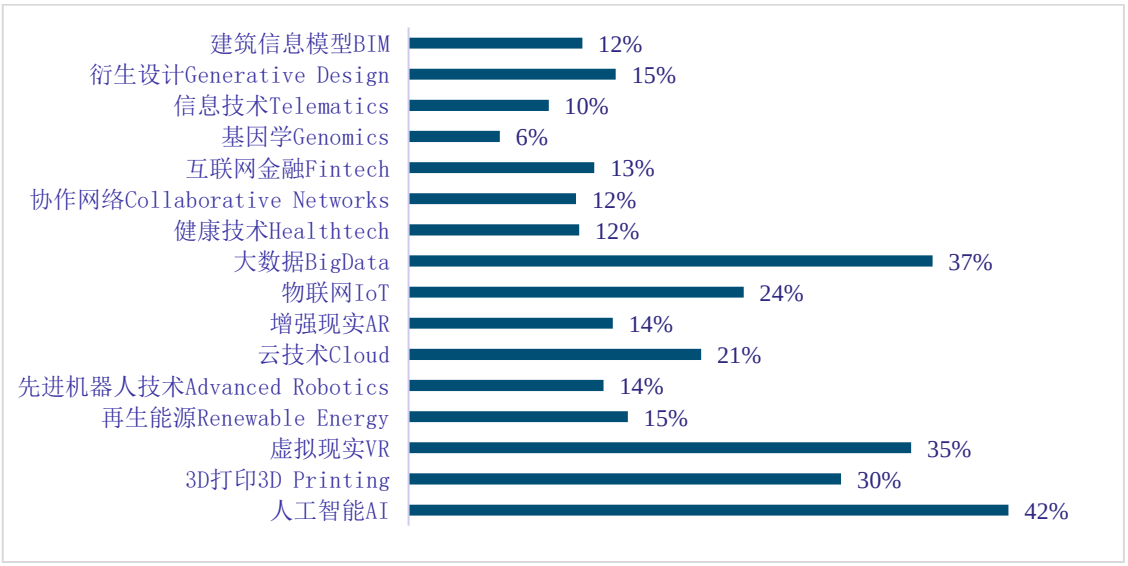

Figure 8: 16 Correlation scores of technical concepts and employment

3. Conclusions

The "AI" course based on OBTL framework enabled students to form a general understanding of the basic knowledge of AI within the limited class hours, enabled students to master the application of AI concepts and tools, improved their application ability to find and solve problems, and enabled their professional learning.

3.1 Students' enthusiasm and participation were significantly increased

In the traditional offline teaching, students' interest in learning is not strong, and the classroom's "heads up" rate is not high. The OBTL framework advocates "student-centered". Through carefully designed teaching cases and task situations, the interest of teaching contents was improved, and students' learning purpose was stronger, they became more active in learning, and paid more attention to knowledge.

3.2 Students' application ability had been significantly improved

The cases and tools presented in this course were designed based on post-analysis of typical work scenarios, which combined the knowledge points of this course with the skill points in the form of practical cases. In the whole process from raising problems to solving problems, it improved the students' ability of problem solving and independent learning. After the course, the students could use the big data analysis methods and AI tools that they had mastered in this course to quickly solve some professional problems.

3.3 Improved the professional quality of teachers and guaranteed the quality of online teaching

The OBTL teaching framework puts forward new challenges and sets higher requirements for the teachers of the general education course of "AI", and changes the traditional teacher-centered class teaching mode.

Of course, there are also some aspects of the OBTL teaching framework that need to be further explored and improved. For example, the definition of teaching objectives and outcomes haven’t formed any uniform and accepted standard. In the near future, under the background of the normalization of epidemic prevention and control, it is necessary to continuously improve and develop the online teaching effect based on the OBTL framework and ensure the teaching development.

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References

Zhang Lina and Cao Ling. (2021). *Progress in Coronavirus Infection Overview*. Chinese Journal of Practical Pediatrics. 36 (6), pp.469-473.

Shen Hongxing et al. (2020). *Thinking on online teaching practice during the period of "No Suspension" and online teaching reform after the epidemic- -Take Shanghai Jiao Tong University as an example*. Modern Educational Technology, 30 (5), pp.11-18.

Zhu Zhiting et al. (2020). *Policy interpretation, key issues and countermeasures of "no suspension"*. Audio-visual Education in China, vol.4: pp.1-7.

Wang Guicheng et al. (2009). *Achievement-oriented education framework and its Reference*. Contemporary Education Forum, vol.12: pp.17-19.

Wu Xiaohong. (2009). *The application of this teaching method in the teaching of Higher Vocational Mathematics*. Vocational Education Research, vol.6: pp.94-96.

Jiao Jianli et al. (2020). *Case study of online teaching of "suspension without suspension" under the background of epidemic prevention and control*. China Audio-visual Education, vol.3: pp.106-113.

Ren Chunmei. (2012). *Construction of Multiple Learning Evaluation System for Teaching Curriculum under the Information Technology Environment*. Intelligence Science, 30 (01), pp. 99-104.

Sanders, L., and Chan, S. (1996). *Student satisfaction surveys: Measurement and utilization issues*. AIR Professional File, 59.

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The Significance Of Internal Quality Assurance In The Context Of The Third Cycle Of Japan's Statutory Accreditation System

Syun Tutiya,
National Institution for Academic Degrees and Quallity Enhancement (NIAD-QE)

Abstract
Japan's statutory quality assurance system has been outlined, with the focus on *internal* quality assurance for its third cycle beginning in 2018. The National Institution for Awarding Degrees and Quality Enhancement of Higher Education (NIAD-QE), in Japan, has taken advantage of the new focus to integrate vastly different practices of quality assurance of higher education institutions and programs, by allowing applying universities to make use of the results from reliable third-party reviews in their internal quality assurance. Examples have been taken from the use of results of the reviews by agencies related to professional bodies and the ones from NIAD-QE's separately defined mission. General ideas underlying its attempt have been explained with some suggestions.

1. Introduction

Japan's quality assurance system for higher education as of 2022 consists of a pair of internal and external quality assurance practices and the regulatory and voluntary initiatives twenty years after its start in 2002, when the School Education Act was revised to include an article that mandates higher education institutions to evaluate themselves and at the same time to undergo a review by an agency which is certified by the Minister of Education, Culture, Sports, Science and Technology (MEXT, henceforth). Agencies certified by MEXT have been a heterogenous set of private and semi-governmental evaluating bodies to one of which each higher education institutions is required to apply for a review. This institutional "review" has been considered to be comparable to accreditation, but programs in institutions are not explicitly accredited if their parent institutions are "accredited." The revision of the Act in 2002, though, included a mandate for universities to undergo reviews if among their graduate schools should there be "professional" graduate schools such as law schools and business schools. This type of review has been considered to concern "professional" programs as opposed to institutions. There are private and semi-governmental evaluating bodies again which are certified by MEXT. In addition, there are voluntary system of accreditation in some disciplines like engineering, medicine, veterinary medicine, where national, but definitely not governmental, agencies, some of which are authorized internationally and others not, accredit programs of their specialty. From the standpoint of higher education institutions and their programs, the situation described above has simply increased the burden of preparing different self-assessment reports of their *same* programs in slightly different formats with virtually the same self-analyses. From the viewpoint of the entire quality assurance system of higher education, the existence of concurrent but independent systems under different authorization mechanisms is destined to fail to provide a consistent grasp of the status quo of the higher education in Japan. NIAD-QE, which is a semi-governmental agency certified by MEXT, has been conscious of perceivable and perceived inconsistency, has tried to streamline, rather than correct, the situation taking advantage of the increased importance of *internal* quality assurance in the third cycle of Japan's statutory accreditation system, which started in 2018.

2. An overview of the current statutory accreditation system of higher education.

The current system is depicted in Figure 1.

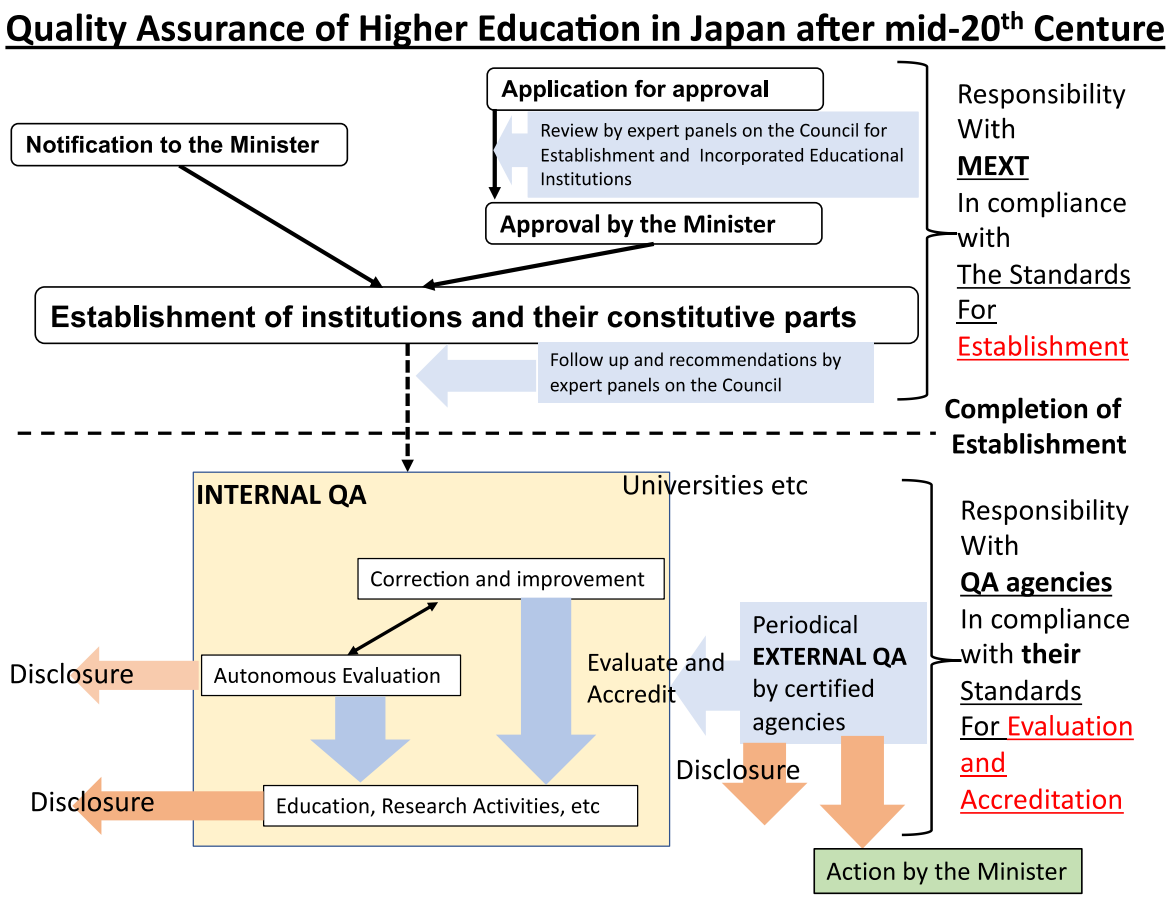

Figure 1

The statutory framework in Figure 1 essentially consists of two stages: entry approval by MEXT and continuing accreditation by quality assurance agency. MEXT is responsible for entry approval, which actually in most cases waived and replaced with reporting to the ministry. Continuing cyclic accreditation, called "Evaluation and Accreditation," is conducted by certified agencies according to different Standards stipulated by different agencies.

3. Use of reliable third-party evaluation in internal quality assurance

There are some areas in which professional bodies have proposed their own quality standards and practice program accreditation on their own. Typical cases include the following:

- The Japan Accreditation Council for Medical Education (JACME) carries out evaluation of medical education programs Japan against the World Federation for Medical Education (WFME) Global Standards for Quality Improvement of Medical Education, and is recognized by WFME.
- The Japan Accreditation Board for Engineering Education (JABEE) evaluates and accredits educational programs which foster professionals in the field of engineering, agriculture and

science, and is a signatory of the Washington Accord, Seoul Accord and Canberra Accord and is also recognized by UNESCO-UIA.

- The Japan accreditation Board for Pharmaceutical Education is a voluntary of body consisting of pharmaceutical education programs, accrediting the participating programs against the standards for the evaluation of the field-specific evaluation.

In recognition of the socially and professionally established trust in these bodies which, though, do not comprehensibly cover the all relevant fields, NIAD-QE, has taken advantage of the occasion of the launch of the third cycle of its accreditation in 2019 to try to harmonize the two kinds of accreditation in such a way that the applying institution may make full use of the results of program accreditation of relevant departments and programs for their self-evaluation, virtually replacing the latter with the former. To make this happen, NIAD-QE and the aforementioned private accrediting bodies collaborated together for each to have access to the other's possibly confidential information, if any, on a basis of the MoU level agreement. In the case of JABEE, for example, the publicized information basically includes only the list of accredited programs with expiration years and the Standards for Accreditation, though NIAD-QE's institutional Evaluation and Accreditation requires the institutions to analyse and report the condition of its programs, whose content is not available publicly. The same procedure has applied in the case of JACME.

In view of the start of the third cycle, MEXT’s councils discussed requests for the statutory accreditation system, and, among others, decided on the restructuring of the list of items for reviewing. Major additions are two new items: internal quality assurance and principles for teaching and learning, the latter of which are ones for expected learning outcomes, for curriculum, and for measurement of learning outcomes. That internal quality assurance is included in the list for quality assurance agencies to review against means a shift, perhaps, of the Japanese system of statutory external accreditation to the auditing system of institutional quality assurance. That is a natural consequence of the threads in the discussion both within MEXT and in the quality assurance community. All have agreed, with a bit of repentance, that the two cycles of the system might not have achieved the expected goal of the results of reviews leading to necessary corrections and improvements, only to observe that their reviews might not have productive or proactive enough. NIAD-QE’s approach is make the fullest use of the idea to align the different types of accreditations, reviews, evaluations, assessments so that the burdens of institutions might be made lighter.

The implantation of the idea goes this way: NIAD-QE is responsible for deciding on the trustworthiness of the other accrediting bodies in the limited sense that it neither recognize nor endorse, but just avail itself of, the results of the other agencies. The point is that NIAD-QE admits that there are a large variety of quality assurance activities from different perspectives, targeting different types of organizations, but that it asserts that they have to collaborate by contributing to different aspects of higher education as well as by taking mutual advantage of the results more fruitfully. Although there has not yet been a nationwide consensus on how the country's system should be organized, the collaboration this presentation is reporting is a clear indication of what is going to happen in Japan. Most of the universities which have undergoe NIAD-QE's accreditation since 2019 have expressed that they appreciate the idea and practice of making use of program accreditation results for institutional accreditation because they have realized they had been released

from the burden of reviewing the same programs against different standards which, though, look like the same set of pedagogical and educational activities. Some professional accreditation, including JABEE and JACME, bodies also appreciate this initiative because this would promote the institutions to encourage their program managers to take their accreditation.

It is to be noted, though, that it is not the case that all certified agencies are of the same opinion as NIAD-QE. Some may argue the method taken by NIAD-QE might be conflated with the idea that the certified agency might have unresponsibly skipped the proper process of reviewing required for the statutory accreditation. However, the correct interpretation of NIAD-QE's practice sticks the very basic idea of the importance of internal quality assurance, if it may be allowed to repeat the same point. Higher education institution are responsible for internal quality assurance by definition, so consequently are responsible for organizing their own methods of internal quality assurance in such a way that their internal quality assurance procedures may appreciate and take advantage of the results of, say, JACME's decisions and recommendations on their medical program, or JABEE's decisions and remarks on their engineering programs.

4. Use of the results from NIAD-QE's evaluation of the "national universities"

There are three categories of universities according the three types of "Establisher" in Japan: national, local government, and private. The first category consists of 86 universities, the second about 100 and the rest are private. By the law that defines national university corporation, the universities are required to undergo reviewing by NIAD-QE with respect to their teaching and research every six years. They are each given a different set of middle-term goals by MEXT and required to propose their own plans to achieve the goals. NIAD-QE thinks that review the achievements of a university requires reviewing of teaching and research of their faculties and graduate departments first. Such departmental reviews are necessary because teaching and research are specific and peculiar in its own right in different academic disciplines. Naturally the reviews of faculties and graduate departments in terms of teaching should consists of the procedure in which discipline-specific review panels look at programs of their specialty. The panel's report includes grading of faculties and graduate departments as well as their remarks that support the grading. In the spirit of the importance of internal quality assurance, each institution is expected to take these results seriously and reappraise in their process of internal quality assurance. So again, NIAD-QE have allowed national universities to make use in 2021 of the results from NIAD-QE's review of the faculties and graduate departments of national universities, which was most recently conducted in 2020. This language may sound a bit bizarre, but actually describes the situation quite accurately, with the bizarreness only resulting from NIAD-QE playing two different roles in the same name. In the actual processing, rigid control of information were exercised so that the society might not even suspect NIAD-QE applies the procedure just to lessen its work. (Incidentally, work should have been made less because the both reviews in 2020 and 2021 were conducted during the high time of the COVID-19 pandemic, although the planning had been completed before the pandemic did not even loom.)

The reviews in 2020 were done for more that 800 undergraduate and graduate programs. In 2021, more than a third of the 800 replaced their self-assessments with the results of the 2020 reviews.

Their decisions made not only their work of self-assessment much lighter but NIAD-QE unloaded of a large portion of selecting committee and panel members and processing paperwork in the process of reviews, the “paperwork” having been made electronic and online already.

5. Lessons and suggestions

NIAD-QE’s attempt at an alignment of government-based quality assurance with private and voluntary quality assurance is based on the two ideas:

1. The removal of duplicated tasks on the part of concerned parties including both higher education institutions and quality assurance agencies
2. The provision of somewhat uniform and organized overall view of the situation of the nation’s higher education as it stands now

The first point is already obvious from the sections 3 and 4. Each program have been released from doing the essentially same but format-wise different task of self-assessment, and now can focus on correcting and improving what they have found in their self-assessment once and for all. Quality assurance agencies now can pay greater attention to auditing of internal quality assurance based on trust to the quality assurance system. We all know that there are different logical and political reasons and historical origins for all quality assurance activities. Some are governmental because regulating higher education sector is recognized to be necessary for some reason or other. Some, or most, are private because teaching systems are essentially for the purpose of creating the next generation of that profession. In the modern world, all those higher education institutions and programs as well as their qualification assurance activities comprise a national entirety of higher education system for each country and region. No one system or method, even the one which is governmental or statutory surpasses the other which may be private, so harmonizing based on the recognition of coexisting different system is the key in redefining the roles of governmental and private sectors, as exemplified by NIAD-QE’s practices in the past few years.

Reference

Tutiya, S (2021) “Institutional accreditation working with program accreditations: A scheme adopted in Japan's University Evaluation and Accreditation system for its third cycle”, INQAHEE Conference 2021, June 9, 2021.

Author’s Bio

Syun Tutiya joined the then NIAD-UE, which is NIAD-QE now, in 2011, after teaching and researching in philosophy, ethics, cognitive science, document processing etc in Chiba University, and has since been involved in the Evaluation and Accreditation of Universities in the capacity of professor and dean of the research department. Currently he works with the institution as advisor.

Aotearoa New Zealand's Reform Of Vocational Education (RoVE): Changing Roles For Government And Private Sector In Technical And Vocational Education And Training.

Eve McMahon, Amy Davis, Terry Neal

Abstract

Aotearoa New Zealand's vocational education system is redefining both government and private sector roles as part of its Reform of Vocational Education (RoVE), started in 2018. These reforms build on Aotearoa New Zealand's efforts over 70 years to build a sustainable system of relevant, quality and accessible vocational education. Aotearoa New Zealand has disestablished industry training organisations, and established workforce development councils and regional skills leadership groups. The aim of these changes is to improve industry contribution to ensure relevance of vocational qualifications. Aotearoa New Zealand is merging all 16 institutes of technology and polytechnics and nine of 11 industry training organisations to create one publicly funded vocational institution, Te Pūkenga. Creating one national public institution is expected to increase access by offering learners seamless transitions between mode (on campus, on job and online) and place of delivery. It is also expected that through reduced competition and economies of scale, this single large institution will be more sustainable long term. The New Zealand Qualifications Authority (NZQA) is developing new education products to support relevance and modified quality assurance processes to maintain quality.

1. Introduction

Technical and vocational education and training (TVET) emphasises the skills, knowledge and attributes needed to do a particular job, or work in a specific industry. Effective TVET systems rely on private sector involvement to ensure skills being developed through the TVET system align with industry needs and can be expected to contribute to industry and national productivity. At the same time, government has an important part to play in promoting equal access, ensuring quality and considering wider societal goals from its investment in TVET.

In 2018, the Aotearoa New Zealand government began a review of its post-secondary vocational education, known as the Reform of Vocational Education (RoVE). The reforms established new government-funded agencies which aim to strengthen the ability of industry to steer and contribute to the TVET system. The reforms also involved changes to the roles and structures of all public TVET organisations and the funding of both public and private TVET organisations. This paper discusses how RoVE, the most recent change in a long line of reforms for Aotearoa New Zealand's TVET sector, has affirmed the integral role of both government and the private sector in an efficient and effective TVET system.

2. History of TVET in Aotearoa New Zealand

In Aotearoa New Zealand, TVET includes industry training (on-the-job trainees and apprentices) and off-the-job education (online and on campus) at Levels 3 to 7 on the New Zealand Qualifications and Credentials Framework (NZQCF). This excludes degree study, university provision and other non-vocational provision, such as generic and core language provision industry (New Zealand Ministry of Education, n.d.).

Aotearoa New Zealand has a long history in vocational education, continually adapting its system to meet the changing needs of the country. In the late nineteenth century, there was concern about lack of skills in New Zealand's workforce. The then Minister of Education attempted to encourage secondary schools to offer technical subjects. Lack of success led to the creation of specialist technical schools in main centres through the first half of the 1900s. Immediately after the Second World War, Aotearoa New Zealand introduced legislation to compel apprentices to attend trade classes, at these specialist schools or through a new distance learning TVET school. At the same time, an outside authority was established to oversee trade training, including setting standards and conducting exams. The 1960s to the 1980s saw the creation of specialist vocational tertiary institutions which were not allowed to offer degrees (Abbott, 2000).

Reforms in 1990 made institutes of technology and polytechnics autonomous institutions. They would now receive an annual allocation of government funds, and freedom to develop their own programmes of study. And, for the first time, degrees could be offered by organisations other than universities. The New Zealand Qualifications Authority (NZQA) was set up to accredit and validate programmes and place them on the newly created national qualifications framework. The 1990 reforms also abolished the government funded bodies which had been responsible for analysing training needs, controlling standards and conducting examinations (Abbott, 2000), and established industry training organisations. These industry-owned and governed entities had two roles. The first was to work with industry to develop occupational standards, qualifications, and associated training and assessment resources. The second was to work with employers to arrange training, including purchasing education from providers to complement on-the-job training (Williams, 2020).

In 2008, NZQA led the Targeted Review of Qualifications, which sought to respond to concerns raised by employers, employees and unions about the clarity and relevance of vocational qualifications. The Review created more flexible, relevant national qualifications, with clear graduate profiles supported by industry and other end users. This removed the need, and ability, to create local qualifications, thus preventing duplication and proliferation. Between 2010 and 2022, the number of qualifications at Levels 1 to 6 of the Framework reduced by 75%, from 4,764 to 1,224. Information on the New Zealand Qualifications Framework, the single location for all qualifications, was modified to make it easier to find information about qualifications, including whether they were still current. In 2018, Aotearoa New Zealand led the way in incorporating micro-credentials into an existing qualification system.

Figure 1 shows Aotearoa New Zealand's vocational education system in 2018. There were nearly 250,000 vocational learners (five percent of Aotearoa New Zealand's population) learning in workplaces through 11 industry training organisations, and online and on campus through 16 institutes of technology and polytechnics, as well as more than 500 private training establishments. The sector was competitive in nature, rather than complementary, with tertiary education organisations, including those that are publicly owned, vigorously competing for government funding and relying on international students to remain financially viable (New Zealand Ministry of Education 2019a; Patterson 2001; Cadwallader, Standring and Seelig 2019).

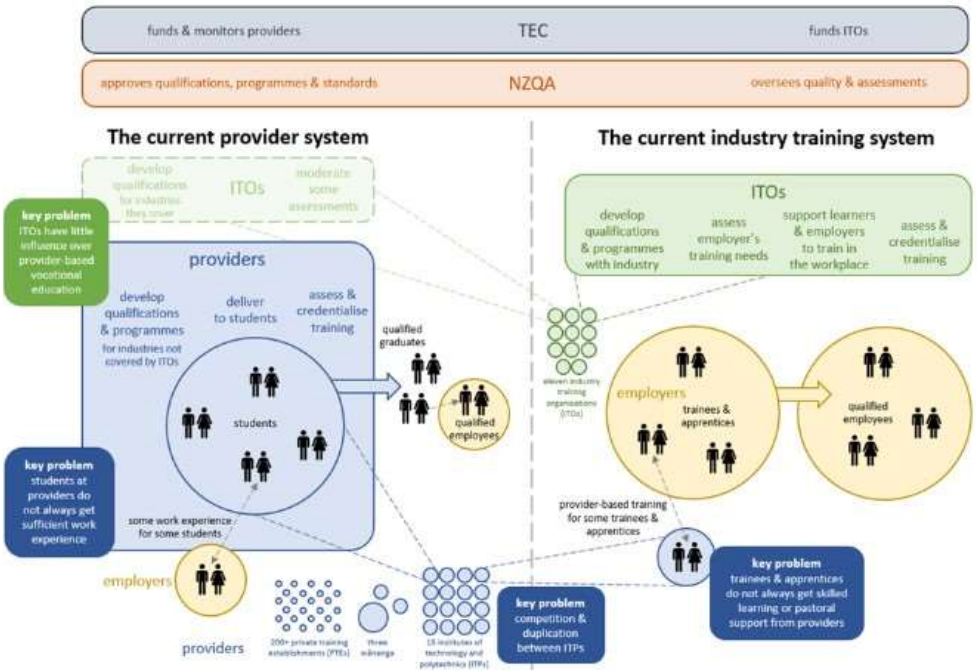

Figure 1: New Zealand's vocational education system in 2018

3. The Reform of Vocational Education (RoVE)

In 2019, Aotearoa New Zealand noted various aspirations for its vocational education sector, to:

- enable lifelong upskilling and reskilling to respond to a fast-changing future of skills, learning and work
- give employers confidence that the vocational education system will respond to their needs
- build a vocational education system that delivers to the needs of all learners
- build on Aotearoa New Zealand's international reputation as a great place to study
- harness the potential of changing education technology (New Zealand Ministry of Education, 2019b).

However, the then regulatory framework and funding policies for vocational education appeared to be contributing to ongoing problems that worked against these aspirations, including:

- mismatch between skills and industry needs
- unclear and overlapping organisational roles and counterproductive competition between provider-based and work-based TVET. This led to polarisation between the two modes and limited blends of on-the-job, on-campus and online learning
- duplication of services and functions contributing to financial unsustainability of public institutes
- TVET provider vulnerability in response to cycles between weaker (increase in provider enrolments with lower employment) and stronger economies (decrease in provider enrolments with higher employment)
- inequitable outcomes for some groups of people (New Zealand Treasury, 2019; New Zealand Ministry of Education, 2018).

The subsequent reform of vocational education is seeking to address these challenges through creating 'a strong, unified, sustainable system for all vocational education that is fit for the future of work and delivers the skills that learners, employers and communities need' (New Zealand Ministry of Education 2019c). Over the last three years, to achieve this, RoVE has introduced seven key changes:

1. Created six workforce development councils - industry-governed statutory entities to give industry, employers and business owners greater confidence that vocational education graduates are ready for work, now and into the future.
2. Established 15 regional skills leadership groups – locally based and regionally led independent advisory groups who identify and support better ways to meet future skills and workforce needs in their regions, both now and in the future, including recommended actions.
3. Established Taumata Aronui – an independent advisory group to provide Māori (Aotearoa New Zealand's indigenous people), community and employer perspectives on tertiary education, including vocational education.
4. Shifted the role of supporting workplace learning from industry training organisations to providers.
5. Created Te Pūkenga – New Zealand Institute of Skills and Technology, a single network of provision bringing together on-the-job, on campus, and online vocational education and training. This network is being made from the previously existing institutes of technology and polytechnics and industry training organisations. It is expected to have the national and regional reach to become a long-term skills training partner for businesses and industries. Creating one national public institution is expected to increase access by offering learners seamless transitions between mode (on campus, on job and online) and place of delivery as their needs change. It is also expected that through reduced competition and economies of scale, this single large institution will be more sustainable long term.
6. Establish two centres of vocational excellence: one focused on the construction sector and one focused on Aotearoa New Zealand's primary sector, to drive innovation and strengthen links between education providers and industry.

7. Developed a new unified vocational education funding system which will be introduced from January 2023 – this one funding system will apply to all provider-based and work-integrated education at certificate and diploma qualification levels 3 to 7 (excluding degree study) and all industry training. It is intended to encourage providers to offer more relevant and quality work-based training and better support learners and employers. To achieve this, the funding system has three components: learner component, delivery component and strategic component (Tertiary Education Commission, 2022).

Figure 2 shows the new vocational education system that reflects these changes. All of the new structures are now in place except for Te Pūkenga, which is planned to be fully operational in early 2023. They will be gradually taking on their new functions over the next few years.

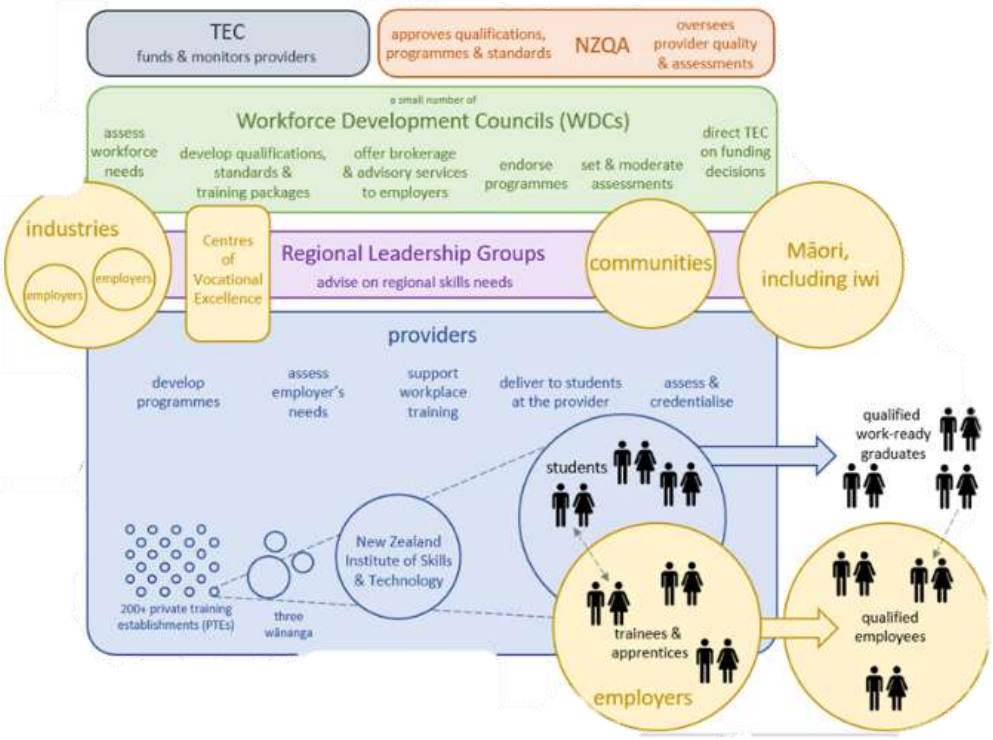

Figure 2: New Zealand's vocational education system in 2022

4. Changes to qualifications and quality assurance

NZQA is the government agency responsible for ensuring that Aotearoa New Zealand's vocational qualifications are accepted as credible and robust, both nationally and internationally. This is done through regulation by managing the qualifications framework and quality assuring non-university tertiary education. NZQA is undertaking work in four areas to support the goals of RoVE (New Zealand Qualifications Authority, 2022).

The first is simplifying the design of vocational qualifications. Table 1 describes the vocational education products by which Aotearoa New Zealand learners will be able to demonstrate their

knowledge, skills and attributes. The table also outlines which of the entities is responsible for developing each education product.

Skill standards have recently been co-designed by a diverse, cross-sector working group and will take several years to be developed across Aotearoa New Zealand's more than 800 vocational qualifications. NZQA is working with workforce development councils to co-design the underpinning principles and policy settings for New Zealand programmes (called 'national curricula'in the legislation). It will then take time for workforce development councils to understand when an industry sector would benefit from a single New Zealand programme approach and when it is better to allow providers more flexibility in programme design.

