

# APQN Conference and AGM

## New Horizons: Dissolving Boundaries for a Quality Region

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26-27 May 2017  
Moscow, Russia



*Asia-Pacific Quality Network  
National Centre for Public Accreditation  
Guild of experts in the Sphere of Professional Education*

*NEW HORIZONS:  
DISSOLVING BOUNDARIES  
FOR A QUALITY REGION*

*Materials of APQN Conference and AGM*

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The Annual International Conference of the Asia-Pacific Quality Network (APQN) “NEW HORIZONS: DISSOLVING BOUNDARIES FOR A QUALITY REGION” was held in Moscow on May 26-27, 2017. The Conference hosted by the National Centre for Public Accreditation, took place at the Russian Presidential Academy of National Economy and Public Administration.

The proceedings of the conference reflect the latest state of research in the field of quality assurance and quality recognition in Higher Education, strategies and methods of cross-cultural education development, development of internal quality assurance system, elaboration of educational programmes, education management in Higher Education, new tendencies of global education, quality assurance of transnational qualifications, accreditation of joint educational programmes and new opportunities for international collaboration of universities.

The papers are grouped under three categories: Excellence in Quality Assurance, New Assessment Methodologies in Higher Education and Internal Quality Assurance at HEIs and are open for review and discussion by any reader, depending on his/her background and interests.

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## **DISSOLVING BOUNDARIES FOR A QUALITY REGION: CROSS-BORDER COOPERATION THROUGH QUALITY ASSURANCE IN HIGHER EDUCATION IN THE ASIA-PACIFIC REGION**

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### **Abstract**

*Boundaries separate, but also connect parts. "The world is flat". Globalization is a fact. We can't stop it; it has already happened; it is here to stay; and we are moving into this new quality and global stage. The pivot of education quality without boundary is on the integration of the cultures of all the countries/territories.*

*Since the founding of the Asia-Pacific Quality Network (APQN) in 2003, the value of "Dissolving Boundaries for a Quality Region" has been shared by all APQN members, no matter what kind of difficulties it met, and the shared-value will be carried on for a long period of time, even forever. APQN with 197 members from 40 countries/territories did practical exploration on the 4 aspects: 1) 13 QA themes at APQN annual conference (AAC); 2) the implementation of over 30 QA projects; 3) a wide range of methods and actions; and 4) a wide QA beneficiary and a huge target group. With its thirteen-year practical experience, APQN has introduced 4 key innovations: 1) to involve the largest number of beneficiaries; 2) to focus on the quality assurance without boundaries; 3) to cooperate with national and international networks/organizations; and 4) to dissolve boundaries for a quality region.*

*However facing such challenges as finance, in order to ensure sustainable development, APQN should establish the shared values of quality in higher education beyond borders: to dissolve boundaries for a quality region; to promote good practice for internal/external quality assurance; to develop appropriate procedures & systems to cover foreign providers & programmes; to encourage mutual trust, confidence & understanding of HE systems in the world, especially in APR; to establish clarity & transparency in QA processes & outcomes and to encourage the culture of quality.*

### **Key words**

*Quality Region; Quality Assurance; Higher Education; Dissolving Boundaries; Cross-National/Territorial Cooperation; shared values; the Asia-Pacific Quality Network (APQN)*

### **1. Preface**

Borders are geographic boundaries of political entities or legal jurisdictions. Boundaries separate but also connect entities. "The world is flat" said Thomas Friedman in his international best-selling book. In this fast-changing era, with an increasing appetite for education, and with increasing mobility of students and providers to meet that need, every country has to face up the global competition, climate change, higher education (HE) internationalization, and all the impact brought by globalization with its own national capacity. Globalization is a fact. You can't stop it; it has already happened; it is here to stay; and we are moving into this new quality and global stage to dissolve boundaries for a quality region.

Since the founding of the Asia-Pacific Quality Network (APQN) in 2003, the value of "Dissolving Boundaries for a Quality Region" has been shared by all APQN members, no matter what kind of difficulties it met, and the shared-value will be carried on for a long period of time, even forever. APQN uses Quality Assurance (QA) to link the external quality assurance agencies (EQAAs), internal quality assurance agencies (IQAAs) of higher education institutions (HEIs), and all the relevant stakeholders whose goals are to seek good quality in education in the Asia-Pacific Region (APR) which contains 51 countries/territories with over half the world's population. The pivot of the education quality without boundaries is on the integration of the cultures of all the countries/territories.

## 2. Rationale

In March 31- April 1, 2005, the first APQN Annual Conference (AAC) was held in Hong Kong, China. It laid the foundation for APQN with the title “*Establishment of the Asia-Pacific Quality Network (APQN): Dissolving Boundaries of a Quality Region*”. Today APQN has become the largest and the most influential non-profit, non-governmental international organization in the field of quality assurance in education in the APR and it still sticks to its shared-value of “*Dissolving Boundaries for a Quality Region*” according to its Constitution.

“*Dissolving Boundaries for a Quality Region*” focuses towards a borderless world advanced as part of globalization theory, the APR, stepping, as it was and it is, with thousand-mile boots from south to north, from west to east, from the countries/territories in Asia to those in the Pacific Ocean. It tries to show how QA in education models and remodels borders and bordering processes in rich and meaningful local contexts in our increasingly interdependent world.

APQN’s main concerns are to use QA to promote quality learning, quality teaching, quality administration, quality research and others in HEIs, and to foster cultural awareness and mutual understanding of quality education amongst all the stakeholders in EQAAs, IQAAs of the HEIs across the national boundaries in APR. The motivation of “*Dissolving Boundaries for a Quality Region*” is as following:

- to contribute the establishment of regional alignment in quality assurance;
- to provide an agreed reference point for consistency and benchmarking in quality assurance;
- to facilitate regional student and academic mobility and exchange;
- to improve transparency and accountability of higher education institutions (HEIs);
- to align the region with international developments in quality assurance;
- to encourage mutual trust, confidence and understanding of higher education systems within and beyond the APR.

## 3. APQN’s Practical Exploration

The implementation process follows “the Project Guidelines” developed by the Board as a mechanism through which the common interests of APQN members are addressed. All the members share responsibilities from various QAAs across the Region. The process is diversified, dynamic and sustainable in nature, depending on the developments that take place in the QA domain. APQN reaches its objectives through the following methods and contents:

### 3.1 Thirteen QA themes at APQN Annual Conference

Over the past 14 years, APQN has held 13 AACs which brought together all APQN’s members, both local and international representatives share their research, experiences and good practices in QA through a significant number of submitted papers, keynote presentations, panel discussions, parallel sessions and workshops. The latest one was conducted with great success in Moscow on May 25-28 with 182 participants from over 30 countries and territories.

Table 1 List of QA themes of AACs to dissolve boundaries for a quality region

| S/N            | Date                      | Theme and Sub-themes  |
|----------------|---------------------------|---|
| start-up stage | January 18, 2003          | Formation of the Asia Pacific Sub-Network: Constitution and Finance Manuel                                |
|                | October 9, 2004           | World Bank Development Fund Grant (DGF) and the Asia Pacific Quality Network (APQN)                       |
| 1              | March 31- April 1, 2005   | The Establishment of the Asia-Pacific Quality Network (APQN): Dissolving Boundaries of a Quality Region   |
| 2              | March 1-4, 2006           | Regional Mobility: Cooperation in Quality Assurance   |
| 3              | February 4-7, 2007        | Emerging Challenges, Emerging Practices: Sharing a Global Vision of Quality Assurance in Higher Education |
| 4              | February 19-22, 2008      | Future of Quality Assurance in Asia-Pacific: Cooperation amidst Diversity                                 |
| 5              | March 4-5, 2009           | Quality Assurance in Higher Education: Balancing the National Contexts and International Aspirations      |
| 6              | March 3-5, 2010           | Enhancing Quality of Higher Education in the Developing World   |
| 7              | March 2-4, 2011           | Quality Assurance in Higher Education: Expectations and Achievements                                      |
| 8              | February 29-March 2, 2012 | External Quality Assurance in the Asia- Pacific: What has Changed over a Decade?                          |



|    |                   |   |
|----|-------------------|---|
| 9  | April 7-8, 2013   | Has External Quality Assurance Made an Impact? Looking back at the Decade of Quality Assurance            |
| 10 | March 7-8, 2014   | Higher Education Quality Assurance in a Changing World: Envisioning the Future of the Asia-Pacific Region |
| 11 | April 17-19, 2015 | Globalization and Diversification of Quality Assurance of Higher Education                                |
| 12 | May 26-27, 2016   | Sustainable Development of Quality Assurance in Higher Education  |
| 13 | May 25-27, 2017   | New Horizons: Dissolving Boundaries for a Quality Region  |

### **3.2 APQN implementation of over 30 QA projects**

Over the past 14 years, APQN has carried on many projects on QA to dissolve boundaries for a quality region (see Table 2):

**Table 2 List of projects on quality assurance done by APQN**

| <b>Year</b> | <b>Project</b>   |
|-------------|--|
| 2004 -2008  | <ol style="list-style-type: none"> <li>1. APQN Website: Expansion/Maintenance and Database Development</li> <li>2. Chinese Translation Project</li> <li>3. Identify Constituency</li> <li>4. Indicators of Quality</li> <li>5. Internship and Cross-regional Staff Exchange Programme</li> <li>6. Mutual Recognition of Quality Assurance Agencies</li> <li>7. Qualifications Frameworks</li> <li>8. Quality Assurance of Distance Education/E-Learning</li> <li>9. Quality Literacy</li> <li>10. Student Participation in Quality Assurance</li> <li>11. Survey: Monitoring of Transnational Activities</li> <li>12. Training Materials and Resource Package</li> <li>13. Transnational Education</li> </ol>  |
| 2008 -2015  | <ol style="list-style-type: none"> <li>1. APQN Quality Awards</li> <li>2. APQN Quality Information Portal</li> <li>3. APQN Quality Label</li> <li>4. APQN Quality Label as Regional/International Accreditation of Internationalization</li> <li>5. APQN Website Expansion, Consolidation and Maintenance</li> <li>6. Asia-Pacific Quality Register(APQR)</li> <li>7. Database of Consultants and Reviewers</li> <li>8. External Evaluation Review of the APQN by Bateman &amp; Giles Pty Ltd</li> <li>9. Internship Program,</li> <li>10. Liaison and Communication among APQN Members and Regional Networks</li> <li>11. Moderated Online Forum</li> <li>12. Mutual Recognition(MR) Project</li> <li>13. On-line Discussion Forum</li> <li>14. Peer Review of QA Agencies</li> <li>15. Publication of Electronic Package for Reviewer's Training</li> <li>16. Quality Assurance and Higher Education Internationalization</li> <li>17. Quality Information Systems Toolkit</li> <li>18. Survey of the Revision of Higher Education Quality Assurance Principles for the Asia Pacific Region (Chiba Principles)</li> <li>19. Workshop for Pacific Nations</li> <li>20. Workshop on Good Practices in China</li> <li>21. Workshop-Round Table Discussion for the 2008 Batch of Interns</li> <li>22. Dissolving Boundaries for a Quality Region: APQN Sustainable Development (self-fundraising project)</li> </ol> |
| 2016-2017   | <ol style="list-style-type: none"> <li>1. APQN Strategic Plan(2016-2019)</li> <li>2. Asia-Pacific Quality Register(APQR)</li> <li>3. Dissolving Boundaries for a Quality Region: APQN Sustainable Development (self-fundraising project)</li> <li>4. APQN Website Expansion, Consolidation and Maintenance</li> <li>5. Database of Consultants and Reviewers</li> <li>6. Staff Capacity-Building</li> <li>7. APQN Quality Information Portal</li> <li>8. APQN Quality Label as Regional/International Accreditation of Internationalization</li> </ol>   |

Most of the projects have produced good result. Take “Asia-Pacific Quality Register (APQR)” for example. The first formal review for APQR has been conducted on the Fiji Higher Education Commission (FHEC) in Suva, Fiji on 24-26<sup>th</sup> June, 2015. “This exercise would be counted as a milestone in history of APQN and APQR.” Following the founding of the European Quality Assurance Register for Higher Education (EQAR), APQR became the second in the international QA networks to implement QA register, in 2015 with initiative of Asia Pacific Quality Network (APQN).

Another good example is the “Survey of the Revision of Higher Education Quality Assurance Principles for the Asia Pacific Region (Chiba Principles)” which consists of three parts: 1) Internal Quality Assurance: key principles guiding institutions in assuring their own quality; 2) Quality Assurance Agencies: key principles guiding the structure of quality assurance agencies and their management if they are to effectively conduct assessments for the accreditation and auditing of institutions and programs; 3) Quality Assurance: a set of principles which outline the process and content of quality assurance common to the activities of both the institution’s internal practices and assessment by external quality assurance agencies. APQN played a significant role in the dissemination of the Chiba Principles.

### ***3.3 A wide range of methods and actions***

In order to achieve the goal of “Dissolving Boundaries for a Quality Region”, APQN has taken a wide range of methods and actions, including:

1) Dissemination of information through newsletters, documents, journals and books, such as “the Academic Proceeding of 2015 APQN Conference Globalization and Diversification of Quality Assurance of Higher Education” in 2016, “Annual Report”, Newsletters, “Toolkit on Regulating the Quality of Cross Border Education” with UNESCO in 2009 and others.

2) Capability training and development through seminars, workshops and staff exchange, such as the Global Initiative on Quality Assurance Capacity (GIQAC), Qualifications Frameworks, Indicators of Quality, “Workshop for Evaluators of NAEAC” in Pakistan in 2015, “Welcome Your Idea for APQN Collaborative Research Link” and others.

3) Quality Awards initiated in 2013 were awarded in over 30 EQAAs and IQAAs under such award categories as APQN Quality Champions Award, APQN International Cooperation in QA Award within the Region, APQN Strengthening QA Profession Award and others.

4) Set QA system for the APR, such as “Assessing Quality in Higher Education-Digital Book” and a “Toolkit: Regulating the Quality of Cross-Border Education”

5) Reference to the databases and other resources of other QA organizations, such as Consultant Data, the establishment of the APQN quality information portal in Sri Lanka, CIQG International Quality Principle.

### ***3.4 Wide QA beneficiary and a huge target group***

All the AACs, projects, methods and actions have provided a broader platform for information exchange and networking opportunities for all the members to reach the goal of “Dissolving Boundaries for a Quality Region”.

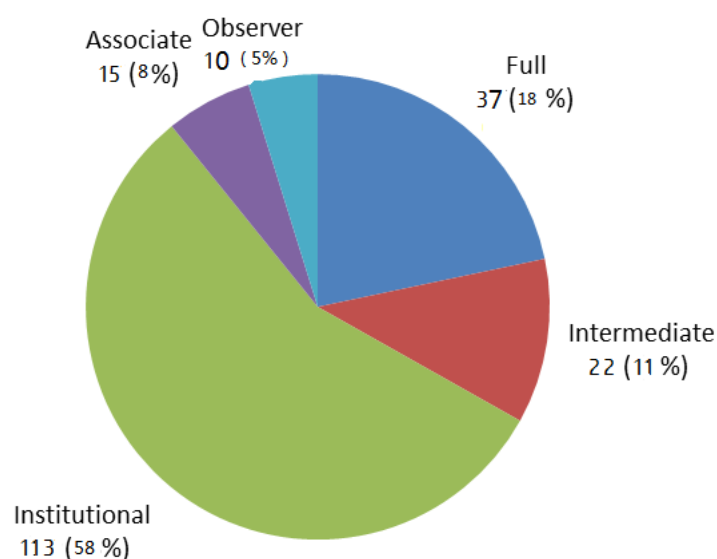
The region covered by APQN includes: all the Pacific island nations and territories, New Zealand, Australia, Papua New Guinea; all island and mainland nations and territories of Asia, including Russia, Afghanistan and Iran, but excluding other central Asian countries (included into another network), and excluding the Gulf countries (included in another network) (APQN, 2006). There are 51 countries/territories identified across the APR (see Table 3).

As of December 31, 2016, APQN had a total of 197 members, respectively from the Philippines, India, China, Thailand, Malaysia, Australia, New Zealand, Japan and other 40 countries/territories. Among the members, there are 37 Full members, 22 Intermediate members, 113 Institutional members, 15 Associate members and 10 Observer members (see Fig.1). 31 new members were successfully approved as the new members of the Network during the reporting period from 1 January to 31 December 2016.

Table 3 List of 51 Countries/Territories of the Asia-Pacific Region

| S/N | Country/Territory | 18 | Korea, South     | 36 | Philippines     |
|-----|-------------------|----|------------------|----|-----------------|
| 1   | Afghanistan       | 19 | Kyrgyzstan       | 37 | Russia          |
| 2   | Australia         | 20 | Laos             | 38 | Samoa           |
| 3   | Bangladesh        | 21 | Macao, China     | 39 | Singapore       |
| 4   | Bhutan            | 22 | Malaysia         | 40 | Solomon Islands |
| 5   | Brunei Darussalam | 23 | Maldives         | 41 | Sri Lanka       |
| 6   | Cambodia          | 24 | Marshall Islands | 42 | Taiwan, China   |
| 7   | China             | 25 | Micronesia       | 43 | Thailand        |
| 8   | China, Hong Kong  | 26 | Mongolia         | 44 | Timor-Leste     |
| 9   | Cook Islands      | 27 | Myanmar          | 45 | Tokelau         |
| 10  | Fiji              | 28 | Nauru            | 46 | Tonga           |
| 11  | French Polynesia  | 29 | Nepal            | 47 | Turkmenistan    |
| 12  | India             | 30 | New Caledonia    | 48 | Tuvalu          |
| 13  | Indonesia         | 31 | New Zealand      | 49 | Uzbekistan      |
| 14  | Iran              | 32 | Niue             | 50 | Vanuatu         |
| 15  | Japan             | 33 | Pakistan         | 51 | Vietnam         |
| 16  | Kiribati          | 34 | Palau            |    |                 |
| 17  | Korea, North      | 35 | Papua New Guinea |    |                 |

Fig. 1 APQN membership structure of 197 members from 40 countries/territories as of December 31, 2016



Almost all APQN members have been encouraged to adopt more robust mechanisms for continuous quality enhancement, more rigorous self-evaluation, increased transparency, and a better understanding of the notion of quality and best practices.

#### 4. Key Innovative Features

APQN has made a huge step forward in the process of “Dissolving Boundaries for a Quality Region”. It has more and more contacts within the APR and the influence worldwide is increasing. It made a lot of achievements such as dissemination of information, consultant database, APQR, Quality Label, AACs, regular seminars, workshops, internships, and others. This effectively strengthens the exchange of experience and practical cooperation among QAAs in the APR, making positive contribution. In 2008, the external evaluation review undertaken by Bateman & Giles Pty Ltd was to address the following criteria: 1) Efficacy; 2) Initial outcomes; 3) Governance and management; 4) Efficient financing; 5) Sustainability. The result is satisfactory (Bateman & Giles Pty Ltd, 2008). The evaluation report confirmed that the comprehensive range of programs and activities undertaken by APQN have been affirmed by members as significant contributing factors in building capacity in quality assurance (Concepcion V. Pijano, 2008). On March 6, 2010, at the implementation review mis-

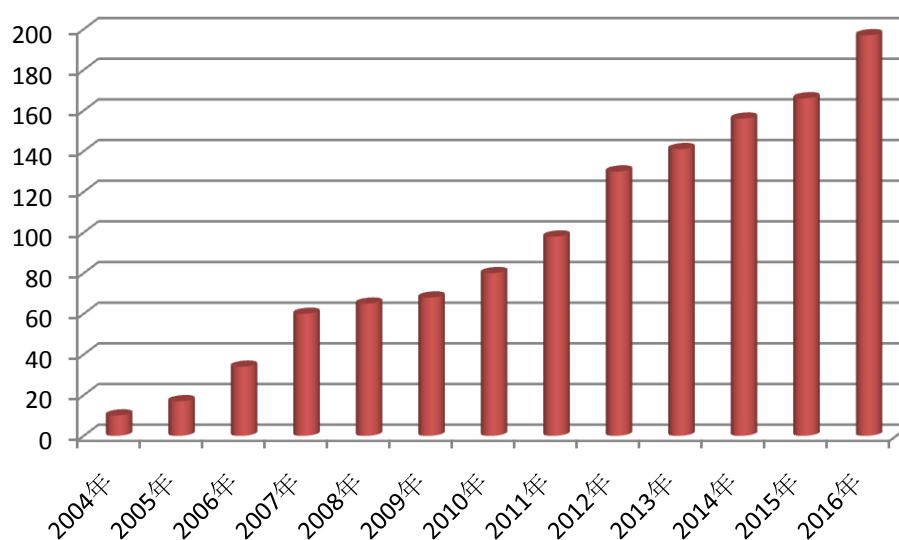
sion conducted by Programme Specialist Zeynep Varoglu of the UNESCO Division of Higher Education, APQN's progress toward achieving the overall objectives of the GIQAC grant was rated Highly Satisfactory. Her report indicated that "APQN has a clear sense of both the purpose and the development objectives of the grant. The clear focus also emerges through the project documentation and reporting." (Concepcion V. Pijano, 2010).

Looking back what APQN has done over the past 14 years, a comprehensive analysis to the QA development trend has enlightened higher education QA for the countries in the APR, especially to some developing countries. The paper of *"Characteristics and Influences of APQN in Process of Education Quality Assurance in the Asia-Pacific Region"* gave a description on it. Briefly speaking, till now, APQN project of "dissolving boundaries for a quality region" has at least 5 features:

#### **4.1 To involve the largest number of beneficiaries**

On September 30, 2005, APQN had only 17 members, but by December 31, 2016, the total number of membership reached 197, increasing dramatically fast, with the growth rate of doubling almost each year. All the members are the beneficiaries of APQN. Based on the principle of information sharing, all the resources are shared by all in the world.

Fig. 2 The Increase of APQN members from 2004 to 2016



#### **4.2 To focus on quality assurance without boundaries**

APQN focuses on the core of "quality assurance" in the APR, which is the foremost priority. Among the 13 themes of AACs in the past 14 years, the most frequently used key word is "quality assurance", which takes into account the comprehensive global trend, educational reforming, practical experience, and many other aspects.

The participants and scholars present themselves according to the theme chosen, exchange their competent expert opinions, share successful cases in order to promote mutual learning among members and promote the development of QA in the APR.

Through the Global Initiative for Quality Assurance Capacity (GIQAC) funded by UNESCO, the booklet "Assessing Quality in Higher Education", "Toolkit: Regulating the Quality of Cross-Border Education" and others set the QA standards for QAAs in this region.

#### **4.3 To cooperate with national and international networks/organization**

At the same time, APQN has established close relationship with international networks/organizations and sector groups in quality higher education. The fourth president (Jagannath Patil) was a president of APQN and INQAHE for one year. The fifth President (Jianxin Zhang) has been advisor of the CHEA (Council for Higher Education Accreditation) since 2012. APQN has many partners including Asia Development Bank (ADB), ANQAHE (Arab Network for Quality Assurance in Higher Education), APEC (Asia-Pacific Economic Cooperation), AQAN (ASEAN Quality

Assurance Network), ASEAN (Association of Southeast Asian Nations), AUN (ASEAN University Network), European Commission(EC), ECA (Economic Commission for Africa), ENQA (European Association for Quality Assurance in Higher Education), INQAAHE (International Network for Quality Assurance Agencies in Higher Education), Japan International Cooperation Agency (JICA), Japan Bank for International Cooperation (JBIC), South East Asian Ministers of Education Organization (SEAMEO), UNESCO Paris (global), UNESCO Bangkok (regional), World Bank and others.

In “APQN Strategic Plan (2016-2019)” issued on July 4, one of the 7 Goals and Actions is “*to strengthen relations with other international, regional and national networks/organizations within and outside the Region*” (APQN, 2016). Many hands have contributed to the development of APQN. We are sure that through the continuing international collaboration we have seen the APQN expand and flourish.

APQN has made a positive contribution in promoting substantive QA cooperation among its members of what has been done for the past 14 years. In the aspect of building a QA system and leading QA standards, together with UNESCO in Bangkok, APQN co-research the QA supervision of cross-border education, and launched QA toolkit and other standards. Acting as an aid in regulating quality assurance for the countries that are involved in providing and receiving cross-border education (UNESCO-APQN), APQN has smoothed the road for the global cross-border higher education.

#### ***4.4 To dissolve boundaries for a quality region***

In the “flat world,” everything changes... The growing international activity within the educational system enhances student mobility, thus, intensifying faculty exchanges, increasing the number of cross-border educational programs and growing reliance on online or Web-based education, which altogether create a sense of urgency for a shared understanding of educational quality in the whole world, especially in the APR. While any single national regimen of educational quality would be difficult and perhaps undesirable, a shared understanding about the dimensions of quality would be useful. APQN has tried its effort to move towards such understanding and action while acknowledging and respecting the numerous differences of history, culture, beliefs and values that shape our systems of higher education and our perspectives on quality.

### **5. Challenges and Actions Taken**

#### ***5.1 Challenges and Constraints***

No doubt, APQN faces a lot of difficulties, among which the most crucial is the financial problem. Since 2012, APQN has had no financial support from either UNESCO or World Bank; its functions are carried on with the membership fees, volunteer contribution and personal donations.

APQN has clearly recognized the situation, faced and overcame difficulties, dealt with concrete matters, assumed responsibility and maintained a stable and healthy development. APQN took and takes such initiatives as “*to explore additional funding sources externally which can include donation, commissioned work, and sponsorship of events or publications by governments, agencies/organizations, philanthropists and other relative stakeholders, such as establishing “Guidelines for APQN Project by Self-fundraising”*” (APQN, 2016).

“Money is not everything, but only something.” It is certain that with the everlasting ideal of seeking for excellent quality in mind, APQN can continuously inherit and carry on the spiritual legacy - Dedication, Sharing, Serving, Innovation and Sustainable development. With its diligence, all the members will fight for “dissolving boundaries for a quality region”, to realize the vision of “being a self-sustaining network”.

#### ***5.2 Sustainability of the innovation and future plans***

“*Dissolving Boundaries for a Quality Region: APQN Strategic Plan (2016-2019)*” was issued on July 4th, 2016. The fifth Board will keep striving for the sustainable project with new missions, new attitude and new perspectives. 2016-2017 will be the year of procedure building, 2017-2018 will be the year of personnel capability building, and 2018-2019 will be the year of action and achievements. APQN will complete the seven goals and actions along with ten targets, such as “to strengthen relations with other international, regional and national networks/organizations within and outside the Region”, “to maintain APQR and APQN Quality Label”, “to establish on-going financial viability and stability”, etc. in order to reach the goal of “Dissolving Boundaries for a Quality Region”.

APQN, through both internal and external validation, has amply demonstrated that the objectives have been achieved through the work of the whole APQN members. Sustainability of the work of “*Dissolving Boundaries for a Quality Region*” is guaranteed by the commitment of the new Board who took office in May of 2016 and has recently embarked upon this cross-national work in 2016-2019.

## **6. Conclusion**

As important as Huntington's monograph “*The Clash of Civilizations*”, as fascinating as Friedman's “*The Lexus and the Olive Tree*” and “*The World is Flat*”, APQN's huge and never-ending project of “*Dissolving Boundaries for a Quality Region: Cross-National/Territorial Cooperation through Quality Assurance in Higher Education in the Asia-Pacific Region*” didn't explain what's already happened: it tries to offer a roadmap for action of quality assurance in the borderless world that has emerged. Its rationale embraced the broad QA initiatives of all the members to meet the needs of this “quality society”, and its core objectives were met.

The essential feature of the whole innovative process is its non-competitive, cooperative nature-between EQAAs and IQAAs, between nations and international organizations/networks across the national borders in the APR. The collaboration does not “just happen”, and within the present context, the participants have worked hard within such an ethos to enhance education quality to all, to arouse the consciousness of “seeking common ground and establish a foundation for understanding quality”, to plant the seeds of QA for the great cause of quality education in the globe.

**“Collaboration is not an option. It is, as our cave-dwelling ancestors discovered, a survival response.”** (Hughes, 2000). “Dissolving boundaries for a quality region” represents not merely a beguiling ideal, but a provable reality and compelling evidence for the potential of quality assurance in education for the whole globe, especially for the APR.

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# I. Excellence in Quality Assurance

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## THE INNOVATION OF INSTITUTIONAL ACCREDITATION IN TAIWAN

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### **Abstract**

*This article focuses on the changes introduced into two cycle higher education institutional accreditation in Taiwan. The novelty of the research is not only in the introduction of evaluation indicators, but rather in the evaluation meaning that a professional evaluation agency wants to share with the universities undergoing evaluation.*

*It's not easy for the university to regard a mandatory evaluation as a supporting tool, but HEEACT tries its best to introduce some changes in order to make it happen. For instance, HEEACT uses PDCA quality circle procedure to emphasize the internal QA, which minimizes the data preparation load, classifies universities in order to evaluate them by their prior achievements, gives them flexibility to perform their functions. It is very important that the results of the evaluation are meant for the university development and are not used for the government sanctioned practices. These reforms make the universities understand that the second cycle institutional evaluation can in fact enhance the quality of their work, provided they realize and carry out self-evaluation before the external evaluation.*

### **Introduction**

In order to implement and improve quality assurance (QA) as well as quality enhancement (QE) of higher education in Taiwan, the Higher Education Evaluation and Accreditation Council of Taiwan (HEEACT) launched institutional accreditation in 2011, which aims to determine the place of a higher education institution, its role and features, strategies for its development, management and administration and establish internal self-evaluation mechanisms for quality improvement. A new accreditation procedure called the “second cycle institutional accreditation” has been launched in January 2017. The procedure partially reproduces the accreditation model from the previous years. We modified some questions and adapted suggestions from the dialogue, debate and meta-evaluation, which originally were focused mainly on the technique and details of the system, did not allow individual approach to a university, involved too much paper work and efforts, and imposed some other restrictions. However, the HEEACT tries to improve and modify the accreditation system and really hopes to help the universities become more autonomous, encourages their self-awareness in relation to consistent internal quality assurance.

Substantially speaking, the goals of the new cycle of institutional accreditation include:

1. Accreditation of university outcomes. It implies accreditation of the overall outcomes of universities/colleges including governance and administration, faculty and teaching, research, services, as well as student learning outcomes.
2. Evaluating the self-orientation and characteristics. It focuses on propelling the universities/colleges to analyze their own strengths, weaknesses, opportunities and threats (SWOT) based on self-positioning or comparison with the world class universities.
3. Carrying out social responsibilities. It is to encourage the universities/colleges to demonstrate their performance or features of excellence in terms of cooperation with the industrial sector and fulfillment of their social responsibilities.
4. Providing recommendations for policymaking.

The results of accreditation are analyzed in order to make suggestions on the development of higher education to the policy makers.

Over the past five years HEEACT has collected extensive critical opinions and relevant information on the matter. At the same time, the Ministry of Education of Taiwan was proposing a new idea called “Evaluation 2.0” in order to meet the universities’ demand and social expectations. In short, the core value of “Evaluation 2.0” is focusing on “student learning outcomes”, “faculty teaching effectiveness” and “information disclosure”. Although some institutions and program leaders still believe that student learning outcomes are very controversial due to complexity of their assessment, and are not the main purpose and value of education. There is no doubt that the efforts on student learning outcomes will make us more focused on the students’ performance and faculty teaching effectiveness. The “Evaluation 2.0” encourages the higher education institutions to develop the assessment and strategies of how to find the evidences of student learning and faculty teaching outcomes which measure not only academic achievements and performance but also the acquisition of specific knowledge and skills, learning attitudes, self-concepts, world views, cooperation, communication abilities and behaviors affected in the teaching and learning process. We will focus on how student learning outcomes were used to improve the quality of pedagogy, how they will be collected by an institution and so on. The information openness means the accredited institutions provide the performance data on the web or other media that can be accessed by the public on a regular basis. In fact, some institutions have used the results of “Institutional research, IR” to make their performance results transparent, thus achieving our goals in this cycle. The “Evaluation 2.0” has the advantages and benefits for the first cycle accreditation, yet reflects the trends for change and practice needs.

#### **The features of second cycle institutional accreditation**

Based on the above descriptions of new cycle institutional accreditation, we can integrate the concepts into ten features as follows:

1. The universities should try to demonstrate the process of development and the outcomes of self-orientation and characteristics, on how to achieve the vision and goals through the effective planning and governance. It is not necessary to compare with others, especially the universities with a different background.

2. Focus on the teaching and learning support systems provided by the universities, including financial resources, material resources and human capital.

3. Emphasis on the evidence of students’ learning effectiveness and faculty teaching and research outcomes.

4. The accreditation standards should not be simplified into four major categories and 14 standards, but also universities should be encouraged to customize their own standards to fully demonstrate their characteristics and outcomes.

5. According to the different types of universities, the number of on-site reviewers, on-site visits, and the number of respondents should be adapted depending on the needs.

6. Reducing the paper work and data preparation. The basic information about a university will be provided to HEEACT from the Ministry of Education database. The universities will need to make sure the data are accurate and complete prior the on-site review.

7. The self-evaluation is the core work of the accreditation. Each university must carry out self-evaluation and submit their final reports to HEEACT. The back-up copies of the relevant information can be saved on a CD-ROM and provided to the reviewers for more information before the judgment.

8. Emphasizing the diversity of data .In order to ensure objectivity and credibility of on-site review, the relevant information will be collected in the form of briefings, on-site visits, staff interviews, questionnaires, and information reviews on the same day.