Qualifications A qualification formally certifies the achievement of a specified set of learning outcomes to a given standard. Identifies and defines what a graduate needs to do, be and know in order to perform specific roles or undertake further study. Qualifications are listed on the New Zealand Qualifications and Credentials Framework (NZQCF).		Developed by: Workforce Development Councils (WDCs), NZQA (specific areas), Ministry of Education (NCEA)
Programmes Lead to qualifications listed on the NZQCF. Programmes will include skill standards (where they exist) and define the structure, admissions requirements, assessment procedure, learning outcomes, delivery methods and moderation for a set of learning. A qualification may have multiple programmes leading to it.	**'National curricula'** Lead to qualifications listed on the NZQCF. Based on skill standards and provide the further context, structure and information to guide a provider's approach the teaching and assessment. A qualification may only have one 'national curriculum' leading to it. Where a 'national curriculum' exists, it must be used by all providers offering that qualification.	Providers develop programmes WDCs will facilitate the development of 'national curricula' with providers
Micro-credentials Certify the achievement of a coherent set of skills and knowledge. They have a statement of purpose, learning outcomes and strong evidence of need by industry, employers, iwi, community. Micro-credentials are listed on the NZQCF.		Developed by: WDCs, providers
Skill standards Competency-based education standards which translate industry needs into learning and assessment outcomes. They inform programme and 'national curricula' development and specify a skill and the required level of the performance of the skill. Skill standards can be used in schools and will count towards NCEA. Skill standards will replace current unit standards over time.	**Achievement standards** New Zealand curriculum-based education standards for use in schools and towards NCEA.	Developed by: WDCs, NZQA (skill standards), Ministry of Education (achievement standards)
Teaching, learning and assessment Teaching, learning and assessment and accompanying resources meet the local needs of the region, mode of delivery, cohort characteristics and culture.		Developed by: Providers, educators

Table 1: Aotearoa New Zealand's vocational education products

The second of NZQA's workstreams has been supporting the establishment of Te Pūkenga and the six workforce development councils. One focus has been the smooth transfer of standard setting functions from industry training organisations to workforce development councils. This has been completed. Through involving all six councils in the co-design, the councils are well placed to work collaboratively to implement skill standards with their industries in the future. The other focus has been the smooth transfer of arranging workplace training industry training organisations to Te

Pūkenga and other providers. This has all needed to be done in a way that seeks to minimise the impact on learners and industry.

NZQA's third role is reviewing and updating the quality assurance framework. NZQA needs to adapt its approach to quality assurance in light of changes to the design of vocational qualifications and the introduction of two new types of organisations (workforce development councils and Te Pūkenga) which NZQA quality assures. NZQA has completed a strategic review of its evaluative quality assurance framework, considering other countries' approaches and talking to various stakeholders. NZQA is working on modified interim arrangements for Te Pūkenga and workforce development councils. There is an opportunity to introduce broader improvements, but NZQA needs to be sensitive to the scale of change underway across the sector when planning next steps.

The final workstream is updating NZQA's education products repository. This is an opportunity to modernise the technology solution used, create an internal centralised repository for the different products, and improve data collection to inform future changes.

5. Reflections thus far

Part way through this reform programme, Aotearoa New Zealand is yet to confirm how well the changes will deliver on the intended outcomes.

Aotearoa New Zealand is a small country, so the people working within the new structures may be doing similar roles to those they were previously doing. NZQA is aware there is still work to be done to build capability and a shared vison across the various stakeholders. Co-design approaches have intentionally been used to build buy-in while designing new education products. Virtual working practices during the Covid 19 pandemic have limited options for co-design workshop activities, but have made it easier for a larger number of stakeholders from across the country to be involved.

As with any change programme, not everyone agrees on the direction - and where the vision is shared, there are different views on how to succeed. Over the three years of RoVE thus far, there have been successes and challenges in implementation. One success has been Te Pūkenga being able to facilitate national conversations with learners, including priority leaners, to lay the groundwork for more learner-centred approaches (Te Pūkenga, 2022). The scale and complexity of change has proven challenging. A 2022 strategic advisory review of Te Pūkenga expressed concern that the agreed minimum viable product may not happen in the agreed timeframe and that anticipated cost savings were not being realised (Tertiary Education Commission and Te Pūkenga, 2022). When innovating, it is important to fail forward, and Te Pūkenga's leadership team are now acting on recommendations from the review.

Collaboration across Te Pūkenga's national network, and between Te Pūkenga and workforce development councils and Māori partners, is written into the new legislation, and these new organisations are putting collaboration at the centre of what they do (see for example

https://www.waihangaararau.nz/latest-news/chief-executive-philip-aldridges-end-of-year-reflection/). However, established patterns of competition do not disappear overnight.

NZQA's own approaches also need to change. Systems have built up over 30 years assuming siloed workplace and on-campus learning. Staff need to unlearn assumptions about 'quality' in both these contexts as providers move to blend these two modes and online learning to better meet Aotearoa New Zealand's future skill needs. It is tempting to privilege on-campus delivery over employer-employee training relationships, given NZQA's lower visibility of the latter. NZQA also needs to ensure it is moving with the reforms, and building internal capability to continue assuring quality without stifling the innovation at the heart of the reforms.

6. Conclusion

Aotearoa New Zealand has been trying to get the balance between private and public sector involvement in vocational education right for more than 70 years. Effective working relationships between industry, community groups, publicly funded institutions and government agencies have always proved challenging. As the pace of change in the world of work accelerates, we need to continue to test and prove how governments and industry can collaborate to effectively meet present and future skill needs. Aotearoa New Zealand will continue to share its evolving story and learn from others as they share theirs.

References

Abbott, M 2000, 'The development of vocational education and training in New Zealand' Education Research and Perspectives, vol. 27, no.1, pp 90-108

Cadwallader, A., Standring, D. and Seelig, C., 2019. Transformation of Open Distance Flexible Learning at the intersection of national reform of vocational education and training, viewed 26 July 2022. http://oasis.col.org/bitstream/handle/11599/3332/PCF9_Papers_paper_278.pdf?sequence=4&isAllowed=y

New Zealand Government 2020, New era for vocational education, New Zealand Government, Auckland, viewed 21 July 2020. https://www.beehive.govt.nz/release/new-era-vocational-education.

New Zealand Ministry of Education, n.d. Factsheet Reform of Vocational Education, Understanding the current vocational education and training system, https://conversation.education.govt.nz/assets/RoVE/Current-System-factsheet-Reform-of-Vocational-Education.pdf.

New Zealand Ministry of Education, 2018, Education Report: Shifting to a high-quality, relevant Vocational Education and Training (VET) System, viewed 21 July 2020

https://conversation.education.govt.nz/assets/RoVE/3-2018-07-05-Education-Report-Shifting-to-a-high-quality-relevant-Vocational-Education-and-Training-System-full-V2.pdf.

New Zealand Ministry of Education 2019a, Summary of change decisions − reform of vocational education, New Zealand Ministry of Education, Wellington, viewed 24 February 2020. https://conversation.education.govt.nz/assets/RoVE/AoC/RoVE-Summary-of-Change-Decisions.pdf.

New Zealand Ministry of Education 2019b, A unified system for all vocational education: reform of vocational education, New Zealand Ministry of Education, Wellington, viewed 22 Jun 2022, https://conversation.education.govt.nz/assets/RoVE/AoC/A-unified-system-for-all-vocational-education.pdf.

New Zealand Ministry of Education 2019c, Cabinet paper: Reform of Vocational Education – Key Decisions, viewed 21 July 2020. https://conversation-space.s3-ap-southeast-2.amazonaws.com/R+27+CP1+short.pdf.

New Zealand Qualifications Authority 2022 Reform of vocational education, viewed 28 Jul 2022, https://www.nzqa.govt.nz/providers-partners/rove/

New Zealand Treasury 2019, Regulatory Impact Assessment: Reform of vocational education, viewed 21 July 2020. https://www.treasury.govt.nz/sites/default/files/2019-08/ria-minedu-rve-jun19.pdf

Patterson, G., 2001. Playing the alliance game in higher education. Perspectives: Policy & Practice in Higher Education, 5:1 6-1.

Te Pūkenga, 2022 Learner Insights - Te Rito Reports, viewed 21 July 2020. https://xn--tepkenga-szb.ac.nz/our-pathway/learner-journey-and-experience/

Tertiary Education Commission 2022, Introduction to the unified funding system, viewed 21 July 2020. https://www.tec.govt.nz/rove/a-unified-funding-system-2/a-unified-funding-system-2/

Tertiary Education Commission and Te Pūkenga, 2022, Strategic Advisory Review Report, viewed 21 July 2020. https://xn--tepkenga-szb.ac.nz/assets/Our-Pathway/OPTION-3-FULL-RELEASE-Te-Pukenga-Strategic-Review-Final-Report.pdf

Williams, J., 2020. Industry-Led Training and Apprenticeships: The New Zealand Model. In: Panth, B., Maclean, R. (eds) Anticipating and Preparing for Emerging Skills and Jobs. Education in the Asia-Pacific Region: Issues, Concerns and Prospects, vol 55. Springer, Singapore, viewed 21 July 2020. https://doi.org/10.1007/978-981-15-7018-6_15

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Eve joined NZQA in 2007 to implement a new quality assurance framework and lead improvements to the qualifications system and framework. She became Manager Quality Assurance Strategy in 2016 and was appointed as Deputy Chief Executive Quality Assurance in 2020.

Eve has held a range of positions primarily across the health and education sectors. She holds a Bachelor's degree from the University of Canterbury, Aotearoa New Zealand, and a Master's degree in Education from the University of New South Wales.

Redefining The Role Of Government Intervention In Private Education Quality Standards – Singapore's Context

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EV Academy (part of Eduvalue Education Group) Singapore.

Abstract
Private education institutions (PEIs) can be regulated in a variety of ways, including by providing private schools with a sound policy framework within which to operate. Governments can facilitate the growth of private providers by defining their role in the national education strategy and outlining their place within the broader education system. PEI quality standards are a frequent topic of conversation, and government intervention in PEI sectors is unavoidable. Private providers may be discouraged by excessive regulations, and the likelihood of expanding school access may be diminished. This paper uses the Singapore Private Education Act 2009, EduTrust-Certification, and ISO21001 (EOMS) to establish and recommend a model that could better enhance the overall total quality management (TQM) standards of the private education sector in the Singapore context by establishing a Self-regulatory Organization (SRO) as a means of improving student outcomes.

1. Introduction

Over the past decade, private education institutions (PEIs) have grown significantly throughout the world along with student number enrolled in these PEIs (Shah, et al., 2019). The ongoing debate on whether or not the education sector needs to be privatized or still conform to the traditional model that lays as the fundamental nucleus of the education policies of the majority of countries still seems to have a sense of ambiguity to it. Particularly, how much interventions should government put on the private education sector.

The topic of educational policy has been at the forefront of the discussion often the topic is linked to the economic well-being of a country. It is generally agreed upon that a country's economic well-being and its labour force growth are correlated. There is little doubt that a strong and well-designed education policy can have a significant impact on the economic future of a nation's workforce and economy if it acts as a long-term measure to increase the economy's productive capacity and shifts the country's Production Possibility Curve outward (Sathya, 2021).

Therefore, it is of the utmost importance that educational systems make the most of the potential benefits that can be gained from various economic models within the education system.

2. Government intervention in education systems

The number of global students has now surpassed 200 million according to Toronto-based Higher Education Strategy Associates (HESA) (MacGregor, 2022). Free compulsory education has been achieved in more than 155 countries worldwide, with 99 countries legally guaranteeing at least 12 years of education according to UNESCO (2020). According to the US National Centre for Education Statistics, in academic year 2020/21, an estimated 3.3 million public school students and

0.4 million private school students graduated from high school (Fu, 2021). Consequently, one would agree that the government's role in education is crucial for any nation.

According to Dissou et al. (2016), the positive externalities associated with human capital accumulation and the disparity between social and private returns to education are frequently the justification for government intervention. In the majority of nations, primary and secondary education are primarily supported by the public sector, whereas tertiary education is frequently subsidized by scholarships and student loans.

Sathya (2021) study indicated that many nations view education as a human investment that can be realized on both micro (invests in oneself) and macroeconomic levels (state invests in its citizens); at the micro level, the return on education is calculated as the individual and social returns of specific education levels and occupations as illustrated in Figure 1: Return of Education at both the microeconomic and macroeconomic levels, education will benefit countries with (Michaelowa, 2000):

- Better educated people
- Better health of people
- Higher population growth
- Higher Productivity
- Higher Income
- Higher labour force participation

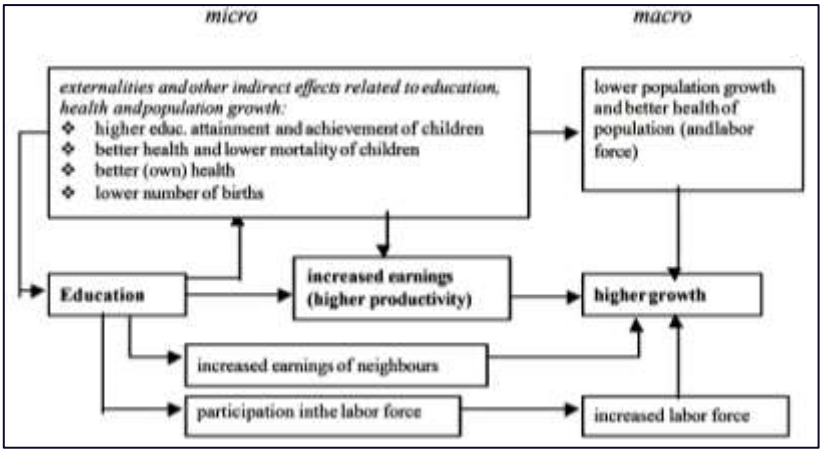


Figure 1: Return on Education (Michaelowa, 2000)

Study by Lu (2018) indicated that if the education provided by the government is less effective than that provided by the private sector or if the unit cost of compulsory education is higher than that of higher education, then longer compulsory education not only reduces the amount of time allotted to higher education, but it also reduces the amount of time spent in education as a whole, thereby decreasing the rate of economic growth. According to Michaelowa (2000) and Sathya (2021), countries must look to implement an education policy that has the potential to foster learning among its students after considering the benefits of education from both an economic and social standpoint. The debate is whether a country should privatize its education sector or implement a mixed model, in which the government retains a significant market share to administer regulations and oversight.

The question remains how much intervention and what interventions governments should play, as it is observed that in the realm of educational policy, collaborations between the public sector and the private sector are extraordinarily helpful (Patrinos & Sosale, 2007).

3. Challenges in Regulating Quality Standards of Private Education Institutions

Private school enrollment presents a number of challenges for governments. Shah et al. (2019) reported that increased regulation, rigorous accreditation and reaccreditation of higher education institutions and courses, and government policies to promote the expansion of public universities are observed globally.

Proponent of more government interventions indicated that a country should retain government intervention as an anchor to protect human development from the negative nuances of privatization, and education is one such aspect that the private sector must not exploit for profit (Sathya, 2021). There are concerns about ethical governance, the maintenance of academic standards, and the planning, review, and improvement of educational outcomes of private education providers (Shah et al.,2019). On the other hand, according to Whelan et al. (2019), there is substantial evidence that government regulations often cause more harm than good if unreasonable standards are set, forcing schools into the black market or into the arms of corrupt officials.

Government involvement in private education tends to fall into three categories globally:

1) Who may enter the education market, and what are the registration requirements?
2) How can we ensure that private schools adhere to minimum quality standards?
3) At what level should the government fund the private education sector?

Looking at above, in any government policies and quality interventions, it is important that these must be carefully designed so as not to deter new providers in areas where they are needed, or to increase their costs to the point where school fees are unaffordable. Furthermore, excessive regulation may encourage private schools to operate as unregistered providers, leaving little or no accountability in practice (Shah et al.,2019; Whelan et al., 2019).

Perhaps, the most concern is government funding the private schools. People who oppose government funding of the private institutions sector argue that these schools have no incentive to consider the broader context of education because, in many countries, private schools were established with the explicit intention of serving only certain groups of students and are primarily profit-driven entities; others argue that the existence of private schools can contribute to the improvement of the productive efficiency of public schools, thereby benefiting the public (OECD, 2012).

4. Private Education Institution (PEIs) roles in an education system for future learning cities

Numerous studies have demonstrated that private education sectors do play a role in the education systems of a number of nations, despite the fact that there are such divergent opinions regarding how governments should support private education sectors. Private education institutions (PEIs) are

prevalent in the education systems of many nations, regardless of whether they are supported by the government or governed by education quality authorities.

Historically, ensuring access to primary education has been viewed as falling primarily under the purview of the public sector. In many nations, public education, particularly at the elementary and secondary school levels, enjoys broad political support. Some studies highlight the potential benefits of government intervention in the form of greater human capital accumulation and greater equality (Lu, 2018). Research conducted as far back as 2007 had seen some governments handing off portions of this responsibility to subsidiary organizations via a wide variety of contractual arrangements such as hand over the provision of certain services to the private sector, non-governmental organizations, and even to other public agencies (Patrinos & Sosale, 2007).

In recent years, life-long learning for future-of-work needs has been getting considerable attention. A report in 2021 from Kentucky, USA stated that nearly 10% of Kentucky's future workface gets a private education as the state sees that building a world-class workforce takes everyone's help, and the work that the state's private schools are doing to prepare their students to help take Kentucky to the next level is highly valued (Yankeelov, 2021). Countries like Singapore government's SkillsFuture initiative drives to ensure strong multistakeholder partnerships in fostering a more dynamic, holistic, and collaborative learning ecosystem for individuals to acquire new skills and confidently navigate an uncertain future (Fung, et al., 2021).

UNESCO Institute for Lifelong Learning advocated a framework where a learning society is one in which all communities, both rural and urban, including disadvantaged and poor communities, have access to high-quality, inclusive, relevant learning through all modalities—formal, nonformal, and informal (Ra, et al., 2021) as demonstarted in Figure 2 below.

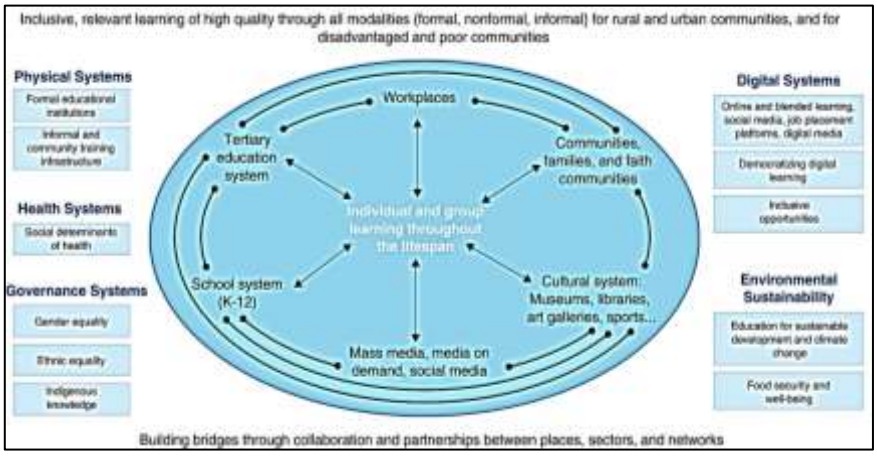


Figure 2: UNESCO Institute for Lifelong Learning (Fung, et al., (2021)

According to Fung et al., (2021), the private sector can play an important role in this ecosystem by identifying new in-demand technologies and skills early on, creating job opportunities for such skills, and contributing to accessible and affordable learning platforms and opportunities for the larger workforce. It is common practice across the globe to make participation in public elementary and secondary schools (also known as "compulsory education") and enrolment into higher education

is up to the individual. According to Dissou, et al., (2016), all methods of financing government spending on education have a positive effect on long-term economic growth. Therefore, government intervention on private education sector should produce the same benefit.

Despite studies indicating that the private education sector plays a role in the education systems of nations, the private education sector has often been seen as a profit driving entity than providing true education services. However, study has shown in India that the privatisation of education and subsidise the private sector reduces the costs to tax payers by fasten the economic model and act as a stimulus in countries for more people to pursue education (Sathya, 2021).

5. A model to redefine the role of government in private education sector quality standards

In the majority of cases in which the government is involved, it is common to see that countries regulate the standards that are maintained by private schools by assessing their performance through government appointed school inspectors. In addition, countries typically require educational institutions to conduct self-evaluations that include the perspectives of various stakeholders, including parents and students. However, there is not always agreement regarding whether or not such official regulation actually protects or improves standards when they are put into practice.

5.1. The Singapore model in regulating private education sector

The Private Education Act 2009 (revised in 2020) was enacted by the government of Singapore in order to establish a framework for the regulation and accreditation of private educational institutions, with the goal of ensuring that students attending these institutions receive a quality education, as well as other concerns connected with these institutions (Government of Singapore, 2022).

Under the statutory oversight of SkillsFuture Singapore, which is part of the Ministry of Education Singapore (MOE), the Committee for Private Education (CPE) monitors private institutions operating under the Private Education Act to ensure quality and regulatory alignment as illustrated in Diagram 1: Regulating PEIs. The Private Education Act mandates that all private schools register with the CPE and meet minimum standards for information disclosure, academic processes, and corporate governance.

The Enhanced Registration Framework (ERF) and the EduTrust Certification Scheme (EduTrust) comprise CPE's two-tier regulatory structure. The EduTrust requires private education institutions (PEIs) to provide educational services of a higher quality in order to be certified, whereas the ERF establishes the minimum standards that private education institutions (PEIs) must adhere to in order to operate (SkillsFuture.SG, 2017).

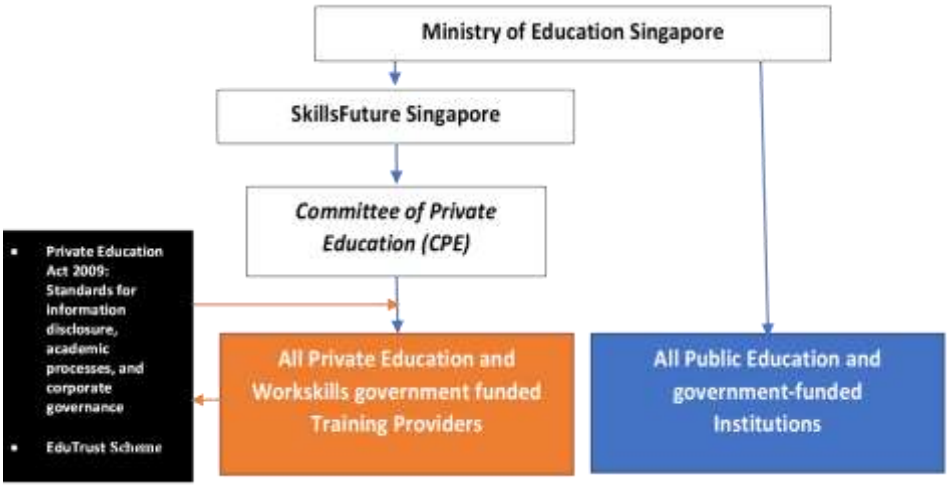


Diagram 1: Regulating PEIs

To differentiate quality standards of private education providers in Singapore, CPE introduced the EduTrust Certification Scheme (EduTrust) in an assurance of quality program. EduTrust scheme is a volunteering program where it evaluates a private school's academic processes, corporate governance and administration, quality management, and protection and welfare of students; and aims to recognize private schools that are able to consistently maintain a high standard of quality in the overall provision of education services and make continuous improvements that result in positive student outcomes. However, EduTrust does not evaluate the course's content.

Depending on their EduTrust scores, Private Education Institutions (PEIs) may be eligible for one of the following EduTrust certification awards (Training Partners Gateway, 2021) as shown in Figure 3: EduTrust Schemes below:

Certification	Characteristics
EduTrust Star	EduTrust Star (750 points and above) Award is given to PEIs for attaining a commendable level of performance in managing their institutions and providing an outstanding quality of education and welfare for their students. This mark is a symbol of recognition for outstanding achievement. The EduTrust Star has a validity of up to four years.
EduTrust	EduTrust (600 to 749 points) Award is given to PEIs for sustaining an excellent level of performance in managing their institutions and providing high quality education standards and welfare for their students. The EduTrust has a validity of up to four years.
EduTrust Provisional	EduTrust Provisional (500 to 599 points) Award is given to PEIs that have attained a minimum level of performance in key areas of administration and provision of educational services. The EduTrust Provisional has a validity of up to one year. In accepting the award, the PEI acknowledges the need for improvements to meet the level of performance expected of the four-year EduTrust award in its existing management practices and service provisions, and strives to achieve this.

Figure 3: EduTrust Schemes (Training Partners Gateway, 2021)

In spite of the Private Education Act 2009, and the EduTrust Schemes there is no central authority in Singapore that acknowledges the certificates, qualifications, and courses of study that are provided by private schools. Although Singapore's official position is that all degrees awarded by overseas universities (which are accredited by their home countries) should be accepted, employers in practice have their own opinion on which private universities are more regarded as worthy of consideration.
The Private Education Act 2009 and EduTrust Schemes has effectively reduced black market and unethical private education providers from 1200 schools in 2009 (Davie, 2009) to 306 private education providers as of June 10, 2022 (Training Partners Gateway, 2022), thereby significantly increasing accountability in practice and keeping unethical providers out of the market place.

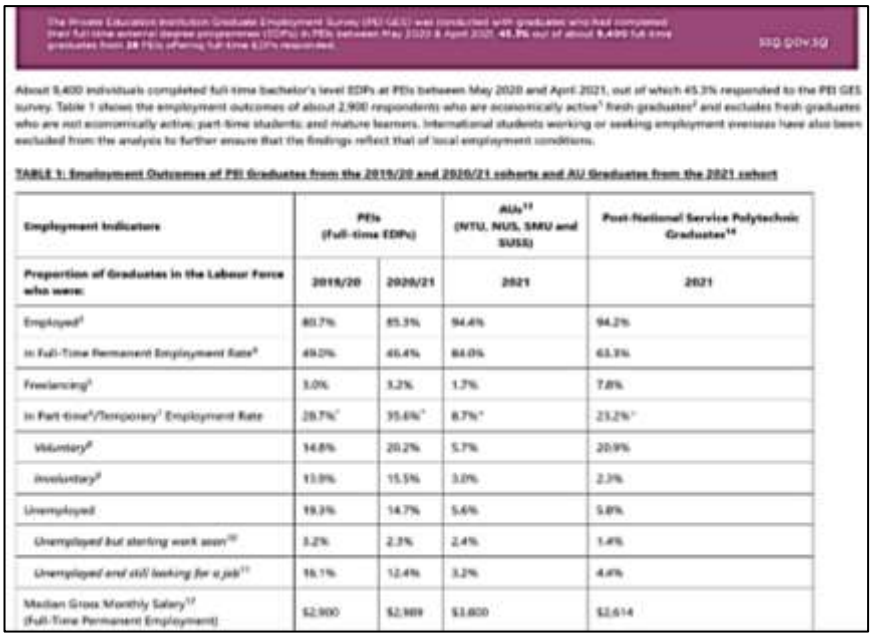
The EduTrust scheme has also aided in the differentiation of quality standards in terms of academic processes and corporate governance, where the various levels have become a "Branding" requirement for private educational institutions seeking to recruit prospective students, increase enrolments in Singapore, and attract international students to study in Singapore.

5.2. The missing pieces in regulating Singapore private education quality standards
Although the Private Education Act and EduTrust have effectively monitored and controlled unethical practices in Singapore's private education systems, there is insufficient quality control over the rigor of the PEI's education programs and training courses.

Out of 306 PEIs in Singapore, 18 received 1-year EduTrust-provisional certification, 100 received 4-year EduTrust-certification, and only 2 received EduTrust-star certification, leaving 186 PEIs, or approximately 61% of PEIs, without any form of quality assurance certification (Training Partners Gateway, 2022). When combined with the fact that the EduTrust scheme did not include oversight to ensure that programs and courses are aligned with industry requirements, or that requirements are aligned with future workforce requirements, the overall quality assurance standards are incomplete. In appeared that Singapore MOE does not have much clear directions towards supporting the private education sector. In his speech at The Straits Times Education Forum 2022 on the evolving role of universities on February 10, 2022, the new Minister of Education of Singapore, Mr. Chan Chun Sing, indicated that the nation's education system cannot be judged solely on the basis of how successfully it prepares a new class of 30,000 to 40,000 graduates for the labour market each year in order to qualify as successful. Rather, it should be how well Singapore do that in addition to retraining and improving the skills of the existing workforce (Kai, 2022). It was unfortunate, that the speech focused primarily on how Singapore's public educational institutions ought to evolve, but it did not highlight any significant role that the country's private education sector could play in contributing to the evolving role that it plays as a component of Singapore's education system.

The Singapore Government conducts a mandatory PEI graduate employment survey (GES) every year, comparing private school Bachelor Degree graduates (programs are partnership with overseas universities; PEIs are not allowed to award postgraduate or undergraduate degrees) and government Autonomous Universities (AUs), and every year the GES survey finds that degree graduates from private schools lag significantly behind their government university peers in the job market, the

latest 2020/2021 survey (SkillsFuture Singapore, 2021) is shown in Diagram 2: GES Survey 2020/2021.PEIs Bachelor degree graduates full-time employment rate is average 83% and median gross salary of SGD$2,945 as compared to AU of 94.4%. and salary of SGD$3,800.



About 9,400 individuals completed full-time bachelor's level EDPs at PEIs between May 2020 and April 2021, out of which 45.3% responded to the PEI GES survey. Table 1 shows the employment outcomes of about 2,900 respondents who are economically active[1] fresh graduates[2] and excludes fresh graduates who are not economically active; part-time students; and mature learners. International students working or seeking employment overseas have also been excluded from the analysis to further ensure that the findings reflect that of local employment conditions.

TABLE 1: Employment Outcomes of PEI Graduates from the 2019/20 and 2020/21 cohorts and AU Graduates from the 2021 cohort

Employment Indicators	PEIs (Full-time EDPs)		AUs[17] (NTU, NUS, SMU and SUSS)	Post-National Service Polytechnic Graduates[18]
Proportion of Graduates in the Labour Force who were:	2019/20	2020/21	2021	2021
Employed[3]	80.7%	85.3%	94.4%	94.2%
in Full-Time Permanent Employment Rate[4]	69.2%	66.4%	84.0%	63.3%
Freelancing[5]	3.0%	3.2%	1.7%	7.8%
in Part-time[6]/Temporary[7] Employment Rate	28.7%	35.6%	8.7%	23.2%
Voluntary[8]	14.8%	20.2%	5.7%	20.9%
Involuntary[9]	13.9%	15.5%	3.0%	2.3%
Unemployed	19.3%	14.7%	5.6%	5.8%
Unemployed but starting work soon[10]	3.2%	2.3%	2.4%	1.4%
Unemployed and still looking for a job[11]	16.1%	12.4%	3.2%	4.4%
Median Gross Monthly Salary[12] (Full-Time Permanent Employment)	$2,900	$2,989	$3,800	$2,614

Diagram 2: GES Survey 2020/2021(SkillsFuture Singapore, 2021)

The lower PEI GES survey results shown in Diagram 2 is not a surprise, despite the fact that all programs must be approved by CPE and the MOE oversees the private education sector, the Singaporean government views private education institutions as primarily a commercial enterprise. With limited support and collaboration from the Ministry of Education and no funding support for private education providers, the sector is left to determine what relevant contents and curricula to implement within each institution's strategic directions and resource constraints, resulting in decisions that are primarily based on profitability and bottom-line considerations.

Because the Singapore government has not yet undertaken any initiatives to support the private education sectors beyond academic processes and corporate governance, it is necessary for the private sector to establish higher quality standards and raise the credibility of their products as well as graduates' standing in society and with employers. This will enable the private sector to compete more effectively with the public education sector. As a result, the current quality assurance of PEIs must be expanded to apply to a more comprehensive setting, with the private education sector banding together to establish industry standards that all PEIs agreed to follow, as well as to establish a strong business network, academic collaborations, and sectorial upskilling and reskilling of their staff.

5.3. A suggested new model of PEI Total Quality Management (TQM) standards– PEI Self-regulatory Organization (SRO)

Quality in education according to Paraschivescu (2017) is the collection of characteristics that demonstrate the degree to which the objective and implicit (general functions of education, the basic structure of education) and the subjective and explicit (the objectives of the education/training

activity employed by the course designer are fulfilled or satisfied pedagogically) at all levels of the system and the education process are satisfied. CPE and the EduTrust scheme have satisfied the implicit prespective of running a PEI; however, the explicit portion has generally been left to the discrerations of individual private education providers.

In the absence of a more robust and comprehensive government support framework for Singapore PEIs, one alternative is to establish a sectorial Self-regulatory Organization (SRO) within a PEI network to spearhead initiatives in Total Quality Management (TQM) standards that are aligned with internationally recognized education quality standards. TQM is a managerial strategy that is based on a quality culture/consciousness throughout the organization (Paraschivescu, 2017). According to Koten (2021), a Self-regulatory Organization (SRO) is a non-governmental organization that is owned and operated by its members and has the authority to create and enforce industry regulations and standards on behalf of its members. This would be a step in the right direction to compliment CPE regulatory framework and EduTrust scheme. Perhaps, the new PEI SRO could adopt or take reference to "ISO 21001 Educational organizations — Management systems for educational organizations (EOMS) — Requirements with guidance for use" (ISO, 2018), for the self-regulating of PEI sector where CPE and EduTrust scheme have not fully covered.

Diagram 3: ISO21001:2018 (E) (ISO, 2018) depicted the ISO21001(EMOS) International Organization for Standardization framework, which does have some overlap with Diagram 2: EduTrust-certification framework (SkillsFuture.SG, 2017).