We try to help the universities check the quality of their performance in order to achieve the set learning and teaching outcomes, and ensure that the designed system can really play a substantive effect in reminding the educational institutions to create a sustained pursuit of excellence dur-



ing self evaluation and enhance social responsibility through internal and external quality assurance mechanisms.

### **The Connection and Innovation of two cycle Institutional Accreditation**

#### **The Connection of two cycle institutional accreditation**

According to HEECAT's institutional accreditation philosophy, succeeding in cycle accreditation should have some connections with the initial cycle to assure the quality and improvement. And we can see through these from accreditation goals, process, decision making, etc.

##### **1.The connection between the two cycles' main goals**

The goals of the initial cycle is to ascertain whether each institution is operating well according to its mission and goals, and to assist the institution to identify itself, to find its strengths and weaknesses, to develop its features, and to engage in self-improvement. And the goals of the second cycle higher education institutional accreditation can be seen as an extension of those from the initial cycle: to ensure that higher education institutions enhance their practices for internal quality assurance and continuous improvements.

##### **2.The professional accreditation process**

The process of self-evaluation, as well as on-site visits of the external review panel, aim to ensure that an institution's operational practices support the realization of the institution's basic purpose and goals, while also demonstrating institutional effectiveness and social responsibility. And HEEACT guides the institutions in using the plan-do-check-act method in order to continuously improve and effectively raise institutional quality .

#### **The innovation of the second cycle institutional accreditation**

After the first cycle institutional accreditation, HEEACT implements meta-evaluation and holds several meetings for stakeholders' feedback. The feedback concerns the evaluation preparation, evaluation profession, too many evaluation projects implemented at the same time, standards and indicators reduction and so on.

In respect to these concerns, HEEACT conducts some innovations of the second cycle institutional accreditation, and they are divided into four parts:1) an organized and precise institutional quality accreditation; 2) the division of institutions being evaluated and their on-site visit time; 3) adaptation of on-site visits; 4) simplification of accreditation standards and indicators.

##### **1.An organized and precise institutional quality accreditation**

In order to effectively reduce the administrative burden of data preparation, six other major evaluation projects conducted by various departments of the Ministry of Education, including "Promotion of Gender Equality Education," "Campus Environment Management," "University Trust Fund," "Traffic Safety Education," "Digital Learning Content and Certification," and "Physical Education Project" were incorporated into the first cycle of institutional accreditation based on their similarities to some of the key indicators. But the meta-evaluation done by the third party turned to have a different result. The stakeholders involved in accreditation hope that institutional accreditation shall be more organized and less complicated. HEEACT and the MOE followed these suggestions, excluded these evaluation projects and concentrated on evaluating what an institution should do and improve during the second cycle institutional accreditation.

##### **2. The division of institutions being evaluated and their on-site visit time**

In 2011 there were 81 institutions (including military, police, and open universities) undergoing the first cycle institutional accreditation. All the on-site visits took place over the span of one year. By organizing the work this way HEEACT had difficulties managing the staff workload and selecting evaluators. In respond to this experience, HEEACT divided the universities undergoing evaluation into two groups depending on their first cycle accreditation results. The ones which passed all 5 standards had one more year to prepare, otherwise the universities were to undergo the second cycle institutional accreditation in 2017.

Besides, institutions being evaluated will not undergo program accreditation or participate in a joint supervision project in the same semester to reduce the burden of the universities.

##### **3. Adaptation of on-site visits**

According to the multiple categories and depending on the size of a higher education institu-

tion, HEEACT makes some revisions and gives more flexibility to the institutions: (1) involve students to decide on the number of Review Panel members, on-site visit days, the number of staff, teachers and students, and questionnaires. For example, the number of members in a Review Panel will depend on the number of student population at the institution. If the institution has fewer than 100 students, the evaluation panel will only be composed of 4 to 6 evaluators if the institution has 101-300 students, the evaluation panel will be composed of 6 to 8 evaluators; if the institution has 301-6,000 students, the evaluation panel will be composed of 10 to 12 evaluators; if the institution has over 6,000 students, the evaluation panel will be composed of 14 to 16 evaluators; (2) Evaluators are selected in accordance with the category of the University. We categorize institutions undergoing evaluation into three categories: top universities, self-accredited universities and others. The evaluation panel is composed with regard to this categorisation.

#### 4. Simplification of accreditation standards and indicators

HEEACT takes the suggestions of the meta-evaluation of first cycle institutional accreditation and fits in with the evaluation policy needs, these changes are made as it is shown in table 1 below.

Simplification means reducing the burden of the institutions when they prepare for the accreditation. It's a simple job for the professional evaluation agency to reduce the number of standards and indicators, but it's difficult to teach the institution to be evaluated and to train the evaluators. And the more indicators become general, the more judgment tools we should have.

Table 1 Comparison of two cycle Institutional accreditation standards and indicators

|   | First cycle(2011)   | Second cycle(2017-2018)   |
|---|---|---|
| 1.Standard Structure                            | Standards, Meaning of Standards, Best Practices, Recommend Indicators, Recommend references | Evaluation Structure Introduction, Standards, Meaning of Standards, Core Indicators |
| 2.Number of Standards and Indicators            | 5 Standards,48 Recommend Indicators   | 4 Standards,14 Core Indicators  |
| 3.Indicator Flexibility                         | Not clearly mentioned   | Clear mentioned two ways to increase indicators and perform characteristics         |
| 4.Collection of Institutional Basic Information | Another question forms to fill in   | Use of Higher Education Institution database information                            |

### Conclusions

Every university and college is a unique institution of higher learning with its own distinct self-positioning and educational goals. In order to respect this, the evaluation indicators for the second cycle of institutional evaluation have been designed to allow a high degree of flexibility in terms of the practices that institutions use to demonstrate their distinct features. An institution can thus conduct its self-evaluation in a manner that appropriately shows its unique character.

Furthermore, the reduction of the loading and burdens in the evaluation process seems to be a reality that evaluation agencies implementing compulsory evaluations must seriously take into consideration. HEEACT has made great efforts to change the universities' idea on the meaning and the functions of evaluation by using PDCA quality circle procedure to emphasize the internal QA, minimize data preparation loadings, classify universities to be evaluated by their prior achievements, give them flexibility to perform their characteristics, and the most important of all is that the evaluation result is used exclusively for the development of a university, and not as the government sanctioned practice.

By doing so, every university should consider its development goals and how to plan and implement them. The institutional accreditation acts as a supporting tool to give universities insights and useful suggestions

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## **THE ROLE OF HIGHER EDUCATION COMMISSION IN IMPROVING THE QUALITY OF TEACHING AND RESEARCH AT HEIS: A CASE OF PAKISTAN**

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### **Abstract**

*The Higher Education Commission (HEC) of Pakistan is an independent, autonomous, and constitutionally established institution of primary funding, overseeing, regulating, and accrediting the higher education efforts in Pakistan. In October 2017, HEC Pakistan attained the age of 15 years. During this period the HEC through its innovative efforts has completely transformed the landscape of higher education in the country and has tremendously enhanced the international linkages with counter parts. Manifold increase in funding provided by the Government of Pakistan, since 2002, led to the introduction of new programs, increased enrolment, strengthened research activities in addition to the establishment of new universities. HEC carries out quality control of all HEIs, through its Quality Assurance Agency and Quality Enhancement Cells, established at the universities all over the country. The author, in his paper will cover the Quality Revolution initiated by HEC in Pakistan over the last 14 years using innovative techniques, implementing good practices and improving the international image. This has resulted in international research collaborations, student exchanges, knowledge sharing and transferability of degrees.*

### **Introduction**

The Higher Education Commission (HEC) of Pakistan was established in 2002 under the Presidential Order (Ordinance 2002) as a powerful national body, on higher education, to be headed by a person with the status of a Federal Minister. This arrangement gives a lot of freedom and initiative to the chairperson. The initiatives of the Higher Education Commission during the last 14 years have produced magnificent results. The changes are observed at all the universities and degree awarding institutions in Pakistan. The universities have rapidly morphed into their new role as producers of knowledge and research that led to innovation & entrepreneurship, created jobs and became the prime builders of a knowledge economy.

The HEC continues to amaze the world with its achievements despite being only 14 years young. It has continued to focus on faculty development, quality education, technology refiners, research and innovation, which are key winning formulae in creating a knowledge economy.

The rapid progress made by Pakistan in higher education was greatly appreciated by the world community. Other bordering countries are now in the process of following Pakistan's footsteps. The university grant commissions are being closed down and new organizations in line with HEC are being established.

The key successes achieved by HEC are the result of a very intimate financial support from the Government of Pakistan, dedication and innovative philosophy used by HEC team. So much has been achieved in so little time that the World Bank in its comprehensive report on higher education termed it as a "Silent Revolution".

### **Quality Revolution**

A multi-prong approach to improve the quality of teaching and research has been introduced in the higher education system of Pakistan after the establishment of HEC. Pre HEC era, there was no formal system of Quality Assurance as a central body or within the university at a smaller scale. HEC, therefore, in year 2004 established Quality Assurance Committee, comprising of eminent scholars, policymakers and selected Vice Chancellors. This committee issues policy guidelines on quality issues.

### **Accreditation Councils**

In pre HEC era, the majority of Professional Degree Programs were accredited by the councils established by the government legislation. These councils are empowered to have their own accredi-

tation rules and regulations for recognitions of degrees, registration and licensing their respective professions. Since, HEC is also entrusted by law to work for the improvement and promotion of higher education, research and development, the collaboration was necessary to avoid any conflict situations on the assigned jurisdictions between the HEC and Councils. It was mutually agreed that the framing of policies and academic standards is to be regulated by HEC and the guidelines of good practices (INQAAHE, 2005) in their modified form (Batool & Qureshi) would be given due consideration by the councils. At present, there are 15 professional councils in the country.

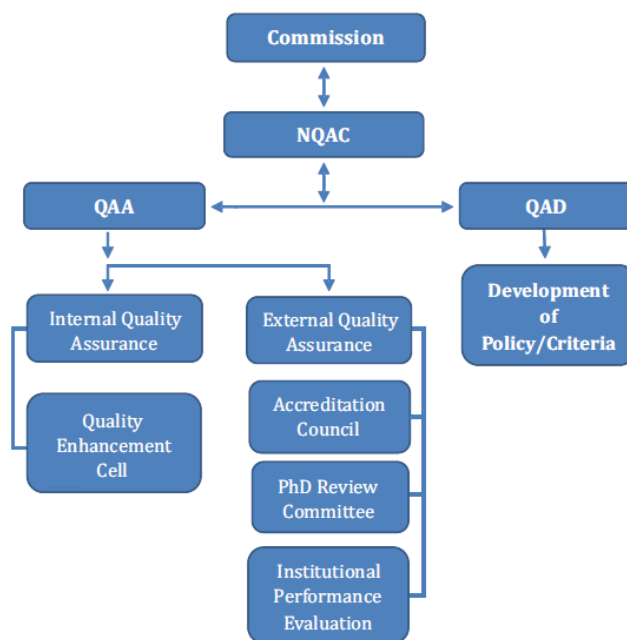


Figure-1: Quality Assurance

### **HEC in External Quality Assurance Role**

External Quality Assurance, in Higher Education Institutions in Pakistan is managed by HEC and by Professional Accreditation Councils. HEC as a first step has established Quality Enhancement Cells at 174 public and private sector universities, in the country. These units play the role of Internal Quality Assurance (IQA) bodies and fulfill the instructions of HEC, issued on quality matters. The initial funding to establish Quality Enhancement Cells was provided by HEC and later on this expenditure has been made part of the recurring budget of the HEIs.

HEC does not only promote the establishment of IQA but also encourages them, by way of making the platform to share good practices among the HEIs. HEC also supports HEIs by giving them financial incentives to organize seminars, conferences, workshops, symposia, exhibition etc., especially on IQA. In addition, travel/research grants are also made available to faculty members and bright students of HEIs. All this helps develop quality culture.

The students of today are global citizens. Therefore, it becomes obligatory for HEIs to educate them according to international standards to increase transnational interaction, import and export of education, recognition and portability of degrees. Keeping this aspect in mind and achieving the quality in higher education, HEC in Pakistan, pays more and more attention to the application and adoption of Quality Assurance Mechanisms. Thus, HEC has developed EQA and IQA systems at different levels, keeping in view the international requirements. The relation between EQA and IQA is defined as under:

- EQA and IQA are complementary to each other
- EQA issues directives and guidelines to be implemented by IQA
- EQA monitors implementation of the issued directives and guidelines
- EQA provides Financial Support to HEIs

The objectives of external evaluation to be conducted by EQA are to identify strengths and weaknesses of Academic Institutions and programs to ensure quality. Thus, the activity of external eval-

uation is important to academic institutions, students and parents, government and employers. The activity of external evaluation by EQA is done through accreditation, monitoring, institutional performance evaluation (IPE) visits and self-assessment reports. The quality assurance program of HEC has three major components:

- Development of Criteria and Standards for various quality parameters in higher education. In this regard Quality Assurance Committee of HEC, developed criteria and guidelines for:
  - Award of MPhil & PhD degrees
  - Affiliation of Colleges/Institutions
  - Ranking of Universities
  - Rating of Quality Enhancement Cells
  - Guidelines for Self-Assessment of programs at the universities
  - Admission tests (NTS/University tests)
- Capacity Building steps initiated by HEC include:
  - Establishment of Quality Enhancement Cells (QECs) in public and private sector universities
  - Rating of Quality Enhancement Cells
  - Guidelines for good practices for Accreditation Councils
- Initiation of Self-Assessment Reports in the Universities
- Compulsory membership of Asia Pacific Quality Network (APQN) and International Network for Quality Assurance Agency in Higher Education (INQAAHE)

#### Achievements of HEC

- Increase in HEC budget by 24 times
- Increase in the number of universities from 59 to 177 over 14 year period.
- Increase in university's student enrolment from 0.27 million to 1.3 million (Year 2016)

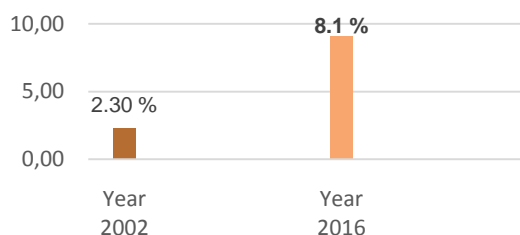


Figure-2: Number of universities in Pakistan

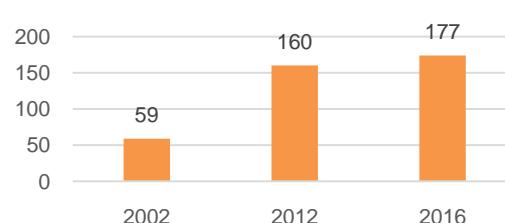


Figure-3: Access to Higher Education (Age 17 to 23 Years)

The access to higher education of the youth, aged 17-23 raised from 2.3% in 2002 to 8.1% in 2016.

- Transparency and merit in distribution of foreign & local scholarships to faculty members & students.

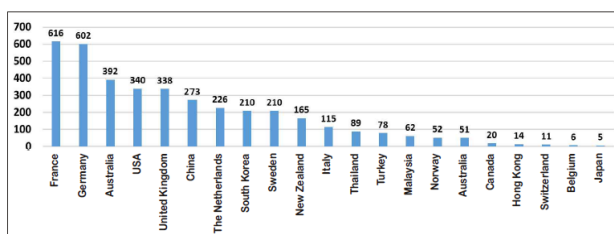


Table-1: Indigenous Scholarships (2004 to 2014)

| S. No.      | Project Wise (Indigenous)  | Total |
|-------------|--|-------|
| 1           | Development S&T Indigenous 300   | 240   |
| 2           | Development/Strengthening of Selected Departments of SS&H in Selected Universities | 15    |
| 3           | Indigenous PhD Fellowships 5000 Phase-II   | 1,000 |
| 4           | Master Leading to PhD Aghaz-e-Haqooq Balochistan                                   | 119   |
| 5           | Master PhD S&T   | 168   |
| 6           | PhD Indigenous 5000 Scholarships   | 5,000 |
| 7           | Scholarship PhD SS&H Teaching  | 101   |
| Grand Total |  | 6,643 |

Figure-4: HEC Foreign PhD Scholarships (2004 to 2014)

- Distribution of 11,000 scholarships that included 5,000 scholarships for PhD students to pursue degrees at the top universities of the world.
- Increase in PhD production from 256 per year to 1,351 per year (2016).

- Establishment of Quality Enhancement Cells, (174) in numbers.
- Research Publications in Journals with ISI Impact Factor raised from 500 in 2000 to more than 12,500 in 2016.
- Citations (in the science citation index) increased by 1,000% between 2000 to 2016.
- 5 Pakistani Universities were ranked among top 300 universities of the world.

**Implementations of Innovation/Good Practices** HEC Pakistan in the capacity of EQA took a number of novel steps that made a very positive impact on the quality of education. The details are discussed as follows:

▪ **Tenure Track System (TTS) Appointment:**

To attract the brightest PhD qualified professionals in education and research, a new contractual system of Tenure Track appointments of faculty members was introduced, under which their salaries were raised.

▪ **Eligibility Criteria:** Eligibility criteria for appointment of Associate and Full Professors were toughened so that only those, active in high quality research go up the promotion ladder.

▪ **Research Grant:** Students returning with PhD degrees from abroad were given an opportunity to apply for research grants before their date of return, so that they would be able to settle down with research funds at their disposal, even if they joined a university with little facilities.

▪ **Foreign Faculty:** At a high reward, foreign faculty has been clustered in various institutions to create the critical mass necessary for excellence in research to flourish.

▪ **Revision of Curricula:** All the curricula were revised and modernized in consultation with subject experts and industry. National curriculum committees for each discipline were notified.

▪ **Peer Review:** A system of internal & external peer review was introduced at all the universities that created awareness and the sense of competition.

▪ **Establishment of Quality Enhancement Cells:** In 174 public and private universities, Quality Enhancement Cells have been established, which are acting as IQA, contributing positively towards the ultimate goal of quality enhancement in higher education. Due to the QECs, a quality culture and acceptance for QA model has emerged successfully, at the universities. The QECs are rated by HEC, for their performance on a yearly basis through a well-structured mechanism.

▪ **Learning Innovations Division:** This division in HEC acts as the national hub for the in service, continuous professional development and certification of higher education teaching faculty and management across Pakistan. Its output is around 2,000 plus participants per year.

▪ **Trainings of VCs:** HEC has started a 2 days leadership workshop for all newly appointed VCs to prepare them as effective leaders.

▪ **Criteria for the new Universities:** The criteria for launching of new universities has been enhanced. While, there is a clampdown on substandard HEIs and programs.

▪ **Information Technology:** Due to improvements in IT, a digital library with 25,000 International Journals and 100,000 text books from 220 International Publishers has been established by HEC. All university library staff has an access to this facility.

▪ **Video Conference Facilities:** HEC has developed a modern video conferencing facilities for HEIs across the country. Courses and Training sessions are delivered on a regular basis from imminent scholars. All the students, faculty members and management staff attend these training sessions.

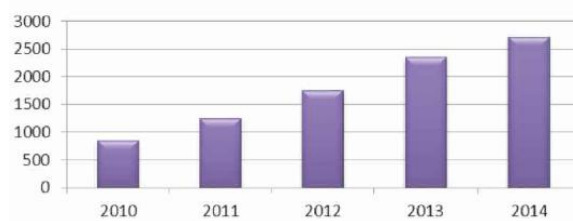


Figure-5: Total Faculty Appointments under TTS

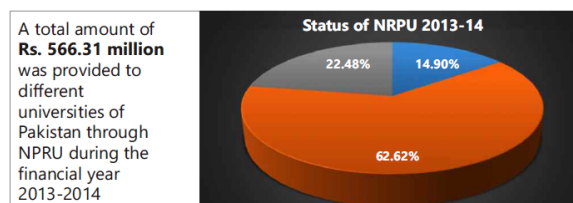


Figure-6: Research Grants provided under NRPU (2013-14)



- **Ranking of Universities:** HEC carries out ranking of all the public and private sector universities every year. It creates the atmosphere of competition amongst the universities.
- **Faculty Appointment:** The standards for faculty appointment have been made very stringent. Since 2014 all the lecturers are being appointed on the basis of minimum, MS/MPhil degree and all Assistant Professors require a PhD degree for direct employment.
- **ORIC** Office of Research, Innovation and Commercialization (ORIC) has been established at the universities to promote research, startups and bridge the gap between the universities and the industry.
- **Business Incubation Centers:** A lot of stress is being given on HEIs to establish business incubation centers to support researchers/young entrepreneurs/startups, who intend to develop promising early-stage business ventures.
- **Pakistan Education and Research Network (PERN):** PERN is aimed at establishing an integral part of the overall education system of the country and is designed to interlink all the universities of the country.
- **Best University Teacher Award:** In order to motivate faculty members to work harder an incentive of “Best University Teacher Award” one for each university has been introduced by HEC, on a yearly basis. Universities after a thorough working forwards nominations. Final selection is done by HEC.
- **PhD Program Review Committee:** This committee comprises on vice-chancellors and senior professors. They carry out on site visits of the universities to determine the implementation status of MS/MPhil/PhD criteria laid down by HEC.
- **Interim Placement of Fresh PhDs:** Under this program, HEC provides an opportunity to fresh PhD Graduates for one year to start their career as Assistant Professor in public and private sector universities. It is fully funded by HEC.
- **Patents Filling:** HEC is promoting the researchers and inventors to register and commercialize their patents by facilitating the process as well as through offering the incentives.



Figure-7: Collaborative Research Activities of PERN

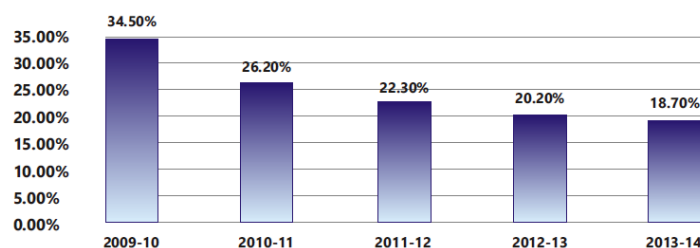


Figure-8: Reduction in unoriginal work over the years

- **Provision of Latest IT Tools:** HEC has facilitated HEIs by providing the latest licensed software from the Microsoft to all public and private universities and degree awarding institutions in the country.
- **Curbing Plagiarism:** HEC has provided plagiarism detections tools (e.g. Turnitin) to all the HEIs of the country to curb the issues of plagiarism. Moreover, Plagiarism and Research Ethics committees have been established at a HEI level on the direction of HEC to monitor ethical issues of the research being carried out at the HEIs of the country. As a result, a reduction in unoriginal work has been observed. iParadigms, LLC published a case study on Pakistan and termed it successful in reducing unoriginal work.

### Problems Faced

- HEC being a regulatory body and funds providing agency has the mandate/capacity to implement innovations/good practices in all public and private universities, with active and willing cooperation of HEIs.
- The problems were faced in some cases due to cultural changes, since the system is resistant. For example, the establishment of Quality Enhancement Cells, in public sector universities did face resistance and the response was indifferent. The will power of the implementing agency and QEC staff has worked and QECs are now an integral part of the VC Secretariats at the universities, as a very useful organ, accepted by all the faculties. The QA model is being implemented smoothly. The QECs have succeeded in changing the mind set and in development of quality culture at the universities.

#### **The Impacts of Implementation of Innovative Good Practices**

- Formalization of Quality Assurance Mechanisms
- Uniformity of Standards
- International Compatibility
- Regulated Institutions
- Standard Syllabi
- Conscious/Satisfied Faculty
- Empowered/Satisfied Students
- Addition of High Quality Faculty
- Widening of Research Base
- Quality Culture
- Well Trained Faculty & Top Leadership
- Efficient inter-student- faculty connectivity
- Better connectivity between academia and industry
- Positive Competition between HEIs, leading towards improvements
- Wider PhD base available in academia

#### **Conclusions**

Higher Education Commission of Pakistan in a very limited time, using innovative techniques, implemented Good Practices with a will to improve the quality of higher education in the country. The willing cooperation of the HEIs acted as a catalyst to complete the process of improvement. All the activities and programs of HEC were regularly subjected to external review by eminent foreign experts. A USAID team of educationists visited Pakistan a number of times and travelled across the country, talking to teachers, students and administrators at the universities and examining the data critically. A USAID report published in 2008 that resulted from the year-long review stated:

*“One of the most striking aspects of HEC since its inception is the emphasis on excellence and high quality in every sphere of its activities. Expectations were set high from the outset. Quality goals/targets were set as international standards and expectations. Faculty promotions, publications, PhD dissertations, research grants, and many of the HEC Programs were subject to these standards including evaluation by external peer reviewers. In keeping with its focus on quality, the attitude of the leadership of the HEC was that “Quality is much more important than quantity”.*

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## **IMPROVING QUALITY OF TEACHING AND LEARNING IN HEIS: ISSUES IN FAA ACCREDITED LEARNING PROGRAMMES**

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### **Abstract**

*This paper aims to review the common issues encountered by higher education institutions (HEIs) when submitting their programmes for FAA Programme Accreditation (FPA). Based on the review of four (4) selected academic programmes, the findings show that one-third of the 33 indicators used have issues for at least two (2) of the programmes. Solutions are proposed to HEIs, along with the support FAA can provide to ensure that programmes offered meet the standards, practices and needs of the Financial Services Industry (FSI).*

### **1. Introduction**

The need for competent workforce in the Financial Services Industry (FSI) to drive economies forward is a major concern amongst academicians and industry leaders. Whilst supply is in abundance, the problem lies in the quality of the talent pool (Manshor and Chong, 2014). Because of this, Manshor et al. (2015) insist on the imperative need for higher education institutions (HEIs) to provide students or learners of finance-related programmes with sufficient practical experience so that they are job-ready upon graduation. Ideally, this requirement should be captured from the moment a programme is designed and developed, and emphasised in the internal and/or external quality assurance processes.

A well-designed programme is the result of the holistic approach taken in terms of planning, implementation and review of curricula, teaching and learning strategies, assessment methods, teaching staff as well as educational resources to attain the programme aims, objectives, learning outcomes and transferable skills. This effort must be complemented by continuous quality improvement (CQI) initiatives through a robust internal quality assurance (IQA) mechanism and validated by external QA agencies (EQAAs), resulting in accreditation.

Accreditation refers to a mandatory or voluntary external pressure that can influence the internal operations of an institution (Cooper et al., 2014). Many universities have resorted to either mandatory or optional external accreditation to improve and/or enhance the design, development and delivery of their programmes. In fact, such accreditation has been found to have an important effect on curriculum and thereby the development of quality teaching and academic programmes (Niemelä et al., 2014). Because of this, Zhao and Ferran (2016) opine that seeking the seal of external validation through accreditation is one possible way of standing out from the crowd.

The findings corroborate the FAA-IFN Talent Development Survey (2014) conducted on the FSI worldwide which reaffirmed the value of external accreditation on learning programmes. About 80% of the respondents believe that accreditation will ensure a high quality learning programme; 84% of them believe that international professional recognition (through accreditation) would help meet industry expectations; whilst 81% agree that they would be more likely to send participants to an accredited learning programme.

It is against this backdrop that the Finance Accreditation Agency (FAA) was established in 2012 to raise the standard and quality of learning and development in the FSI via its internationally benchmarked accreditation framework, standards and practices. FAA has since accredited a significant number of learning programmes in the FSI, both academic and professional in nature. Having said so, a review of the list of accredited academic programmes reveals a number of repeated issues with regard to quality, which delay the process and subsequently the award of FAA Programme Accreditation (FPA). This paper aims to review the common issues encountered based on a sample of four (4) selected academic programmes with the purpose of proposing solutions to HEIs, along with the support FAA can provide to ensure that the programmes offered meet the standards, practices and needs of the FSI.

## 2. Overview of FAA and FPA

FAA is an international and independent quality assurance and accreditation body supported by the Central Bank of Malaysia and the Securities Commission Malaysia. FAA is responsible for quality assurance and the promotion of learning initiatives within the FSI through learning programme, institutional and individual accreditation, as well as the promotion of future learning practices in the FSI.

FAA defines FPA as a process which aims to recognise that the design, development, delivery and all related activities of a learning programme provided by FAA registered training providers meet the FAA Learning Criteria (FLC) and are in compliance with the requirements of the FSI (Manshor et al., 2015). Table 1 shows the dimensions and indicators of FLC which were developed based on the principles of quality assurance, inclusiveness, credibility and transparency. Consisting of six (6) dimensions and 33 indicators, the FLC aims to assure the validity, reliability, fairness and flexibility in the design, development and delivery of learning programmes in the FSI.

Table 1: FAA Learning Criteria

| <b>1. Learning Programme</b><br>Establishment of need for a particular learning programme   | <b>2. Competency Fulfilment</b><br>Development of learning programme that has to be closely related to competencies   | <b>3. Learning Programme Structure</b><br>Systematic design and development of learning programme   |
|---|---|---|
| <ol style="list-style-type: none"> <li>Title</li> <li>Type</li> <li>Owner</li> <li>Area</li> <li>Curriculum Committee Approval</li> <li>Intellectual Ownership</li> <li>Award of Certificate</li> </ol> | <ol style="list-style-type: none"> <li>Learning Level</li> <li>Job Level</li> <li>Key Competency</li> <li>Job Family</li> <li>Entry Requirements</li> <li>Progression Plan</li> </ol> | <ol style="list-style-type: none"> <li>Programme Rationale</li> <li>Duration</li> <li>Frequency of the Activity Per Year</li> <li>Minimum and Maximum Number of Participants</li> <li>Learning Outcomes</li> <li>Learning Programme Objectives</li> <li>Learning Topics</li> <li>Learning Methodologies</li> <li>Learning Mode</li> <li>Learner Assessment Methods</li> <li>Time</li> <li>Learning Evaluation</li> <li>Information on Facilitators</li> </ol> |
| <b>4. Learning Programme Delivery</b><br>Appropriateness of methodologies used particularly in adult learning environment   | <b>5. Learner Assessment</b><br>Assurance of learning and knowledge transfer taking place   | <b>6. Learner Programme Recognition</b><br>Acceptance of industry through points, exemptions, exchanges and affiliation, and awards   |
| <ol style="list-style-type: none"> <li>Learner Programme Delivery Report</li> <li>Learner Evaluation Outcome</li> </ol>   | <ol style="list-style-type: none"> <li>Learner Assessment Results</li> </ol>  | <ol style="list-style-type: none"> <li>CPD/CPE Hours</li> <li>Exemption(s)</li> <li>Education Exchange and Affiliation Arrangements</li> <li>Recognition by Industry</li> </ol>   |

The accreditation process begins with HEIs registering with FAA as registered training providers (RTPs), after which the institutions are allowed to submit their programmes through the FAA Accreditation System. Upon confirming that a submission is complete with all the information required, FAA will appoint a panel of at least three (3) up to five (5) assessors to assess each of the programmes based on the FLC. The majority of the Panel of Assessors are industry practitioners and their recommendations are tabled to the FAA Accreditation Committee, and subsequently to the FAA Technical Committee for approval.

## 3. Methodology

This paper adopts the desktop review approach as suggested by Rickinson and May (2009) where the purpose is to identify common issues encountered by RTPs when submitting programmes for FPA. Four (4) academic programmes were selected from the FAA registry of accredited programmes for review. In order to maintain anonymity, the programmes have been labelled P1, P2, P3 and P4, respectively. P1 represents Master of Science in Finance and Investment programme, P2 is

Diploma in Islamic Banking programme, P3 is Bachelor of Science in Actuarial Studies programme, whilst P4 is Bachelor of Banking and Finance programme. Except for P2 which is offered by an institution in the Middle East, the other programmes are offered by several institutions in Malaysia. The programmes obtained FPA between the years of 2014 to 2015.

The review focuses on indicators that received more than two (2) remarks from the Panel of Assessors, highlighting the significance of the issues to be addressed. The findings from the review exercise are analysed in the following section.