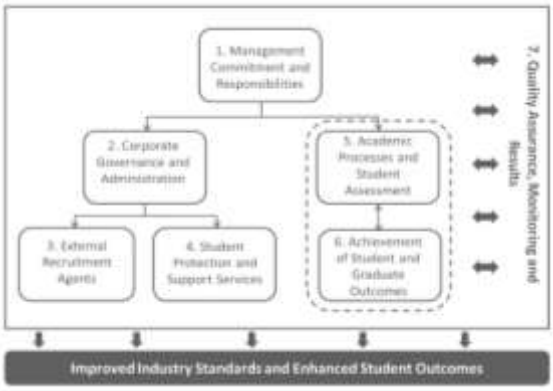


Diagram 2: EduTrust-certification framework (SkillsFuture.SG, 2017)

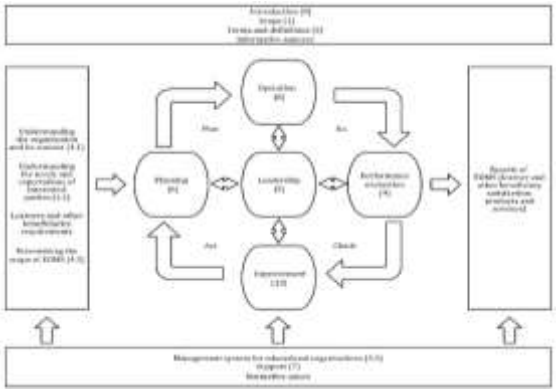


Diagram 3: ISO21001:2018 (E) (ISO, 2018)

The key difference is that ISO21001 emphasizes risk-based thinking as an essential step toward achieving an effective system (ISO, 2018), and, unlike the EduTrust Framework, leadership stands at the centre of the framework and controls the entire process, indicating a demand for a more participative organizational culture, as opposed to the EduTrust Framework's more top-down approach.

Diagram 4: Framework Approaches depicts the various approaches that each framework takes in quality assurance. It can also be concluded that ISO21001's PDCA approaches are more performance-oriented, whereas EduTrust's APSR approaches are more process-oriented.

EduTrust - APSR approaches (SkillsFuture.SG, 2017)	ISO21001 - PDCA approaches (ISO, 2018)
Approach: Comprises appropriate policies, methods, tools and techniques which are used to carry out the processes to meet the requirements.	**Plan:** Establish the objectives of the system and its processes, and the resources needed to deliver results in accordance with learners' and other beneficiaries' requirements and the organization's policies, and identify and address risks and opportunities
Process: A systematic series of procedures that takes one or more kinds of inputs and creates outputs.	**Do:** Implement what was planned
System: Refers to a group of interdependent and integrated processes that leads to an end result or desired outcome(s).	**Check:** Monitor and (where applicable) measure processes and the resulting products and services against policies, objectives, requirements and planned activities, and report the results
Review: The evaluation conducted to assess the appropriateness, relevance and effectiveness of the approach, process and system for continual improvement.	**Act:** Take actions to improve performance, as necessary

Diagram 4: Framework's Approaches

It makes sense to establish a sectorial self-regulatory organization (SRO) to enhance the overall total quality standards that exceed the EduTrust process-oriented quality assurance certifications. Adopting elements of ISO21001(EOMS) standards – a global standard – could be a step in the direction of improved student graduation outcomes and employer perceptions of PEI graduates. As illustrated in Diagram 5: A news SRO quality standards, by in cooperating a PEI own set of sectorial quality standards will complete the Total Quality Management (TQM).

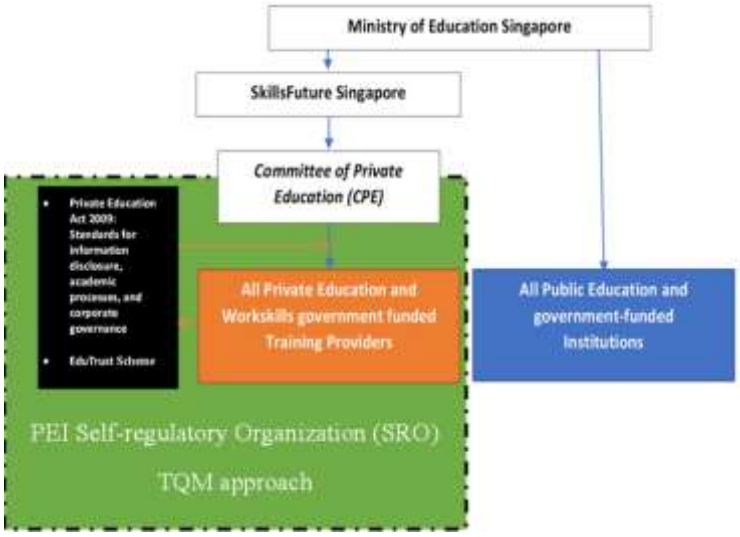


Diagram 5: A news SRO quality standards

6. Conclusion

Despite attaining EduTrust-certification, which played a big part in ensuring processes and governance are in checks for PEIs, the scheme does not focus on contents of the curriculum , and Singapore's private educational institutions view each other as competitors; the sector neither collaborates nor actively engages to improve the quality of services, learning rigor, and student experiences as a sectorial whole for the good reputation of the sector as part of Singapore's globally renowned, credible education system.

If done well, TQM in private education can be seen for example in the curriculum shape at school decision, the extreme diversification of curricula and curriculum pathways, multivalent teacher

training, and the application of the concepts of ("school improvement") and "organization/school ("learning organization – "school that learns") – all of which lead to a constant renewal of school life and a constant adaptation of the educational offer to the changing educational needs of individuals and communities (Paraschivescu, 2017).

With a creation of a Singapore PEI Self-regulatory Organization (SRO) adopting a TQM approach, the new standard will assist PEIs in effectively aligning their activities with their mission and vision and providing more personalized learning, both of which will benefit not only students/trainees but also, through improved processes and a system of time improvement, the contribution of educators, parents, and other stakeholders who will enhance the graduate outcomes and market perceptions of private education students' quality.

References

Davie, S., 2009. *Striengent laws to givern privtae schools* , s.l.: The Straits Times.

Dissou, Y., Didic, S. & Yakautsava, T., 2016. Government spending on education, human capital accumulation, and growth. *Economic Modelling,* Volume 59, pp. 9-21.

Fung, M., Taal, R. & Sim, W., 2021. SkillsFuture: The Roles of Public and Private Sectors in Developing a Learning Society in Singapore.. In: S. Ra, S. Jagannathan & R. Maclean, eds. *Powering a Learning Society During an Age of Disruption. Education in the Asia-Pacific Region: Issues, Concerns and Prospects.* s.l.:Springer, Singapore, pp. 195-208.

Fu, Y., 2021. *Government Intervention Greatly Influences Education System.* Toronto, Canada, 2021 3rd Scientific Workshop on Advanced in Social Sciences, Arts & Humanities.

Government of Singapore , 2022. *Singapore Statutes Online:PRIVATE EDUCATION ACT 2009.* [Online]
Available at: https://sso.agc.gov.sg/act/pea2009
[Accessed 10 Jun 2022].

ISO, 2018. *ISO21001 Educational organizations-Management systems for educational organizations- Requirements with guidance for use.* [Online]
Available at: https://www.iso.org/standard/66266.html
[Accessed 14 June 2022].

Kai, N. W., 2022. *Definition of success in Singapore education system must change: Chan Chun Sing.* [Online]
Available at: https://www.straitstimes.com/singapore/parenting-education/definition-of-success-in-singapore-education-system-must-change-chan-chun-sing
[Accessed 21 June 2022].

Koten, S. v., 2021. Self-regulation and governmental oversight: a theoretical and experimental study. *Journal of Regulatory Economics,* Volume 59, p. 161–174.

Lu, C.-H., 2018. Social status, compulsory education, and growth. *Economic Modelling,,* Volume 68, pp. 425-434,.

MacGregor, K., 2022. *Higher education report charts rise of the Global South.* [Online]
Available at: https://www.universityworldnews.com/post.php?story=20220311151815827
[Accessed 22 May 2022].

Michaelowa, K., 2000. *Returns to Education in Low Income Countries:Evidence for Africa.* s.l., Annual meeting of theCommittee on Developing Countries of the German Economic Association.

OECD, 2012. *Public and private schools: How management and funding relate to their socio-economic profile,* Paris : OECD Publishing .

Paraschivescu, A. O., 2017. Particularities of Management and Quality Assurance in Education. *Economy Transdisciplinarity Cognition,* 20(2), pp. 12-18.

Patrinos, H. A. & Sosale, S., 2007. *Mobilizing the private sector for public education : a view from the trenches.* Washington, DC: Available at: INSERT-MISSING-URL: World Bank (Directions in development. Human development)..

Ra, S., Jagannathan, S. & Maclean, R., 2021. Overview. In: *Powering a Learning Society During an Age of Disruption. Education in the Asia-Pacific Region: Issues, Concerns and Prospects.* s.l.:Springer, Singapore , pp. 3-13.

Sandeep, A. & Jetu, L., 2021. Role of the Private Sector and Technology for Future-Ready Education and Training. In: S. Ra, S. Jagannathan & R. Maclean, eds. *Powering a Learning Society During an Age of Disruption.* s.l.:Springer, Singapore, pp. 293-309.

Sathya, K. A., 2021. Government Intervention in the Education Sector and the Consequences of the Privatisation of Education. *Munich Personal RePEc Archive,* 29 June.

Shah, M., Vu, H. Y. & Stanford, S.-A., 2019,. Trends in private higher education in Australia. *PERSPECTIVES: POLICY AND PRACTICE IN HIGHER EDUCATION,* 23,(1), p. 5–11.

Singapore Ministry of Trade and Industry , 2018. *Returns to Education For Graduates of Private Education Institutions.* [Online]
Available at: https://www.mti.gov.sg/Resources/feature-articles/2018/Returns-to-Education-For-Graduates-of-Private-Education-Institutions

SkillsFuture Singapore, 2021. *Private Education Institution Graduate Employment Survey 2020/21.* [Online]
Available at: https://www.ssg.gov.sg/cpe/ges.html
[Accessed 23 June 2022].

SkillsFuture.SG, 2017. *EduTrust Certification Scheme Guidance Document.* [Online]
Available at: https://www.tpgateway.gov.sg/docs/default-source/default-document-library/edutrust-certification-scheme/edutrust-guidance-document-version-3.pdf?sfvrsn=9613f8d8_2
[Accessed 14 June 2022].

Training Partners Gateway, 2021. *About EduTrust Certification Scheme.* [Online]
Available at: https://www.tpgateway.gov.sg/resources/information-for-private-education-institutions-(peis)/edutrust-certification-scheme/about-edutrust-certification-scheme
[Accessed 10 June 2022].

Training Partners Gateway, 2022. *Permitted Courses Offered by PEIs.* [Online]
Available at: https://www.tpgateway.gov.sg/resources/information-for-private-education-institutions-(peis)/pei-listing
[Accessed 10 June 2022].

Whelan, F., Barty, J. & Balestra, M., 2019. *Case for intervention in private schools,* s.l.: Acasus.

Yankeelov, D., 2021. *Lane Report : Private Schools, Public Impact,* Kentucky: Lane Communication Group.

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International Joint Accreditation among Japan, Taiwan, and Thailand

Kazuyo Hara, Ying-Li Chou, Somyot Cheejaeng

Abstract

The Japan University Accreditation Association (JUAA) and the Taiwan Assessment and Evaluation Association (TWAEA) launched the joint accreditation project called "iJAS (International Joint Accreditation Standard) project" in 2018 with the goal of promoting the further internationalization of higher education institutions and enhancing quality assurance (QA) in Japan and Taiwan. JUAA and TWAEA set common standards and conduct joint accreditation. In 2019, Akita International University (Japan) and Chia Nan University of Pharmacy and Science (Taiwan) became the first accredited universities under the iJAS project. JUAA, TWAEA, and these two universities have taken the next steps toward the internationalization of QA. In 2021, the Office for National Education Standards and Quality Assessment (ONESQA), Thailand joined this project. This paper presents the iJAS project as one of the attempts of international cooperation among QA agencies.

Keywords**:** Quality Assurance, Joint Accreditation, Institutional Accreditation, Internationalization

1. Introduction

As global society continues to change dramatically with Industry 4.0, the demand for quality higher education that fosters a global mindset is increasing. Responding to this demand, universities worldwide are undertaking the internationalization of their education: classes taught in English, study abroad opportunities, dual/double degree courses with overseas universities, and branch campuses. Recently, transnational education, in particular, has grown rapidly. In terms of the quality assurance (QA) of universities, many countries establish their own QA frameworks, and QA agencies play a leading role in these frameworks. However, QA is addressed differently in different countries: evaluation is mandatory in some countries, while it is optional in others, and it is addressed at the institutional level in some countries, while is addressed at the program or qualification level in others. As universities expand their international reach, QA agencies need an enhanced evaluation system and increased international recognition. For instance, graduates often need to provide evidence of their university's accreditation for study abroad or job opportunities. Under such circumstances, QA agencies in each country provide and gather information on overseas QA systems and strive to improve their evaluation criteria and systems. The International Network for Quality Assurance Agencies in Higher Education and regional networks of QA agencies are playing significant roles in this context.

Recently, the trend for international cooperation has expanded beyond network activities to direct connections between QA agencies through cooperation agreements. For instance, the Japan University Accreditation Association (JUAA) promotes international recognition by conducting joint surveys and holding joint staff training with some QA agencies. Despite those activities, many QA agencies and universities are facing QA challenges in their own countries/regions, and Japan and Taiwan are no exception. Both face increasing numbers of universities and university

enrollment rates despite a declining birthrate. In addition, society demands global education capable of fostering global-minded individuals, so universities must innovate to succeed in the competitive environment.

Among these innovations, as part of their leading role in university QA in Japan and Taiwan, JUAA and Taiwan Assessment and Evaluation Association (TWAEA) jointly developed institutional evaluation systems for the internationalization of QA and for enhancing the Japanese and Taiwanese universities' presence in international markets and launched the iJAS (International Joint Accreditation Standard) project.

This paper demonstrates the purpose, procedures, and evaluation standards of this project as one aspect of QA agencies' international cooperation.

2. Purpose and benefits of international joint accreditation

Joint accreditation aids the development and internationalization of Japanese, Taiwanese, and Thai universities through the joint evaluation by three QA agencies. Accreditation by recognized QA agencies 1) improves the global status and competitiveness of the university; 2) provides a reference for international cooperation agreements between universities that involve proof of academic equivalence, dual/joint degrees, and exchange and overseas students; and 3) aids the recruitment of international students and outstanding scholars from overseas. Additionally, participating in international evaluation increases the depth and breadth of suggestions for improvements.

We will also demonstrate the ways in which the QA agencies benefit from the evaluation process. The reviewers gain important expertise and professional development, both for themselves and the universities, by evaluating overseas universities, and their feedback will aid us in refining the assessment competency and professional development surrounding our own evaluation system. The overall experience will facilitate the internationalization and educational excellence of higher education in Japan, Taiwan, and Thailand.

3. International joint accreditation model

3.1 Conditions for applying

Universities applying for joint accreditation must first be accredited by an institutional accreditation based on the laws and regulations of the country in which it is located. To avoid redundancy and an unnecessary burden on universities, we do not directly review compliance with the laws and regulations in this accreditation. For example, in institutional accreditation in Japan, if the university violates any national laws or regulations or faces severe financial difficulties, it cannot be accredited. Conditioning the application ensures a certain quality level for universities undergoing joint accreditation.

3.2 Standards for international joint accreditation

There are six standards and 24 indicators for international joint accreditation (Table 1). In addition, we set the 26 performance indicators, and the evaluation of the achievement status is quantified and shown on the radar chart in the accreditation report.

Standard 1: Mission, Goals & Strategy	
1-1	The university appropriately defines its mission and goals. In addition, it appropriately defines the goals of each school and department in light of the university's mission and goals.
1-2	The university appropriately specifies its mission and goals and the goals of each school and department in written university rules or other rules equivalent thereof, made known to university staff and students, and made public to society.
1-3	The university establishes mid- and long-term plans and other measures with a view to the future of the university, and in order to realize its mission and goals and the goals of each school and department.
1-4	The university defines a strategy on internationalization in line with its mission and goals.
Standard 2: Internal Quality Assurance	
2-1	The university specifies university-wide policies and procedures for internal quality assurance.
2-2	The university puts in place a university-wide system responsible for promoting internal quality assurance.
2-3	The internal quality assurance system is effectively functioning based on the policies and procedures.
2-4	The university appropriately publishes information on educational and research activities, the results of self-studies and self-evaluation, finance and other various activities of the university to achieve accountability to society.
2-5	The university regularly verifies the adequacy of the internal quality assurance system through reviews and evaluation and utilizes the results of such reviews and evaluation to make improvements.
Standard 3: Teaching & Learning	
3-1	The university specifies and publishes policies on degree award, curriculum design and implementation, and student admission in order to realize its mission and goals. It ensures that these policies are appropriately linked and consistent with each other.
3-2	The university systematically designs the curriculum and offers courses suitable for each degree program based on the policies for curriculum design and implementation.
3-3	The university clarifies the ideal image of faculty members and the policy for organizing faculty organization. It develops faculty organizations based on this policy to implement educational and research activities by the schools and departments.
3-4	The university implements various measures to stimulate students' learning and effectively provide education.
3-5	The university appropriately implements evaluation of students' learning outcomes, granting of credits and awarding of degrees.

3-6	The university appropriately assesses and evaluates learning outcomes as specified in the policy on degree award.
3-7	The university appropriately admits students based on student admission policy. It puts student support systems in place and offers appropriate student services so that students can concentrate on learning and lead stable campus lives.
3-8	The university specifies policies for ensuring the environment and conditions for students' learning and educational and research activities by faculty members. Based on such policies, the university must have sufficient school sites and buildings and maintain facilities and equipment necessary for educational and research activities. It must also have a library and systems for providing academic information services and ensure they are functioning appropriately.
Standard 4: Faculty	
4-1	The university implements systematic and multifaceted Faculty Development (FD) programs to promote the qualitative improvement of faculty members and faculty organization.
4-2	The university recruits, hires and promotes faculty members and evaluates their performance appropriately in accordance with rules and regulations.
4-3	Faculty members incorporate the outcomes of research and development and/or cooperation with industry into education to offer enhanced learning opportunities to the students.
Standard 5: Social Connection	
5-1	The university specifies policies on social cooperation and contribution to appropriately share educational and research outcomes of the university with society. Furthermore, it implements specific measures for social cooperation and contribution based on the policies.
Standard 6: Governance	
6-1	The university specifies policies on the administration of the university as necessary for realizing its mission and goals and the mid- and long-term plans established with a view to the future of the university.
6-2	The university must be administered appropriately based on the policies.
6-3	The university establishes administrative organizations that properly functioning to undertake work related to the operation of the legal entity and university, support for educational and research activities, and other necessary work. It also puts measures in place to motivate and promote the qualitative improvement of administrative staff members to ensure the effective administration of the university.

Table 1. Standards for International Joint Accreditation

3.3 Organization structure and reviewers

The International Joint Accreditation Committee (the Committee), supervised by the three agencies, has been established to select Japanese, Taiwanese, and Thai members. For the evaluation, a review team is organized for each applicant. The review team consists of five reviewers (one of whom is the chair). The composition of the review team is as follows (Table 2).

	Location of applicant university		
	Japan	Taiwan	Thailand
Number of Japanese team members	1	2	2
Number of Taiwanese team members	2	1	2
Number of Thai team members	2	2	1
Chair	Appoint Taiwanese /Thai team member	Appoint Japanese/Thai team member	Appoint Taiwanese/Japanese team member

Table 2: Composition of review team

The reviewers must meet the following conditions:

i. Previous experience or current appointment as a tier-1 executive including president, vice-president, dean of academic affairs, dean of general affairs, dean of student affairs, or dean of research & development;
ii. Professor with relevant practical experience in higher education administration or institutional research;
iii. Senior administrative staff or staff related to self-evaluation activity;
iv. Industry representative in an executive position (business owner, senior manager, director) who is familiar with higher education.

3.4 Reviewer training

Recruiting and cultivating high-quality reviewers is essential for QA agencies. For this joint accreditation, the reviewers must conduct a fair and transparent evaluation viewed through an international perspective. Hence, the reviewer should have a thorough understanding of the mission and goals of the university and its strategy for internationalization and an excellent discernment of how Japanese, Taiwanese, and Thai universities should address the "internationalization of universities" demanded by the global society and what should be done to achieve this goal.

We develop a training program for reviewers that includes 1) the project outline, 2) the evaluation standards and indicators, 3) the evaluation ethics, 4) the method of writing evaluation findings, 5) the interview method, and 6) the current status of higher education in Japan, Taiwan, and Thailand. This last point is essential, as the reviewer must have up-to-date knowledge of the educational climate in the university's location.

3.5 Evaluation method

Since this joint accreditation is intended for universities aiming at internationalization, this evaluation focuses on internationalization strategies and the internal QA system in accordance with

the mission and purpose of the university. After the university submits a self-assessment report, supporting documents, and basic data, the reviewers start a document review.

3.5.1 Document review

The review team conducts the document review and then writes the opinion, which includes strengths, specialties, and recommendations. If the reviewers have questions or need additional documents, they may submit a "request for clarification list." The request list should be sent to the university five weeks before the on-site review, and the university should submit the response two weeks before the on-site review.

3.5.2 On-site review

The on-site review is a full-day process that provides time for communication and the exchange of opinions between the review team and the university, including students. The review team conducts the on-site review based on the documents provided by the university. The university can also provide supplementary explanations. Ideally, the review team meeting is held on the days before and after the on-site review. In the meeting, based on the university's answers to the questions, the reviewers determine points that require further confirmation in the on-site review and then gather consensus for an accreditation report.

3.6 Accreditation result

The review team prepares an accreditation report within two weeks of the on-site review and submits it to the Committee. After being discussed and confirmed by the Committee, the accreditation report draft is sent to the university. To ensure equitable treatment, if there are any factual errors in the accreditation report, the university can state opinions on the draft report within the specified period. The review team then evaluates the university's comments and crafts a response. Finally, the board of directors of the three agencies approves the accreditation report. After approvals, one of the agencies sends the accreditation report to the university, and the three agencies release it on their websites.

4. Pilot evaluation

JUAA and TWAEA conducted the pilot evaluation with the cooperation of two universities in Japan and Taiwan (Akita International University and Chia Nan University of Pharmacy & Science) to confirm the evaluation system's standards and criteria, schedule, and reviewer workload in 2018–2019. Firstly, the universities conducted self-assessment based on the standards and indictors and prepared the self-assessment report, fact sheet, and supporting documents. Secondly, while the universities prepared the evaluation materials, the Committee selected the reviewers for these two universities. The review team consisted of five members: three from Taiwan (including the chair) and two from Japan for the Japanese university and three from Japan (including the chair) and two from Taiwan for the Taiwanese university.

After the reviewer training, the review teams conducted the document and on-site reviews and then concluded the accreditation reports. Following the pilot evaluation, the full accreditation process

was conducted according to the designed schedule, and JUAA and TWAEA approved the official joint accreditation of the two universities.

5. Conclusion: Future vision for international cooperation

JUAA and TWAEA discussed the joint accreditation scheme for almost three years while simultaneously observing the training program, review team meetings, and on-site reviews to confirm each other's evaluation system. We agreed to conduct evaluations for the further development of universities in Japan and Taiwan, respecting the universities' autonomy and academic freedom.

The pilot evaluation has shown that the joint accreditation might be a new and successful attempt for international cooperation among QA agencies. JUAA and TWAEA demonstrate that we can evaluate universities not only locally, but also internationally, and the experience gained will in turn also lead to improvement in local accreditation. As the first two accredited universities, Akita International University and Chia Nan University of Pharmacy & Science have both made distinctive internationalization efforts using unique approaches.

The joint accreditation is not only for QA between Japan and Taiwan; the accredited universities can show the world that they are certified for international institutional accreditation. Furthermore, there are many possibilities for accredited universities, such as the creation of international consortiums and networks of graduates in which only the accredited universities can participate.

The COVID-19 pandemic has completely changed people's lifestyles, economies, and societies around the world, but with the rapid progress of ICT technology, progress is being made in various fields using digital transformation. The education and research activities of universities are no exception. Universities worldwide continue to engage in educational and research activities while seeking new ways to fulfill their missions. By providing online classes, we were able to learn about the advantages and disadvantages of both face-to-face and online classes. As for internationalization, universities have almost stopped receiving international students and sending students abroad but have found that new forms of exchange using ICT have a positive effect to a certain extent. In the post-COVID-19 era, there will be another discussion on the internationalization of university education and the design of campuses.

In 2021, with no end of COVID-19 in sight, the iJAS project is being developed to target universities in Japan, Taiwan, and Thailand with the Office for National Education Standards and Quality Assessment (ONESQA)'s participation. We will actively promote the joint accreditation project in Japan, Taiwan, and Thailand as well as in other Asian countries, which will serve as a catalyst for further internationalization and QA in Asian universities.

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Internationalisation Of Quality Assurance vs. Quality Assurance Of Internationalisation: A Typology Of Quality Assurance Activity In An Internationalised Context.

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Abstract
When it comes to discuss quality assurance in an international context there is an important distinction to make, that between the internationalisation of quality assurance activities and the quality assurance of internationalisation activities. Albeit the two spheres of activities can and do overlap, they represent different sets of activities associated with specific challenges and opportunities. This paper aims to outline the defining characteristics of each type of activity, providing some examples, suggesting a typology of quality assurance in an internationalised context which could help refining thinking and practice in this area.

1. A typology of quality assurance in an international context

When thinking about the impact of the internationalisation of higher education and processes of globalisation and regionalisation more broadly, on quality assurance, it is possible to distinguish between the internationalisation of quality assurance practices and activities, and the quality assurance of internationalised higher education practices and activities. This distinction points to a different range of developments with specific set of challenges and opportunities.

Internationalisation of quality assurance

The internationalisation of quality assurance practices and activities can refer to two distinct aspects. On the one hand, it can refer to the introduction of an international dimension into a national quality assurance system, or into the operations of a quality assurance or accreditation agency.
An example of this sort of internationalisation can be including international experts in peer-review panels as a way to introduce an international perspective to the activities of a quality assurance body. This is for example considered best practice by the European Standards and Guidelines (ESGs), according to which:

> 'the involvement of international experts in external quality assurance, for example as members of peer panels, is desirable as it adds a further dimension to the development and implementation of process' (ESG 2.4).

Including international experts in national quality assurance processes can be particularly helpful to support the internationalisation of national higher education systems. In the specific European context, this is particularly helpful in supporting the harmonisation of national higher education and quality assurance systems across the European Higher Education Area (EHEA) as per commitment made as part of the Bologna Process. International experts can also help providing an additional element of externality and independence, which is particularly valuable to small national systems

where the use of national peers might raise to conflict of interests. The use of international experts is of course not without challenges, the main one being the costs involved in covering international travel. Another one is that of ensuring that international experts have an adequate understanding of the local higher education and broader cultural context. The widespread adoption of video-conferencing technologies to support quality assurance visits in response to the global pandemic can offer a way to overcome the former financial challenge. Bespoke reviewers' training programmes for international reviewers can help addressing the latter cultural challenge.

The ESGs offer another example of this first type of internationalisation, that is the incorporation of international standards into an agency's practice. This might be more a priority in the context of co-ordinated internationalisation efforts such as the establishment of EHEA, where there is an expectation that different national higher education and quality assurance systems align to shared overarching principles and reference points, such as the ESGs, or the Qualification Framework for EHEA. However, the internationalisation of quality assurance frameworks is also becoming a priority beyond Europe as part of a growing awareness by part of different countries of the need to support the regionalisation and internationalisation of national education systems to support study and labour mobility.

The internationalisation of quality assurance can also refer to a different aspect, that is offering quality assurance services internationally, in countries other than the one in which a quality assurance agency or accreditation body is based. This is a quite common and growing phenomenon, in particular for agencies offering quality assurance / accreditation services on a commercial basis. Professional bodies international accreditation services are a common and well understood example here, but we are also seeing a growing number of national quality assurance or accreditation bodies, initially established to offer their services to national education providers, now exporting their quality assurance activity across national borders. Examples of this include USA regional accreditation bodies such as MSCHE and WASCUC, or the UK based Quality Assurance Agency and British Accreditation Council offering their accreditation services to international education providers.

It is also worth nothing, taking again the example of the EHEA, how the development of the European Quality Assurance Register (EQAR) alongside the ESGs was precisely primarily motivated by the intention to opening up the quality assurance 'market' across the EHEA member states, that is applying the liberalisation of trade in services across the region to quality assurance services as well.
The international offering of quality assurance services poses its own specific issues and challenges. For example, it is important to make sure that providers signing up to the international service, and international stakeholders alike, clearly understand the status that the international quality assurance service confers to international education providers undertaking it. For example, whether the quality assurance oversight offered by the international quality assurance body confers degree-awarding power or other formal recognised status either in the country where the provider is based or where the quality assurance body is based. In this connection, the nature of the standards framework underpinning international quality assurance processes will also be important: e.g. are the standards

used the national ones of the quality assurance body, the national ones of the education provider, or different/international standards?
The quality assurance of international education providers also poses the question of the extent to which international quality assurance bodies can adequately understand and assess how education providers operating in different languages, or education systems, maintain a robust oversight on quality and standards. It will be important in this context for quality assurance bodies operating internationally to clearly outline their translation and interpretation policies and requirements when reviewing providers operating in different languages from theirs. It will also be important to ensure they have a sound understanding of the education system in which the reviewed international provider operate. Including international reviewers will help.

Quality assurance of internationalisation

The quality assurance of internationalisation can also refer to two distinct aspects, depending on the dimension of internationalisation we are referring to. On the one hand, we could be looking at 'internationalisation at home', an expression commonly associated with dynamics affecting home campus or national provision, such as the internationalisation of the student body through international student mobility or the internationalisation of the curriculum to ensure programme relevance to the global economy. In this regard, the quality assurance of internationalisation has to do with introducing reference points, standards or guidelines setting out best practice and expectations around issues such as supporting the experience of international students, maintaining quality and standards in the context of an internationalised student body and adopting practices aimed at internationalising the experience of the whole student body, and safeguarding the standards of programmes of study as these are reviewed to ensure their continued relevance.

A number of countries have for example introduced codes of conduct, guidelines and legislation to protect the interests and the learning experience of international students, who generally make important financial investments for their international studies. Australia has been at the forefront in this context, providing rigorous protection for international students through the Education Services for Overseas Students Act and related legislation. Only providers complying with the requirements set out in the Act, covering both academic and pastoral aspects, can be eligible to enrol international students. New Zealand also require providers wishing to enrol international students to sign up to a Code of Practice regulating the pastoral care offered to international students. In the UK a voluntary international student charter (We Are International Student Charter) has recently been developed by sector bodies through which education providers can pledge to work towards the provision of the highest level of international student experience and support. In Ireland an International Education Mark is being developed to ensure that international students enrolled with Irish education providers are protected and receive a quality learning experience.

The quality assurance of internationalisation can, on the other hand, refer to the quality assurance 'internationalisation abroad', which has to do programme and institutional mobility, often referred to as Transnational Education, or TNE. In this case we are talking about quality assurance bodies having to respond to the growing export of national education provision, and in response to that, developing quality assurance systems and reference points that allow them to provide reassurance

that national awarding institutions are safeguarding the quality and standards of their provision even when offered overseas. This type of quality assurance of internationalisation has two key perspectives to it, depending on whether we are looking at TNE from the standpoint of a sending country agency or a hosting country agency, with common and distinct challenges.

From a hosting country perspective, the main quality assurance challenges will regard decisions about the extent to which national quality assurance bodies should apply the same requirements applying to national education providers, whether additional or different frameworks and approaches should be devised, or whether any limits to the type of education providers and provision to be allowed in the country should be placed. Issues such as understanding the standing of an international providers in its education system of provenance, and findings ways to communicate and eventually cooperated with the regulatory authorities in the home country of the foreign provider, will also need to be addressed.

There are different existing systems and approaches to the quality assurance and regulation of in-bound TNE. In Malaysia for example foreign education operators must undergo programme accreditation with MQA just as Malaysian providers are required to, in order to ensure that foreign education offered in Malaysia is at least comparable to Malaysia standards. In Hong Kong similar programme accreditation with HKCAAVQ against local standards is a voluntary exercise associated with a range of benefits, such as eligibility for students to receive public financial support. In Dubai, KHDA, the body regulating foreign institutions operating in Free Trade Zones, adopt a different approach relying primarily on the oversight of the sending country, hence also requiring different degrees of engagement and cooperation with the sending country's authorities. Several countries are also in the process of developing frameworks for quality assuring in-bound TNE, which will help to ensure that eventual quality assurance gaps opening up with the mobility of education providers and programmes, and with important implications also for the recognition of TNE qualifications, are addressed.

From a sending country perspective, the main quality assurance challenge regards ensuring that out-bound TNE is of comparable quality and standards of similar provision offered at the home campus. There are of course obvious relations with the challenges and issues associated with the quality assurance of in-bound TNE, which also grapples with the issue of how to ensure that at a minimum quality and standards are comparable to provision offered in the sending country, with implications for the importance of finding ways for sending and receiving countries' agencies to communicate and cooperate with each other.

Some more specific challenges for the quality assurance of out-bound TNE are of a more operational nature, for example challenges involved in finding ways to oversee provision offered in geographically distant locations, often requiring significant international travel. The recent experience of having to rely on remote or hybrid review visits should possibly help quality assurance bodies finding more efficient ways to oversee out-bound TNE provision. The use of international experts can also support this, using local experts allowing for hybrid visits. This is an approach underpinning for example the Ecctis' TNE Quality Benchmark scheme. Other specific challenges,

applying especially to quality assurance agencies adopting data-driven approaches, such as TEQSA in Australia and the OfS in England, is the lack of availability of data that can be regarded comparable to similar data collected for home based delivery, for example data regarding student satisfaction or employment after graduation.