#### **4. Findings**

About 11 out of the 33 indicators in the programmes reviewed had two (2) or more issues. In total, the number of indicators with issues are considered substantial, representing one third of the overall FLC indicators. Shown in Table 2, the majority of issues centred on the dimensions of learning programme structure (six issues), followed by learning programme rationalisation and competency fulfilment (two issues each) as well as learning programme recognition (one issue). It can be observed that all programmes had issues with learning topics, duration and information of the facilitators. Table 2: Issues Identified in Accredited Learning Programmes

| Indicators   | Programme            | Issues   |
|--|----------------------|--|
| <b>DIMENSION 1: LEARNING PROGRAMME RATIONALISATION</b> |                      |  |
| Programme Title  | P1<br>P2             | Learning programme content is not reflective of the title. Learning level of title is confusing, i.e. Diploma and Certificate.   |
| Curriculum Committee Approval                          | P1<br>P4             | The approval given is not specific to the programme.<br>There is no specific formal approval given to this learning programme.   |
| <b>DIMENSION 2: COMPETENCY FULFILMENT</b>              |                      |  |
| Key Competencies                                       | P1<br>P2<br>P3       | Key competencies are too general and not specific to finance and investment.<br>Key competencies are too general in nature.<br>Misleading statements on key competencies.  |
| Progression Plan                                       | P1<br>P2<br>P3       | Too general/all-encompassing progression plan.<br>Too general a statement with no further elaboration.<br>There is no link between progression and professional qualifications.  |
| <b>DIMENSION 3: LEARNING PROGRAMME STRUCTURE</b>       |                      |  |
| Duration   | P1<br>P2<br>P3<br>P4 | There is no indication of the minimum credits (courses) that have to be taken to satisfy graduation requirement.<br>Some of the topics require more time for the depth to be covered given that learners do not have any basic understanding of the subject.<br>There is no indication of learning time in each course which would be helpful to guide lecturers and learners.<br>Some courses have too short a time-frame to be completed successfully.   |
| Learning Outcomes                                      | P1<br>P4             | Learning Outcomes (LOs) and Learning Programme Objectives are too generic and can be applied to any other Master's programme.<br>Many LOs are not relevant as completing the relevant courses does not equip the learner with actuarial application and analytical capability.   |
| Learning Topics  | P1<br>P2<br>P3<br>P4 | Relevant courses on international finance, corporate governance, corporate strategy and capital market are not offered. This includes the need to provide local and global examples.<br>The 'Contemporary Environmental Issues' course needs to be replaced with another course relevant to banking and finance.<br>Relevant local insurance and Takaful courses as well as the latest regulatory framework are not offered/provided. The courses are not organised in sequential order despite some of them being prerequisites to others.<br>There are few management and human sciences courses which are needed to equip learners with people and decision-related skills. |
| Learning Methodologies                                 | P2<br>P4             | About 80% of the learning methodologies centre on lectures and exams, whilst only 20% are allocated for case studies and assignments.<br>There is no internship or industry training which is important to expose learners to the real environment.  |
| Learner Assessment Methods                             | P1<br>P3<br>P4       | The assessment methods are either missing or not relevant to the programme. Some modules do not have a coursework component.<br>There is no pre-test or post-test conducted on learners to gauge their understanding.<br>Limited use of assessment methods.  |

| Indicators   | Programme | Issues   |
|--|-----------|--|
| Information of Facilitators                        | P1        | Most of the facilitators specialise in humanity, with a lack of expertise in finance and investment.   |
|  | P2        | Although the facilitators are academically qualified, most of them do not have any experience in the fields of Islamic banking and Takaful.            |
|  | P3        | There is a lack of academic staff with actuarial background to conduct relevant actuarial courses.   |
|  | P4        | There are no practitioners involved in the delivery of programme courses.  |
| <b>DIMENSION 6: LEARNING PROGRAMME RECOGNITION</b> |           |  |
| CPD/CPE Hours                                      | P1        | It was not explicit whether the programme is recognised for CPD/CPE points and affiliated with professional bodies, licensing and regulatory agencies. |
|  | P2        | No CPD/CPE hours are allocated.  |
|  | P3        | No evidence of CPD has been furnished. There is no evidence of industry recognition.   |

## 5. Discussion

The number of substantial issues identified in 11 out of the 33 FLC indicators imply the need to further enhance the design, development and delivery of programmes offered by HEIs in order to meet the requirements of the FSI. Although the dimensions are rather distinct, the indicators do not function in isolation as many of them are connected in a way or another. A particular indicator that is not met will have adverse effect on the overall quality of the programme.

The findings suggest that it is important for the title to reflect the content of any programme based on its focus and/or specialisation. One possible way is to name the learning programme after its content has been determined, taking into consideration other indicators of the FLC such as those identified in the dimensions of competency fulfilment and learning programme structure. Learning outcomes (LOs) are another determinant where Bloom's taxonomy can be used to indicate the level of the programme based on the complexity and specificity of learning programme objectives (LPOs) which the programme aims to deliver and achieve.

In addition, different composition of curriculum committee is required to endorse different programmes. HEIs should avoid getting one-off endorsements for a cluster of programmes so as to avoid overlooking issues affecting a particular programme. The decisions arising from the deliberations should be properly documented in the form of minutes of meeting and signed off by every committee member. This important document will serve as a basis not just for submission to EQAAs but also for CQI purpose.

It is also important to describe the key competencies and progression plan accurately so learners are aware of the competencies to be achieved and the progression options they have after completing the programme based on the learning outcomes. Misleading key competency statements must be avoided at all cost so that learners are clearly informed of their career path in terms of what they can do upon graduation as well as their progression pathway in terms of additional requirements they need to fulfil in order for them to perform a particular job role. For instance, clear and accurate competencies for P3 will allow graduates to know the scope and demands of their job upon graduation, and progression pathway in terms of obtaining relevant professional qualifications in order to become an actuary.

There are, however, more issues that need to be addressed under the learning programme structure. The first issue is programme duration. Stating the minimum credits (courses) to satisfy graduation requirements is important to help learners plan their learning journey at the HEIs. It is also crucial that the time allocated for each module and topic is sufficient to meet the LOs to ensure learners have a good grasp of both theoretical and applied knowledge.

The LOs and LPOs should consist of clear, specific and measurable statements of what a learner should achieve at the end of his or her studies. This is in line with the pragmatic and practical-based outcomes approach which FAA advocates for both academic and practitioner-based programmes. At best, the LOs and LPOs must be mapped to the topics of each course. The learning topics also need to be carefully designed to represent relevant and contemporary issues in the respective disciplines. In this regard, the comments provided by the Panel of Assessors who are prac-

tioners themselves provides the basis for HEIs to enhance their learning content in order to meet the needs of the FSI.

As far as the delivery and assessment of learning is concerned, there must be a close fit with the LOs and LPOs. It is important to understand the characteristics of learners in order to determine the most suitable delivery approach. Besides lectures, emphasis should also be given to other learning strategies such as case studies and internships in order to expose learners to the real environment. An effective measure to determine if learning has taken place is to incorporate diagnostic or pre-tests in addition to the existing formative and summative assessments. Post-tests are also equally important to gauge the extent of learning effectiveness. For this, it is recommended that HEIs implement employer satisfaction surveys on a periodic basis. In addition, the methods of formative assessments should be varied to emphasise on practical elements such as project-based assignments, portfolios, industrial training, research, group discussions and the like.

The next issue revolves around the experience and qualifications of academic staff. It is important to ensure that HEIs have adequate and qualified academic staff and that courses are delivered by subject matter experts (SMEs). HEIs are encouraged to involve practitioners from the FSI as industry guest lecturers. FAA can facilitate this by recommending relevant SMEs to HEIs.

FAA has also developed as many as 56 FAA Learning Standards (FLS) covering both conventional and Islamic Finance which can serve as a guide to HEIs to overcome some of the aforementioned issues and ensure that their programmes are industry relevant. The FLS was developed based on internationally benchmarked standards and moderated by industry professional and academics in their respective fields. There are 11 components in the FLS: (1) learning levels; (2) LOs; (3) LPOs; (4) body of knowledge; (5) learning topics; (6) learning methodologies; (7) assessment methods; (8) learning hours; (9) entry requirements; (10) relevant resources; and (11) description of trainers.

Besides, the FAA Certified Training Professional (FCTP) programme also serves as an important means to enhance the profession of learning programme developers and facilitators through the process of design, development, facilitation and evaluation. This 5-day programme enhances the capabilities and knowledge of learning and development professionals by applying proven theories supported by effective practical approaches. Participants are given a solid foundation in instructional design methodologies that will enable them to facilitate and deliver impactful lectures, and to design and develop comprehensive and outcome-based programmes based on internationally benchmarked best practices, using adult learning principles. By attending the FCTP, learning programme developers would be familiar with the FLC, thereby enabling many of the common issues raised in this paper to be addressed.

The last indicator is the CPD/CPE which most programmes struggle with. In order to provide a clear progression plan and to produce job-ready graduates, HEIs are encouraged to collaborate with industry training providers, professional bodies or licensing and regulatory agencies to seek industry recognition for their programmes. FAA's close relationship with these institutions and bodies enables FAA to facilitate such collaboration.

## **6. Conclusion**

This review and its resulting outcomes benefit HEIs by enhancing the design, development and delivery of their programmes to ensure that graduates are job-ready to meet the requirements of the FSI for a wider talent pool. HEIs can benefit from FPA which is value-driven and industry-based. It is hoped that these findings and recommendations will provide some insights to the HEIs in terms of the areas of enhancement required.

The small sample size of this study, along with the niche discipline and limited geographical locations, do not represent the whole academia. Future studies should include a bigger sample size with a wider geographical reach, as well as more types and levels of learning programmes in order for the results to benefit and be applicable to a wider range of stakeholders.

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## INSTITUTIONAL PERFORMANCE EVALUATION MECHANISM OF PAKISTAN: DEFINING NEW HORIZONS IN QUALITY ASSURANCE

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### **Abstract**

*The need for quality assurance in higher education has become a global phenomenon nowadays. Pakistan also felt the need to assess and improve the quality of higher education in the country, with the objective of achieving international competitiveness and compatibility of its academic programs and research quality with the global standards and criteria. The paper sheds light on the challenges faced by the Higher Education Commission when carrying out accreditation of educational programmes. The results of the institution performance evaluation report and follow-up activities aimed at improvement are provided in the paper.*

### **Key word**

*Institutional performance evaluation report, quality assurance in Pakistan, quality assurance standards and criteria, sustainable development, higher education.*

## **Introduction**

Higher Education Commission has developed Institutional Performance Evaluation Standards with the aim to implement high standards of quality across all university activities and making them compatible with the global ones. A total of eleven standards are defined and each one of these articulates a specific dimension of institutional quality.

These standards are titled as Mission Statement and Goals, Planning and Evaluation, Organization and Governance, Integrity, Faculty, Students, Institutional Resources, Academic Programmes and Curricula, Public Disclosure and Transparency, Assessment & Quality Assurance and Student Support Services. Initially pilot study has been conducted by evaluating 10 institutions on 4 standards by IPE Panel of 3 members including a foreign expert Dr. Marry-Linda Armacost. After the completion of a pilot study a comprehensive Institutional Performance Evaluation Manual has been developed.

Institutional Performance Evaluation Manual comprises guidelines for IPE Process, the role of University IPE Panel and QAA in order to carry out evaluation.

## **IPE STANDARDS**

### **Mission and Goals**

This standard is aimed at evaluation of the mechanism of development the university mission and goals and the analysis of university strategy alignment with its mission and goals.

### **Planning and Evaluation**

This standard is aimed at the analysis of the development processes and activities undertaken by the university with regard to its mission and goals achievement.

### **Organization and Governance**

This standard aims to examine the existing organizational setup and governance with respect to statutory requirements and deployed regulations and rules.

### **Integrity**

This standards aims to consider the transparency factor of program implementation, dealing with students and faculty, making outbound contacts with employers and the general public.

### **Faculty**

Faculty qualification, quantity and quality oriented performance is evaluated with respect to the university mission and objectives.

### **Students**

Under this standard, the success of students during and after their enrollment in the intuition is evaluated. The quality of admission practices for all kinds of students including transfer, graduation, non-degree, part time, self-financing, etc. is evaluated.

### **Institutional Resources**

Institutional management of resource acquiring, appropriate allocation and utilization for planning, goals achievement, mission fulfillment and integrity.

Institutional resources such as financial, physical, technological, equipment & supplies, research, staffing, and all kind of other resources.

### **Academic Programs and Curricula**

Consistency of academic programs with its mission and goals. Identification of student competencies and degrees, diplomas or certificates in widely recognized fields of study. The institutional effectiveness to plan, provide, evaluate, assure, and improve the academic quality and integrity of its academic programs, curricula, credits and degrees awarded.

### **Public Disclosure and Transparency**

Publication of information for general public about mission, objectives, and expected learning outcomes; admission requirements, procedures and policies; student fees, rules and regulations for student conduct; academic programs, courses offered, academic policies and procedures.

### **Assessment & Quality Assurance**

Implementation status of Quality Assurance mechanism for Internal and as well as external quality assurance.

### **Student Support Services**

Availability of appropriate services including; sports and extracurricular activities, general cleanliness and pleasant outlook of the campus & classrooms, cafeteria and health centre facilities, efficient system of dealing with complaints etc,

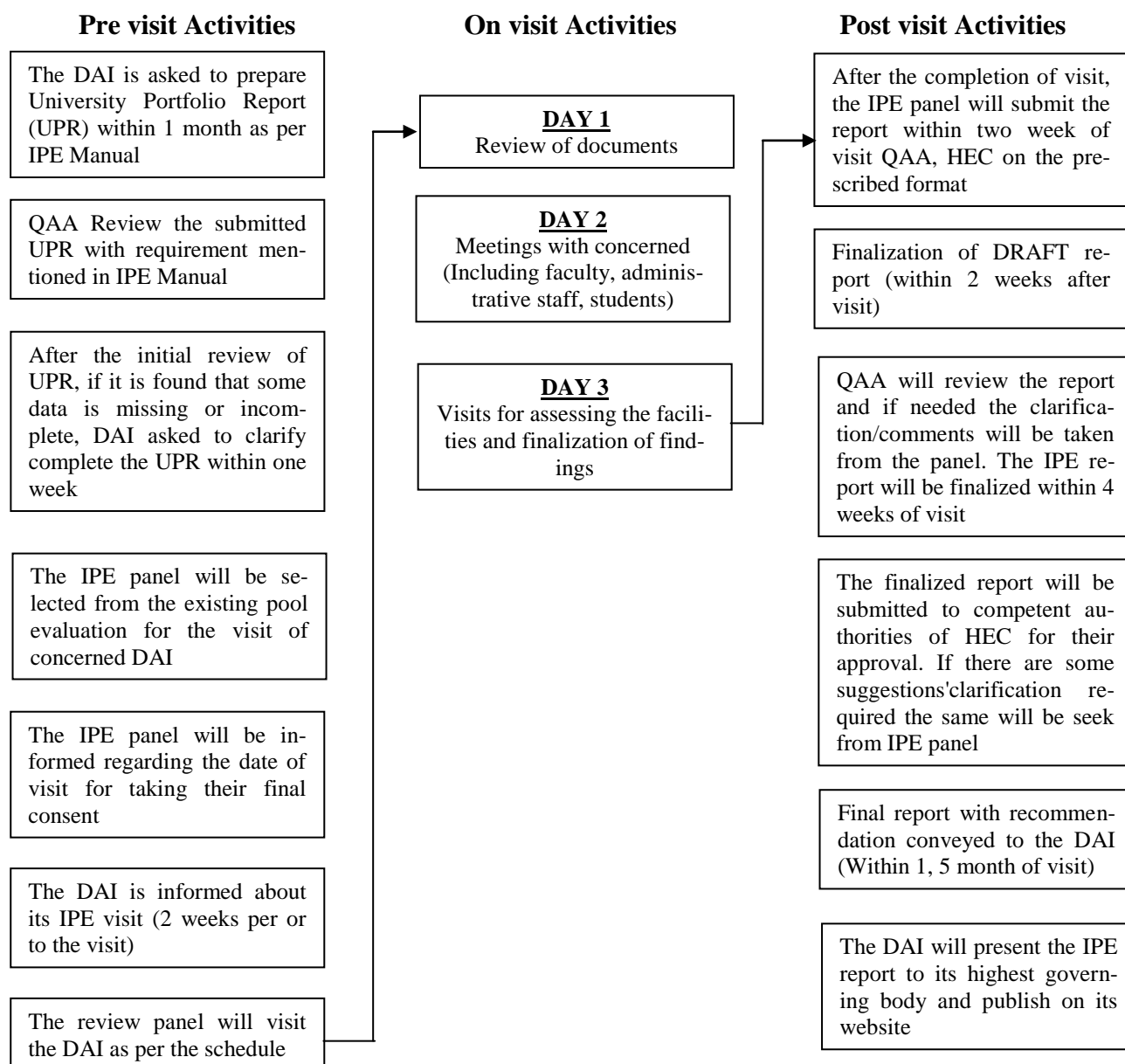
### **Evolution of Sustainable IPE Process:**

The Process evolved by piloting the standards and mechanism. Initially there were 4 standards selected for the accreditation process at 5 pilot Universities i.e. Organization & Governance, Faculty, Institutional Resources and Academic Programs & Curricula. The outcomes of that pilot study were incorporated in the process. In the next phase, two more standards i.e. Mission & Goals and Planning & Evaluation were added for piloting purpose and another 5 universities were evaluated on six standards. The same mechanism was adopted for third and fourth phase in which two standards i.e. Students and Assessment & Quality Assurance and three standards i.e. Integrity, Public Disclosure & Transparency and Student Support Services were added to evaluate 13 and 14 universities respectively.

The outcome of this exercise was in a form of uniformed template for University Portfolio Report (UPR) and the mechanism for conduction of IPE i.e. IPE Manual.

### **IPE Process**

As per the manual, there are three sets of activities. Pre-Visit Activities, On Site Review and Post-Visit Activities.





### **Sustainable Development of Quality Assurance Culture**

Initially the universities were reluctant to undergo external quality assurance evaluations.

The series of awareness activities, meetings involving the Director QECs and other administrative staff were convened to limelight the importance of IPE and the role of IPE in enhancing the overall quality of the universities. QAA maintained close cooperation with the key personnel in order to prepare the University Portfolio Report and when needed QAA visited the respective university for the preparation of university portfolio report. Effective cooperation with the universities enabled to develop mutual understanding and confidence in the process, as a result the universities started understanding the importance of this activity. QAA extended its coordination with the universities for preparation of university portfolio report in a presentable manner for smooth conduction of IPE Visit.

Up till now 47 IPE visits have been conducted from its inception, both in public and private sector universities. These 47 universities are selected from all the provinces of Pakistan and all categories including Public and Private Universities, General University, Medical University, Engineering and Technology University, Agriculture University, newly established university and Women University.

The IPE Reports consists of Affirmation, Commendations and Recommendations. Universities have shared IPE Reports with their governing bodies and published on universities' web site. On the basis of recommendations, universities prepared the compliance reports which included the action plans.

Commendations highlighted are used as a marketing tool which increases the marketability of the universities.

In order to elaborate the sustainable development of Quality Assurance at the universities through IPE Process, a case study of one university is being discussed in detail. IPE Manual was shared with the university for preparation of Institutional Performance Evaluation which included the prepared of University Portfolio Report. IPE conducted on the basis of IPE Process defined above and the following report was shared with the university.

#### **INSTITUTIONAL PERFORMANCE EVALUATION REPORT**

The Evaluation of the Institute was conducted on December 11 - 12, 2013 on the basis of eight IPE Standards. Prior to the Panel visit, the Institute provided the University Portfolio Report (UPR) which was prepared based on the guidelines provided by HEC. This also included a series of answers to the questions related to each of the standards. During the visit to the Institute, the Evaluation Panel saw the infrastructural facilities, acquainted itself with the institutional resources and held discussions with the faculty members, administrative officials and students. The well prepared UPR facilitated the job of the Evaluation Panel to the great extent.

Efforts put in the preparation of the UPR and cooperation extended by all administrative and academic officials are gratefully acknowledged. Vice Chancellor's extended meeting with the Panel and elaborate discussion on the matters relating to uplift the functioning of the Institute and enhancing the quality of teaching and research was appreciable.

#### **Affirmations**

- The Institute was established in 1985. Initially it imparted training to managers, supervisors and operators in the industry.
- In 1994 the undergraduate program of Chemical Engineering was launched. In 2001 two more programmes were added: Electronic Engineering and Computer System Engineering. The Institute got its Federal Charter with degree awarding status in 2012.
- The institute has expanded in the course of time and the number of students is currently 1,400. Around 1,200 alumni are employed in the industry, nationally and internationally. The institute is progressing at a good pace.
- The Federal Charter of the institute was adopted on 8th May, 2012. The Senate has not been constituted so far, even after a lapse of 14 months. It is recommended that this regulatory body should be established. Its two meetings are mandatory every year and all sanctions/expenditures/approvals are to be given by the Senate.

- Academic Council has not yet been formed.
- Statutes, Rules & Regulations have not been framed, in line with the directives of the Federal Charter.
- The senior faculty is critically deficient in the institute. There is only one professor against the required 4, only 2 Associate Professors against the required of 4 (only Electrical, Chemical, Computer and Environmental Departments have been considered for working).
- Overall student/teacher ratio is much higher i.e. > 20. (Electrical Engineering-26, Chemical Engineering-29.5, Computer Engineering-34, Environmental Science-25).
- Out of 5 available PhDs, only one is an approved supervisor. The remaining need to register themselves with the HEC to achieve the approved status. Their registration/approval with HEC will help in improving the ranking of the institute in the future.
- M.Sc./PhD opportunities for senior faculty staff should be enhanced using institutional resources.
- In Electrical Engineering Department, the feedback on teaching performance given by the bright students only. This is not recommended at all for obvious reasons. All the students should be treated equally.
- Working instructions on machines at the laboratories should be displayed.
- There should be a regular review of courses every 2-3 years carried out by the Board of Studies, the Board of Faculties and the Academic Council.
- Subscription to IEEE journals and other journals related to other fields should be made in order to make them more accessible to students.
- Teaching staff and students do not have an access to a digital library.

#### **Commendations**

- The Institute has an elegant, compact & decent campus with a potential for expansion capacity to accommodate 10,000 plus students in the future.
- Efficient pick & drop service available for students. The teaching staff use the same facilities.
- Coal Research Center and Pilot Plant located at the Chemical Engineering Department premises are rarely available to other counter parts of the institutes in the country.
- The salary payment mechanism is good.

#### **Recommendations**

- It is recommended to establish the Senate, which would have 2 mandatory meetings every year and all sanctions/expenditures/approvals are to be carried out by this regulatory body.
- In an academic institution, the Academic Council has to meet quarterly to grant all kind of academic approvals.
- The institute must develop its Statutes, Rules & Regulations in line with the directives of the Federal Charter.
- Statutory Bodies and other committees like Planning and Development Committees, Plagiarism Committee should be established.
- The institute must encourage its faculty to become HEC approved Supervisor. Their registration/approval with HEC will help in improving the ranking of the institute in the future.
- The training of newly enrolled faculty before letting them into the classes is desirable. The training sessions are conducted by HEC through its Learning Innovation Division. Training sessions should be agreed upon with HEC.
- Internet bandwidth is recommended to be increased up to 20 MB. All the students/faculty members should be offered Wi-Fi access. Its full utilization and the use of personal laptops by the students/faculty members will increase the ranking of the institute.
- QEC Office should be established. For further information and guidance, QAA-HEC may be contacted.
- HEC collects the feedback. This enables the institute to learn the opinion of students, alumni and employers in order to improve the courses syllabi and other academic aspects.

- The access to a Digital Library should be offered. This will be possible after the increase in the bandwidth and increase in a number of dedicated computer terminals for faculty and students.
- Computer terminals at the library should be increased. A library should be made more attractive for students in order to increase visitation.
- No scholarship either need based or merit based may be increased.
- HEC ranking parameters regarding the university ranking should be given wider publicity and pursued by everyone in order to promote the ranking position of the institute.
- With the opening of the four new departments the institute's mission statement would be re-considered.

The present Compliance Report was prepared and submitted within the six months the following actions taken:

## **COMPLIANCE REPORT**

(Dated: 06-01-2015 )

### **1. Mission Statement & Goals**

The mission statement of the Institute was posted on the website of the Institute and it was arranged to mention it at conference Halls and the Committee Room of the Institute as well.

A committee comprising all the stakeholders of the Institute was constituted with a task to review the mission statement if it was necessary. Since the opening of the new departments of management and applied sciences, new directions were added to the future vision of the Institute vis-à-vis already existing engineering education set up at the Institute.

### **2. Planning & Evaluation**

Development projects following the Master Plan of the Institute have already been designed and the development work at the Institute is being carried out as per the budgetary amount allocated for the development projects in a yearly budget of the Institute.

### **3. Organization & Governance**

The Senate establishment is in progress. A number of nominations from the quarter concerned have already been received. The 1<sup>st</sup> meeting of the Senate was carried out in summer 2015.

The meetings of the syndicate are being convened quarterly since the award of charter to the Institute became valid.

The formation of the academic council is in progress.

The first draft of the Statutes, rules & regulations has already been prepared. Currently it is under review of the administrative staff of the Institute in consultation with the experts.

The Statutes is approved by the Senate

### **4. Faculty**

Since the grant of Charter to the Institute in 2012, there was a ban on hiring of new faculty members imposed by the Federal Government until October 2014. This created the shortage of faculty at every department of the Institute. Now the ban has been lifted, the Institute is going to advertise new positions of academic staff. There is a hope that the shortage of faculty at the Institute will be made up when the process of recruitment is finalized.

The training sessions for the faculty and the staff of the Institute are conducted on a regular basis. Currently, there are two training sessions entitled Good Governance and Quality Assurance on Campus Training (IoT) Program of HEC conducted at the institute.

Another training session on finance and audit was conducted in February 2015.

As for the training of newly employed faculty, a centralized training system in consultation with the concerned HoDs has been formulated and will start functioning soon with the hiring of new faculty at the Institute.

At present more than 90% of faculty members have over 18 years experience. The institute is also encouraging and extending all its support to the faculty members who want to pursue their Ph.D studies under local or foreign studies programs.

## **5. Students**

In order to provide proper student guidance, all the rules and regulations are communicated in the prospectus of the Institute published yearly. However, the preparation of a separate hand book is underway.

Orientation of newly enrolled scholars is already in practice.

The number of scholarships for students has been increased in accordance with the addition of new departments and increase in enrolments at the Institute.

## **6. Institutional Resources**

HEC has facilitated the Institute with the access to PERN (Pakistan Education Research Network). All the students and faculty have access to digital library and Wi-Fi facilities all over the campus. A new library, in addition to other two libraries at the Institute, has been made functional so as to facilitate easy access of students to the library.

With the provision of PERN, internet bandwidth has been increased to 16 MB.

## **7. Academic Programs and Curricula**

All the courses included in the curriculum are reviewed by the Board of Studies (BoS) on a regular basis every 4 years.

## **8. Assessment & Quality Assurance**

A Quality Enhancement Cell (QEC) has been established at the Institute. A training session on quality assurance under Indigenous on Campus Training Program of HEC has already been conducted for the staff of the Institute.

During the follow-up visit to the university, a remarkable improvement has been witnessed, which is the evidence of the sustainable development of Quality Assurance in Higher Education Institutions through the Institutional Performance Evaluation Process.

# **BUILDING UP A STUDENT-THREE-EVALUATION SYSTEM BASED ON THE STUDENTS' PERSPECTIVE OF TEACHING QUALITY**

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## **Abstract**

*Classroom teaching, course content and professional training are the main teaching components at a university. A new system has been built according to the total quality management (TQM) theory, in which students evaluate the teaching methods, the course contents and specialized course arrangement. That is so called student-three-evaluation system. Within the system, teaching evaluation focuses on an individual teacher and his/her classroom activities; course evaluation emphasizes the course contents and its teaching effects, while specialty evaluation pays attention to the professional training for students' future career development. All the evaluations provide the feedback of students' satisfaction on their education from three aspects, thus guiding the continuous quality improvements.*

## **Key words**

*Total Quality Management, custom-perception quality, "student-three-evaluation system", quality of education*

*The National Medium- and Long-term Education Reform and Development Plan (2010-2020)* stated clearly that Chinese higher education should aim at improving the education quality comprehensively by implementing the internal quality assurance system. The quality can be viewed from five perspectives: self-evaluation, review and qualification assessment, professional accreditation, international certification, and monitoring of teaching. How should such an internal quality assurance system be built in practice? It becomes a new issue that the colleges and universities in China will face. The core concept of the total quality management (TQM) is to satisfy customers. The Chinese Ministry of Education has set the satisfaction of students and employers as one of the key elements to be reviewed in the new-round of undergraduate education evaluation scheme (2014). Some colleges and universities in China have attempted to apply TQM in teaching quality control, but few medical colleges have done so. Although Kunming Medical University was awarded excellence in the Evaluation of Undergraduate Education conducted by the Ministry of Education in 2008, the Teaching Quality Supervision and Assessment Center was still established on campus as an improvement measure. The center is co-located with the Higher Education Research Institute on campus and takes over the teaching quality supervision from the Office of Teaching Affairs. Now the center is in charge of the overall quality management and the teaching reform. In its supervision, students' satisfaction of teaching is classified into three sub-groups, namely, teaching evaluation, course evaluation and specialty evaluation, according to TQM principles and customers' (students') view of quality (Edward Sallis, 2005). Students make their evaluations respectively by their quality perspectives. Those feedbacks are provided to the interrelating subjects or bodies, pushing them to improve accordingly. Such student-three-evaluation system has been running for five years.

## **I. The establishment of student-three-evaluation system**

### **1. The connotation of student-three-evaluation system**

#### **(1) What will be evaluated and who will make use of the evaluation?**

College education is composed of classroom teaching, course content and specialized course arrangement. The three segments have different levels of responsibility. A teacher is responsible for the classroom activities. A teaching group in a department/college contributes to the overall quality of a course. The teaching staff at a college are responsible for students' professional training aimed at their future career development. When the education quality is evaluated, it should be done with various focuses on different aspects. Evaluation of teaching checks the quality of teacher's classroom activities. Course evaluation reflects the overall quality of a course taught separately by the teaching staff at a department/college. Specialty evaluation checks the professional training provided by a college. The three segments go through students' college phases and years. The three aspects of responsibility mentioned above concern the selective feedback. The more precisely the feedback questions are formulated, the better improvement they will result in. It's the starting point of "student-three-evaluation" system.

#### **(2) Who is the main body to conduct the evaluation?**

Students are both the starting point and the finishing point of teaching and learning. Good interaction between teachers and students will lead to good teaching results and students will progress in such favorable environment. The education institution should carry out frequent and systematic polls of students' opinions on various levels helping order to improve its services. The process also helps transform teachers' minds into a new concept of "all for the students, for all the students, and for the students all over". At the same time, students are the objects of education service. They are participators not standers-by in every phase of schooling, and they have the responsibility and obligation to express their hopes in the process. Being adults, college students clearly understand what they want, what they lack and what approaches would be better for them. They are able to take an active part in the learning process. So, college students can be the main agent of evaluation. Beginning from students' evaluation, the imperfections in teaching can be found and some adjustments and improvements may be done, which embody TQM principle. Thus, the "student-three-evaluation" system was established in Kunming Medical University.

## **2. The purpose of “the student-three-evaluation” system**

The quality of teaching is a crucial factor in ensuring stability and development of universities. Being a university customers, students are apt to judge the quality of teaching. Currently, the evaluation of teaching has been used as an effective teaching quality management at many colleges and universities, but few of them collect categorized data from students. We have developed a “student-three-evaluation” system according to their perspectives of the college education, obtaining their satisfaction about teaching activities in a classroom, about the courses in every semester, and their professional development before the graduation. With these specific feedbacks, teachers can reconsider their classroom activities; departments can modify their courses, and colleges can adjust their courses and guide teachers’ development.

All the students on campus take part in the “student-three-evaluation” every semester. They provide feedback about their lecturers and the courses they had during the whole semester. Therefore, teachers have a chance to design their teaching plan according to the evaluation standard and regulate their classroom behaviors. The department will take care of the course planning, preparation, teaching, and make some adjustments to comply with the evaluation standard. The survey of student satisfaction upon graduation helps colleges rearrange their courses properly and direct their development. Thus, the “student-three-evaluation” is bound to facilitate teaching, reformation and learning.

## **3. The “student-three-system” in practice**

Students’ activities on campus are closely connected with teachers, course participants and professionals. However, teachers and students might not communicate with each other comprehensively because there are personality differences or interest conflicts between them or because the teachers have to face too many students at a time. The “student-three-evaluation” system may be a great helper here.

### **(1) Student correspondents are the key in the “student-three-evaluation” system**

Since all students on campus participate in evaluation, we assigned a responsible person, a correspondent, in every class. This person is in charge of collecting information in his/her class, summarizing in using the unified standards and handing in the data to the Teaching Quality Supervision and Assessment Center. The correspondents are selected and trained. They have their term of office, allowance from the Center and have to attend a meeting every month to exchange information. Their performance will be accessed.

### **(2) The timing of the “student-three-evaluation”**

Timing is very important for the validity of evaluation. The “student-three-evaluation” is carried out in three periods. “Teaching evaluation” should be finished within 24 hours after a lecture. A student correspondent distributes the questionnaires (lecture rating forms, experiment rating forms or internship rating forms) according to the schedule in the class. Students fill in the rating forms right after the class. The questions concern the teacher and his/her class activities. Upon completion students hand it in to the student correspondent, who will summarize the results and submit it further. If there is any comment or a written opinion, a student correspondent should hand it over to the director or the dean of that teacher within 24 hours. The “course evaluation” takes place at the end of every semester. When a course is coming to the end, the student correspondent asks his/her classmates to evaluate the course and the evaluations will be submitted to the Teaching Quality Supervision and Assessment Center, where statistic analysis is done and the results will be returned to different departments or colleges respectively. The “specialty evaluation” is conducted only at the end of the programme before the graduation. The Teaching Quality Supervision and Assessment Center asks the would-be graduates to evaluate their professional training during the college years and analyzes these feedback. The results will be provided to the relevant administrative authorities and colleges.

### **(3) The design of the rating form and its improvement**

Various rating forms are designed for different subjects, such as a *rating form for a lecture*, a *rating form for a laboratory class*, a *rating form for an internship*, a *rating form for a course* at the

end of a term, a *questionnaire for graduating students*. All these forms and questionnaires are being revised from time to time.

#### **(4) The statistic analysis of the evaluation data**

In order to avoid the negative opinions from some students and not to misguide teachers, all students' evaluations are sorted in a descending or ascending order. Then top and bottom 10 percent of values are eliminated, and the mean value is obtained. When it comes to course evaluation, all the courses at Kunming Medical University are divided into three sub-groups, that is, humanities and social science courses, basic medical courses and clinical courses. The courses are compared only within its sub-group. Since 2010, the total of 4,149 teaching evaluations, 495 course evaluations and 3,495 questionnaires among graduating students have been conducted. All the data are analyzed and their reports have been sent to the relevant departments and colleges respectively.