Without doubt, the most important issue for the quality assurance of TNE, either in-bound or out-bound, relates to the expectations associated with the comparability requirement. In this context, it is important for quality assurance agencies, and qualification recognition bodies as well, to distinguish between the comparability of learning outcomes, and the comparability of the learning experience. Whilst the comparability learning outcomes between TNE and home country provision should be regarded as an uncompromisable expectation - in the sense that providers and quality assurance bodies should be able to reassure stakeholders that standards of learning are upheld regardless of the mode or location of study - when it comes to the learning experience a strict comparability expectation can lead to important unhelpful recognition challenges.

The student experience across different TNE operations can indeed be rather different, depending for example on the TNE model adopted or the broader cultural context of study, but this does not have to be a negative aspect, as long as student expectations are transparently managed. Often different learning experiences might be related to different fees for programmes of study offered at home or at TNE operations, for example, and this is ok as long as students, regardless of where and how they study are enabled and supported in achieving the expected learning outcomes and are clear about the extent and nature of student support they will receive and the learning environment in which they will study.

Any expectations regarding the comparability of the student experience going beyond and above this might lead to a perception that TNE might be inherently of lower standards. This is not only not necessarily the case, but also might lead to hinder the progressive potentials of TNE as a mode of deliver capable to widen access to quality international education to people who are unwilling or unable to travel internationally. A similar observation applies to distance learning, also traditionally affected by recognition challenges associated with different perceptions of how a student experience should look like. Again, the international experience with the global pandemic might possibly help the international education community overcome this perception that quality and acceptable education can only be achieved through the traditional route of in-person study at the home campus of an awarding institution.

Another significant challenge, and opportunity, which has already been mentioned in relation to both in-bound and out-bound TNE is the importance of cooperation between sending and receiving locations of TNE. Regular information sharing, possible joint quality assurance activity, or even the possibility to rely on another quality assurance body oversight, be it from the sending or receiving location, can be crucial in helping addressing quality assurance gaps, and hence enhancing the confidence that can be placed international on TNE. But it can also help in addressing unnecessary quality assurance overlaps, thus helping to reduce regulatory burden on TNE providers and operations, thus supporting the growth of quality TNE. Being able to rely on other agencies

oversight can also inform risk-based approaches to the quality assurance of TNE allowing quality assurance bodies to focus their limited resources where scrutiny is more needed, such as out-bound TNE offered in locations without regulatory frameworks, or in-bound TNE from countries without a system for quality assuring exported TNE.

2. Conclusions

In conclusion, quality assurance in an international context can refer to very different aspects of internationalisation, associated with specific challenges, issues, dynamics and opportunities. It is important to be aware of these differences to avoid confusions, which are far too easy to occur in an increasingly varied and complex internationlemal education and quality assurance landscape. To this aim for example, INQAAHE has recently been working on developing high-level expectations associated to some of the different aspects of internationalisation highlighted in this paper, specifically by drawing a difference between 'cross-border quality assurance' and 'the quality assurance of cross-border education'.

Summing up the considerations outlined in this paper in a schematic way, we can distinguish the different senses to refer to internationalisation in quality assurance, along these four dimensions:

- *Internationalisation of quality assurance practices*: referring to the integration of an international dimension into the practices and frameworks of quality assurance bodies.
- *Internationalisation of quality assurance services*: referring to the international offer of quality assurance services.
- *Quality assurance of 'internationalisation at home'*: referring to the quality assurance aspects related to the internationalisation of home-based education providers and provision.
- *Quality assurance of 'internationalisation abroad'*: referring to the quality assurance aspects related to education provision offered internationally.

The different aspects of international quality assurance and quality assurance of international education outlined above can and do of course overlap in different ways in different quality assurance systems and approaches.

To conclude, I'd like to briefly point to a clear example of a service combining the different dimensions of internationalisation referred to in this paper, the Ecctis' TNE Quality Benchmark scheme referred to previously.

The TNE Quality Benchmark (TNE QB) is a quality assurance service aimed at offering international TNE providers, regardless of their country of origin or operation, a tool through which they can provide independent reassurance to international stakeholders about the quality and standards of their TNE provision. It does this through an external quality review against international standards of good practice, carried out by international reviewers, overseen by an international advisory board, and supported by international cooperation with quality assurance and recognition bodies. TNE QB is, as it were, an international and internationalised quality assurance scheme for TNE of any nationality of prevenance and delivery, that can be used for both out-bound

and in-bound monitoring purposes, and with a specific goal to support the global mobility of TNE students by facilitating the portability of their TNE qualifications.

TNE QB is further a service that aims to address the two mentioned key challenges for the quality assurance of TNE. It adopts a learning-outcome based approach to comparability, allowing for diversity in learning experience as long as students are sufficiently supported in achieving the learning-outcomes expected for their programmes of study, and as long as student expectations about the learning experience they will receive are clearly managed from the start. It also aims to provide a platform for cooperation between sending and receiving authorities, as well as between quality assurance and qualification recognition bodies, with a view to helping the international quality assurance community addressing quality assurance gaps and overlaps, and thus support the growth of TNE capable to widen access to quality international education.

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Fabrizio is a member of the Board of Directors of the International Network of Quality Assurance in Higher Education (INQAAHE), and of the Accreditation Committee of the British Accreditation Council. With over 15 years' experience in quality assurance and international education, he acts as a reviewer for a range of international quality assurance bodies and has published extensively on international quality assurance and TNE.

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Experience In Assessing The Formation Of The Russian Students' General Professional Competencies Using Internet Technologies

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Abstract
The article presents the results of the project devoted to the Independent Evaluation of the Education Quality (IEEQ) implemented by the National Accreditation Agency, NAA (Russia) in 2021. As a part of the project, testing and questioning of students from Russian HEIs was carried out using an information system based on the Internet technologies. The information system is built upon a Unified Bank of Assessment Tools (UBAT) generated by experts on the basis of the assessment materials of the leading Russian universities and broken down by the relevant fields of training. The bank of tools was used to assess the development level of General Professional Competencies (GPC). Simultaneously with testing, a students' questionnaire survey in terms of students' satisfaction with the content of study programs was conducted. Testing revealed that the knowledge level of students from the universities participating in the project complied with the Federal State Educational Standard (FSES). Based on the survey results a high level of students' satisfaction with study programs is determined.

Keywords**:** Assessment of learning outcomes, Federal State Educational Standard (FSES), General Professional Competence (GPC), testing of student, questioning of students.

1. Introduction

In the Russian Federation, quality assurance of higher education (HE) operates based on the principles of objective assessment and responsibility of educational organizations for the quality of education. The Russian quality assurance of HE includes Licensing (issuing permits for educational activities), State Accreditation (confirmation of compliance of the education quality of study programs with the standards approved by the Ministry), Professional and Public Accreditation (confirmation of compliance of the education quality with employers' requirements) and Independent Evaluation of the Education Quality, IEEQ (the mechanism for establishing the level of students' proficiency on the study program or its parts).

Since 2015, several models of IEEQ have been tried out –the assessment of students' knowledge by peer-reviews from other universities by testing on unified materials. In 2021 NAA initiated and tested an approach that allows for evaluation of the formation of students' general professional competencies against the expected learning outcomes on the study program.

2. Methods of Independent Evaluation of the Education Quality, IEEQ

2.1. Peculiarities of the Russian Higher Education System

In Russia, more than 850 educational organizations implement HE study programs: Bachelor's, Master's, Specialist and postgraduate programs. HE programs are designed on the basis of educational standards. Currently, more than 500 Federal State Educational Standards (FSES) are used in various fields of training and higher education specialties. FSES is a set of mandatory requirements for the formation of a certain level. The Federal State Educational Standard of Higher Education is approved by the Ministry of Science and Higher Education and includes requirements to the following:

- the structure of study programs (volumes of the study program components, the ratio of mandatory and specialized components of the study program, etc.);
- conditions for the implementation of study programs (personnel, financial, material, technical and other conditions);
- the results to be achieved by students while learning on the study program.

The results of proficiency on the study program are formulated as competencies – universal or general cultural competencies, general professional and professional competencies. It should be noted that professional competencies are formulated by the university itself on the basis of relevant professional standards.

The presence of universal (general cultural) and general professional competencies in FSES makes it possible to develop assessment tools that allow to determine the formation of competencies at the level of results of their proficiency, invariant for the same study programs of different universities involved in IEEQ and then to compare the outcomes.

2.2. Compilation of the assessment tools

Assessment tools were developed based on the materials provided by the leading Russian universities delivering study programs that were evaluated during IEEQ. Thus, in 2021, these were the following Bachelor's programs:

- 01.03.02 Applied Mathematics and Computer Science;
- 09.03.03 Applied Computer Science;
- 34.03.01 Nursing;
- 35.03.06 Agricultural Engineering;
- 38.03.05 Business and Computer Science;
- 44.03.01 Pedagogical Education;
- 45.03.02 Linguistics;
- 54.03.01 Design.

The list of programs is compiled in such a way that all of them represent various fields of education, for example, "Mathematical and Natural Sciences", "Engineering, Technology and Technical Sciences", etc.

Experts selected three general professional competencies (GPC) from the list of the expected learning outcomes on each program and analyzed the level of their proficiency during independent evaluation.

For example, for the study program "Applied Mathematics and Computer Science", experts have chosen the following general professional competencies:

- is able to apply the fundamental knowledge gained in the field of mathematical and (or) natural sciences, and to use it in professional activities;

- is able to use and adapt the existing mathematical methods and programming systems for the development and implementation of algorithms to solve applied problems;
- is able to solve professional tasks using the existing information and communication technologies and taking into account the basic requirements for information security.

The assessment tools for Independent Evaluation of the Education Quality, IEEQ were generated during a two -stage procedure that ensures their quality:

- At the first stage, experts with appropriate qualifications and extensive experience, including participation in the education quality evaluation at their universities, systematized and structured the assessment materials represented by universities. On the basis of these materials banks of assessment tools broken down by fields of training and competencies were created. When generating banks of tasks, experts formulated indicators that characterize possible results of the competence proficiency. Banks of assessment tools consist of numerous tasks that allow us to establish the level of students' achievement of the expected learning outcomes on the study program. Tasks in the banks are test tasks (open+close) that include calculated tasks, competent-oriented or practical-oriented tasks, mini-cases, situational tasks, etc.
- At the second stage, the generated banks of assessment tools underwent an independent expert review followed by their modification in case of reasonable comments on the quality of the developed tasks.

Based on the received banks of assessment tools, unique test complexes for each student are generated with the help of special algorithm (fig. 1).

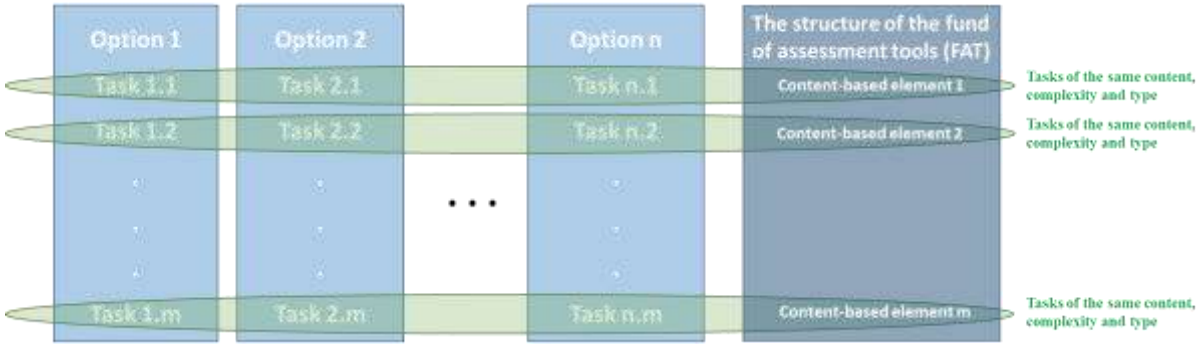

Figure 1. The structure of the assessment tools options

The test complexes are generated for each of the three competencies within the fields of training involved in Independent Evaluation of Education Quality.

2.3. Information technology for assessing the level of competence proficiency

To assess the formation of students' competencies, evaluation procedures were carried out using test Internet technologies and expert review based on the interpretation of the received results. Moreover, for students participating in testing, a questionnaire survey was also conducted in order to assess their satisfaction with the study program.

The developed information system provides (Fig. 2):

- formation of the Unified Bank of Assessment Tools (BAT);
- generation of tasks for each student;
- assessment through the Internet resource;
- questioning of students;

- storage and analysis of the assessment and questioning results;
- formation of reports for universities with the assessment and questioning results.

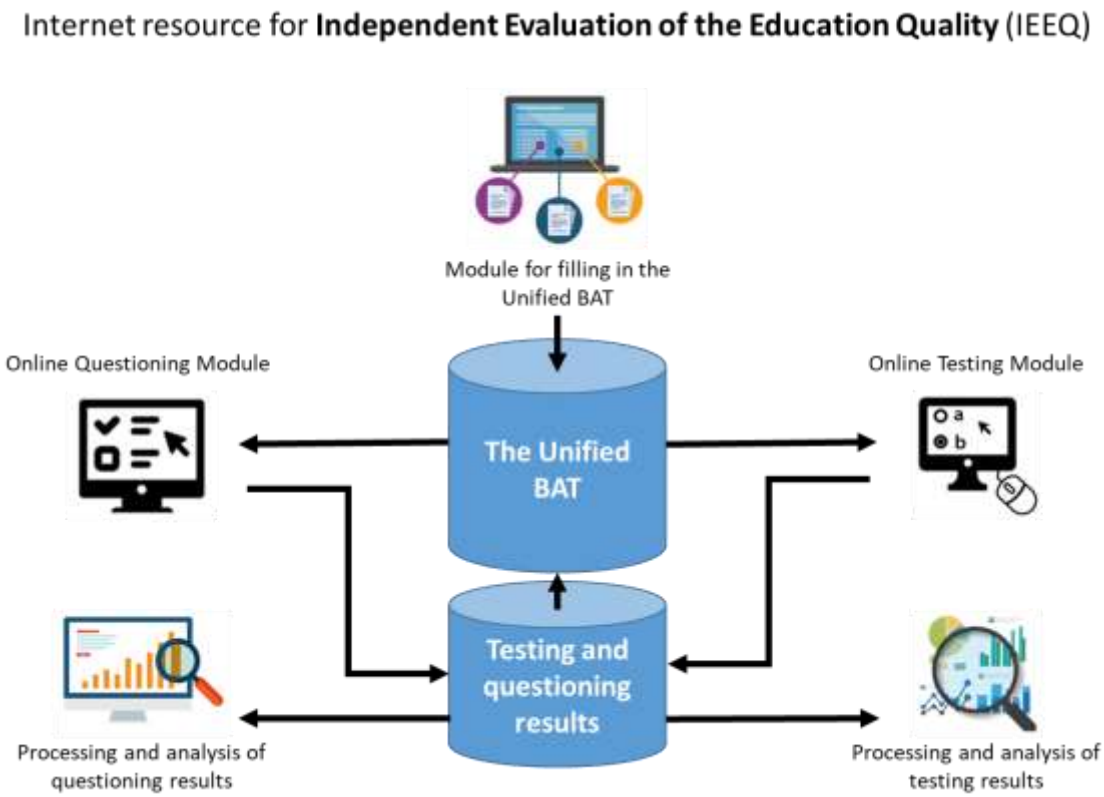

Figure 2: Tools for Independent Evaluation of the Education Quality (IEEQ)

The Unified BAT includes assessment tools that are designed to assess the formation of students' competencies on study programs of HE. The filling in of the Unified BAT is carried out using *the Module for Filling*. This module allows to transfer assessment tools prepared in a text editor in accordance with the existing templates for different types of tasks.
The questionnaire used to conduct the survey contains questions to assess students' satisfaction by:

- the content of the study program (8 questions);
- conditions for the study program delivery (7 questions);
- the level of competencies to be mastered (5 questions).

The assessment of the formation of general professional competencies is carried out with the help of *Online Testing Module*, Questionnaire survey is conducted using *Online Questioning Module*. At the end of the procedure, the results are stored in the *Database of Testing and Questioning Results*. The module for processing and analysis of testing results allows to calculate the statistical parameters of test tasks:

- index of tasks solvability;
- differentiating ability of BAT tasks;
- index of point-biserial correlation for all answer options of the closed-form tasks, while characteristics are indicated both for the correct answer and for distractors.

These parameters are further used to improve assessment materials.
Based on the assessment results, using the *Module for Processing and Analysis of Testing Results*, an analytical report is generated, including the results of an independent assessment in a depersonalized form, which is submitted to the university.

The information system is implemented using an Internet server that has a closed part (for administration) and an open part (for testing). Students' access to computer testing is provided on the basis of the generated unique login passwords.
Testing time for each student for one competency was no more than one hour.
In case of technical failures, students could return to the task they had on the screen, while the answers already entered were saved in the system.
To determine the criteria for assessing the level of formation of general professional competence, the following aspects were taken into consideration:
the number of students participating in IEEQ: with a small number of students, the obtained results cannot be considered representative.

In this regard, for the indicator of students' participation in the assessment conducted within the framework of IEEQ, the following criterion is used - "At least 70% of students learning on the study program in the corresponding field of training (specialty) who have mastered general professional competence no later than one year prior to the IEEQ in accordance with the curriculum";
2) the number of tasks completed by the student correctly.
The established criterion for students for completing the tasks is "At least 70% of correctly completed tasks from the total number of tasks included in each option."
As one can see, the object of assessment within the framework of the project was the study program, but universities also received information and could analyze the results of each student.

2.4. The results of IEEQ
In 2021, 245 educational organizations of higher education took part in Independent Evaluation of the Education Quality, while 43,557 test results were received on 544 study programs. The questionnaire was completed by 38,104 students from these universities.

The analysis of the obtained results shows that the level of students' general professional competencies formation at the universities participated in the project corresponds to the level established by experts and Federal State Educational Standards. It is interested to note, that only in 13 universities study programs did not pass the threshold when more than 20% of students did not have the assessed competencies formed at level of the expected results.

The results of the questionnaire showed that the level of participants' satisfaction with the education quality during IEEQ is 86%, while 51% indicated a high level of satisfaction, 34% indicated a good level, and only 2% of students indicated a low level. Moreover, students gave the lowest scores on the questions related to the group "Satisfaction with the level of competencies to be mastered".

According to fig. 3, one can note the presence of a positive correlation between the results of questioning and testing: students who have high results in assessing general professional competencies more often give a high assessment of satisfaction by learning on their study programs.

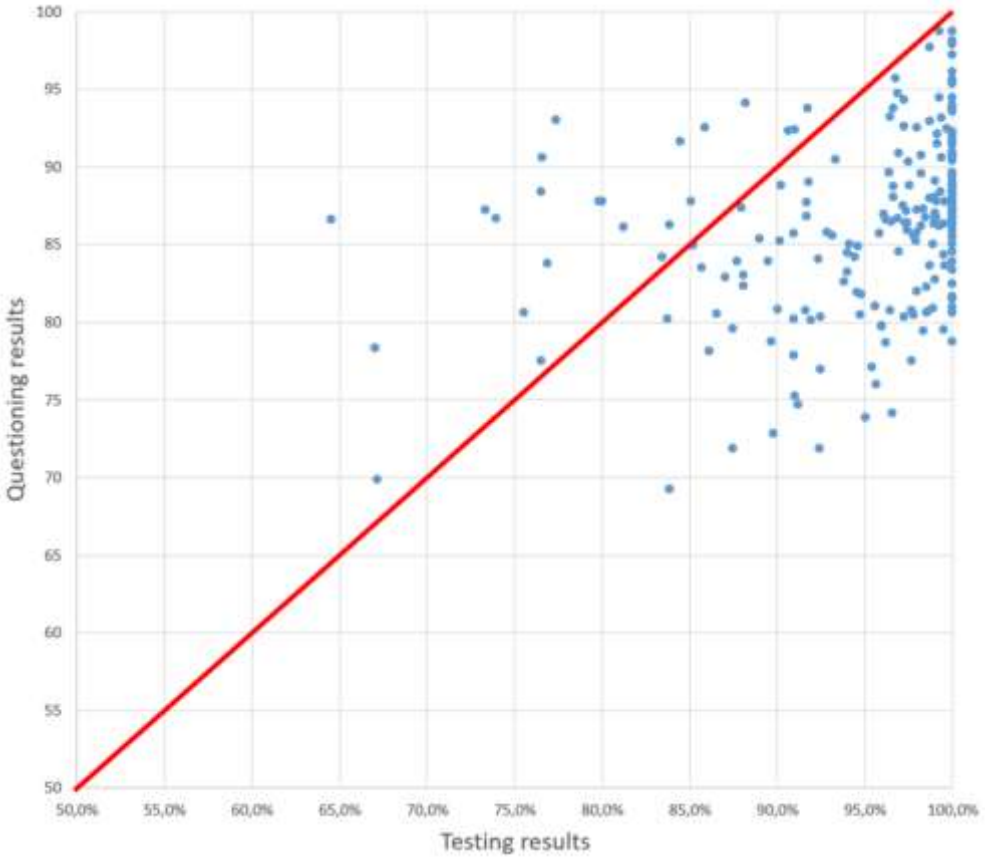

Figure 3. Regression Line and Correlation Box of students' testing and questioning results in the IEEQ -2021 project

Moreover, implementation of such a full-scale project made it possible to correct test tasks - some of them were found by the project experts as too easy (solution coefficient is more than 0.8), while others were found as not corrected, containing inaccuracies (solution coefficient is less than 0.3) and were the subject to review. The solvability coefficient of the testing task is determined by the proportion of students who have correctly completed this task.

More than 11.5 thousand tasks were developed within the framework of the IEEQ project. After testing and analysis, the following groups of tasks were identified:

- easy to perform -28.0% of the total number of tasks;
- having an average complexity - 58.3%;
- difficult to perform - 13.7%.

Thus, most of the tasks can be used in the future when assessing the quality of students' education on the relevant study programs.

3. Conclusions

The use of Internet technologies in carrying out Independent Evaluation of the Education Quality made it possible to engage a wide range of participants. Conducting IEEQ on the basis of the Unified BAT developed by experts based on the assessment materials submitted by the leading universities, taking into account the requirements of the Federal State Educational Standard, provides an objective assessment of students' knowledge. Universities are interested in such a procedure, because it allows for comparing the level of students' training with the leading universities in the

relevant fields of training. Usually, students of the universities who are the leaders in their training profile have a better result compared to the national one.

A detailed analysis of the results of each university also makes it possible to determine which indicators showed the worst knowledge, and, consequently, to determine the lack of detail in the design of study programs, the need to review their content, methodological support, and, possibly, change the requirements for teachers.

The greatest difficulty for conducting assessment based on the Unified Bank of FAT is the development of the assessment materials themselves. Not all universities have the necessary capacity for the materials provided by them to be used in the development of test tasks. Their further modification as well as adjustment requires significant labor costs from the organizer of the assessment procedure.

The survey of students revealed a high level of their satisfaction with study programs, most of the participants showed a high and good level of satisfaction with the learning process, which generally coincides with a fairly high level of knowledge demonstrated by the project participants.

Questioning results of students found a high level of their satisfaction with study programs, most of the participants showed a high and good level of satisfaction with the learning process, which generally coincides with a fairly high level of knowledge demonstrated by the project participants. Universities that took part in the IEEQ project can use the results of students' testing as well as questioning results in further improvement of their educational activities.

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Improving The Student Experience Of Teaching Methods: Learning From A Comparative Study Of Four Asia-Pacific Regions

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Abstract

The present international survey study was conducted in 2021 through collaboration among four higher education evaluation agencies, namely, Taiwan Assessment and Evaluation Association (TWAEA, Taiwan), Japan University Accreditation Association (JUAA, Japan), the Office for National Education Standards and Quality Assessment (ONESQA, Thailand), and the Center for Education Accreditation, Vietnam National University - Ho Chi Minh City (CEA VNU-HCM, Vietnam). The study was aimed at assisting higher education institutions in reviewing their teaching activities' influences on students from four Asian regions through an online survey. With universities as the survey units, Repeated-measure ANOVA in statistical analysis for Repeated Measurements was carried out to understand each region's degree of satisfaction towards teaching effectiveness. Based on over 52,000 entries of local student responses, the learning experience throughout the Asia-Pacific region is further inferred to derive at an analytical explanation. Through an analysis of the results, the present study provides a basis for discussing the student learning experience and teaching quality in the Asia-Pacific region from the cases of Taiwan, Japan, Thailand and Vietnam.

Keywords: Teaching Methods, Learning Experience, International Survey, Asia-Pacific Region

1. Introduction

In 2021, Taiwan Assessment and Evaluation Association (TWAEA) invited the Japan University Accreditation Association (JUAA), the Thailand's Office for National Education Standards and Quality Assessment (ONESQA) and the Center for Education Accreditation, Vietnam National University - Ho Chi Minh City (CEA VNU-HCM) to implement a joint investigation on students' learning satisfaction in the four respective home regions. The launch of this project represents the four sides' focus on strengthening their respective higher education systems. The implementation of this survey can be regarded as a breakthrough in the field of institutional research. In total 39 higher education institutions (HEIs) in Taiwan, 26 HEIs in Japan, 36 HEIs in Thailand, and 18 HEIs in Vietnam participated in the project.

The survey was conducted in the four regions due to the increasing concerns for higher education internationalization issues in each of the regions. Taiwan's Ministry of Education (MOE) promoted the "Higher Education Sprout Project" in 2018, by "linking the locality to connect with the world and move towards the future" as the spindle, to strengthen international competitiveness. Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT) has launched the "Top Global University Project" to promote top universities in heading towards internationalization since 2014. Thailand implemented an international standard educational system, hoping to become the center of education among ASEAN (Association of Southeast Asian Nations) member states. In response to the evolving global economy, the Vietnamese education system has undergone remarkable reforms for internationalization since the implementation of Doi Moi policy. In view of the above, Taiwan, Japan, Thailand and Vietnam are selected as the survey regions in the present study.

2. Study Background and Objectives

While most research surveys are implemented in Europe and the United States, TWAEA decides to take the lead to conduct an international survey in four Asian regions to understand the situation of educational development in the emerging international higher education hubs of Asia. The results shall inform HEI decision makers to take out improvements and upgrade in teaching quality accordingly.

The questionnaire is mainly targeted on the items: "Facilities & Administration," "Teaching Effectiveness," "Learning Status," "School Counseling" and "Self-Evaluation." This study expects to gain insight into the learning satisfaction and feedbacks of students from four regions towards course teaching. The outcomes can be exchanged among institutions and recommendations can be proposed to improve higher education quality.

The four collaborating agencies from Taiwan, Japan, Thailand and Vietnam in this study are TWAEA, JUAA, ONESQA and CEA VNU-HCM. Established in 2003, TWAEA is a non-governmental organization dedicated to the provision of evaluation services. TWAEA has been engaged in evaluation projects commissioned by the MOE and was officially recognized as a certified evaluation agency since 2009. JUAA is a voluntary organization established in 1947, and is the first certified agency recognized by the MEXT in 2004. JUAA started accrediting activities in 1951 and currently performs accreditation in 9 fields. ONESQA was established in 2000 with the aims of developing the criteria and methods for external quality assessment of education institutions. ONESQA is the recognized agency that provides recommendations leading to the development of national education. CEA VNU-HCM was founded in 2013 to accredit education institutions and programs. CEA VNU-HCM is devoted to be a professional accreditation organization, aiming at ensuring quality in education accreditation.

3. Literature review

According to the Global Student Satisfaction Report 2019 (Studyportals, 2019), the global satisfaction score is 4.21 on a scale from 1 to 5, and the average satisfaction of Asian students also reaches 3.98 points. Obviously, students were considerably satisfied with their learning experience. Learning experience refers to any interaction, course, program, or other experience in which learning takes place. It has a profound influence on students' learning satisfaction, especially "quality of lectures" that has the greatest effect (Ammigan & Jones, 2018). Studies have pointed out that teaching methods have an effect on students' learning satisfaction. For example, Guolla (1999) indicated that learning was strongly related to course satisfaction. Clearly, instructional methods and course teaching are especially important in evaluating teaching quality.

Based on the literature review, research survey targeting student satisfaction is either limited to one country, or focused on Europe and the United States. For example, Ammigan and Jones (2018) evaluated the experience of undergraduate international students at 96 different institutions in Australia, the United Kingdom, and the United States. The Asia-Pacific region has always attached great importance to education, and it lacks a more comprehensive study on local students' learning satisfaction. Therefore, in this study, local students were adopted as respondents for an international survey conducted in four regions: Taiwan, Japan, Thailand, and Vietnam.

4. Methodology

4.1 Instrument development

The instrument adopted in this study is mainly obtained from the BCSSE (Beginning College Survey of Student Engagement) Summary Report scale developed by the Indiana University Center for Postsecondary Research. In order to better meet local characteristics, a focus group interview was conducted to adapt the survey instrument. Likert 5-point scales were employed to measure the degree of satisfaction and recognition. Confidentiality of subjects and responses was maintained.

4.2 Survey items

HEIs in the respective regions were invited to take part in the survey. The main topics of this study are shown as the following Table 1, including the content of each question.

Questions	Items
To what extent can the following ways of giving a lesson help your learning? (five-point scale; 1: unhelpful; 5: very helpful)	(1) lecture and explanation from teachers (2) assigned readings (3) videos or multimedia used for teaching (4) case study (5) interactive activities (6) teamwork (7) experiment and exercise with the aid of teachers (8) course project (9) keynote speech or demonstration (10) field trip or tour (11) co-teaching or team-teaching

Questions	Items
	(12) review and summary of key points by teachers after students watch teaching video
Recognition of "Curriculum Teaching" (five-point scale; 1: strongly disagree; 5: strongly agree)	(1) The faculties' specialties are in consistent with the courses instructed by them. (2) The teaching materials adopted by the faculties can satisfy most students' learning competency. (3) The faculties adapt teaching methods and instructional strategies to students' aptitudes. (4) The textbooks and learning materials adopted by the faculties can enhance the students' learning outcomes. (5) The faculties have worked hard to be more creative in their teaching to inspire the students' learning motivation.

Table 1: Survey Items and Questions

4.3 Respondents

A total of 119 HEIs with 52,673 local students from the four regions have participated in the survey. Overall, 75.71% (n=39,881) of responses were from Taiwan, 4.09% (n=2,152) from Japan, 10.31% (n=5,429) from Thailand and 9.89% (n=5,211) from Vietnam. There were more females (58.39%) than males (41.61%) joining the survey. In terms of the major fields of respondents, students of Business, Administration and Law were in majority in Taiwan, Japan and Vietnam: 20.53% (n=8,189) in Taiwan, 22.44% (n=483) in Japan and 19.02% (n=991) in Vietnam. While in Thailand, the percentage of Health and Social Welfare students stood the highest at 47.17% (n=2,561).

4.4 Statistical analysis

The collected responses were analyzed using Repeated-measure ANOVA. While in the past, when ANOVA was adopted in comparative meta-analyses, all the HEI students were usually used as a collective body for analysis, while perspective analysis using institutions as survey units remained scarce. Thus, this study project deems it more appropriate to use the statistical analysis for Repeated Measurements as the research method. The present survey study provides a sufficient number of valid responses of students, thus allowing us to further infer the teaching method experiences throughout the Asia-Pacific region and derive an analytical explanation.

The R (programming language) was adopted as the tool for analysis and "Frequency Analysis" and "Cross Analysis" were the methods. This study intends to take a macroscopic view on the effect of the average difference from the four regions, rather than taking a microscopic view of the individual differences of institutions. To reach this end, the Repeated-measure ANOVA in statistical analysis for Repeated Measurements was used to find each region's satisfaction towards learning effectiveness.

5. Findings

Table 2 lists the mean and standard deviation that details the average satisfaction for "Teaching Methods" and "Curriculum Teaching". On average, students in four regions are satisfied with the teaching methods and curriculum teaching. In terms of teaching methods, Japanese and Vietnamese

students both prefer “lecture and explanation from teachers” the most; Taiwanese students are most satisfied with “case study”; Thai students give the highest score to “teamwork”. Students from Taiwan, Japan and Thailand all think “field trip or tour” is mostly unhelpful for their learning; while “co-teaching or team-teaching” gets the lowest score in Vietnam.

Regarding the curriculum teaching, students in the four regions feel most positively about “the faculties’ specialties are in consistent with the courses instructed by them”. As for the curriculum teaching that gets the least recognition, Japanese and Taiwanese students both give the lowest score to “the faculties have worked hard to be more creative in their teaching to inspire the students’ learning motivation”; Thai students most disagree with the statement “the faculties adapt teaching methods and instructional strategies to students’ aptitudes”; Vietnamese students show the lowest recognition to “the textbooks and learning materials adopted by the faculties can enhance the students’ learning outcomes”.