### **II. Good environment for the “student-three-evaluation”**

#### **1. To have a better understanding of the “student-three-evaluation”**

TQM advocates approaching customers. It is the starting point of the teaching quality supervision to frequently listen to students and to take into consideration their opinions. The “student-three-evaluation” aims to provide accurate feedback to different segments of education, so that the directors, deans, teams and teachers have a better grasp of the actual state of teaching. Accordingly, they can take measures to improve the teaching process or re-arrange the syllabus and curriculum better. The information from the “student-three-evaluation” is the foundation, while continuous improvement is the goal. However, the evaluation results should not be overestimated. They should not be linked with teachers' professional title appraisal or allowance either. Otherwise, the evaluation will be shifted into a platform on which students control teachers.

#### **2. To design the rating forms by categories from the students' perspective and to revise them regularly**

The foundation of students' evaluation is to compile a feasible evaluation index system (Donghui XIE and Xiuxing HE, 2013). The index system must not be copied from anywhere. It should comply with the university quality standard and development. Rating forms should be pertinent and specific. It's better to have one rating form for one subject. A specific item or an indicator in a rating form should be clearly stated from the point of view of students, be neither abstract nor ambiguous, which guarantees the accuracy of information gained from students.

#### **3. Scientific setting of the evaluation time to assure the authenticity of information**

In order to obtain the objective evaluation, it is important to help students understand that the evaluation is a way to exercise their legal rights and interests and ensure win-win cooperation between the teachers and the students. Thus, they should be aware of the seriousness of it and shouldn't underestimate it. Besides, the timing should be properly arranged. If students are required to fill in various rating forms in a short period of time either online or on paper, they are very likely to do it carelessly, which decreases the reliability of the evaluation (Yanfeng GUO, et al, 2014). Bearing this in mind, we wanted to make sure that the teaching evaluation and the course evaluation were separated in time, and completing each rating form didn't take much time. This way, the subjectivity, dishonesty and ambiguity in the rating process are probably avoided.

#### **4. To properly deal with the results**

The evaluation result should be dealt with properly so that the evaluation can go on. Here are some tips:

First, one swallow does not make a summer. Case-by-case review is absolutely necessary. A conclusion can not be deduced only from statistics. Other factors, for example, whether it is a general course or a specialized course, a compulsory course or an optional course, whether the student cohort is large or small, or whether it is a theoretic course or a practical course, definitely influence students' judgments. When the statistics are talked about, other evaluation results such as peer assessment and teaching supervisor assessment should be considered and referred to as well. Regarding a teacher for example, he/she might get higher marks at peer assessment while lower scores in the students' rating. Similarly, the same teacher probably gets higher score in a small class but a

lower one in a large class. Therefore, it is necessary to make a concrete analysis bearing in mind the specific conditions.

Second, the extreme values should be eliminated from the analysis. It is better to cut off certain percentage of top and bottom scores of the ranking in order to reduce the influence of these extreme values, so that the evaluation result is reasonably fair and not misleading.

Third, the key section should be highlighted while some minor parts should be considered to a lesser extent. The more relevant the indicator is to the teaching quality, the higher its value is in the statistical index. For instance, “using the blackboard” should count less than “applying teaching methods appropriately”. When students’ feedback is sent to departments and colleges, the index weight of each indicator in the rating form and the specific problem of teachers should be provided together with statistical total score, from which the readers can have a comprehensive understanding of the situation.

Fourth, teachers can defend themselves. Just like the teaching practice is a process “from monologue to dialogue”, the teaching evaluation can not be a “monologue” either. After the feedback is obtained, the Teaching Quality Supervision Center should allow teachers to defend themselves. If it is necessary, the dialogue between the teachers and the students should go on, until both sides are satisfied or come to an agreement.

Fifth, it is important not to link teaching evaluation with teachers’ sensitive issues. Do not connect the rating results with teachers’ professional title assessment or incentives (Guosheng LIU, 2014). Otherwise, the teachers will tend to cater to students on purpose and loosen the classroom regulations. The willingness of avoiding students negative attitude will endanger the teaching quality.

The “student-three-evaluation” system has been established and run for years. Although some experience has been gained, it is still necessary to reflect on it for the improvement. We will continue putting out efforts into this process in order to enhance the education quality of our university.

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## DEVELOPMENT AND VALIDATION OF A SCALE EVALUATING TEACHING LEVEL AT A MEDICAL UNIVERSITY (ETLTS-MU) : COMBINATION OF A CLASSICAL TEST THEORY AND GENERALIZABILITY

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### **Abstract**

**Objective:** *To develop the scale evaluating the level of teaching at a medical university (ETLTS-MU) and validate it by both Classical Test Theory (CTT) and Generalizability Theory (GT).*

**Methods:** *The ETLTS-MU was developed based on programmed decision procedures with three rounds of discussions, in-depth interviews and quantitative statistical procedures. The psychometric properties of the scale were evaluated with respect to validity and reliability employing correlation analysis, factor analysis and also G-study and D-study of GT analysis.*

**Results:** *The total of 485 students were interviewed using ETLTS-MU and data from 477 effective questionnaires were analyzed. Correlation and factor analyses confirmed good construct validity. The Cronbach's  $\alpha$  coefficient of the overall scale was 0.967 and the Cronbach's  $\alpha$  coefficient of each domain was larger than 0.7. In GT, generalizability coefficients and indexes of dependability confirmed the reliability of the scale further with more exact variance components.*

**Conclusions:** *The ETLTS-MU has good validity, reliability and some highlights, and can be used as a tool for evaluating the level of teaching at a medical university. However, in order to obtain better reliability, the numbers of items for teaching organization dimension should be increased or the quality of the items of this dimension should be improved.*

### **Keywords**

*Teaching level, Scale, Reliability, Validity, Generalizability theory*

### **Background**

The level of teaching at universities and colleges implies the teaching ability and the level of teachers involved in the teaching process at universities and colleges. The evaluation from students can better reflect the teaching level because students take part in the teaching and learning process all through the study period and are the direct beneficiaries (Kaiyong Tang, 2003). The earliest study on evaluation of the teaching level at universities and colleges was a research into the teaching quality evaluation carried out at Beijing Normal University in 1984. The evaluation of the teaching level had been carried out at most universities and colleges in China until 1995 (Chunlin Li, 2005). Developing a practical, reasonable and efficient instrument with medical characteristic is the base of evaluation of the teaching level at medical universities and colleges. Bearing this in mind, we attempted to describe the developmental process of the scale evaluating the teaching level viewed by students of a medical university (ETLTS-MU) and to analyze the validity and reliability of this scale by applying classical test theory (CTT) and further analyze the reliability of this theory by applying generalizability theory (GT).

### **Methods**

#### **Establishment of the scale (ETLTS-MU)**

A nominal group consisting of 10 individuals (5 teachers and 5 students) and a focus group with 5 experts (3 teachers and 2 teaching management personnel) were organized to present the conceptual framework and select items by using the programmed decision method. A definite framework of the ETLTS-MU scale was put forward by the focus group after discussion and the scale should be divided into 5 dimensions, including teaching organization, teaching contents, teaching methods, teaching attitude, and teaching effect. The nominal group proposed items for each dimension to form the item pool based on the framework and fully considering the medical

characteristic. The item selection was based not only on qualitative analysis such as nominal group, focus group discussions and in-depth interviews, but also on four quantitative statistical procedures. The main steps of developing the ETLTS-MU were summarized as a schematic diagram below:

Organizing two groups

↓ focus group discussions

A definite framework

↓ nominal group proposed items

Item pool (50 items)

↓ In-depth interview, focus and nominal group discussions, four quantitative statistical procedures

Screened refining items (30 items)

↓ analysis, focus group discussions

Final scale (5 dimensions, 24 items)

The final ETLTS-MU included 24 items which are classified into 5 dimensions with teaching organization dimension including 3 items (coded TO1-TO3), teaching contents dimension including 7 items (coded PS1-PS7) and teaching methods dimension including 5 items (coded TM1-TM5), teaching attitude dimension including 5 items (coded TA1-TA5), and teaching effect dimension including 4 items (coded TE1-TE4).

### **Validation of the ETLTS-MU**

#### ***Data collection and scoring***

The formal ETLTS-MU described above was used for students who were taught by 10 teachers from the School of Public Health at Kunming Medical University in a field survey in order to study its psychometric properties (validity and reliability). Each student was asked to answer every item of the scale after the participating investigators explained the process and the scale. The responses were checked immediately each time by the investigators to make sure that the questionnaires are complete. If missing values were found, a questionnaire would be returned to a student to fill in the missing item.

Based on the data collected, the raw scores of items, dimensions and overall scale were calculated. Each item of ETLTS-MU was rated in a five-level Likert scoring system, namely, *not at all*, *a little bit*, *somewhat*, *quite a bit*, and *very much*. Each dimension score was obtained by adding together the within-dimension item scores. The overall scale score was the sum of the five dimension scores. For comparison purposes, all domain scores were linearly converted to a 0–100 scale using the formula:  $SS = (RS - Min) \times 100 / R$ , where SS, RS, Min and R represented the standardized score, raw score, minimum score, and a range of scores, respectively.

#### ***Statistical analysis for psychometrics***

Validity is the degree to which the instrument measures what it is supposed to measure (Liabing Qi et al, 2003). Construct validity was evaluated by Pearson's correlation coefficient  $r$  (item-dimension correlations) as well as by factor analysis with varimax rotation (Chaojie Liu, 1997). Reliability is the degree to which an instrument is free from random errors, with being evaluated by measuring internal consistency reliability in our research. The internal consistency, which refers to the homogeneity of the items of the scale, was assessed by Cronbach's alpha coefficient for each dimension. A high internal consistency suggests that the scale is measuring a single construct (Can Li, 2008).

#### ***Generalizability theory analysis***

Besides CTT analysis above, we also applied GT to investigate the score dependability of the ETLTS-MU scale. GT, one kind of the modern measuring theory, can decompose and control all kinds of errors generated from the measurement by applying variance analysis techniques and the thought of experimental design (Zhiming Yang and Lei Zhang, 2003). GT contains two stages: Generalizability Study (G-study) and Decision Study (D-study). G-study serves as a "pilot" study that decomposes the variance and covariance components related with various error sources in help to confirm the relationship between measurement goal and measurement facets based on the data collected by using analysis of variance (ANOVA). In D-study, the information from the G-study (Sha-

velson RJ and Webb NM, 1991) is used for planning of “optimal” measurement protocol so that the best possible reliability can be achieved while balancing other factors by calculated two reliability coefficients: generalizability coefficient ( $G$ ) and index of dependability ( $\Phi$ ).GT has been presented as a way to refine the designs of measurement procedures in an attempt to yield reliable data (Winterstein BP et al ,2010) (Stora B et al, 2013)( Crits-Christoph P et al, 2011) (Heitman RJ et al,2009) (Cella DF et al, 1993). We defined the teaching level as the target of measurement and items as one facet of a measurement error. Given every student is asked to reply to all items, the design is single-facet crossed design, namely  $p \times i$  design.

### Results

The total of 485 questionnaires were sent out and 477 questionnaires were effective. All the students completed the ETLTS-MU scale in 5 minutes. Data from effective questionnaires were used to analyze the validity and the reliability of this scale by using CTT. For simplifying the design of GT, 186 effective questionnaires from the same class in which one teacher taught were used to further analyze the reliability by using GT.

### Construct validity

Correlation analyses showed that there were strong associations between the items and their own dimensions (all correlation coefficients are higher than 0.5), but weak relationship between items and other dimensions (listed in Table 1). For example, correlation coefficients between TOD and items of TO1-TO3 (in bold) were higher than those between TOD and other items.

TOD, teaching organization dimension; TCD, teaching contents dimension; TMD, teaching methods dimension; TAD teaching attitude dimension; TED, teaching effect dimension

There were 5 principal components (initial eigenvalues>1) abstracted from 24 items by factor analysis, accounting for 75.68% of the cumulative variance. By using the varimax rotation method, it can be seen that the 5 principal components reflected different facets under five dimensions. Specifically, the first principal component mainly represented the teaching methods dimension and the teaching effect dimension with higher factor loadings; the second principal component, the third principal component and the fourth principal component mainly reflected the teaching attitude dimension, teaching contents dimension and teaching organization dimension with higher factor loadings respectively.

Table 1 Item- dimension correlation coefficients for the ETLTS-MU scale

| Item | TOD          | TCD          | TMD          | TAD          | TED          |
|------|--------------|--------------|--------------|--------------|--------------|
| TO1  | <b>0.594</b> | 0.535        | 0.458        | 0.447        | 0.411        |
| TO2  | <b>0.871</b> | 0.616        | 0.638        | 0.514        | 0.589        |
| TO3  | <b>0.913</b> | 0.646        | 0.695        | 0.533        | 0.629        |
| TC1  | 0.473        | <b>0.633</b> | 0.470        | 0.497        | 0.475        |
| TC2  | 0.555        | <b>0.764</b> | 0.603        | 0.598        | 0.576        |
| TC3  | 0.501        | <b>0.716</b> | 0.533        | 0.541        | 0.535        |
| TC4  | 0.496        | <b>0.727</b> | 0.559        | 0.565        | 0.530        |
| TC5  | 0.540        | <b>0.782</b> | 0.584        | 0.558        | 0.555        |
| TC6  | 0.582        | <b>0.745</b> | 0.590        | 0.897        | 0.538        |
| TC7  | 0.635        | <b>0.832</b> | 0.698        | 0.559        | 0.663        |
| TM1  | 0.630        | 0.643        | <b>0.858</b> | 0.551        | 0.701        |
| TM2  | 0.673        | 0.676        | <b>0.895</b> | 0.596        | 0.733        |
| TM3  | 0.634        | 0.687        | <b>0.855</b> | 0.626        | 0.724        |
| TM4  | 0.563        | 0.625        | <b>0.716</b> | 0.617        | 0.639        |
| TM5  | 0.619        | 0.650        | <b>0.848</b> | 0.573        | 0.729        |
| TA1  | 0.440        | 0.582        | 0.523        | <b>0.721</b> | 0.556        |
| TA2  | 0.452        | 0.577        | 0.512        | <b>0.759</b> | 0.543        |
| TA3  | 0.467        | 0.592        | 0.559        | <b>0.737</b> | 0.549        |
| TA4  | 0.479        | 0.573        | 0.536        | <b>0.712</b> | 0.545        |
| TA5  | 0.508        | 0.512        | 0.586        | <b>0.795</b> | 0.575        |
| TE1  | 0.578        | 0.630        | 0.727        | 0.621        | <b>0.897</b> |
| TE2  | 0.596        | 0.621        | 0.725        | 0.578        | <b>0.883</b> |
| TE3  | 0.610        | 0.663        | 0.743        | 0.617        | <b>0.870</b> |
| TE4  | 0.536        | 0.614        | 0.626        | 0.581        | <b>0.741</b> |

**Reliability from CTT**

As can be seen in Table 2, the Cronbach's  $\alpha$  coefficient for each dimension was higher than 0.75 and the Cronbach's coefficient for the overall scale was 0.967.

Table 2 Reliability statistics based on CTT for the ETLTS-MU scale

| Dimension                            | Number of items | Dimension Score<br>(Mean $\pm$ SD) | internal consistency<br>coefficient $\alpha$ |
|--------------------------------------|-----------------|------------------------------------|--|
| Teaching organization dimension(TOD) | 3               | 86.19 $\pm$ 15.43                  | 0.757  |
| Teaching contents dimension(TCD)     | 7               | 93.66 $\pm$ 10.14                  | 0.926  |
| Teaching methods dimension(TMD)      | 5               | 86.38 $\pm$ 15.35                  | 0.916  |
| Teaching attitude dimension(TAD)     | 5               | 93.77 $\pm$ 11.13                  | 0.882  |
| Teaching effect dimension(TED)       | 4               | 88.90 $\pm$ 14.37                  | 0.907  |
| Overall Scale dimension(TSD)         | 24              | 90.44 $\pm$ 11.21                  | 0.967  |

**Reliability from GT**

G-study results were provided in Table 3 based on the current design, in which 186 students filled in ETLTS-MU scale with 24 items. For TOD, the variances accounted for 50% by person and 42% by person-by-item interactions, only a small source of variation (8%) was due to an item. Similarly, the largest source of variation was due to a person in other dimensions, while the smallest source of variation was due to an item.