Items	Japan		Taiwan		Thailand		Vietnam	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Teaching Methods								
(1) lecture and explanation from teachers	3.69[m]	0.94	3.82	0.92	3.83	0.89	4.13[m]	0.85
(2) assigned readings	3.68	0.95	3.82	0.93	3.74	0.90	3.99	0.87
(3) videos or multimedia used for teaching	3.63	0.99	3.89	0.92	3.80	0.90	4.01	0.93
(4) case study	3.55	1.01	3.92[m]	0.92	3.87	0.91	4.11	0.90
(5) interactive activities	3.38	1.08	3.90	0.93	3.86	0.89	4.09	0.89
(6) teamwork	3.42	1.09	3.89	0.94	3.88[m]	0.91	4.12	0.88
(7) experiment and exercise with the aid of teachers	3.48	1.04	3.83	0.97	3.87	0.89	4.03	0.93
(8) course project	3.49	1.01	3.89	0.93	3.78	0.91	4.03	0.89
(9) keynote speech or demonstration	3.41	1.06	3.86	0.96	3.79	0.92	3.78	1.02
(10) field trip or tour	3.00[n]	1.08	3.46[n]	1.18	3.36[n]	1.14	3.76	1.08
(11) co-teaching or team-teaching	3.27	1.07	3.51	1.13	3.69	0.95	3.68[n]	1.09

Items	Japan		Taiwan		Thailand		Vietnam	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
(12) review and summary of key points by teachers after students watch teaching video	3.36	1.01	3.67	1.04	3.79	0.92	3.95	0.97
Curriculum Teaching								
(1) The faculties' specialties are in consistent with the courses instructed by them.	4.07[m]	0.86	3.87[m]	0.93	3.94[m]	0.90	4.18[m]	0.83
(2) The teaching materials adopted by the faculties can satisfy most students' learning competency.	3.72	0.95	3.86	0.93	3.83	0.88	4.10	0.85
(3) The faculties adapt teaching methods and instructional strategies to students' aptitudes.	3.68	1.00	3.79	0.97	3.79[n]	0.89	4.03	0.88
(4) The textbooks and learning materials adopted by the faculties can enhance the students' learning outcomes.	3.56	1.03	3.82	0.95	3.81	0.88	4.02[n]	0.90
(5) The faculties have worked hard to be more creative in their teaching to inspire the students' learning motivation.	3.43[n]	1.06	3.76[n]	0.99	3.89	0.88	4.04	0.91

Note: The symbol "m" represents the highest score in the region; "n" represents the lowest score in the region.

Table 2: Comparison Table of the Mean and Standard Deviation among Four Regions

ANOVA was used to analyze the data, and Table 3 presents the significance test results of each item. The result demonstrates that all items are significant.

Items	f-value	p-value	Significant
Teaching Methods			
(1) lecture and explanation from teachers	193.50	0	***
(2) assigned readings	90.90	0	***
(3) videos or multimedia used for teaching	103.31	0	***
(4) case study	189.14	0	***
(5) interactive activities	295.02	0	***

Items	f-value	p-value	Significant
(6) teamwork	287.70	0	***
(7) experiment and exercise with the aid of teachers	174.76	0	***
(8) course project	193.91	0	***
(9) keynote speech or demonstration	152.79	0	***
(10) field trip or tour	240.88	0	***
(11) co-teaching or team-teaching	116.61	0	***
(12) review and summary of key points by teachers after students watch teaching video	209.00	0	***
Curriculum Teaching			
(1) The faculties' specialties are in consistent with the courses instructed by them.	201.78	0	***
(2) The teaching materials adopted by the faculties can satisfy most students' learning competency.	133.78	0	***
(3) The faculties adapt teaching methods and instructional strategies to students' aptitudes.	115.95	0	***
(4) The textbooks and learning materials adopted by the faculties can enhance the students' learning outcomes.	132.21	0	***
(5) The faculties have worked hard to be more creative in their teaching to inspire the students' learning motivation.	242.39	0	***

* Significant at $p < .05$. ** Significant at $p < .01$. *** Significant at $p < .001$. NS = not significant.

Table 3: ANOVA Analysis Table for Each Item

6. Conclusions

In general, local students in the four regions are satisfied with teaching effectiveness. Speaking of the teaching methods that can help students' learning most, there are great differences among the three regions. The teaching method prioritized first is "case study" in Taiwan, "lecture and explanation from teachers" in Japan and Vietnam, and "teamwork" in Thailand. This might result from the differences of education culture and student characteristics. HEIs in each region are encouraged to use the data to develop teaching methods and offer related resources for the faculty, so that they can give lessons in more effective ways.

Regarding the recognition of curriculum teaching, "the faculties' specialties are in consistent with the courses instructed by them" is scored the highest in four regions. Based on this result, it is inferenced that students might value more how and what they learn, rather than who delivers the lesson. As for the item scored the lowest, HEIs in the respective regions can put more emphasis on the issues to seek opportunities to better support the teaching and learning process.

We now live in a global village and have a globalized vision. The conduct of this study is a breakthrough of institutional research in Asian regions. This survey represents a milestone in providing useful and substantive information about students' learning outcomes and satisfaction. Through global collaboration, a broader and more internationalized mind shall be cultivated as to improve students' learning experience and to implement effective and outstanding institutional management.

References

Ammigan, R. and Jones, E. (2018) 'Improving the student experience: Learning from a comparative study of international student satisfaction', *Journal of Studies in International Education*, 22 (4), pp. 283-301. doi: 10.1177/1028315318773137

Guolla, M. (1999) 'Assessing the teaching quality to student satisfaction relationship: Applied customer satisfaction research in the classroom', *Journal of Marketing Theory and Practice*, 7 (3), pp. 87-97. doi: 10.1080/10696679.1999.11501843

Indiana University Center for Postsecondary Research. (2019) *Beginning College Survey of Student Engagement (BCSSE)*. Available at: http://bcsse.indiana.edu/ (Accessed: 18 January 2021)

Keselman, H. J., Algina, J. and Kowalchuk, R. K. (2001) 'The analysis of repeated measures designs: A review', *British Journal of Mathematical and Statistical Psychology*, 54 (1), pp. 1-20. doi: 10.1348/000711001159357

Kuznetsova, A., Brockhoff, P. B. and Christensen, R. H. B. (2017) 'lmerTest package: Tests in linear mixed effects models', *Journal of Statistical Software*, 82 (13), pp. 1-26. doi: 10.18637/jss.v082.i13

Studyportals. (2019) *Global Student Satisfaction 2019*. Available at: https://www.studyportals.com/intelligence/global-student-satisfaction-2019/ (Accessed: 27 March 2022)

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Research On The Meta-Review To The Asia-Pacific Quality Register (APQR)

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Abstract

With the advent of "quality era", the guarantee of the quality of educational review has more and more attracted attention of all the stakeholders. APQR, as an international, non-governmental, self-disciplined constraint and regulation activity for the QAAs, has played an important role in reviewing quality assurance. Firstly, this research makes a comparative analysis of APQR's review of 8 QAAs accept on to APQR under 11 criterion. Secondly, based on the "Survey of APQR Review Status", “satisfaction level” of the APQR review is analyzed. Finally, on the basis of the above, it summarizes the experiences that can be used for reference and the spaces for APQR’s improvement. It is found that APQR review conforms to the concept of "the fourth generation review": (1) from the review basis, APQR is a dynamic review under constructivism; (2)from the review focus, APQR focuses on three aspects: openness,inclusive and credibility of the QAAs; (3) from the review results, APQR is flexible to have four levels of comprehensive review. Therefore, APQR has the review experiences that can be used for reference, but there are still some spaces to be improved in order to better achieve the goal of APQR’s sustainable development.

Keywords**:** Asia Pacific Quality Register (APQR); meta-review; quality assurance; review of susta inable development

Executive summary

In recent years, the third-party quality assurance agencies (QAAs) and educational review agencies have emerged in endlessly, and the quality of the QAAs is uneven and different. It arouses public concerns about the questions as: "is the QAA qualified?" "does the review conducted by the QAA meet QA criterion?" etc.

"Register" is a new project of global quality assurance(QA) in higher education(HE). The European quality assurance register system is the first attempt and practice. After the establishment of the European Quality Assurance Register for Higher Education (EQAR) in Europe, the Asia-Pacific Region also learned from its relevant experiences to develop the register system. "Asia Pacific Quality Register (APQR)” refers to an international, non-governmental, self-disciplined constraint and regulation activity for the QAAs. review agencies such as EQAR will recognize or evaluate the QAAs based on the criterion and procedures. After the review, the recognized QAA can be accepted onto "Quality Register". This project endorsed by the APQR Council in 2021, focuses on “meta-review”[1] or "re-examination" of the APQR implementation occurred in the past six years, summarizes the review experiences and explores the sustainable development of the APQR.

[1] Meta-review, is the review of the review itself, which aims to standardize all kinds of review/evaluation/review activities, find their problems and deviations, and improve the quality and guarantee the quality of the QAAs.

1. Comparison of eight QAAs accepted onto APQR

APQR officially began its first APQR review in June 23-25, 2015. The three-day site-review was conducted to Fiji Higher Education Council (FHEC) by a well-known review panel. This “first milestone review" has opened the way for APQR to carry out the register review system in the Asia-Pacific Region. From 2015 to 2020,APQR has reviewed eight QAAs from six countries (Table 1).

#	**Country**	**Name of the Quality Assurance Agencies (QAAs)**	**Review Time**
1	Fiji	Fiji Higher Education Commission (FHEC)	2015
2	Russia	Russian Register (RR)	2017
3	Russia	National Centre for Public review(NCPA)	2017
4	Indonesia	Indonesian review Agency for Higher Education in Health (IAAHEH)	2018
5	Kazakhstan	Eurasian Centre for review and Quality Assurance in Higher Education and Health Care (ECAQA) in Kazakhstan	2019
6	Mongolia	Mongolian National Council for Education review (MNCEA)	2019
7	Kazakhstan	Independent Agency for review and Rating (IAAR) in Kazakhstan	2019
8	Malaysia	Finance review Agency (FAA) in Malaysia	2020

Table 1 List of the eight QAAs accepted onto APQR[2]

Based on the 11 review criteria of APQR, this research carried out "meta review" with 8 Self-Revi ew Report (SRR) provided by the 8 QAAs and the 8 APQR review reports completed by the revie w panel; at the same time, supplemented by a survey entitled “APQN Review Status” and some in -deep interviews.

1.1 Review basis: dynamic review under constructivism

The review basis is an important factor for the reliability of the APQR review. In order to make more objective and fair decisions, the review panel uses as much information and records as possible under each criteria to present fuller and more credible results. In the eight APQR review reports, the review basis of the review results of each criterion are stated as the followings (Table 2).

#	**Criterion**	**Evidences**
1	QAA Category	Self-Review Report (SRR) Legislative status Review certificate Records of site-review and interviews
2	Operations	Self-Review Report (SRR) Legislative status National laws on review

[2] Source: APQN(2018). APQR REGISTER. [Z], Asia-Pacific Quality Network, 2018-12-30.

		Documents of the QAA's review/evaluation activities
3	Mission and Objectives	Self-Review Report (SRR) Q AA's constitutions or documents Records of site-review and interviews
4	Staff and Reviewers	
5	Independence	
6	Resources	
7	Process and Criteria	
8	Appeals	Self-Review Report (SRR) Appeal legislation Appeal documents Records of site-review and interviews
9	Quality Assurance	Self-Review Report (SRR) Relevant documents Records of site-review and interviews
10	Monitoring and review	
11	Agency Linkages	Self-Review Report (SRR) Documents of the QAA cooperation and linkages Public information available to the Panel,e.g. APQN website Records of site-review and interviews

Table 2 Review basis of 11 criteria of the APQR review[3]

The APQR review shows the following 3 characteristics:

1.1.1 Review concept: constructive review

APQR review has been carrying out the concept of "multi-party construction", and believes that the review is not static, but constantly generated according to the individual characteristics and conditions of the QAA. Therefore, APQR insists on dynamic review, pays attention to the latest documents of the QAA and the historical overview of the QAA at all times when conducting on-site review. Realizing goal of the combination of comprehensive understanding and key elements.[1]

1.1.2 Review subject: mutually negotiable review

"Co-construction" is the essence of the fourth generation review concept, and "negotiation" is the process of the fourth generation review concept. Due to the differences of values and positions of all parties, the review based on a single value judgment is often biased and unreasonable. Therefore, in the APQR review process, the review panel not only pay attention to the Self-Review Report (SRR) of the QAA, but also the observations and interviews of the panel during the on-site review,

[3] Source: APQR review panel. APQR Review Report of Certification Association “Russian Register” [Z]. Review materials of the APQR review, 2018-05.

which shows that APQR focuses on the concept and proof of both the QAA and the APQR review panel, so as to obtain objective and fair review results, effectively help the QAAs to improve their quality and realize their sustainable development.

1.1.3 Review method: combining quality method with quantity method

The main basis of the APQR review comes from two aspects, one is the Self-Review Report and related documents; the other is the interview records and supporting evidences during the on-site review. The review not only pays attention to the quantitative data obtained from the SER and related documents, but also to the qualitative records obtained from the observations and interviews during the on-site review. Combine quality method with quantity method to make efficient and reasonable review decisions. On the basis of quantity method, APQR emphasizes the use of surveys, interviews, observations and other ways to evaluate, and implements the "constructive review concept" in the fourth generation review.

1.2 Review focus: openness, inclusive & credibility

In order to reach the goal of combining "standardization" with "flexibility", APQR clearly elaborates the requirements of meeting the criterion. The specific observation points need to be determined according to the Self-Review Report of the QAA and the on-site visit status of the panel. The SERs and documents prepared by the eight QAAs mainly includes the following 11 criterion.

#	**Criterion**	**Observation Points**
1	Organization Category	1) Legislative status and legal authority 2) The Commission's remit 3) Authorized and recognized status 4) Relationship with the Ministry of Education 1) Broad range of the stakeholders
2	Operations	1) QA principle 2) QA standard 3) QA operation 4) QA period
3	Mission and Objectives	1) Clearly articulation 2) Being open and transparent 3) Common understanding with stakeholders 4) Improvement to quality assurance
4	Staff and Reviewers	1) Selection policy of staff and evaluators 2) Fit of professional background and job 3) Number and performance of staff and evaluators 4) Professional development policy and programme 5) Number and effectiveness of professional training 6) International exchange and cooperation

		7) Stakeholders' engagement in QA
5	Independence	1) Structure and function 2) Financial independence 3) Evaluators' independence 4) Independence of decision-make
6	Resources	1) Adequacy of human resources and finance 2) Guarantee mechanism for human resources, administration and allocation 3) Information resources, electronic resources, etc; 4) Resource cooperation and sharing
7	Process and Criteria	1) Clarity of review/review procedure 2) Clarity of criteria/ criteria 3) Perfection of review/review procedure 4) Being open and transparent
8	Appeals	1) Stakeholders' understanding 2) Appeal transparency 3) Appeal standardization 4) Appeal independence 5) Appeal and Records
9	Quality Assurance	1) Records and procedures of internal QA 2) Compliance to internal QA 3) Updating the records of the internal QA 4) Improvement of internal QA
10	Monitoring and Review	1) Regularly publication of review/ review reports 2) Platform to provide information 3) Providing consulting services for HEIs 4) Providing information and consultation for experts; 5) Training of evaluators and QA experts
11	Agency Linkages	1) Ideal of exchange and cooperation 2) Policy of exchange and cooperation 3) Number and regions of cooperating QAAs 4) Collaboration with stakeholders

Table 3 key points of APQR review Criterion

From the perspective of the focus of the APQR review, the following 3 characteristics shows:

1.2.1 Keep the initial goal in mind: being committed to quality improvement

In the APQR review, all 11 criterion are made with the ultimate goal of improving the quality of education, and the degree to which the QAAs improve the local education quality is observed. For example, when reviewing the criterion of "Operation of the QAA",the panel concerns the cooperation between the QAA and the Ministry of Education(MoE), higher education institutions (HEIs) and other educational providers. When reviewing the criterion of "Organization Category", the panel carefully examines the QA principles, criterion and implementation activities of the QAA.

When reviewing the criterion of "Mission and objectives", it is very important to examine whether the QAA aims at quality improvement.

1.2.2 All-inclusive: stakeholders' participation

When one educational QAA is reviewed, the review panel pays very close attention to the stakeholders' participation under various review criteria. For example, when reviewing the criterion of "mission and objectives", it emphasizes the value coordination of various stakeholders. When reviewing the criterion of "Staff and Reviewer", the panel emphasizes the importance of stakeholders' participation in the review. Particularly, in the ECAQA site review, students' participation in the quality assurance of higher education was greatly appreciated.[2] When reviewing the criterion of "Appeals", the panel explores the appeal procedure and the right for the stakeholders to know. When reviewing the criterion of "Agency Linkages", the panel pays special attention to the cooperation and exchange of the supporting evidences between the QAA and various stakeholders.

1.2.3 Openness and transparency: establishing and enhancing public trust

As a cross-regional QA review project, APQR requires the QAAs to have credibility. For this reason, APQR specifically requires the QAAs to make information public and update it regularly. For example, when reviewing the criterion of "Mission and Objectives", the panel emphasizes that the content should be open and transparent. When reviewing the criterion of "Process and Criteria", the panel emphasizes the openness of the procedures and criterion of the QAA in their routine QA activities, so as to ensure impartiality. In the review the criterion of "Monitoring and review", it is emphasized that the QAA should disclose its information and regularly issue the updated information and reports as well as to establish a special portal website to disclose information.

1.3 Review results: four levels of comprehensive review

The final decision of APQR is determined by the review results of 11 criterion. Only when the QAA meets 11 criterion can it be finally recognized. The results of 11 criterion are classified into four levels. Acceptance onto APQR requires "Substantial Compliance" with these criteria. Each criterion will be judged "Full Compliance Substantial Compliance Partial Compliance Or Non-Compliant"; and substantial compliance with the whole set needs full or substantial compliance with each criterion.

The 8 QAAs mentioned above have all accepted onto APQR. All of the QAAs have been judged as "Substantial Compliance", but have not reached "Full Compliance" at present, which indicates that all the eight QAAs have space for improvement. Among the 11 criterion, most of the 8 QAAs have reached "Full Compliance" at the 2 criteria of "Operations" and "Agency Linkages", which indicates that each QAA is more standardized in internal management, cooperation and communication; while among the 3 criteria of "Organization Category", "Staff and Reviewers" and "Process and Criteria", fewer have reached "Full Compliance", which indicates that most QAAs need continuous improvement.

2. Meta-review of the APQR review based on the survey

Delphi Method (also known as "expert survey method") was used to design "Survey of the APQR Review Status" by soliciting the opinions of relevant experts four times through the research path of "sorting, induction-statistics, feedback, re-solicitation, re-focus, re-feedback, consensus". The survey investigates the 3 main bodies of the QAAs, the review panelists and the members of APQR Council (AC). In total the research got 11 valid respondents among 16 samples. The survey is made up of 5 dimensions: “purpose, standard, procedure, sustainable development and improvement”. The questions are mainly matrix ones, and the answers are set with 3 options: “satisfactory, average and unsatisfactory”. At the same time, the survey also set up an open question to collect the suggestions for improvement.

2.1 Review objectives: the common "initial goal" of both parties.
The survey results show that all review panelists, QAAs and review panelists confirm the 4 review objectives of APQR, but there are “satisfaction” differences.

2.1.1 Appropriateness to review objectives
The APQR review is carried out for the purpose of “appropriateness”, so it is an important basis to judge the review effectiveness by examining whether the review has achieved the present goal. For the question of "How much do you think APQR review has achieved its goal?", 7 out of the 11 valid respondents agreed "satisfaction", 2 chose "average", and 1 chose "unsatisfied". This shows that not all the respondents agree that APQR review has fully achieved its objectives to some extent. So APQR needs to further consider how to implement the objectives in the future review.

2.1.2 Similarity of the QAAs
Only when the goal of APQR is in the same direction as that of most QAAs will it attract more and more QAA s to register for APQR, and APQR can further get developed accordingly. For the question of "Do you think the goal of APQR is in the same direction as that of the QAA ?", 10 agreed "Satisfaction", and only 1 selected"Average". In the interviews of the 3 panelists, only 2 panelists expressed "satisfaction" and 1 expressed "average". This shows that the panelists with their rich professional knowledge and QA experiences, think that APQR should give more consideration to the value of the stakeholders in setting its goals, develop and update the purpose from the perspective of various stakeholders.

2.2 Review criteria: identify the “pathogeny to prescribe the right medicine”
For the question of "Do you approve of the APQR review criteria?" and "Do you think the APQR criteria design is clearly oriented to goal?", all the respondents agreed "satisfaction". This shows that 11 APQR criteria have been approved by all the stakeholders. In particular, the recognition of the panelists with rich professional knowledge and QA experiences is even more valuable. However, respondents believe that the criteria still has some space for improvement.

2.2.1 Comprehensive and systematic review criteria
To examine the comprehensiveness and systematicness of the APQR criteria from the perspective of various stakeholders, the survey is aimed at the question of"Do you think the review criteria can

comprehensively and systematically evaluate the work of your QAA ?". 7 respondents chose "satisfaction", and 4 chose "average", which shows that 3 quarters of the respondents think that the criterion need to be further revised and improved, according to the status and characteristics of the QAAs. In order to comprehensively and systematically review the QAAs, closer consultation and interview with QAAs should be strengthened, and more qualitative review methods should be adopted to obtain more comprehensive and in-depth information.

2.2.2 Diagnostic nature of the review criteria

"Promoting the QAA reform by reviewing" and "combining review with guidance" have always been APQR review philosophy. In order to explore whether APQR criteria can effectively and objectively reviewed the QAAs and accurately guide the QAAs, the survey asked the question of "Do you think the APQR criteria reflect the major achievements and shortcomings of the QAAs?". Except for 1 AC member who chose "non-satisfaction", all others expressed "satisfaction". This shows that: (1) APQR has a strong sense of self-reflection; (2) APQR diagnostic ability is unsatisfactory to a certain extent; (3) APQR needs to summarize more good experiences from the QAAs and promote them. In order to strengthen the self-development of the QAAs by reviewing, APQR needs to give more targeted and tailed suggestions for the QAA development in the future.

2.3 Review procedure: standardized but flexible

The survey results show that the 3 subjects are satisfied with the review procedure. The respondents expressed "satisfaction" with the “overall satisfaction”, “objectivity”, “systematicness” and “reliability”. This shows that APQR review procedure can meet the goal of “objectivity and reliability”. During the whole review process, the selection of the review panelists, the quantitative investigation before the review, the qualitative analysis during the review and the constructive feedback after the review have formed a tight and flexible closed loop. APQR review is based entirely on “evidence” and “characteristics”, which has maximized the effectiveness of the APQR review.

2.4 Review result: sustainable development

2.4.1 Combine short-term development with long-term development

In order to achieve the review of sustainable development, APQR tries to combine the short-term development with the long-term development direction of the QAAs. While reviewing the "history" of the QAA, APQR make great efforts to devote itself to guide the "future". For the question of "Do you think the review can combine the short-term development with the long-term development of the QAA?" 8 agreed "satisfaction",while still 2 from the QAAs chose "average". This shows that from the perspective of the QAAs, they still think that their short-and-long term development has not reached a satisfactory level. The guiding opinions of the APQR review on the future development of the QAAs need to be further refined and appropriate. At the later stage of the review, more feedback and consultations are needed to ensure that the problems of the QAAs can be solved.

2.4.2 Self-examination to sustainable development

APQR review adheres to the principle of "combining review with guidance", which not only requires the review of the development status of the QAA, but also finds out the problems existing

in the current development of the QAA, and puts forward more constructive suggestions based on the problems. Therefore, the QAAs reflect on problems and opinions and realize the review of sustainable development. For the question of "Do you think the review and meta-review can promote the self-examination, improvement and sustainable development of your QAA?", except for the 2 QAAs who chose "average", the others all expressed "satisfaction". This shows that in the opinions of the review party (including AI members and the review panelists), the APQR review can promote the QAAs to self-examination and achieve sustainable development. However, the Satisfaction is relatively low. The possible reasons are as follows. (1) The feedback of the problems is not appropriate to the actual situation of the QAA. (2) It is difficult for the QAA to effectively solve the problems. (3) The improvement feedback of the QAA has not been effectively confirmed. APQR needs to consult with the QAA to clarify the problems and improve them.

2.4.3 Internationalization of quality assurance in higher education

Internationalization of higher education is an issue of the times. Internationalization of quality assurance is an indispensable part of the reform and development of higher education. It is not only the inevitable outcome of the development of globalized society, but also an important symbol of the core competitiveness of higher education. For the question of "Do you think the APQR review can help to promote internationalization of quality assurance in higher education in the Asia-Pacific Region?" Except for 2 respondents from the QAAs who chose "average", the others all agreed "satisfaction". This shows that APQR review should be focused on QA internationalization in addition to review criterion, and more efforts should be made in improvement suggestions, future promotion and quality assurance internationalization of the APQR itself.

2.4.4 Combine qualitative method with quantitative method

APQR review has always adhered to the review method of "combining qualitative method with quantitative method", which not only pays attention to the analysis of the report data, but also combines the interviews and observations of on-site review. For the question of "Do you think APQR adopts a combination of qualitative method and quantitative method to help get more real and effective results?" All the survey respondents agreed "satisfaction", which indicates that all think that the method combination is more conducive to the comprehensiveness and authenticity of the review. APQR should maintain and continuously upgrade this review method in the future.

2.4.5 Individually tailed characteristic review

"Individually tailed characteristic review" is the advocacy concept of the fourth generation review, and the "co-constructive value" of both parties has become the key element of review. In order to make a more comprehensive review of the QAAs, APQR review follows this development concept and is based on the comprehensive review of the QAAs. APQR conducts tailed characteristic review with 11 criterion to the QAA. For the question of "Do you think APQR emphasizes individually tailed characteristic review?" 7 respondents agreed "satisfaction" while 4 chose "average". It is both new and correct to pursue individually tailed characteristics and weaken the normalization of the criterion. However, in APQR review, regional, national and QA organizational purposes, functions and other characteristic factors should be concerned, and review on the basis of "evidence" and "performance" should be insisted, which is extremely demanding for the review panelists and even

the AC members who are the important and last gatekeepers. It can be said that the characteristic review is a "long-way-to-go" process.

On the whole, the satisfaction of the APQR review is high, except for one APQR review panelist, all the others agreed "satisfaction". This shows that the AC members and the QAAs are satisfied with the overall performance of the APQR review. From a more professional point of view, APQR review still needs to be further improved. Therefore, APQR has many good experiences worth learning from, and it needs to be further improved according to the development of the changing world, such as new methods of quality assurance under the COVID since 2021.

3. Analysis of advantages and disadvantages

In order to promote the sustainable development of APQR in the future, it is urgent for APQR to have “meta-review" or "re-examination" to the implementations in the past six years, carry forward the good experiences, find out the shortcomings to improve so as to make contributions to good quality assurance in the Asia-Pacific Region.

3.1 Summary: advantages and characteristics of the APQR review

The concept of the fourth generation review emphasizes "development" instead of "confirmation"\. From the analysis of the APQR review itself, the analysis of the APQR review under 11 criterion and the survey, the development of APQR in the past six years has many points worth learning.

3.1.1 Review concept: to underline the importance to “developmental review” and emphasize "promoting reforms by review"

The essence of the fourth generation review emphasizes the process of construction and re-construction, i.e. from “the summative review” focusing on results to “the developmental review” focusing on diagnosis." APQR adheres to the principle of "combining review with guidance" in the whole process. It not only points out the QAA spaces for further improvement under 11 criteria, but also points out the QAA development advantages and the spaces for improvement at the last part of “the APQR Review Report”: "Advantages and Suggestions". Therefore, APQR attaches importance to developmental review and emphasizes the developmental function of the APQR review.

3.1.2 Review process: multi-parties’ participation and equal negotiation

The fourth generation review concept emphasizes the participation of all the stakeholders in the review process, and the review should be taken into account various values. In the whole review process, the decision depends entirely on "evidences" and "performances", which not only attaches importance to the APQR review itself, but also to self-review of the QAAs. At the same time, when APQR conducts the review, the QAAs have a high degree of active participation in the information provision, explanations during the on-site review and wrap-up meetings. It can be said that the APQR review is based on multi-parties’ participation and equal negotiation.

3.1.3 Review result: being committed to sustainable development

For the QAAs that engage in only educational review, adequate financial guarantee and sufficient projects are the key to their survival. This requires the QAAs themselves to continuously improve

their credibility and operational efficiency, so as to ensure the sustainable development of the QAAs. APQR review is also committed to "promoting reforms through review", and makes suggestions on the operations and review activities of the QAAs, so as to realize the continuous improvement of the QAAs themselves and achieve sustainable development.

3.2 Reflection and improvements: suggestions for the APQR review

APQR not only promotes the sustainable development of the QAAs, but also needs to constantly reflect and improve in order to promote its own sustainable development, so as to realize APQN's mission of "enhancing the quality of higher education in the Asia-Pacific Region"(APQN Constitution, 2019). In order to further clarify the problems existing in the APQR review for further improvement, "Suggestions for Improvement of APQR" has been added at Part three of the survey. Based on the results of the survey and the analysis of the APQR reviews, the main suggestions are as follows:

3.2.1 To get the supports and permissions from the governments of various countries to improve the APQR relevance in quality assurance

In the survey, the respondents from the QAAs pointed out that APQR should cooperate with governments, HEIs and other stakeholders in various countries as much as possible to improve the recognition and relevance of APQR. This will attract more QAAs from various countries to apply for APQR, to ensure its sustainable development from the implementation.

3.2.2 To increase the feedback links after the review and to improve the follow-up procedure

"A review is not the end, but a new beginning." During the review, the APQR review panel analyzed the shortcomings of 11 criterion of various QAAs, and gave feedback on the improvement methods in the future. At the same time, APQR also set the validity period of the review. However, after the review, there is a lack of follow-up procedures to review the improvement quality and status of the QAAs, which leads to a great discount on the initially intended effect of "promoting reforms by review" and development function. Therefore, the APQR Council needs to improve the feedback links after the review and incorporate it into the formal review procedure.

3.2.3 To improve the organization category of recognized QAAs

At present, APQR mainly recognizes the the QAAs who are engaged in evaluation/review/accreditation of QA activities. In the survey, some pointed out that APQR should also include other QAAs such as research institutions engaged in educational QA, in university ranking, etc. Thereby expanding the coverage scope of APQR, further realizing the review of sustainable development and improving the quality of higher education in the Asia-Pacific Region.

3.2.4 To add the APQR online review

With the outbreak of COVID-19, it is difficult to conduct site visit of the APQR review. The normalization of COVID becomes the biggest obstacle to the development of APQR. In order to achieve sustainable development, APQR needs to add more online review methods as soon as possible. To update the criterion suitable for online review, learn and incorporate more online survey techniques. This is not only a great challenge for AC, but also a difficult problem for the APQR review panelists.

4. Conclusion

During the 6-year review process, the APQR Council, the review panelists and the QAAs made great efforts to cooperate and negotiate with each other. The concept of “developmental review” based on the fourth generation review yielded numerous satisfactory results. However, with the outbreak and "normalization" of the COVID pandemic, it has brought unprecedented crisis and challenges to APQR sustainable development. This research has conducted “meta-review”/ "re-examined" the APQR review in the past six years, summed up and optimized the good experiences, summarized and analyzed the problems existing in the review, and put forward future improvement suggestions. We believe, with the continuous efforts of all APQR staff, we can continue to contribute to quality assurance of higher education in the Asia-Pacific Region and witness the bright future of higher education in the Asia-Pacific Region.

References

[1] Jagannath Patil, Zhang Jianxin. Who will guarantee the quality of the QAAs in higher education? Practical Exploration of the Asia-Pacific Quality Register (APQR)in the Asia-Pacific Region [J]. Shanghai Education review Research, 2016,5(02):47-52.

[2] Xiang Zhijie, Zhang Jianxin, Huang Panpan. Research on the participation of ECAQA students in higher education quality assurance in Kazakhstan [J]. Shanghai Education review Research, 2021,10 (03): 42-47.

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Students' Perspective On Quality Assurance In Higher Education In Mongolia

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Abstract

There are many factors impacting the quality of teaching and learning higher education institutions. The current study attempts to examine how the quality of educational process and other higher education factors influence students' competencies and their chances of employment in Mongolia. We adopted the questionnaire developed by Gora and her colleagues (2019). The questionnaire consists of eight constructs: a) infrastructure and technical equipment, b) content of the educational process, c) teaching staff, d) teaching activities, e) research activities, f) practical activities, g) knowledge, skills, and competencies, and h) employability. The questionnaire included 52 items and we used a 5-point Likert scale of 1 through 5, where 1 means a respondent totally disagrees with a particular statement and 5 means that a respondent totally agrees with a statement. Eight hypotheses were formulated in order to achieve the study's purpose. In this study 502 senior students participated from six large public universities in Mongolia. Data were analyzed using SPSS 25.0, Excel 2019, and SmartPLS3.3.3 softwares. The data supported five hypotheses out of eight. Results are discussed in great details and further studies are recommended.

1. Introduction

One of the sustainable development goals, among the 17 goals set up by the United Nations in 2015 to be achieved by 2030, is ensuring quality education. It is the fourth goal and highlights provision of inclusive and equitable quality education and promote lifelong learning opportunities for all.

Higher education institutions play a crucial role in ensuring sustainable development as they generate new knowledge and develop sustainable competencies among students. Universities have the resposiblity to enable students to develop the necessary skills in the labor market and to contribute to the sustainable development of society (Gora et al., 2019). In this regard, higher education factors are important to develop students' competencies and their chances of employment in the labor market (Gora et al., 2019).

There is, however, an issue of mismatch between competencies of students acquired in higher education and competencies required in the labor market. Studies conducted in Mongolia have noted this issue. For instance, employers require soft skills such as responsibility, reliability, punctuality, good communication skills, working ethics and so on along with professional skills (Nasanbayar, 2019). Other studies highlighted that it is important to develop students' soft skills in general education, vocational education and higher education, and to implement programs to train students for employability (Labor and Social Welfare Institute, 2018, 2019).

In order to train students, who meet labor market requirements and the competencies required by employers, quality assurance of higher education programs are imperative. Higher education institutions have responsibilities to ensure ongoing improvements of their programs (Mongolian National Council for Education Accreditation, 2020).

Establishing, developing, and strengthening the national quality assurance system in education in Mongolia have been getting increasing attention. Guaranteeing this, a couple of articles was added to the higher education law in scope of the 2016 law amendment. While the article 8.11 states that it is mandatory that higher education institutions shall be accredited by the official authority, the article 8.12 states that accrediting programs shall be voluntary (Mongolian State Parliament, 2002). In this regard, higher education institutions have been paying increasing attention to quality assurance of their programs. The main purpose of quality assurance of programs is to improve the quality of teaching and learning. The ultimate goal is to increase students' chances of employment after graduation in the labor market.

The current study, therefore, aimed at investigating the impact of quality assurance in higher education on students' knowledge, skills, and competencies, and their chances of employment. Some factors specific to higher education were examined in order to achieve the study's purpose.

2. Methods

In order to examine how factors specific to higher education (the educational process, the infrastructure and technical equipment, the practical activities, and the students' research activities) influence the knowledge/skills/ competencies acquired by the students and their chances of employment in the labor market, we adopted the questionnaire developed by Gora and her colleagues (2019). They developed the questionnaire and collected data from two major Romanian public universities and provided empirical evidence of the impact of quality assurance in higher education in terms of students' competencies and their employability (Gora et al., 2019). The questionnaire consisted of eight measurement constructs (Table 1).

Construct	Items	Variables
Infrastructure and technical equipment (TEq)	8	TEq1 -TEq8
Content of the educational process (Cont)	5	Cont1 - Cont5
Teaching staff (TSt)	8	TSt1 - TSt8
Teaching activities (Tac)	7	Tac1 - Tac7
Research activities (Res)	9	Res1 - Res9
Practical activities (Дадлага) (Prct)	7	Prct1 - Prct7
Knowledge, skills, and competencies (Comp)	6	Comp1 - Comp6
Employablity (Emp)	2	Emp1 - Emp2

Table 1. Conceptual constructs and variables

Source: Gora et al., 2019

A 5-point Likert scale was applied in the questionnaire where 1 meant that participants totally agree with a statement and 5 meant that participants totally agreed. The questionnaire contained 52 items.

The following eight hypotheses were formulated in order to achieve the study's purpose:

1. Universities' infrastructure and technical equipment positively influence students' knowledge/skills/competencies.
2. Universities' infrastructure and technical equipment positively influence students' employability.
3. The quality of the educational process positively influences students' knowledge/skills/competencies.
4. The quality of the educational process positively influences students' employability.
5. Practical activities positively influence students' knowledge/skills/competencies.
6. Practical activities positively influence students' employability.
7. Student research activities positively influence students' knowledge/skills/competencies.
8. Student research activities positively influence students' employability.

We invited students from six major Mongolian public universities to participate in the study (Table 2). Altogether 502 senior students accepted our requests and provided the data. The data were collected between September 15 and Ocotber 15 in 2021. We conducted the pre-test including 144 senior students from Mongolian State University of Education and Cronbach's alpha was excellent with the score of 0.982.

Name of university	Number of programs participated	Number of participants
National University of Mongolia	5	12
Mongolian University of Science and Technology	3	8
Mongolian State University of Education	26	192
Mongolian National University of Medical Sciences	20	121
Mongolian University of Life Sciences	31	96
Mongolian University of Arts and Culture	16	73
N	101	502

Table 2. Number of participants and programs

3. Results

In this study SPSS 25.0, Excel 2019, and SmartPLS3.3.3 softwares were used for data analysis. The results of the study are presented in the following sections: 1) descriptive statistics, 2) measurement and structural model assessment, and 3) research hypotheses testing.

3.1 Descriptive statistics

The results show that the mean score for infrastructure and technical equipment of university was 3.29 (Table 3). One interesting finding was that students did not agree that wireless internet access provided within universities provided was good enough. Therefore, it is urgent to improve infrastructure and technical equipment.

The mean score for the content of the educational process was 3.99, which meant study disciplines were relevant and there was compatibility between what students studied in the course and what they studied in the seminar. However, students did not agree with the correlation between the study discipline and the profile they were studying, structure of the disciplines of study in a logical sequence, and the clear presentation of the assessment requirements in the first courses.

Constructs	Mean	SD	t-Test [a]	t-Test [b]
Infrastructure and technical equipment (TEq)	3.29	0.81	-0.40	0.30
Content of the educational process (Cont)	3.99	0.75	-1.21	3.00
Teaching staff (TSt)	3.82	0.78	-1.11	2.08
Teaching activities (Tac)	3.78	0.75	-1.08	2.35
Research activities (Res)	3.30	0.82	-0.63	0.57
Practical activities (Prct)	3.74	0.83	-0.97	1.29
Knowledge, skills, and competencies (Comp)	3.79	0.74	-1.15	2.63
Employability (Emp)	3.83	0.92	-0.94	1.05

Table 3. Descriptive statistics of constructs

Regarding teaching staff, the mean score was 3.82 which meant students agreed with the teachers' professional training. However, the results show that students did not agree with the availability of the teachers to provide students with counseling and the teacher involvement in guiding students in research.

3.2 Measurement and Structural model assessment

We applied SmartPLS3.3.3 software to assess the measurement model. The results are presented in Figure 1. As shown in Table 4, all of the quality criteria were met for this measurement model. In other words, all factor loadings, Cronbach's alpha, composite reliability (CR), and the average variance extracted (AVE) values were above the recommended threshold of 0.7, 0.7, 0.7, and 0.5 respectively (Gora et al., 2019). The model shows that content of the educational process (R^2=0.78),

teaching staff (R^2=0.87), and teaching activities (R^2=0.86) positively influence the educational process (Figure 1).

Constructs	Items	Loading	Cronbach's Alpha	rho_A	CR	AVE
Infrastructure and technical equipment (TEq)	TEq1	0.729	0.881	0.887	0.907	0.552
	TEq2	0.712				
	TEq3	0.792				
	TEq4	0.815				
	TEq5	0.815				
	TEq6	0.537				
	TEq7	0.772				
	TEq8	0.733				
Content of the educational process (Cont)	Cont1	0.858	0.93	0.931	0.947	0.78
	Cont2	0.895				
	Cont3	0.897				
	Cont4	0.894				
	Cont5	0.872				
Teaching staff (TSt)	TSt1	0.771	0.952	0.953	0.96	0.749
	TSt2	0.878				
	TSt3	0.899				
	TSt4	0.872				
	TSt5	0.881				
	TSt6	0.875				
	TSt7	0.885				
	TSt8	0.859				
Teaching activities (Tac)	Tac1	0.832	0.953	0.954	0.962	0.782
	Tac2	0.86				
	Tac3	0.869				
	Tac4	0.904				
	Tac5	0.914				
	Tac6	0.906				
	Tac7	0.903				
Research activities (Res)	Res1	0.836	0.941	0.944	0.950	0.679
	Res2	0.825				
	Res3	0.857				
	Res4	0.871				
	Res5	0.823				
	Res6	0.78				
	Res7	0.826				
	Res8	0.805				
	Res9	0.787				

Practical activities (Prct)	Prct1	0.724	0.926	0.932	0.941	0.695
	Prct2	0.819				
	Prct3	0.84				
	Prct4	0.862				
	Prct5	0.873				
	Prct6	0.908				
	Prct7	0.796				
Knowledge, skills and competencies (Comp)	Comp1	0.76	0.943	0.943	0.955	0.78
	Comp2	0.893				
	Comp3	0.922				
	Comp4	0.928				
	Comp5	0.924				
	Comp6	0.861				
Employability (Emp)	Emp1	0.963	0.924	0.924	0.963	0.929
	Emp2	0.964				
Educational process (EdProc)	Cont	0.885	0.97	0.97	0.972	0.65
	Tst	0.937				
	Tac	0.93				

Table 4. Convergent validity and reliability

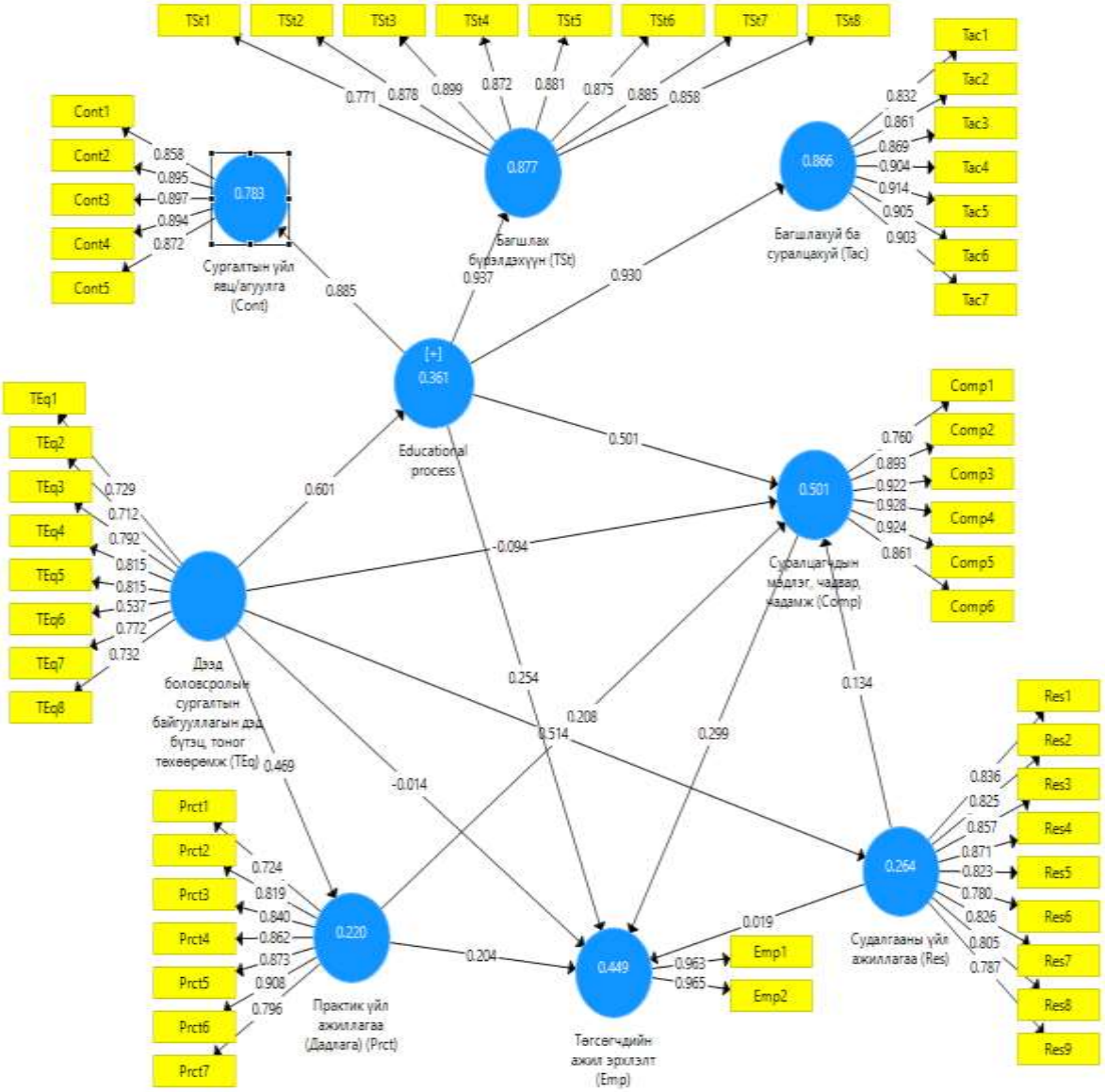

Figure 1. Measurement and structural model assessment

3.3 Testing research hypothseses

The eight hypotheses were tested and five were supported while the remaining three were not supported (Table 5). The three hypotheses which were supported were related to knowledge, skills, and competencies. Infrastructure and technical equipment, research activities, and practical activities had direct effect on knowledge, skills, and competencies. The other two hypotheses which were supported were related to employability. In other words, the quality of the educational process and practical activities had positive effect on employability.

Hypothesis	Relationship	Std. Beta	Std. Error	t-Value	Decision	95% BCI	
H1	(TEq) -> (Comp)	-0.092	0.044	2.12**	Supported	-0.167	-0.023
H2	(TEq) -> (Emp)	-0.016	0.052	0.269	Not supported	-0.103	0.067
H3	(Cont)-> (Comp)	0.064	0.076	0.881	Not supported	-0.055	0.191
H4	(Cont) -> (Emp)	0.208	0.089	2.379**	Supported	0.062	0.351
H5	(Prct) -> (Comp)	0.205	0.064	3.238***	Supported	0.105	0.31
H6	(Prct) -> (Emp)	0.202	0.061	3.325***	Supported	0.099	0.302
H7	(Res) -> (Comp)	0.134	0.052	2.591**	Supported	0.053	0.217
H8	(Res) -> (Emp)	0.021	0.057	0.339	Not supported	-0.078	0.116

Table 5. Hypotheses testing

However, the quality of the educational process had no direct effect on knowledge, skills, and competencies ($\beta = 0.064$), thus hypothesis 3 cannot be supported. Moreover, research activities ($\beta = 0.339$), and infrastructure and technical equipment ($\beta = -0.016$) had no direct effect on employability. Therefore, hypotheses 2 and 8 also cannot be supported.

4. Conclusion

The present study aimed at examining how some factors specific to higher education impact students' knowledge/skills/competencies and their chances of employability in the labor market. The results showed that factors namely infrastructure and technical equipment, research activities and practical activities impact students' knowledge/skills/competencies. Also, the quality of educationl process and practical activities had an impact on employability. Some factors, however, were found to have no direct impact on employability, for instance, infrastructure and technical equipment and research activities. It is interesting to see that infrastructure and technical equipment, and research activities had an impact on knowledge/skills/competencies, but had no impact on employability. This could be explained that employers emphasize soft skills of students.

Some results of the current study align with the previous study (Gora et al., 2019) conducted in Romania. Their study suggested that infrastructure and technical equipment had no impact on students' knowledge/skills/competencies and employability. The existence of appropriate software for study subjects and technical equipments could promote effective implementation of study programs and ongoing improvement of programs, but they may not necessarily have a direct impact on employability. However, it is important to pay attention to the correlation between the quality of educational process and students' knowledge/skills/competencies. Higher education institutions need to ensure ongoing improvements on their programs and assure the quality of their programs in order to provide education which meets requirements of the labor market.

Some limitations should be considered within this study. Although the study invited senior students from six major public universities, some participating programs and students from some universities were not sufficient. Further studies should address this issue. It can be recommended to conduct further studies on the correlation between students' knowledge/skills/competencies and competencies required by employers within specific programs.

References

Gora, A. A., Ștefan, S. C., Popa, Ș. C., & Albu, C. F. (2019). Students' Perspective on quality assurance in higher education in the context of sustainability: A PLS-SEM approach. Sustainability, 11(4793), pp. 1-21.

Labor and Social Welfare Institute. (2018). *Төгсөгчдийн хөдөлмөр эрхлэлтийн судалгаа [Study on employability of higher education graduates]* Төгсөгчдийн_хөдөлмөр_эрхлэлтийн_судалгаа_2018 (2015-2016).pdf (rilsp.gov.mn)

Labor and Social Welfare Institute. (2019). *Хөдөлмөрийн зах зээлийн эрэлтийн барометрийн судалгаа [Study on labor market needs]* http://rilsp.gov.mn/upload/2018/sudalgaa//2019%20-%20Hudulmuriin%20zah%20zeeliin%20ereltiin%20barometeriin%20sudalgaa%20MN.pdf

Mongolian National Council for Education Accrediattion. (2020). *Чанарын дотоод баталгаажуулалт ба хөдөлмөр эрхлэлт [Internal quality assurance and employability]*. Битпресс.

Mongolian State Parliament (2002). *Дээд боловсролын тухай хууль [Higher education law]*. https://www.legalinfo.mn/law/details/251

Nasanbayar, B. (2019). *Боловсрол ба ажил эрхлэлт [Education and epmloyability]*. https://www.jargaldefacto.com/article/bolowsrol-ba-ajil-erkhlelt?fbclid=IwAR0jcSx-SmuCmKRvvNO4Fy-LeeKvi949LWDZoPDdhOXL-CAsQsswzJRYp9k

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Bangladeshi Students' Feedback On Career Preparation Initiatives Of Media Studies And Journalism Schools

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Abstract

The paper presents student feedback regarding career preparation initiatives undertaken by media and journalism teachers and schools in Bangladesh. Various stakeholders agree that graduate employability is one of the key objectives of higher education institutions. To know whether this objective is being met, it is necessary to ask student feedback regarding the five components of career preparation using the Career Development Center (CDC) model: self-awareness, educational-occupational information, taking action and life management. Using a Likert Scale (1 being the lowest and 5 being the highest), the survey had 245 media studies and journalism students from all over Bangladesh as respondents. The findings indicated moderate results in all components – self-awareness (3.19 mean rating), educational-occupational information (3.35 mean rating), taking action (3.26 mean rating) and life management (3.45 mean rating). Overall, the mean rating was at 3.31 – students are moderately satisfied with the said career preparation initiatives.

1. Introduction

The paper presents student feedback regarding career preparation initiatives undertaken by media and journalism teachers and schools in Bangladesh. In so doing, it elaborates on two important variables – student feedback and career preparation. Student feedback systems have been in existence for about a century. Alderman, Towers and Bannah (2012) mentioned that the system was first introduced in the US in the mid-1920s to provide feedback to academics regarding their teaching. Nowadays, student evaluation surveys have become a routine practice all over the world. The results of which have been used to: (1) guide teaching practice; (2) measure teaching effectiveness; (3) inform students for the purpose of unit and teacher selection; (4) determine quality assurance measures and (5) serve as research data.

Manzano (2012) explained that student feedback may be used for measuring teaching effectiveness and/or developing teacher capacity. He identified three categories of strategies for teacher improvement – routine strategies (involves learning goals, student progress tracking and establishing rules and procedures), content strategies (includes developing new content, knowledge application and hypothesis generation), and strategies enacted on the spot (for student engagement, adherence to rules and procedures, relationship development and communicate expectations for all students). However, Alderman, Towers and Bannah (2012) mentioned that although there has been increasing attention towards student feedback, there is a need to develop an overarching framework for evaluation to ensure the validity, multidimensionality and usefulness of the feedback survey. Moreover, student feedback survey should constitute only a part of teacher evaluation. Huxham et.

al. (2008) suggested using methods to collect student feedback such as focus groups, reflective diaries, rapid feedback and H form. Marshall (2012) recommended the inclusion of classroom observation and student achievement gains to measure effective teaching.

Aside from improving teaching practice, student feedback systems have been used for program development and improvement. Richardson (2005) explained that most student feedback systems focus on evaluating particular course units in the context of modular programs of study. In this sense, there has been little information about student experience in the entire program of study. In light of this, the Noel-Levitz Student Satisfaction Inventory was designed to measure students' satisfaction with their entire experience of higher education. In this survey, students were asked to rate both the importance of their expectation and their level of satisfaction regarding a particular aspect of higher education. The overall scores are calculated that identify aspects of the students' experience; pinpointing which aspects an institution is failing to meet students' expectation.

In this regard, Richardson (2005) listed some assessment instruments to look into students' perception of academic quality such as the Course Perception Questionnaire (measures experiences with particular degree programs and departments). The instrument contained 40 items in eight scales reflecting aspects of effective teaching. Later, the Course Experience Questionnaire (CEQ) was developed as a performance indicator for monitoring the quality of teaching. The instrument consisted of 30 items in fives scales reflecting effective instruction such as appropriate assessment, clear goals and standards, appropriate workload, appropriate assessment and emphasis on independence. In many universities, students' perceptions are gathered as they are about to graduate – leading to the term "graduate exit survey." Graduate student exit surveys ask recent alumni about their overall satisfaction with their academic experience and professional development, quality of mentoring and career plans. Konting, Kamaruddin and Man (2009), for example, conducted an exit survey among 1,823 Universiti Putra Malaysia graduating students. Aside from gathering perception and satisfaction data on study programs, student feedback has been utilized for curriculum design and course enhancement. McCuddy, Pinar and Gingerich (2007) utilized student feedback in designing student-focused curricula in the discipline of Organizational Development and Change. Jara and Mellar (2010), on the other hand, collected student feedback for quality enhancement of four e-learning courses.

In Bangladesh, the University Grants Commission or UGC (2016) had advised all Bangladeshi universities to include student satisfaction surveys in their self-assessment reports. The said survey instrument included questions on governance; curriculum; student entry qualifications; structures and facilities; teaching, learning and assessment; and research and extension. Aside from these, the UGC has provided a template for student feedback on teachers.

Graduate employability has been recognized by various stakeholders (governments, accreditation bodies, parents and students) as one of the objectives of university education. Sumanasiri, Yajib and Khatibi (2015) followed the development of the graduate employability concept from focusing on employability skills to skills plus social and psychological attributes; from the USEM model (understanding, skills, efficacy belief and metacognition) to Career EDGE Model (USEM Models

plus employability skills); from the Integrated Competence Model of Employability to the JET (Journey of Employment) and RAW (Rewarding, Ability and Wellness) models. In other words, higher education institutions have a responsibility to provide programs and activities that ensure the employability of their graduates.

One common approach of higher education institutions is the establishment of Career Development Centers (CDC), also called Career Resource Center or Career Information Center. Mc Daniels and Puryear (1991) described the attributes of CDCs – self-awareness (tools such as activities preference checklist, aptitude checklist, etc.); educational-occupational information (provision of information on careers); taking action (career decision-making); and life management (addressing life issues students may encounter). Universities have likewise utilized information technology to provide career information such as first-hand observations, action pictures and sound, still pictures and sounds, large visual displays, print media, automated and semi-automated systems and miscellaneous career sources.

Aside from CDCs, scholars have recognized the importance of mentoring programs for career development. Perna, Lerner and Yur (1995) explained that historically, older adults had an important role to play in developing young adults. Hence, assigned mentoring programs in professional and higher education settings may offer an alternative to the classic mentoring relationship. Teachers, acting as mentors, to their students would be helpful for the career development of the latter.

In Bangladesh, graduate employability has become an important factor in school and program selection of students. Genilo (2022) discussed that many universities in the country have adopted a market-driven approach. Private universities, for example, followed the professional orientation of North American education to ensure that their students dominate the job market, particularly landing lucrative placements. Citing Kabir (2012), parents perceive market-oriented degrees as key to economic survival. Hence, parents convince their children to take courses that ensure absorption into the corporate sector.

In public universities, Islam, Rahman and Nibir (2021) surveyed 384 undergraduate students regarding the factors influencing their career choice. Using a scale from 1 (lowest) to 5 (highest), the factors with strong influence included: Personality (4.28), Financial Benefits (4.22), Interest/Passion (4.20), Profession's Prestige (4.13) and Career Flexibility (4.13). Basically, the top factors were a mixture of personal attributes and career perceptions. In this sense, graduate employability is also a major factor in choosing their programs of study.
In light of these discussion, the present study sought student feedback regarding the career development initiatives of Bangladeshi media studies and journalism programs. In so doing, it is hope that the said initiatives may improve considering documented perceptions and concerns.

1.1 Study Objective

The study objective is to gather the perceptions of communication, media and journalism students in the country regarding their career and the preparations needed for their careers.

2. Study Framework

The study framework follows the CDC Model mentioned by McDaniels and Puryear (1991) – self-awareness; educational-occupational information; taking action; and life management. However, these have been modified to fit the context of media and journalism schools in the country. The study framework was presented below:

No.	Component	Parameter	Indicator
1	Self-Awareness	Career Coaching	Includes writing application letter, Curriculum Vitae, job interview preparation, and job written tests.
		Career Guidance	Refers to information provided about careers in the field, career prospects, career advice and career counseling.
2	Educational-Occupational Information	Job Benefits	Refers to awareness on the expected salary range, fringe benefits, allowances and regularization policy.
		Job Challenges	Mindfulness on the office hours, commuting, physical risks and psychological risks.
		Job Application Process	Information about the job application process, application strategy, recommendation letters and job referrals.
3	Taking Action	Career Preparation/ Practice	Includes apprenticeship programs, internship participation in research projects and project portfolio.
		Career Exposure	Involves doing relevant part-time jobs, meeting media professionals, career fairs, career talks and contributing articles/photos to media hubs/organizations.
4	Life Management	Career Networking	Includes forming informal working groups, joining student organizations and setting up social media account.
		Career Promotion and Pathways	Includes knowledge on job promotion policies, job hierarchy, alternative professional careers and media start-ups as a career option.
		Future Relationship with the University	Refers to the benefits of a graduate education, tracking of its graduates' whereabouts, alumni association's activities after graduation and participating in department activities after graduation.

Matrix 1: Study Framework

3. Methodology

The study was descriptive by design. It adopted a quantitative approach; an online survey was done using a semi-structured questionnaire formulated using the Google Form. Respondents of the survey included communication, media and journalism students in Bangladesh. Quota sampling technique was used to include the respondents in the survey. The researchers set a target of having 200 respondents which was exceeded by 45 respondents. Participation in the survey was completely voluntary.

A Semi-structured survey questionnaire was used for the survey. The questionnaire included mostly rating questions presented using a five-point Likert scale (1 being the lowest and 5 being the highest).

Mean ratings and descriptive statistical analysis were used to interpret the data. MS Excel was used for the analysis. To interpret the mean ratings an analytical framework suggested by Mohammed (2016) was used.

As Mohammed (2016) suggested, for formulating the framework for inference of the mean ratings, first the minimum and the maximum length of the 5-point Likert scale has been determined; the range is calculated by subtracting the minimum from the maximum (5 − 1 = 4) and then dividing by five – the greatest value of the scale (4 ÷ 5 = 0.80). Afterwards, it was added with the least value in the scale (1.0) to identify the maximum of this cell. Likewise, as shown in Matrix 2, the minimum and maximum of each cell have been determined:

Score Range	Mean Rating	Interpretation
1 to 1.80	Strongly Disagree	Extremely Negative
1.81 to 2.60	Do not agree	Negative
2.61 to 3.40	Agree up to some extent	Moderate
3.41 to 4.20	Agree	Positive
4.21 to 5.00	Strongly agree	Extremely Positive

Matrix 2: Framework for inference of the mean ratings

4. Results and Discussion

4.1 Demographic profile. The participants of the survey included students of mass communication and journalism in different universities across the country. Among the total 245 respondents, 61% (150) was male and 39% (95) was female.

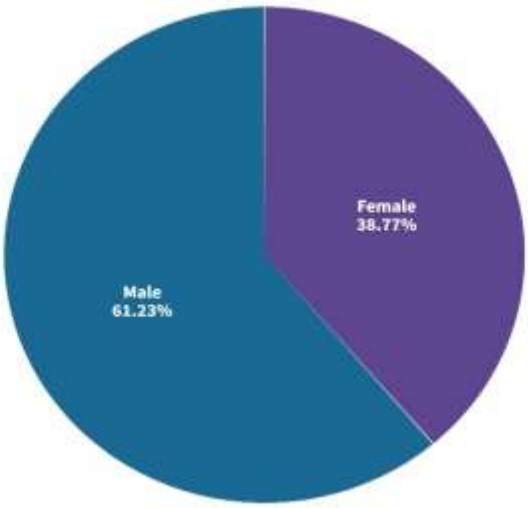

Figure 1. Respondents in terms of sex

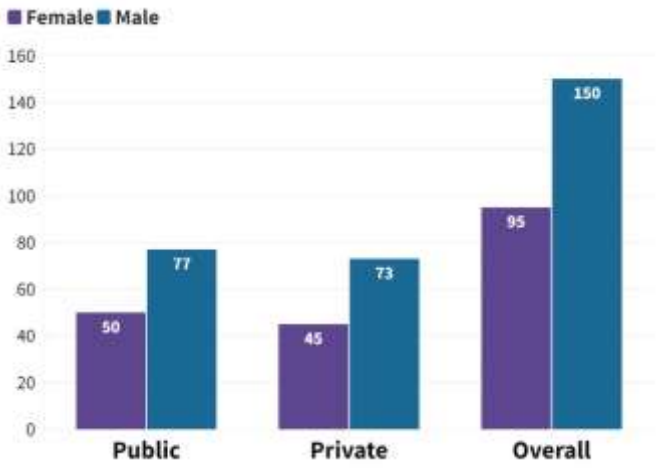

Figure 2. Demographics in terms of university-type

4.2 Feedback on "Self-awareness". As mentioned in the framework, the "self-awareness" component of the survey included two elements – career coaching and career guidance. According to the findings, respondents' feedback on both the elements is "moderate" as the overall mean ratings were found to be 3.34 and 3.03. More details are presented in the subsequent sub-sections.

The respondents' feedback was "moderate" on the career guidance (overall mean rating 3.34) they receive from their teachers/department/university; Respondents from private universities rated (3.49) this relatively higher than the respondents from public universities (3.13). More details are presented in Figure 3.

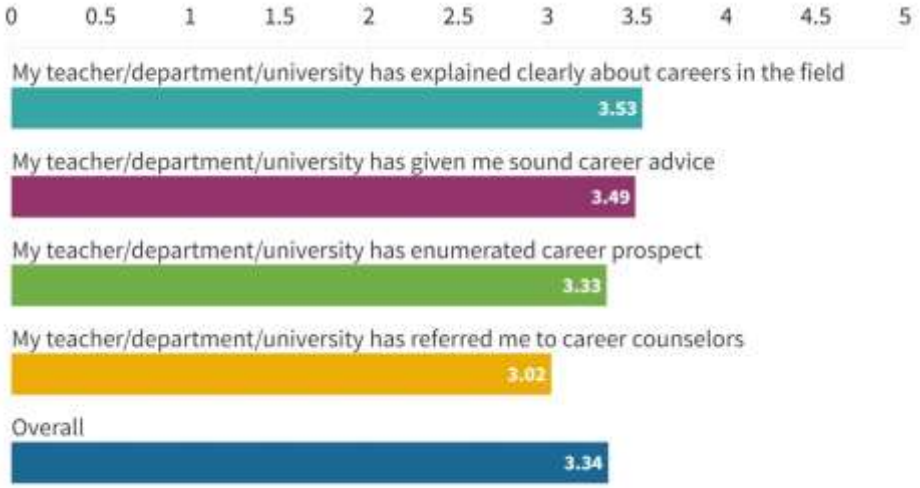

Figure 3. Respondents' Perception of Career Guidance they receive from their teacher/department/university (mean ratings – all respondents)

The respondents' feedback on career coaching (overall mean rating: 3.03) was "moderate" with all the aspects of career coaching they receive from their teachers/department/university. However, respondents from private universities provided relatively higher ratings (3.28) compared to the public university respondents (2.8). The aspect "My teacher/department/university has taught me how to write an application letter" received the most positive feedback from all respondents (3.34) and by both public and private university respondents (3.15 and 3.54 respectively). On the other hand, the aspect "My teacher/department/university has guided me about preparing for job written tests" received the lowest rating (2.81). The details are shown in Figure 4.

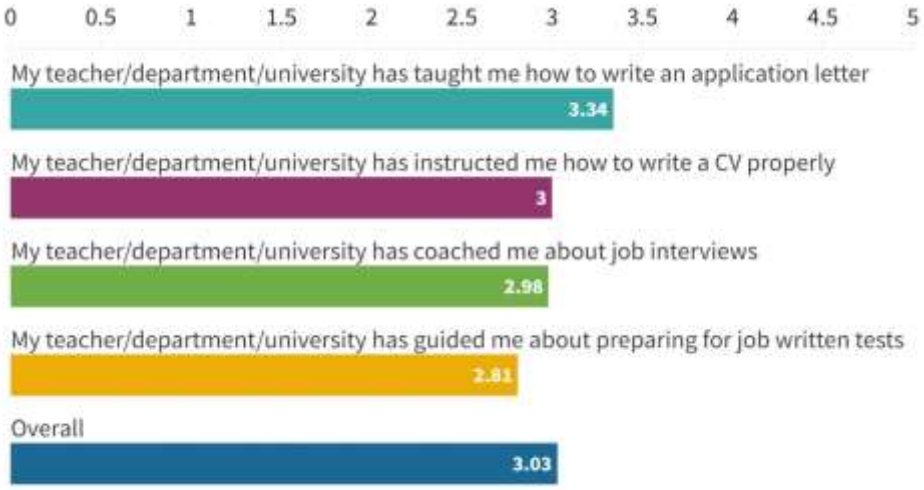

Figure 4. Respondents' Perception of Career Coaching they receive from their teacher/department/university (mean ratings)

4.3 Feedback on "Educational-Occupational Information". The respondents were asked to provide feedback on three elements of "educational-occupational information" mentioned in the CDC model. These are: job benefits, job challenges and job application process. Feedback provided by the respondents on these were "moderate" and "positive" (mean ratings: 3.36, 3.56 and 3.14). The subsequent sections present the findings elaborately:

As can be gleaned from Figure 5, the respondents perceived themselves as "moderately aware" regarding job benefits (mean rating: 3.36), i. e., they somewhat know what they can expect from the profession they aspire for. The overall mean ratings of different aspects under this element ranged between 3.28 and 3.40; the ratings provided by the respondents from public and private universities were close too.

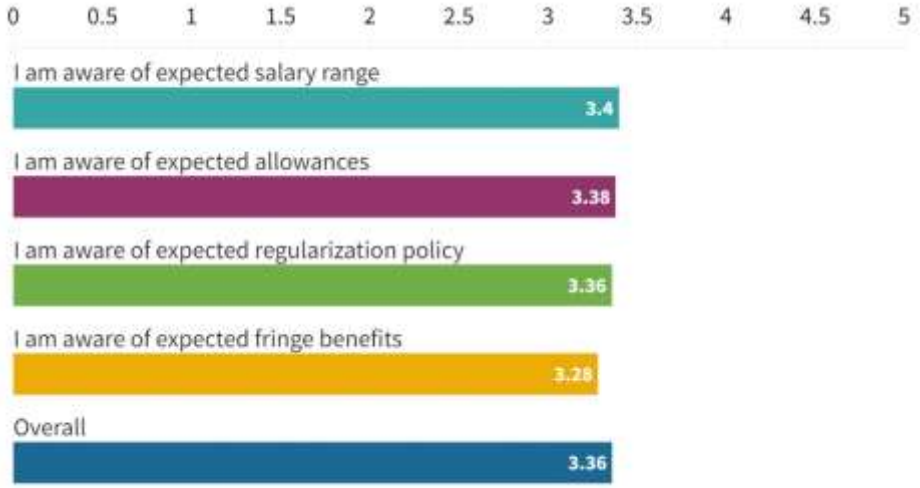

Figure 5. Respondents' Perception regarding their Awareness of Job Benefits (mean ratings)

The respondents perceived their understanding of job challenges as "high" with an overall mean rating of 3.56. Their feedback on different aspects of job challenges, ranged from 3.55 to 3.58, clearly indicate that as all the mean ratings are "positive" according to the analytical framework. The findings are summarized in Figure 6.

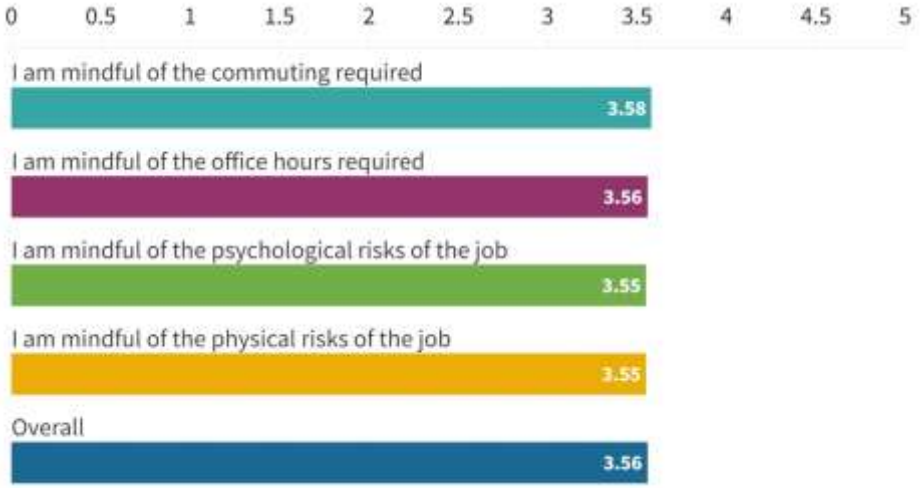

Figure 6. Respondents' Awareness of Job Challenges

The respondents' feedback on the role of their teachers/department/university in the job application process was "moderate" (overall mean rating: 3.14). Though the overall mean ratings provided by both public and private university respondents were "moderate," private university respondents' feedback (mean rating: 3.28) was relative "more positive" compared to the public university respondents (mean rating: 3.02). The findings are presented in Figure 7.

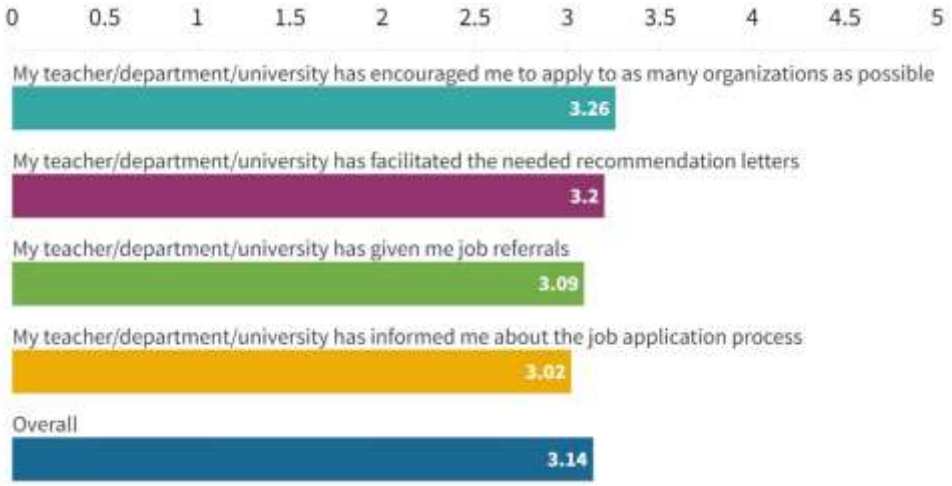

Figure 7. Respondents' Feedback on the Role of their Teacher/Department/University in Job Application Process (Mean ratings)

4.4 Feedback on "Taking Action". As presented in the study framework, respondents' perceptions on their career preparation/practice and career exposure were collected in the survey. They provided moderate feedback on both the elements – 3.35 and 3.17 respectively. Detailed findings are presented in the following sub-sections:

The overall rating shows the respondent were "moderately satisfied" with their "career preparation" (overall mean ratings: 3.35). However, private university respondents rated their career preparation relatively higher (3.56 – satisfied) than the public university respondents (3.16 – moderately satisfied). Furthermore, respondents from private universities provided relatively higher ratings than public university respondents in all aspects, especially on "I am going to complete an internship in an organization" (private: 3.47 and public: 2.86) and "I am progressing towards finishing my project portfolio" (private: 3.55 and public: 2.96). Mean ratings of different aspects of "career preparation" are shown in Figure 7.

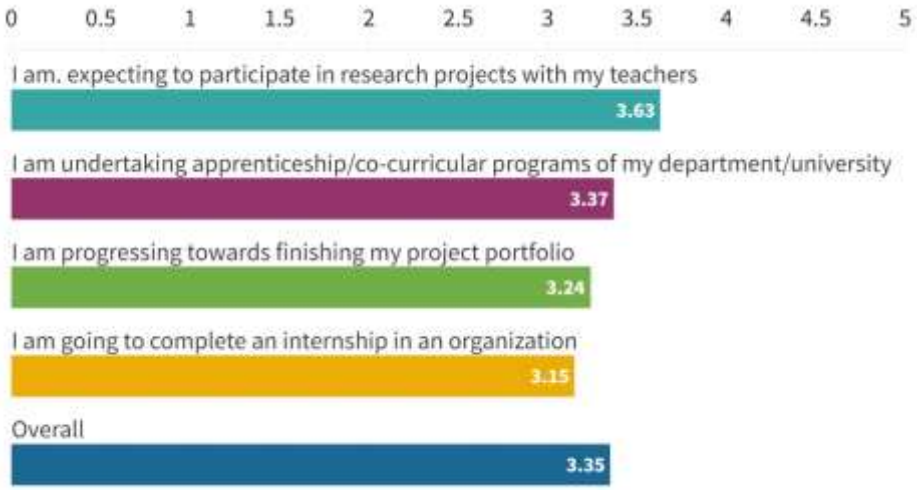

Figure 8. Respondents' Perception of Career Preparation (mean ratings)

Respondents' perceptions of their career exposure were presented in Figure 7. As can be gleaned from the figure, the respondents are "moderately satisfied" with their career exposure (overall mean ratings: 3.17); the private university respondents rated their career exposure relatively higher (3.29) than the public university respondents (3.02); however, according to the analytical framework both ratings were "moderate".

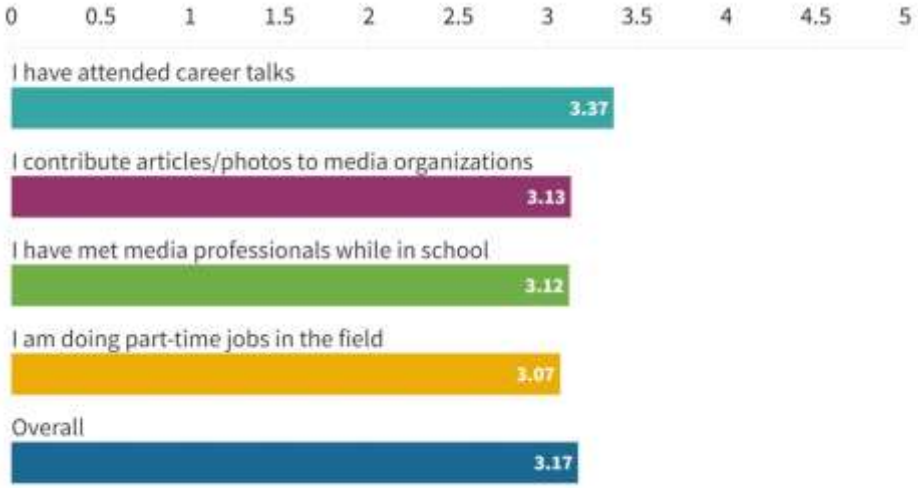

Figure 9. Respondents' Perception of their Career Exposure

4.5 Feedback on "Life Management". The life management section of the survey included three elements: career networking, career promotion and pathways and future relationship with the university. The feedback on these were either "moderate" or "positive".

The respondents' perception of their "career networking" came out to be "moderately satisfactory" with an overall mean rating of 3.17. The findings are presented in Figure 10.

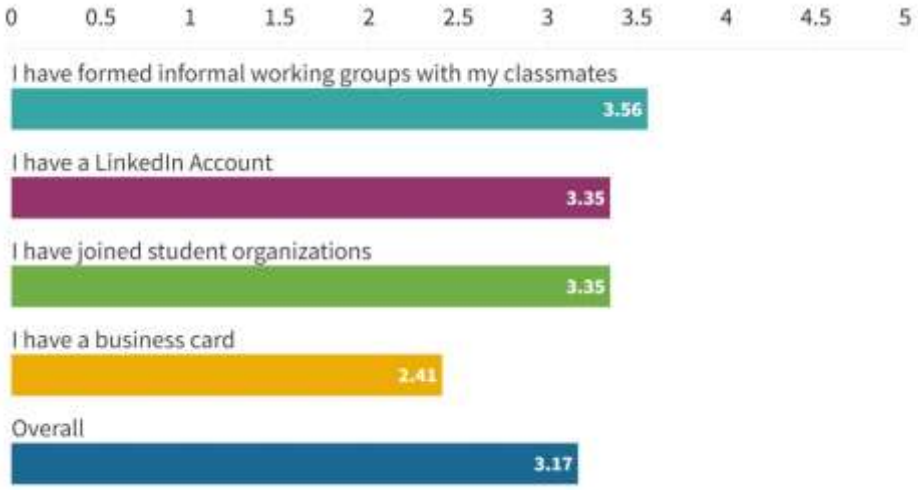

Figure 10. Respondents' Perception of their Career Networking (mean ratings)

According to the findings presented in Figure 11, the respondents perceived themselves as "knowledgeable" on career promotion and pathways as the overall mean rating (3.4) was "positive". The mean ratings on different aspects of career promotion and pathways were "moderate," except on "I am knowledgeable about alternative professional careers" (3.46 – positive). These probably

indicate that the respondents are conscious about their future career up to some extent and they do not think of only one career but keep the alternatives in mind.

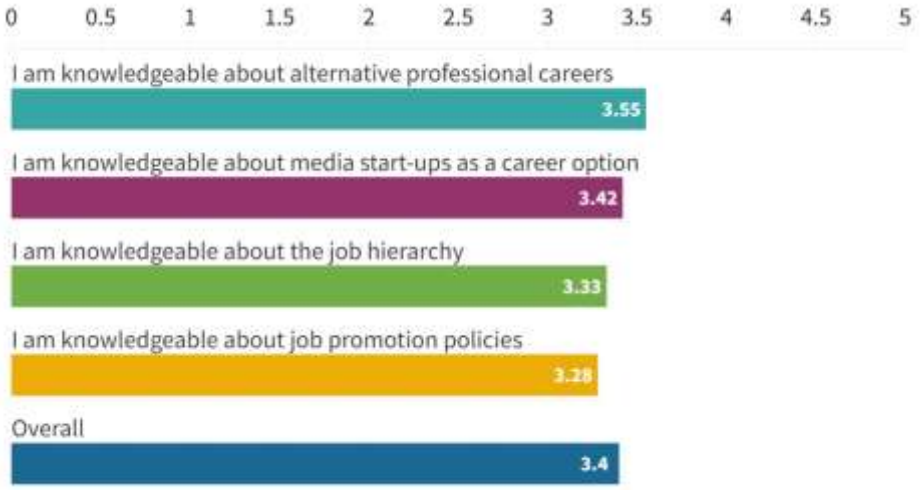

Figure 11. Respondents' perception of their Knowledge on Career Promotion and Pathways (mean ratings – all respondents)

Feedback (mean rating: 3.76) on "future relationship with the university" as well as on different aspects of it (ranging from 3.56 to 3.94) were found to be "positive" across the respondents. These might provide the impression that the respondents were "knowledgeable" of "the benefits of a graduate education" (mean rating: 3.94) and "the department's/university's tracking of its graduates' whereabouts" (mean rating: 3.56); likewise, they showed "willingness" to "participate in the alumni association's activities after graduation" (mean rating: 3.8) and "to participate in department/university activities after graduation" (mean rating: 3.76). The findings are presented in Figure 12.

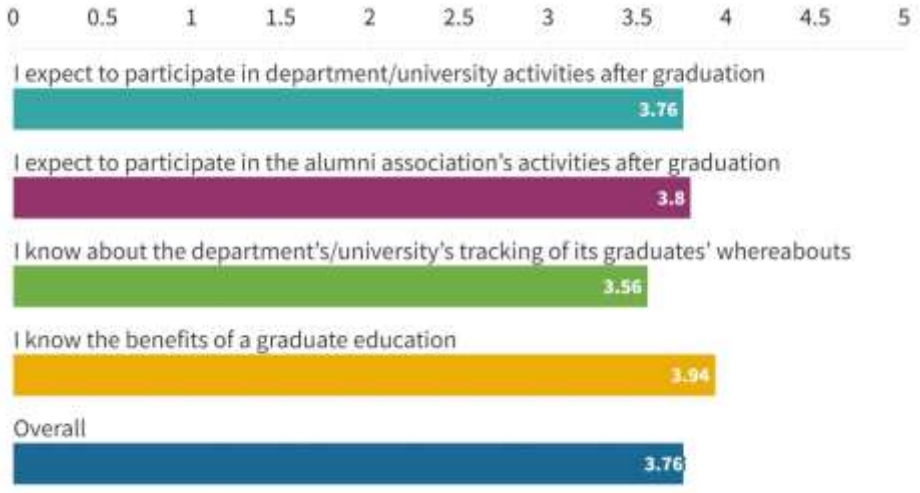

Figure 12. Respondents' Feedback on Future Relationship with the university

5. Summary and Conclusion

The findings of the different sections of the survey have been summarized in Figure 13.

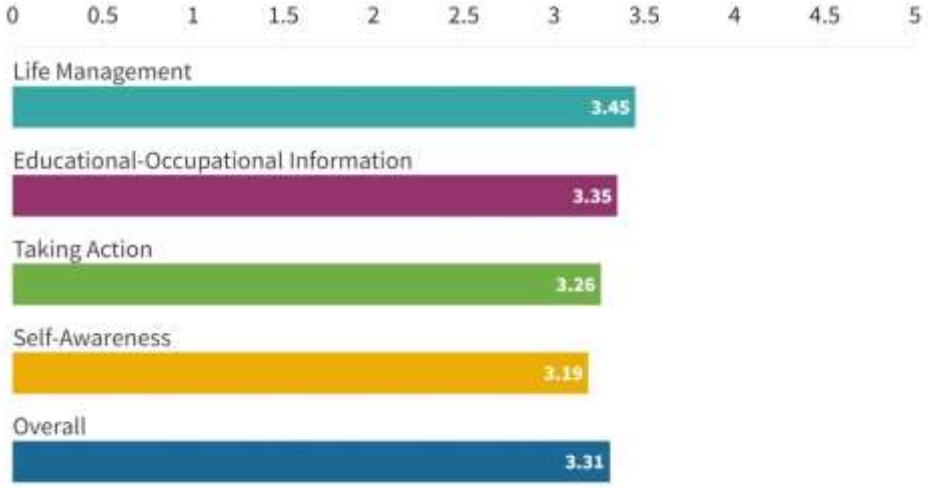

Figure 13. Summary of Respondents' Feedback (mean ratings – weighted average)

It can be gleaned from Figure 13 that the respondents' overall feedback and their feedback on the role of their teachers/department/university on most of the components were "moderate", and their feedback on "life management" was "positive". Also, it was found that respondents' feedback on different aspects of the components included in the survey, namely "Self-Awareness," "Educational-Occupational information," "Taking Action" and "Life Management," were either "moderate" or "positive". This means, the teachers/departments/universities are fulfilling the expectations of the students up to some extent; however, there are spaces for a lot more; especially, more attention should be provided on the elements of "Self-Awareness" (received the lowest feedback), especially "career coaching". Alongside, students need more guidance, attention and care from their teachers/department/university on "Taking Action" and "Educational-Occupational information" so that they know better the career the aspire for and can prepare well for it. To do this, the universities/departments should create more spaces for the students to interact with the faculty members as well as with the professionals.

References

Alderman, L. Towers, S. & Bannah, S. (2012). Student feedback systems in higher education: a focused literature review and environmental scan, Quality in Higher Education, DOI: 10.1080/13538322.2012.730714

Huxham, M. Laybourn, P. Cairncross, S. Gray, M. Brown, N. Goldfinch, J. and Earl, S. (2008) Collecting student feedback: a comparison of questionnaire and other methods. Assessment & Evaluation in Higher Education. The Open University, UK

Islam SA, Rahman GM, and Nibir MMAM. (2021). Perceived factors influencing career choice of the undergraduate students of public universities in Bangladesh, *Can. J. Bus. Inf. Stud*., 3(4), 70-79. https://doi.org/10.34104/cjbis.021.070079

Jara, M. & Mellar, H. (2010). Quality Enhancement for E-Learning Courses: The Role of Student Feedback. http://www.ugc.gov.bd/sites/default/files/files/ugc.portal.gov.bd/publications/dad0f241_eb8f_45ff_8b0e_851d33d9bc31/2020-11-22-10-48-e00a4c99fc9e80adb46cf56ad43efb8f.pdf?_x_tr_sch=http&_x_tr_sl=bn&_x_tr_tl=en&_x_tr_hl=en&_x_tr_pto=op,sc

Kabir, A. H. (2012). Neoliberal Hegemony and the Ideological Transformation of Higher Education in Bangladesh. Critical Literacy: Theories and Practices, 6(2), 2-15.

Konting, M. M. Kamaruddin, N. & Man N. A. (2009). Quality Assurance in Higher Education Institutions: Exit Survey among Universiti Putra Malaysia Graduating Students. Centre for Academic Development & Faculty of Educational Studies Universiti Putra Malaysia

Marshall, K. (2012) Fine-Tuning Teacher Evaluation. Teacher Evaluation: What's Fair? What's Effective? Educational Leadership. 70(3), 50-53

Marzano, R. J. (2012). The Two Purposes of Teacher Evaluation. Educational leadership: journal of the Department of Supervision and Curriculum Development, N.E.A. 70. 14-19.

McCuddy, M. K. & Gingerich, E. (2007). Using Student Feedback in Designing Student-Focused Curricula. 14th Annual Conference of Educational Innovation in Economics and Business (EDiNEB), Vienna, Austria.

McDaniels C. & Puryear, A. (1991). The Face of Career Development Centers for the 1990s and Beyond. The School Counselor. 38(5). 324-331. https://www.jstor.org/stable/23900722

Mohammed, A (2016, December 14). Which method should I use to present the Mean of a 5-point Likert scale? Researchgate. https://www.researchgate.net/post/Which-method-should-I-use-to-present-the-Mean-of-a-5-point-Likert-scale

Perna, F.M., Lerner, B.M. & Yura, M.T. (1995). MENTORING AND CAREER DEVELOPMENT AMONG UNIVERSITY FACULTY. The Journal of Education. 177(2). 31-45. https://www.jstor.org/stable/42742360

Richardson, J.T.E (2005). Instruments for obtaining student feedback: a review of the literature. Assessment & Evaluation in Higher Education. (Vol 3). The Open University, UK

Sumanasiri, E.G.T., Yajid M. S. A. & Khatibi, A. (2015) Review of Literature on Graduate Employability. Journal of Studies in Education. 5(3). ISSN 2162-6952 2015. doi:10.5296/jse.v5i3.7983 URL: http://dx.doi.org/10.5296/jse.v5i3.7983

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Challenge And Countermeasures Faced By Standards Of Majors Evaluation In Colleges And Universities In Shanghai

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The new majors of colleges and universities are increasingly close to the needs of local economic development in Shanghai , and the requirements for talents' compound, innovative ability and application ability are becoming higher and higher. In the early stage of major construction, colleges and universities will experience the test of professional compliance assessment and professional qualification assessment. As a quality assurance mechanism, can they implement the concept of "student-centered" in the formulation of indicators, and fully consider the feasibility of indicators, And the students' learning situation reflected by the connotation of the index is crucial for whether the major can cultivate talents who meet the needs.

Key words: Standards of Majors Evaluation, student-centered, and rationality of the design of evaluation indicators

Higher education has entered a new era of promoting connotative development with improving quality as the core. In 2018, the Ministry of Education issued the national standard for teaching quality of undergraduate majors in general colleges and universities, and in 2019 issued the notice on implementing the "double 10000 plan" for the construction of first-class undergraduate majors. Majors have become an important focus of the country to promote the connotative development of higher education. Therefore, a more scientific and effective evaluation model is needed to guide colleges and universities to achieve professional excellence and characteristic development.China began to explore professional evaluation in the late 1980s. From 1986 to 1988, many national ministries and commissions jointly carried out pilot work on multiple majors in subordinate colleges and universities, laying the foundation for the establishment of professional evaluation system.

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In 2019, the notice on implementing the "Double 10000 Plan" for the construction of first-class undergraduate majors was issued. Majors have become an important focus for the country to promote the connotative development of higher education, so a more scientific and effective evaluation model is needed to guide colleges and universities to achieve professional excellence and characteristic development.

Although great progress has been made in the research and practice of professional evaluation in China, professional evaluation still faces prominent problems, such as the evaluation concept has not been embodied as student-centered, too much emphasis on the leadership of the government, the evaluation technical tools need to be optimized and innovated, and the evaluation results have not been fully used. Facing the new needs and challenges, China's professional evaluation urgently needs to establish a more scientific and reasonable professional evaluation model based on domestic

practice and the beneficial experience of international professional evaluation, so as to provide effective quality assurance for professional construction.

In 2022, the Ministry of Education announced the filing and approval results of undergraduate majors in ordinary colleges and universities in 2021. Twenty four colleges and universities in Shanghai added 56 undergraduate majors, and a total of 49 filing majors, 7 approval majors, 2 majors with adjusted degree granting categories or length of study, and 7 majors were withdrawn, including political science, economics and philosophy, medical imaging technology, intelligent perception engineering,Smart agriculture, listening and speech rehabilitation, big data management and application.

It can be seen that in terms of employment, these newly added majors serve Shanghai's local economic layout and national development strategy. In the fields of medical treatment, big data, artificial intelligence and so on, they combine with the school's own advantages, emphasize application, and pay attention to the combination of knowledge and skills, which puts forward new requirements for the integration of production and education, as well as teachers' own quality and training mode.

The setting of majors is increasingly in line with the market and the development of local economy. The traditional majors are facing great challenges. In the face of the rapidly changing connotation of new majors, graduation orientation, training mode, new requirements of quality management, where to go in Shanghai's professional evaluation, and what new methods to adopt, which are extremely challenging and urgent issues.

In 2021, a new round of audit and evaluation implementation plan was issued, which requires colleges and universities to attach great importance to self-evaluation and professional evaluation, and the internal guarantee mechanism. Only by moving from college evaluation and discipline evaluation to a more micro level of professional evaluation, can it have a substantive impact on talent training,teacher team construction,employment development. The so-called talents can truly mobilize the enthusiasm of teachers and students only if they are based on professional construction, Vigorously promote the development of colleges and universities from the inside.

As the premise of qualification assessment of major and audit assessment of university, the Standards of Majors Evaluation has been raised to a new and more important level

Among colleges and universities in Shanghai, there has always been a great imbalance in development within it. Established colleges and honored universities rely on discipline advantages to establish strong majors. Freshmen's colleges and universities or Upgraded-To colleges and universities have a weak discipline foundation, which makes it difficult to support the development of majors. As a national economic, financial and shipping center, Shanghai ranks first in the advanced and sophisticated fields, and puts forward high requirements for the quality of fresh graduates. Then the innovation and transformation of professional evaluation mode, It will also play

a great role in it. At present, the four difficulties are as follows in Standards of Majors Evaluation in Shanghai.

1. The focus of the evaluation indicators is still not centered on student development, with less weight and broader connotation,so that evaluation experts have greater subjectivity to define some concepts

Taking students as the center and implementing in the guarantee of education quality means that evaluation institutions and units must focus on the whole process development of students, not limited to the management text and management personnel, and shift the subject of evaluation from teaching facilities, teachers, facilities and equipment to students' learning, student development, student psychology, and student employment.

However, the weight of student development involved in the current indicators is small, the scope is narrow, the evaluation content is relatively single, and the evaluation method is only to consult materials and interview students.

It is true that this is an important indicator to measure students' learning, but the connotation of students' development is not only academic performance, but also many contents. It can be seen that the current index system cannot contain the connotation of students' development and can not meet the new requirements for education quality under the new situation.

2. Evaluation means are limited to lectures, interviews, and data access. There is little immersive experience for students' development, and the introduction of new technologies and methods is imminent

In the real evaluation process, due to the influence of time, equipment conditions and traditional evaluation methods, evaluation experts often can only understand the overall picture of students' development and training process by listening to classes, interviewing students and teachers, and consulting materials, but the teaching process is the comprehensive result of teacher-student interaction, teacher-student interaction, students' understanding, students' success in learning, and students' application results, Every important link needs to set up observation points and define the observation content, otherwise we cannot immersively understand the situation of students, so it is difficult to give objective and real evaluation results.

The data of colleges and universities is massive. At present, many private enterprises also participate in the development and production of University databases and analysis libraries. Evaluation institutions should make full use of these resources, cooperate with these companies, and jointly participate in the analysis and utilization of these data, so as to provide basis and reference for evaluation.

3. The application of the evaluation report should be combined with the enrollment policy

The professional compliance assessment provides a combination of conclusive and written descriptions. In addition to the results, there is the written evaluation and description of the expert group, which is an important basis for guiding the initial development of the major. However, how to use the assessment results, if it only depends on the enthusiasm and initiative of the school leadership, I am afraid it is far from enough. This result should be linked to the policies of the Higher Education Bureau or education committee, For majors that do not meet the needs of economic development or have many worrying links in the process of running a major, certain policy should be given

4.There are ambiguous parts in the index system that are difficult for experts to define.

The index system provides a combination of conclusive and written descriptions. In addition to the results, there is the written evaluation and description of the expert group, which is an important basis for guiding the initial development of the major. However, how to use the assessment results, if it only depends on the enthusiasm and initiative of the school leadership, I am afraid it is far from enough. This result should be linked to the policies of the Higher Education Bureau or education committee, For majors that do not meet the needs of economic development or have many worrying links in the process of running a school, certain policy s should be given.

Take the "teaching effect" in the index as an example, One of the secondary indicators is "In terms of the achievement of talent training objectives, one of the three-level indicators is students' innovative ability, while the requirements for judging this item as qualified in the fourth level indicator are: whether to organize students to participate in discipline competitions, and the proportion of students to participate in various innovative activities is not less than 30%. First, the evaluation object is transferred from students to education managers, and the work of cultivating students' innovative ability is pressurized to teachers through indicators, but not reflected This is the result of the joint efforts of schools ,teachers,students; The target of 30% can also be easily achieved, and the innovation ability is not only reflected in "how often I participate in ", but also in what I gain from innovation activities and what innovation achievements I have.

As a student-centered purpose, we should put this idea through all aspects of index design, and fully consider the feasibility of the index and whether it can be provided to evaluation experts in the form of quantitative presentation for reference.

5.The monitoring points (fourth level indicators) cannot reflect the central position of students in teaching activities.

In the assessment of British Higher Education Quality Assurance Agency (QAA), student representatives participated in the assessment and formulation of education and teaching quality and professional curriculum standards, and provided feedback on teaching and learning resources. The professional teaching quality evaluation of the British "Teaching Excellence Framework" takes "teaching quality", "learning environment" and "students' learning results and learning gains" as the

basic dimensions of evaluating teaching excellence. Each dimension is subdivided into 3-4 specific standards, and each standard highlights the central position of students in teaching activities.[(1)]The British government carries out the Teaching Excellence Framework evaluation on universities, taking student satisfaction, student achievement, graduate employment rate, salary level, etc. as the selection criteria of teaching quality, and evaluates it every three years. The selection results are divided into gold, silver and bronze awards.The University of Surrey won the gold medal in the recent evaluation, which is a high affirmation of the school's teaching and student experience. In fact, one of the most important missions of universities is to cultivate talents for society. Surrey University believes that students are not only the customers and partners of the University (the funding of British universities mainly depends on students' tuition fees), but also the future of the University. Therefore, it has always put student satisfaction and employment rate in the first place. According to the data of British Higher Education Statistics Institute in 2014, the employment rate of graduates from Surrey University ranks first in the UK (96.9%), surpassing Cambridge University and Oxford University.In April 2016, Professor Lu GaoQing became president of the University of Surrey in the UK, becoming the first Chinese scholar to serve as president of a UK university. Before that, he was the executive vice president of the University of Queensland in Australia.The University of Surrey (formerly known as Battersea Polytechnic Institute established in 1891) is well-known both in Britain and around the world for its unique development strategy and school running method. The University of Surrey is also one of the major research centers of European small satellite, mobile communication and artificial intelligence technology, with strong research force. University of Surrey is one of the few four-year academic systems in British universities. It will give students a choice in the third year. The university can contact relevant institutions to let students work with pay in the government, company and business departments for one year. Through this year's internship, students return to school, social insight and experience have increased, communication ability and self-confidence have also improved. It is also because of one year's work experience that the students of Surrey University often outperform the students of other schools when they really look for jobs.

Take a back look into the present monitoring points , it seems that the traditional way of consulting materials and student interviews to understand students' studies, employment, thoughts and other aspects has been stretched. It needs to keep up with the pace of professional development and enter all aspects of students' teaching links, rather than just staying in classroom teaching and consulting graduation thesis or design, which is more fair, comprehensive, objective and intuitive for the evaluation of students' development.

The concept of student-centered has been deeply rooted in the hearts of every educator, but in the face of increasingly rapid economic and social development, whether the professional construction of colleges and universities can also cope with and keep up with the pace and cultivate talents that meet the needs is the responsibility of every college leader and teacher, and it is also a question that every practitioner of education quality assurance should consider, There is no problem in lowering the focus of higher education quality assurance to majors, but the training mode will also change greatly with the change of talent demand, which will lead to the innovation of index design, specific implementation plans and methods, evaluation tools and means in professional evaluation.

Reference

[1]ZHANG Jing，LIAO Xiang. Establishing the Quality Evaluation and Monitoring System of Higher Education Based on the Development of Students［J］. China Higher Education，2014（1）:32-34.

Author's Bio

Zhang Lingfei, he has been working as a project director in the higher education evaluation department of Shanghai Education Evaluation Institute since 2015, mainly responsible for the authorization and review of bachelor's degrees in Shanghai and the evaluation of professional standards. He has sufficient experience in the construction of majors in Colleges and universities.

Outcome Based Curriculum on Midwifery Education in Pandemic Situation, Solution or Challenge? : Literature Review

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Abstract

Introduction: Since the late twentieth century and into the first decade of the twenty-first, the notion of outcomes-based education has been incorporated into curriculum development, and it has become linked with competency-based education. In recent years, education has gotten a lot better. This strategy's guiding principle to education is the creation and implementation of educational programs of learning processes begins with the identification of outcomes, and as a result of an educational process, competencies are required. Midwifery is in high demand all across the world, but especially in low - income countries. The quality of healthcare is frequently determined by the quality of midwives. This literature aims to analyze outcome based curriculum used on midwifery education.

Method: Method used in this review was by doing analysis and review of some references. Then that references quoted and reviewed, and then the analysis was made in narration that related to the topic. All of references from MEDLINE/PubMed and Google Scholar in last 5 years were included. After all of screening steps a total of 6 papers were read and analyzed.

Results: The results was implementing outcome based curriculum will contribute to reduce any obstacle of midwifery education would face during pandemic. This information would significantly increase the implementing of outcome based curriculum model.

Conclusions: This curriculum development framework can be used to create new midwifery education programs or to analyze and change current programs in advance of pandemic challenge and the accreditation process in Indonesia.

Keywords: Outcome Based Curriculum; Midwifery; Education; OBE

1. Introduction

National Standard of Higher Education in Indonesia states that Curriculum is a set of plans and arrangements regarding the objectives, content, and learning materials as well as the methods used as guidelines for the implementation of learning activities to achieve the goals of Higher Education (Kementerian Pendidikan dan Kebudyaan, 2020). These standard aims to ensure the achievement of higher education goals that play a strategic role in educating the nation's life, advancing science and technology by applying humanities values as well as civilizing and empowering the Indonesian nation that is sustainable (Kebudayaan, 2020).

For many years, the global scarcity of midwives and others with midwifery abilities has been publicly acknowledged and debated. The World Health Organization (WHO) estimated in 2005 that an additional 334,000 midwives would be required over the following ten years to care for 72 percent of childbearing women in 75 countries (Midwives, 2012).

There are still too few midwives and others with midwifery skills to meet the ongoing challenge of the 52 million births that occur each year without the presence of a skilled midwife, many of which contribute to the 350,000 maternal deaths, 3 million newborn deaths, and 2.6 million stillbirths that occur each year(Midwives, 2012).

International Confederation of Midwives in 2012 also stated that in recent years, competency-based education, with its teaching and learning methodologies, has gotten a lot of attention and support in the health professions. However, there is no common definition, as with any newly forming term, yet there are certain common characteristics. The learner must be engaged and active in all parts of learning the knowledge, abilities, and professional behaviors required demonstrating practice in a given discipline, which is the most significant of these characteristics. To put it another way, competency-based education employs teaching and learning methods that aid in the development and demonstration of skills. Another common feature is the requirement for a clear, evidence-based specification of the learning outcomes to be demonstrated for professional role performance (i.e., the specific competencies) (International Confederation of Midwives, 2012).

The concept of outcomes-based education has been included into curriculum development since the late twentieth century and into the first decade of the twenty-first century, and it has become linked with competency-based education. Education has improved dramatically in recent years. The formulation and implementation of educational programs of learning processes begins with the identification of outcomes, and competences are required as a result of an educational process, according to this strategy's guiding concept for education (Qadir and Al-Fuqaha, 2020).

The COVID-19 pandemic is the largest global pandemic in the last 100 years, surpassing the Spanish Flu of 1918. Students and teachers have transitioned to online learning and working from home as educational facilities around the world have physically closed. Students and faculty members face an unprecedented challenge as a result of this rapid change. Our daily lives and habits have changed tremendously as the world continues to fight the COVID-19 pandemic (Qadir and Al-Fuqaha, 2020). The pandemic's consequences are still being felt, but it's fair to say that, while the education sector has been shaken by the outbreak, it has not been brought to its feet by the Internet and the online education revolution. The forced conversion of many traditional courses to online environments in the year 2020 could provide a boost to the longer-term adoption of online and blended learning methods (Qadir and Al-Fuqaha, 2020).
WHO in 2019 stated that midwifery education could be strengthened, based on evidence and experiences. The starting point depends on what progress has already been made. It briefly said that in every challenges we have to strengthen faculty, upgrade educational institutions, update the curriculum and use innovative teaching methods(World Health Organization (WHO), 2019).
This literature aims to analyze outcome based curriculum used on midwifery education.

2. Method

Study Design

To find papers that evaluated outcome based curriculum in midwifery education, a literature search was undertaken in MEDLINE/PubMed and Google Scholar.

Population, Samples, and Sampling

Articles in 5 years publication have been search, and the entire text of all publications was evaluated for inclusion as scientific, peer-reviewed publications written in English and Indonesia. At least they have to included outcome based curriculum or competency based curriculum in their article. There were a total of 220 publications found. After eliminating duplicate citations, abstracts were assessed for relevancy and research design strength. Scientific papers before 2017, research which not happened in pandemic situation were excluded. This literature study included a total of 8 papers that were read and analyzed including 2 letter to editor.

3. Procedure

The database used in searching for relevant evidence was using the PubMed and google scholar. Search using the PubMed database accessed via Google. The search strategy and specific keywords used in the search process using truncation and boolean strategies will also be used in literature searches. To specify literature searches, then determined the literature search period which in this study was limited to articles published in the last 5 years from 2017-2021 and the selected articles were free full text or open access. Based on the final results of the screening, 8 articles were selected.

Data Analysis

The references were cited, analysed and tabulated, followed by an analysis in narration that was relevant to the issue.

4. Results

The results was implementing outcome based curriculum will contribute to reduce any obstacle of midwifery education would face during pandemic. This information would significantly increase the implementing of outcome based curriculum model.

No	Authors	Places	Year	Desain
1	Denız Akyıldız	Turkey	2021	Letter to Editor
2	Qorinah Estiningtyas Sakilah Adnani	Indonesia	2021	Letter to Editor
3	The Quality Assurance Agency for Higher Education	UK	2020	Guidance Project
4	Ranbir Singh Malik	ASEAN	2018	Literature Review
5	Yustinus Budi Hermanto, Veronika Agustini Srimulyani	Indonesia	2021	Explanatory Case Study
6	A Abidah, H N Hidaayatullaah, R M Simamora, D Fehabutar, L Muttakinati	Indonesia	2020	Position Paper
7	Junaid Qadir, Ala Al-Fuqaha	US	2020	Literature Review
8	Ans Luyben, Valerie Fleming, Joeri Vermeulen	UK	2020	Literature Review

Table 1. Characteristics

Authors	Journal and Year of Publication	Results	Conclusion
Denız Akyıldız	European Journal of Midwifery, 2021	Students who complete their education in the pandemic should work as interns for a period in hospitals. During the pandemic, there is a need for standardized regulation proposals from midwifery associations and organizations regarding midwifery student education(Akyıldız, 2021)	There needs to be an internship in a hospital for midwifery students who graduate during a pandemic. There have to be thoughtful consideration to develop a new curriculum to facilitate method changes during a pandemic.
Qorinah Estiningtyas Sakilah Adnani	European Journal of Midwifery, 2020	A Midwifery Council would ensure midwives meet and maintain professional midwifery education standards. Myriads of challenges in midwifery education will remain and must be addressed to ensure new midwives‟ competencies in Indonesia (Adnani, 2020).	This author mention the role of midwifery council to maintain midwifery education standard in Indonesia.
The Quality Assurance Agency for Higher Education	QAA Report, 2020	The Quality Code makes explicit reference to the outcomes-based approach most used in the UK higher education sector - constructive alignment. Teaching activities and assessment approaches	In UK, they formed “The UK Quality Code for Higher Education” to ensure and maintain academic standards and develop high quality courses even in the pandemic situation.

Authors	Journal and Year of Publication	Results	Conclusion
		are connected by a clear and upfront articulation of what students should learn (intended learning outcomes), and how they should express their learning (assessment criteria)(Education, 2021)	
Ranbir Singh Malik	Journal of Sustainable Development Education and Research, 2018	In the ways education is offered for today's and tomorrow's 'digital natives', nothing less than a radical shift is required, especially in developing countries. It is critical for a country to give calibrated education to produce internationally competitive communities (Malik, 2018).	It is important that teacher and government has a same vision for adjusting learning method so that the learning process achieve the same outcomes in pandemic or not pandemic situation.
Yustinus Budi Hermanto, Veronika Agustini Srimulyani	Jurnal Pendidikan dan Pengajaran, 2021	The success of online learning was highly dependent on several integrated components, such as students, educators, learning resources, and the technology used (Yustinus, Budi Hermanto; Veronika, 2021).	It important for institution to improve their quality of teachers, learning resources and technology to answer the challenges of online learning and maintain thech learning process quality.

A Abidah, H N Hidaayatullaah, R M Simamora, D Fehabutar, L Mutakinati	Studies in Philosophy of Science and Education (SiPoSE), 2020	Covid-19 has a tremendous impact on the field of education, particularly the Indonesian educational system. Distance learning replaces traditional and routine learning, which stresses teacher-student interaction both inside and outside the classroom. Although this condition is consistent with the vision and objective of future learning in the industrial revolution 4.0 and community 5.0 eras, it nevertheless has benefits and drawbacks (Abidah et al., 2020).	"Merdeka belajar" as one of our education ministry policy being dependable as we‟re not only faced pandemic situation but also digital learning. Freedom of leaning is one of the four main pillar that been facilitate in this policy. But it is clear that it cannot be translated as unlimited freedom in learning.
Junaid Qadir, Ala Al-Fuqaha	Preprint, 2020	To succeed in post-COVID-19 engineering education environments, you'll need to be aware of the Outcome-Based Education (OBE) paradigm that underpins modern engineering programs, as well as strong metacognitive and learning skills(Qadir and Al-Fuqaha, 2020).	There are 7 steps that students can adopt to succeed in pandemic eras and adapt to outcome based curriculum.
Ans Luyben, Valerie Fleming, Joeri Vermeulen	Midwifery Journal, 2020	Regardless of the epidemic, midwifery educators will do everything possible to ensure that the competences and skills required are met at the same level as before the disruption(Luyben, Fleming and Vermeulen, 2020).	In pandemic situation, midwifery education needs to be adjust to achieve learning outcomes but still guarantee contact free education and social distancing.

Table 2. Results of Screening Articles

5. Discussion

Since the latter half of the twentieth century and the first decade of the twenty-first, the principle of outcomes-based education has been included into curriculum development, and it has recently become associated with competency-based education. The formulation of educational programs and the application of learning processes with the beginning in determining outcomes, that is, competencies expected as the outputs of an educational process, is the key principle in this approach to education (Kim, 2012).

A midwifery curriculum is to gain consensus from all midwifery teachers who will be a part on the program. The mission and philosophy that will frame not only what is taught but also how it is taught (International Confederation of Midwives, 2012). Any midwifery program's philosophy will generally represent the teachers' views on 1) how adults learn, 2) how to assist adult learning, and 3) how to practice midwifery. The program's three components are as follows: The philosophy should reflect the collaboration between students, teachers, and women seeking midwifery care (Midwives, 2012).

COVID-19, which began spreading in December 2019 and was labeled a pandemic, has altered a huge aspect of daily life. Following the disease's fast spread in many nations, precautions were taken to prevent contamination, and colleges began offering online education. The COVID-19 epidemic had the most negative impact on education in recent history, affecting large numbers of pupils in a number of nations. Distance education posed challenges during the epidemic, particularly in areas that require a clinical learning setting, such as midwifery. Midwives play a critical role in reducing maternal and newborn death rates, which are two of a country's most important development indicators. The quality of midwifery education is critical in this regard (Akyıldız, 2021).

The global COVID-19 pandemic had a significant impact on midwifery education in Indonesia. The shift of all face-to-face classes to online platforms, which has caused other issues due to insufficient internet access and more, has been one of the most significant changes in midwifery education. Before clinical placement, laboratory simulation and practice must be substituted by online learning, which is believed to be different from the real situation. Clinical placement presents additional hurdles, as midwifery students must gain hands-on experience with real women and families at maternity facilities. During clinical placement, there has been fear and confusion among midwifery students, midwifery lecturers, and midwives' mentors due to the spread of COVID-19 in the community, especially as 300 midwives have been assigned (Adnani, 2020).

Following the epidemic, the shift of face-to-face education into distance education posed numerous obstacles. Students studying midwifery in low-income families around the world who do not have access to the internet or a computer will not be able to benefit sufficiently from remote education. Distance education students' active participation in the course is reduced because they are not required to attend classes. Another difficulty with online education is the lack of clinical practice and laboratory applications. Students must achieve accreditation standards from all over the world in order to graduate from the midwifery program. Students must complete a minimum number of

clinical practice experiences, including 100 antenatal and postnatal period of care, 40 labor and birth experiences, and 100 neonatal assessments, according to these requirements (Akyıldız, 2021).

In addition, Deniz in 2021 stated that there needs to be an internship in a hospital for midwifery students who graduate during a pandemic. When students go on clinical internships during a pandemic, however, concerns such as students becoming infected and spreading the sickness to patients can arise. There have to be thoughtful consideration to develop a new curriculum to facilitate method changes during a pandemic.

Qorinah in 2021 also shared her ideas about challenges in midwifery education. In Indonesia, providing high-quality midwifery education will continue to be a difficulty in the future. For example, future work is needed to establish a Midwifery Council as a professional regulatory board. A Midwifery Council would ensure that midwives meet and maintain professional midwifery education standards, such as future certification of midwifery schools and excellent performance by midwives over the course of their careers. There will continue to be numerous issues in midwifery education that must be addressed in order to assure the competency of future midwives in Indonesia (Adnani, 2020). These statements show our consideration for monitoring midwifery education quality and ensure about the learning process by a midwifery council.

The term "21st century skills" refers to a broad range of information, talents, work habits, and character attributes that are necessary for today's success. Academic skills, computer skills, learning to learn, assessing and solving problems, interpersonal and community - based competencies, entrepreneurship, cultural understanding, adaptability, resilience, able to work independently, critical thinking, and self-directed learning are just a few of the necessary skills for the 21st century workforce (Malik, 2018). It is important that teacher and government had a same vision for adjusting learning method so that the learning processes achieve the same outcomes in pandemic or not pandemic situation. In UK, they formed “The UK Quality Code for Higher Education” to ensure and maintain academic standards and develop high quality courses even in the pandemic situation(Education, 2021).

Accreditation for academic activities ensures that educational institutions provide high- quality education to students through their programs, as well as ensuring educational institutions meet their stated missions, goals, and expected outcomes (Kim, 2012) One of the most important aspects of accreditation in terms of self-evaluation and curricular development is to regard accrediting criteria as suggestions rather than forms to be filled in. Each education system must be creative, unique, and innovative while complying to accreditation standards so that nursing midwifery programs are not the result of standardized formworks with little variation in characteristics, but rather programs with individually unique attributes and tasks that go beyond the criteria (Kim, 2012). In midwifery, it is vital to establish teaching strategies that are customized variances in learning. The second point to consider is competency evaluation. A concerted effort must be made to develop precise methods for assessing and assessing students' achievement of learning outcomes and skills.

Qadir and Al-Fuqaha conclude that there are 7 steps that students can adopt to succeed in pandemic eras and adapt to outcome based curriculum. These 7 steps are:

Step 1): Begin With The End In Mind
- A: Knowing The Educational Objectives and Learning Outcomes
- B: Aligning Effort With Goals, Objectives, and Outcomes
- C: Motivation, Self-Efficacy, and Learning How to Prioritize

Step 2): Upgrade Your Metacognitive Skills
- A: Types and Levels of Learning
- B: Avoiding Common Learning Mistakes
- C: Learning 101: Learning How To Learn

Step 3): Aim for Holistic Learning
- A: Become A System Thinker
- B: Building A Lattice Work of Models
- C: Be Well-Rounded

Step 4): Become Coachable
- A: Seek Formative Assessment
- B: Learn to Think Like An Assessor
- C: Develop Self-Assessment Skills

Step 5): Take Ownership of Learning
- A: Active Learning
- B: Leverage What Can Be Leveraged
- C: Collaboration & Teamwork

Step 6): Focus On Developing Authentic Skills
- A: Develop An “Understanding” of the “Big Ideas”
- B: Transfer of Learning
- C: Uncoverage Rather than Coverage

Step 7): Become a Lifelong Learner
- A: Develop A Mindset For Continuous Lifelong Learning
- B: Master The Instrumental Knowledge For Lifelong Learning
- C: Develop by Practice the Skills for Lifelong Learning (Qadir and Al-Fuqaha, 2020).

Based on this literature review we know that inter-professional collaboration also needed to maintain the quality of midwifery education. Outcome based curriculum become one of the solution in this pandemic challenge as long as the student implement 7 steps of OBE supported by capable educators and resourceful facilitation.

6. Conclusion

This curriculum development framework can be used to create new midwifery education programs or to analyze and change current programs in advance of pandemic challenge and the accreditation process in Indonesia.

Declaration of Conflicting Interests
The Author(s) declare(s) that there is no conflict of interest".

References

Abidah, A. et al. (2020) „The Impact of Covid-19 to Indonesian Education and Its Relation to the Philosophy of "Merdeka Belajar"", Studies in Philosophy of Science and Education, 1(1), pp. 38–49. doi: 10.46627/sipose.v1i1.9.

Adnani, Q. E. S. (2020) „Respectful midwifery care during the COVID-19 pandemic", European Journal of Midwifery, (April), pp. 4–5. doi: 10.18332/ejm/120070.

Akyıldız, D. (2021) „Distance Education Of Midwifery Students During The Covid-19 Pandemic: Challenges And Recommendations€", European Journal of Midwifery, 5(July), pp. 1–2. doi: 10.18332/EJM/138594.

Education, T. Q. A. A. for H. (2021) What matters ? Reaffirming the role of outcomes-based approaches in assuring quality and maintaining standards.

International Confederation of Midwives (2012) „Teaching and learning in a competency- based curriculum .", International Confederation of Midwives' Model Curriculum Outlines for Professional Midwifery Education, (June 2012), p. 21. Available at: l.

Kebudayaan, K. P. (2020) „Peraturan Menteri Pendidikan Dan Kebudayaan Nomor 03 Tahun 2020 Tentang Standar Nasional Perguruan Tinggi".

Kim, H. S. (2012) „Outcomes-based Curriculum Development and Student Evaluation in Nursing Education", Journal of Korean Academy of Nursing, 42(7), p. 917. doi: 10.4040/jkan.2012.42.7.917.

Luyben, A., Fleming, V. and Vermeulen, J. (2020) „Midwifery education in COVID-19- time: Challenges and opportunities", Midwifery, 89. doi: 10.1016/j.midw.2020.102776.

Malik, R. S. (2018) „Educational Challenges in 21St Century and Sustainable Development", Journal of Sustainable Development Education and Research, 2(1), p. 9. doi: 10.17509/jsder.v2i1.12266.

Midwives, I. C. of (2012) „© ICM June 2012", (June), pp. 1–24.

Qadir, J. and Al-Fuqaha, A. (2020) „A Student Primer On How to Thrive in Post-COVID-19 Engineering Education", Preprint Journal, (August). doi: 10.35542/osf.io/eupdm.

World Health Organization (WHO) (2019) Strengthening quality midwifery education for Universal Health Coverage 2030, WHO Website

Yustinus, Budi Hermanto; Veronika, A. S. (2021) „Challenges of Learning During the Covid- 19 Pandemic“, Journal of Gandhara Medical and Dental Science, 8(2), p. 1. doi: 10.37762/jgmds.8-2.215.

Information and Communications Technology (ICT) Resources Mobilization of State Universities and Colleges in Region 3

Marlon Gamido

Abstract
The study described the information and communications technology (ICT) resources mobilization of State Universities and Colleges in Region III (SUC III) through an evaluation of the considerations and determinations in the implementation of ICT programs and projects. Participants of the validated questionnaire included officers involved in the process of planning, budgeting, procuring, assigning, utilizing, and controlling ICT resources.

It has been found that SUCs prioritized governance and administration and information management in ICT programs and projects while IT business continuity is ranked last. The Control Objectives for Information and Related Technology (COBIT) framework has been adopted in this study to help in the scoping of the mobilization of ICT resources. Processes were mapped onto (1) plan and organize, (2) acquire and implement, (3) deliver and support, and (4) monitor and evaluate.

Findings can be used to strengthen the management of ICT by identification of the processes that support the functions of the university. More resources might be assigned to computerization or information management programs, while business continuity or security can be given more priority. Revisiting plans and evaluating priorities is highly recommended. Adoption of a framework for objective evaluation of SUCs processes and performance improvements can be done.

Keywords- Resource mobilization, educational management, HEI processes, ICT governance
SUC- State Universities and Colleges
COBIT- Control Objectives for Information and Related Technology

1. Introduction

The digital transformation is facilitating opportunities and challenges in all the government services including higher education (de Mello and Ter-Minassian, 2020). In order to improve performance, produce sufficient information for the senior executives' decision-making, and accomplish desired goals within the university, public universities must establish an IT governance body that can direct, evaluate, and monitor all management processes of projects and services operations with an ICT dependence (Aguilar-Alonso et al., 2020).

The benefits of new information and communications capabilities for the services produced by public agencies are the followings: a) Lower administrative costs (Millard, 2013). b) Faster and more appropriate responses to requests and queries. c) Access to all departments and levels of government from any location. (Fajardo, 2013). d) Better governance capability (Tong *et al.*, 2013).

Governments are becoming more aware of the potential benefits that ICTs can offer to public-sector management. The shift from manual operation to computer-assisted transactions has significantly increased efficiency and productivity of an organization. In Higher Education institutions where applications not only include information access of students for their research but also office productivity applications have made them ICT dependent.

As a result of the convergence of information, telecommunications, broadcasting and computers, the ICT sector now embraces a large range of industries and services. If ICTs are appropriately deployed, they have the potential to combat poverty and foster sustainable development (Jones *et al.*, 2017).

Generally, investment in the development of the ICT infrastructure results in improved economic efficiency and competitiveness; more efficient and effective education; healthcare and public administration; opportunities to exploit low factor costs in international markets; opportunities to increase social capital; and opportunities to bypass failing domestic institutions (Singh *et al.*, 2019).

The development of higher education is a key contributor to economic growth of countries. Developing countries have invested considerable resources in their higher education system often with a support of external aid and lending agencies. However, the number of students enrolled in higher education institutions continued to rise rapidly reflecting the pressure of growing enrolments. These adverse macroeconomic conditions and increased computation for scarce public funds have reduced government's capacity to support higher education. The effect of the squeeze on resource availability have been exacerbating by inefficiency in resource utilization (Hawassa University, 2014).

The established Sustainable Development Goals has been adopted and ICTs' important role as the driving force to the development is imperative. An ICT framework may be implemented to address the achievement of the SDGs (Kostoska and Kocarev, 2019) in the different sectors including education. At present, AmBisyon Natin 2040 represents the collective long-term vision and aspirations of the Filipino people in the next 25 years (NEDA, 2016). The E-Government Master Plan (EGMP) is a blueprint for the harmonization and integration of ICT efforts of the Philippines. Strategies have been laid out implementing the EGMP requires strong ICT governance and better ICT infrastructure (DICT, 2016). Part of this plan is the harmonization initiatives of ICT programs in the state universities and colleges.

With the limited budget extended to State Universities and Colleges and to cope with the funding requirements for ICT resources, SUCs are compelled to earn their own income through various means (Tucay, 2011). Reasons like efficiency, competitiveness and productivity has forced administrators to continuously utilize ICT in the performance of their functions. These resources if properly planned, conceptualized, and implemented can provide value for investments and aid in the decision-making functions of the administration.

Management now gives top priority to the problems, possibilities, and challenges associated with efficiently managing and administering an organization's ICT needs, investments, and resources. The goal of IT governance is to maintain value and confidence throughout the organization. Without creating a roadmap to address the wide range of IT governance concerns and possibilities, many businesses focus first on the compliance aspects of IT governance. (Selig, 2018).

Enterprise information governance is based on the Control Objectives for Information and Related Technology (COBIT) framework, which has been shown to be successful in terms of IT governance. (De Haes et al., 2020) (Gunawan et al., 2018) (Espinoza-Aguirre and Pillo-Guanoluisa, 2018). According to a study, the majority of respondents recognize the value of the COBIT processes and domains, however less of them think that their organizations have properly implemented these procedures. (Abu-Musa, 2009).

It is in this context that the researcher evaluated the different phases of ICT resources mobilization being practiced by the SUCs in Region III. The practices include planning, budgeting, procurement, assignment, utilization, and control of ICT in their respective organization. A mapping of the processes to the COBIT domains was conducted to support IT governance. It looked into these practices, as contributory to the development of the HEIs where ICTs are capacitated to support academic and administrative functions.

2. II.ICT Programs and projects of SUCs

The Information and Communications Technology Framework (River, 2015) identifies key elements for the effective management to ensure that organization's information and ICT systems are secured, protected, tested, controlled, developed and maintained. These elements include 1. governance and administration where technology and tools are used in operations and management; 2. emerging trends and technologies where technical developments are considered in updating systems and utility; 3. business systems and applications to facilitate productivity; 4. infrastructure and technology to enable reliable connectivity; 5. IT business continuity where risks are assessed and procedures placed during disruptions; 6. security both virtual and physical to control access; 7. project management where projects are conceptualized, implemented, monitored and accomplished and; 8. information management to support decision making activities.

Table 1 shows the overall implementation considerations of the SUCs in Region III where governance and administration, and information management are given top priority in ICT programs and projects while IT business continuity is ranked last.

Implementation Considerations for ICT Programs / Projects/Activities	**%**	**Rank**
Governance and Administration	92.68	1
Information Management	92.68	1
Infrastructure and Technology	78.05	3
Security	73.17	4
Emerging Trends and Technologies	65.85	5
Project Management	65.85	5
Business Systems and Applications	63.41	7
IT Business Continuity	46.34	8

Table 1: Implementation Considerations for ICT Programs (Ranked)

Being an academic institution of higher learning, SUCs have implemented ICT programs and projects focused on the organizational functions and priorities. These included computerization, laboratory facilities improvement, enrollment system, procurement system, supply and management system, virtual and physical security systems, infrastructure development and capacity building of personnel handling ICT.

Table 2 shows the landscape of SUCs in Region III with regards implementation of ICT programs and projects. Obviously, SUCs prioritize computerization, enrolment system and laboratory facilities which support the fact that these are learning institutions. The implementation of computerization in operations and delivery of services has added value to its stakeholders. Procurement system, supply and management system and virtual security take the back seat, and these are equally important ICT implementations which need serious considerations.

Implemented ICT Programs / Projects / Activities	%	Rank
Computerization	95.12	1
Enrollment system	85.37	2
Improvement of laboratory facilities	73.17	3
Infrastructure Development	63.41	4
Capacity building of personnel directly handling ICT	60.98	5
Security Systems (physical)	53.66	6
Procurement system	43.90	7
Security System (virtual)	41.46	8
Supply and Management system	36.59	9

Table 2: Implemented ICT Programs (Ranked)

3. III.ICT resources mobilization processes in SUC III

The processes being done in any organization to accomplish their functions generally include planning, budgeting, procurement, allocation, utilization and control. SUCs, being a state-owned organization, has all these processes institutionalized and are being handled by respective units or offices. It is noteworthy that not only that ICT tools drive these processes, but more so, these same tools undergo these processes during their implementation in the organization.

Planning is an activity where the organization looks and acknowledges the current situation while looking into the future. Technological advancement in ICT initiates integration in the operations to provide value to services.

Budgeting is done to allot funds to programs and projects that were considered during the planning. Priorities for investments are determined to leverage on the value added to the service outcomes. While quality education is not cheap, ICT implementation also requires cost.

Procurement is a process of acquisition of appropriate goods and/or services at the best possible price meeting the needs of the end-user as to quality and quantity, time and location. The SUCs are mandated to comply with RA 9184 or the Government Procurement Reform Act.

After goods and services are purchased, the organization allocates or assigns end-users. The assignment of accountable entities may require development of integrated resources and competencies for successful deployment of ICT in the organization.

These tools are then utilized not only to support the organization's functions but to provide additional value to the services they offer. Utilization include capacity building of users.

Control is the provision of an oversight action where ICT resources are managed as to the acceptable use following institution policies. These are monitored as to use and evaluated if they are serving their purpose. The output of this process can be an input to the planning stage where ICT is looked into its part in the whole organizational ecosystem.

The COBIT is a framework created by the Information Systems Audit and Control Association (ISACA) for IT governance and management. COBIT is a thoroughly recognized guideline that can be applied to any organization in any industry. It is globally used by IT managers to equip them with

a model to deliver value to the organization. This framework has been adopted by the researcher to help in the scoping of the mobilization of ICT resources processes (planning, budgeting, procurement, allocation, utilization and control). Said processes are mapped into the four (4) areas of IT control objectives as shown on table below.

Table 3: ICT Resources Mobilization Processes Mapped onto COBIT Domains

ICT Resources Mobilization Processes	COBIT IT Control Areas			
	Plan and organize	Acquire and implement	Deliver and support	Monitor and evaluate
Planning	x			
Budgeting	x			
Procurement		x		
Allocation			x	
Utilization			x	x
Control				x

Table 3 shows the intersection between the ICT Resources Mobilization Processes and the COBIT IT Control Areas. COBIT IT control areas are divided into four, these are (1) plan and organize, (2) acquire and implement, (3) deliver and support, and (4) monitor and evaluate. The plan and organize area is mapped to planning and budgeting processes, the acquire and implement area is mapped to procurement process, the deliver and support area is mapped to allocation and utilization processes, and the monitor and evaluate area is mapped to utilization and control processes.

The questionnaire included the 34 high-level control objectives which correspond to the four control areas of COBIT. Participants were then asked to rate if said statements are being practiced or implemented in their respective SUCs using the Likert Scale of 1 to 5 (where 1 is strongly disagree, 2 is disagree, 3 is neutral, 4 is agree and 5 is strongly agree).

The planning and organizing area covers strategy and tactics, and concerns the identification of the way IT can best contribute to the accomplishment of the business objectives. The realization of the strategic vision needs to be planned, communicated and managed for different perspectives. A proper organization as well as technological infrastructure should be in place. It has eleven high-level objectives and each are supported by activities as defined.

The acquisition and implementation covers IT solutions need to be identified, developed or acquired, as well as implemented and integrated into the business processes - that is the academe. Also, deviations in and maintenance of existing systems are included in this domain to make sure the solutions continue to meet business objectives.

The delivery and support area is concerned with the actual delivery of required services, which includes service delivery, management of security and continuity, service support for users, and management of data and operational facilities.

Monitoring necessitates all IT processes to be regularly assessed over time for their quality and compliance with control requirements. This domain addresses performance management, monitoring of internal control, regulatory compliance and governance.

Table 4 shows how the SUCs in the region evaluated the ICT resources mobilization practices. As earlier discussed, the processes of planning, budgeting, procurement, allocation, utilization and

control were mapped into the four areas of the COBIT framework namely: planning and organizing, acquisition and implementation, delivery and support, and monitoring each of which are supported by corresponding activities.

Domains	**Numerical**	**Verbal**
Planning and Organization	3.94	Agree
Acquisition and Implementation	4.06	Agree
Delivery and support	4.12	Agree
Monitoring	3.92	Agree

Note: SD-Strongly Disagree, S-Disagree, N-Neutral, A-Agree, SA-Strongly Agree

Table 4: Summary of Evaluation of SUCs in Region III on Domains (COBIT)

As shown, SUCs in the region agree that all the COBIT domain areas are being practiced in ICT resources implementation processes. However, scrutinizing the responses of respective SUCs, there are neutral (N) responses which may indicate that participants are not sure if the university practices it or not.

4. Conclusions

SUCs in region III considered and implemented ICT programs, projects, and activities as to their priority.

The COBIT framework has been adopted for IT governance and management that can be adopted to help in the scoping of the ICT resources mobilization processes (planning, budgeting, procurement, allocation, utilization and control) and these can be mapped into the four (4) COBIT domains, namely (1) plan and organize, (2) acquire and implement, (3) deliver and support, and (4) monitor and evaluate.

References

Abu-Musa, A. (2009) 'Exploring the importance and implementation of COBIT processes in Saudi organizations', *Information Management & Computer Security*, 17(2), pp. 73–95. Available at: https://doi.org/10.1108/09685220910963974.

Aguilar-Alonso, I. *et al.* (2020) 'Factors Influencing the Implementation of IT Governance in Public Universities', in *2020 2nd International Conference on Advances in Computing, Communication Control and Networking (ICACCCN)*, pp. 89–94. Available at: https://doi.org/10.1109/ICACCCN51052.2020.9362790.

DICT (2016) *E-Government Master Plan 2*.

Espinoza-Aguirre, C. and Pillo-Guanoluisa, D. (2018) 'IT governance model for public institutions with a focus on higher education', in *2018 13th Iberian Conference on Information Systems and Technologies (CISTI)*, pp. 1–14. Available at: https://doi.org/10.23919/CISTI.2018.8399248.

Fajardo, E. (2013) 'ICT innovation nodes for E-gov', *ACM International Conference Proceeding Series*, pp. 87–90. Available at: https://doi.org/10.1145/2591888.2591902.

Gunawan, W. *et al.* (2018) 'Applying COBIT 5 in Higher Education', *IOP Conference Series: Materials Science and Engineering*, 420, p. 12108. Available at: https://doi.org/10.1088/1757-899x/420/1/012108.

De Haes, S. *et al.* (2020) 'COBIT as a Framework for Enterprise Governance of IT BT - Enterprise Governance of Information Technology: Achieving Alignment and Value in Digital Organizations', in S. De Haes et al. (eds). Cham: Springer International Publishing, pp. 125–162. Available at: https://doi.org/10.1007/978-3-030-25918-1_5.

Hawassa University (2014) *Resource Mobilization Directorate*. Available at: http://www.hu.edu.et/hu/index.php/administrations/directorates/resource-mobilization-directorate.html (Accessed: 23 August 2019).

Jones, P. *et al.* (2017) 'The Sustainable Development Goals and Information and Communication Technologies', *Indonesian Journal of Sustainability Accounting and Management*, 1(1), p. 1. Available at: https://doi.org/10.28992/ijsam.v1i1.22.

Kostoska, O. and Kocarev, L. (2019) 'A novel ICT framework for sustainable development goals', *Sustainability (Switzerland)*, 11(7), pp. 1–31. Available at: https://doi.org/10.3390/su11071961.
de Mello, L. and Ter-Minassian, T. (2020) 'Digitalisation Challenges and Opportunities for Subnational Governments', *OECD Working Papers on Fiscal Federalism*, (31), pp. 1–24.

Millard, J. (2013) 'ICT-enabled public sector innovation: Trends and prospects', *ACM International Conference Proceeding Series*, pp. 77–86. Available at: https://doi.org/10.1145/2591888.2591901.

NEDA (2016) 'AmBisyon Natin 2040: A long-term vision for the Philippines', pp. 1–8.
River, S. of A.-M. (2015) *Information and Technology Framework*.

Selig, G.J. (2018) 'It Governance — An Integrated Framework and Roadmap: How to Plan, Deploy and Sustain for Competitive Advantage', in *2018 Portland International Conference on Management*

of Engineering and Technology (PICMET), pp. 1–15. Available at: https://doi.org/10.23919/PICMET.2018.8481957.

Singh, R.K. *et al.* (2019) 'Applications of information and communication technology for sustainable growth of SMEs in India food industry', *Resources, Conservation and Recycling*, 147, pp. 10–18. Available at: https://doi.org/10.1016/j.resconrec.2019.04.014.

Tong, Y. *et al.* (2013) 'An empirical study of information contribution to online feedback systems: A motivation perspective', *Information and Management*, 50(7), pp. 562–570. Available at: https://doi.org/10.1016/j.im.2013.02.009.
Tucay, M. (2011) *Philippine Collegian Issue 9*.

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