Table 3 Estimated variance components and percentage of variance for  $p \times i$  design in G-study for five dimensions of ETLTS-MU

| Dimension | $p$ (person)       |             | $i$ (item)         |             | $p \times i$ (person $\times$ item) |             |
|-----------|--------------------|-------------|--------------------|-------------|-------------------------------------|-------------|
|           | Variance component | Percent (%) | Variance component | Percent (%) | Variance component                  | Percent (%) |
| TOD       | 0.261              | 50          | 0.042              | 8           | 0.219                               | 42          |
| TCD       | 0.132              | 55          | 0.008              | 3           | 0.099                               | 42          |
| TMD       | 0.300              | 63          | 0.008              | 2           | 0.170                               | 35          |
| TAD       | 0.141              | 56          | 0.002              | 1           | 0.107                               | 43          |
| TED       | 0.247              | 61          | 0.017              | 4           | 0.140                               | 35          |

$p$ : person effect,  $i$ : item effect,  $p \times i$ : person-by-item interaction effect.

Several multivariate D studies were performed to estimate  $G$  and  $\Phi$  for the current design and alternative designs with varied numbers of items for five dimensions of ETLTS-MU, with results presenting in Table 4. It showed  $G$  and  $\Phi$  coefficients for four of five domains both were larger than 0.8 except for TOD based on the original test length (in bold). These two reliability coefficients for TOD were larger than 0.70 but smaller than 0.80. In addition, Table 4 showed  $G$  and  $\Phi$  coefficients were increased with the increasing number of items for each dimension.

Table 4 G-coefficients and  $\Phi$ -coefficients for different numbers of items for  $p \times I$  design in D-study for five dimensions of ETLTS-MU

| Dimension | Number of items | $\sigma^2(P)$ | $\sigma^2(I)$ | $\sigma^2(PI)$ | $\sigma^2(\delta)$ | $\sigma^2(A)$ | $G$          | $\Phi$       |
|-----------|-----------------|---------------|---------------|----------------|--------------------|---------------|--------------|--------------|
| TOD       | 2               | 0.261         | 0.021         | 0.110          | 0.110              | 0.131         | 0.704        | 0.666        |
|           | <b>3</b>        | <b>0.261</b>  | <b>0.014</b>  | <b>0.073</b>   | <b>0.073</b>       | <b>0.087</b>  | <b>0.781</b> | <b>0.750</b> |
|           | 4               | 0.261         | 0.011         | 0.055          | 0.055              | 0.065         | 0.827        | 0.800        |
|           | 5               | 0.261         | 0.008         | 0.044          | 0.044              | 0.052         | 0.856        | 0.833        |
| TCD       | 2               | 0.132         | 0.004         | 0.050          | 0.050              | 0.053         | 0.728        | 0.713        |
|           | 3               | 0.132         | 0.003         | 0.033          | 0.033              | 0.036         | 0.800        | 0.788        |
|           | 4               | 0.132         | 0.002         | 0.025          | 0.025              | 0.027         | 0.842        | 0.832        |
|           | <b>7</b>        | <b>0.132</b>  | <b>0.001</b>  | <b>0.014</b>   | <b>0.014</b>       | <b>0.015</b>  | <b>0.903</b> | <b>0.897</b> |
| TMD       | 2               | 0.300         | 0.004         | 0.085          | 0.085              | 0.089         | 0.779        | 0.771        |
|           | 3               | 0.300         | 0.003         | 0.057          | 0.057              | 0.059         | 0.841        | 0.835        |
|           | 4               | 0.300         | 0.002         | 0.043          | 0.043              | 0.045         | 0.876        | 0.871        |
|           | <b>5</b>        | <b>0.300</b>  | <b>0.002</b>  | <b>0.034</b>   | <b>0.034</b>       | <b>0.036</b>  | <b>0.898</b> | <b>0.894</b> |
| TAD       | 3               | 0.141         | 0.001         | 0.036          | 0.036              | 0.036         | 0.798        | 0.795        |
|           | 4               | 0.141         | 0.000         | 0.027          | 0.027              | 0.027         | 0.840        | 0.838        |
|           | <b>5</b>        | <b>0.141</b>  | <b>0.000</b>  | <b>0.021</b>   | <b>0.021</b>       | <b>0.022</b>  | <b>0.868</b> | <b>0.866</b> |
| TED       | 2               | 0.247         | 0.008         | 0.070          | 0.070              | 0.078         | 0.779        | 0.759        |
|           | 3               | 0.247         | 0.006         | 0.047          | 0.047              | 0.052         | 0.841        | 0.825        |
|           | <b>4</b>        | <b>0.247</b>  | <b>0.004</b>  | <b>0.035</b>   | <b>0.035</b>       | <b>0.039</b>  | <b>0.876</b> | <b>0.863</b> |
|           | 5               | 0.247         | 0.003         | 0.028          | 0.028              | 0.031         | 0.898        | 0.887        |

$\sigma^2(\delta)$  is the variance components of relative error;  $\sigma^2(A)$  is the variance components of absolute error;  $\sigma^2(PI)$  is the variance components of error when estimating the universe score by using sample mean;  $G$  is the Generalizability coefficient;  $\Phi$  is the index of dependability.

### **Discussions**

#### **Advantages of the ETLTS-MU scale**

All items of the evaluation scale were put forward by the teachers and students together and the final version was determined by three rounds of discussions and four quantitative statistical procedures. The structure of the scale is clear and the contents of the scale is quite common and easy to understand. It is important that for this study the students did not have to assign a specific score to teachers unlike the previous evaluations. It was easier to provide fair answers and the process was less time consuming because the response option of each item was rated by a five-level scoring system. Therefore, the scale has good feasibility.

#### **Psychometrics of the ETLTS-MU scale**

By the programmed decision procedures, we developed the ETLTS-MU by using the focus group discussion, in-depth interview and pre-testing in order to effectively reduce the number of items in the final version to 24 from an original 50 item pool, ensuring good content validity and sound conceptual structure. It is well recognized that internal consistency ( $\alpha$ ) should be at least 0.70 and reliability ( $r$ ) should be above 0.80 in a test-retest situation (Terwee CB et al, 2003). Thus, our results in Table 3 showed that this instrument has good internal consistency reliability, for all Cronbach's  $\alpha$  coefficients were higher than 0.70. Correlation analyses showed strong correlation between the items and their own dimension but weak correlation between items and other dimensions. Factor analysis revealed that the components extracted from the data basically coincide with the theoretical construct of the instrument. These results confirmed the good construct validity.

#### **Analysis of generalizability theory**

The  $G$  and  $\Phi$  coefficients are the two important reliability coefficients used to depict the reliability of “relative decision” and “absolute decision” in GT. Which coefficients will be selected depending on the researchers' interests? If one's interest lies in ranking people (relative decision), then the  $G$  informs about how dependable a score is. If one's interest lies in the absolute standings to a criterion (absolute decision),  $\Phi$  reflects the score dependability. The major objective of this study was to develop the evaluation scale, ETLTS-MU, to evaluate and rank the teaching level, so  $G$  should be selected.

Some researchers (Yifang Wu and Hueying Tzou, 2015; Winterstein B P et al, 2010) suggested that the reliability of an instrument is generally good when the reliability coefficients ( $G$  and  $\Phi$ ) were above 0.80 in GT. For the teaching organization dimension,  $G$  was 0.781 based on the current design, which was a little below the good level of 0.80. It will be better to increase the numbers of items of TOD from 3 to 4 in order to reach a good dependability. For other dimensions,  $G$  were all greater than 0.80 based on the current design. It can be considered that current items are reasonable for these dimensions.

This research showed that both  $G$  and  $\Phi$  were increased with the increasing of the number of items. However, increasing the number of items might not be realistic in practice because it was possible that the reliability conversely was reduced with too many items and intensive consumption of time. Hence, the number of items of some dimensions can be decreased under the premise of keeping good reliability ( $G$  was above 0.80). The following suggestions are provided: the number of items in teaching organization dimension can be increased from 3 to 4; the number of items in teaching contents dimension, teaching methods dimension and teaching effect dimension can be reduced to 3; the number of items in teaching attitude dimension can be reduced to 4; the total number of items for overall scale will be 17.

### **Conclusions**

To sum up, the evaluation scale, ETLTS-MU, has good reliability, validity and feasibility, and can be used as the instrument evaluating the level of teaching at a medical university. However, for obtaining better reliability, the numbers of items for teaching organization dimension should be increased or the quality of the items of this dimension should be improved.

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## **ASSESSMENT TOOLS DEVELOPMENT IN THE FRAMEWORK OF COMPLEX APPROACH TOWARDS QUALITY ASSURANCE IN HIGHER EDUCATION**

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### ***Abstract***

*Description of subjects and tools for independent assessment of education quality. Introduction of the system of activities on independent assessment of education quality. Description of criteria and tools for education quality assessment on the institutional and the program levels harmonized with international and national standards and requirements. Suggested complex approach towards education quality assessment providing for an assessment of education quality on the institutional, program and qualification levels.*

### ***Keywords***

*Education quality; education quality assessment; professional public accreditation of educational programs; public accreditation; certification of management systems; certification of qualifications; professional standards*

Development of trade and economic, investment and scientific and engineering potential of a country is impossible without the main resource – highly professional staff. Modern tendencies of education and labor market development impose requirements for the quality enhancement and availability increase of professional education in educational institutions. In conditions of the increase of control level and requirements for educational organizations from the government, labor market and the customers and demographic decrease, the organizations in education sector have to continually prove their advantages. The RF legislation predetermines tendencies in independent education quality assessment - professional-public accreditation of educational programs, public accreditation of educational organizations, assessment and certification of qualifications.

Subjects of independent education quality assessment are competencies of graduates, educational organizations and educational programs. Tools which are used for assessment of these subjects may include:

- assessment and certification of qualifications: to assess competencies of graduates for conformity to professional standards or qualification requirements established by Federal laws and other regulatory enactments,
- public accreditation and/or certification of management systems: to assess educational organizations for conformity to the criteria and requirements of Russian, foreign and international organizations, requirements of national and international standards for management systems and education quality assurance systems,
- professional public accreditation: to assess educational programs, i.e. recognize quality and level of training of the graduates who completed such educational programs in a particular organization performing educational activities as conformant to the requirements of professional standards, labor market requirements imposed to professionals, workers and officers within the relevant field of expertise.

Employers are the target group, consumers of information obtained as a result of the assessment; they are interested in competitiveness of a graduate, his/her conformity to the requirements stated in professional standards.

Professional standards are also intended for application in educational sphere [1]. The Russian Ministry of Education and Science has set the task for federal academic methodological associations to update federal state educational standards of professional education, and bring them into conformity with professional standards.

In order to achieve conformity to the labor market requirements draft updated federal state educational standards for higher education training fields and professions are provided for approval to the National Professional Qualifications Council under the Russian Federation President

(NPQC). Activities of stakeholders are defined by the regulation of cooperation between participants of the process of development and updating of federal state educational standards for professional education in accordance with applicable professional standards.

Draft federal state educational standards also provide determination of an educational program quality within the systems of internal and external assessment (on the voluntary basis). External assessment of the educational program quality may be performed by employers, their associations, as well as organizations authorized by them, through professional public accreditation in order to recognize quality and level of training of the graduates which mastered such educational programs, as conformant to the requirements of professional standards, labor market requirements for professionals with relevant field of expertise.

The system of activities on independent assessment of education quality represents activity scopes which include assessment and certification of qualifications, assessment of education organization quality systems (QS) for the purpose of quality management system certification and public accreditation of educational organizations (EO), professional public accreditation of the main professional educational programs (MPEPs), as well as expert and methodology support of activities on implementation of education quality assurance mechanisms in educational organizations, represented in Fig. 1.

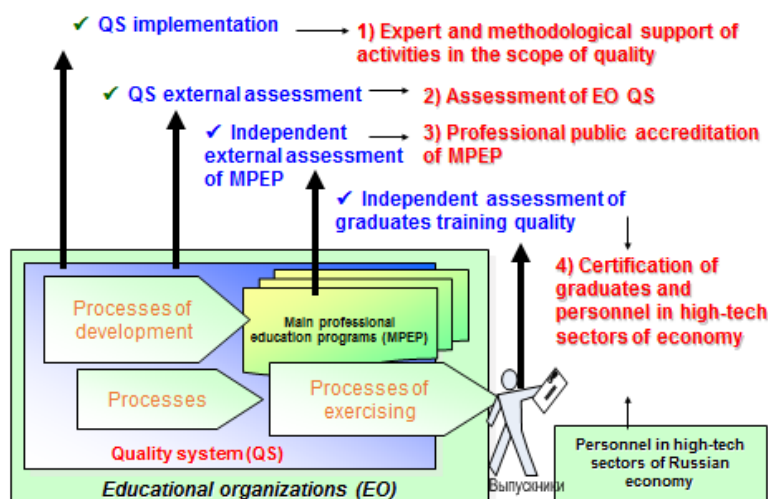


Figure 1 – System of activities on independent assessment of education quality

Certification association “Russian Register”, as an internationally recognized Russian certification and expert organization, performs activities on assessment of education quality conformity to the requirements of international management system standards, European standards and guidelines on education quality assurance ENQA, legislative requirements in respect of education quality assurance, professional standards, employer associations, customers both at institutional and at program and qualification levels. Methodological approaches of Russian Register towards independent assessment of education quality are comparable with ENQA standards and guidelines, requirements of international management system standards, national requirements for education quality assurance [2].

For institutional assessment of education quality, i.e. assessment of an educational organization management system or quality assurance, the following are used as the assessment criteria:

1) Criteria for assessment of conformity to management system standards, which are defined in the requirements of relevant standards, including the international quality management system standard ISO 9001.

2) Criteria for assessment of conformity to the requirements for internal education quality assurance systems which are defined in ENQA standards and guidelines, part 1.

3) Criteria for education quality (education quality assurance system) expert assessment defined in the requirements of Certification Association "Russian Register" standard; it provides for assessment of quality assurance system maturity [3] and is developed with consideration of:



- European standards and guidelines ENQA,
- Principles of process approach and terminology of ISO 9000 series standards for quality management systems,
- Best Russian and foreign practices in the scope of education quality assurance,
- Concepts of maturity of an educational institution processes which define the maturity level of an education quality assurance system.

Due to the fact that the Russian Register criteria for expert assessment of education quality (education quality assurance system) are based on the model which integrates requirements of European standards ENQA and the international standard ISO 9001, it becomes easier for educational organizations to implement internal education quality assurance systems in accordance with ENQA standards into existing quality management systems conformant to the requirements of ISO 9001, and vice versa.

Assessment of education quality on the program level implies conduction of the accreditation expert evaluation of educational programs for the purpose of professional public accreditation in accordance with the requirements of Federal Law FZ-273 "On education in the Russian Federation" art. 96.

Criteria for evaluation of educational programs defined within the requirements of Certification Association "Russian Register" standard provide for assessment of educational program maturity and are developed with consideration of:

- European standards and guidelines ENQA,
- Principles of process approach and ISO 9000 series standards for quality management systems,
- Documents of the National Professional Qualifications Council under the Russian Federation President (NPQC),
- Concepts of maturity of the educational program processes.

The following six standards for educational program evaluation [4] are suggested:

- Conformity of competences of the persons who mastered educational programs to the requirements of FSES, professional standards, other Russian qualification requirements or requirements of the labor market;
- Demand of the labor market for graduates who mastered educational programs;
- Quality of material and technical, information and communication, personnel and other resources effecting on quality of graduates education;
- Management of the main professional educational program;
- Objectives, strategy and development of the main professional educational program;
- Communication system and information openness.

Each standard provides insight into the requirements differentiated by three levels of maturity: basic, medium and high.

Due to the fact that the Russian Register criteria for evaluation of educational programs are based on the model which integrates requirements of European standards ENQA and the international standard ISO 9001, it is easier for educational organizations to implement internal mechanisms for educational program quality assurance in accordance with ENQA standards into existing quality management systems conformant to the requirements of ISO 9001, and vice versa.

In addition, correlation between ENQA standards in respect of internal quality assurance and the requirements for quality management systems of ISO 9001, as well as development and use of the model integrating requirements of ENQA standards and ISO 9001 by Russian Register, enable educational organizations to undergo a combined procedure of quality management system certification and professional public accreditation of educational programs, which allows educational organizations obtain independent evaluation of education quality on the institutional and program levels, and reduce costs (human, time, financial) for expert assessment.

The approaches towards assessment of education quality described in the article, their consistency and complexity, long experience of work with educational organizations, cooperation with the Russian Union of Industrialists and Entrepreneurs, Russian sectorial employer associations "Russian Engineering Union", "Federal Chamber of Culture", inclusion into the registrar of organiza-

tions providing accreditation expert assessment for professional public accreditation, membership in foreign networks on education quality assurance (INQAAHE, APQN), affiliated status in ENQA, availability of international, national and sectorial accreditations and notifications enable Russian Register to offer and conduct activities on independent assessment of education quality listed below and systematically represented in fig. 1 and 2:

- Certification of quality management system conformity to the requirements of ISO 9001 with international accreditation of RvA, a member of the International Accreditation Forum IAF, International certification body network IQNet;
- Professional public accreditation of educational programs in accordance with the requirements of Federal Law FZ-273 "On education in the Russian Federation" art. 96;
- Independent expert assessment of education quality in accordance with the requirements of the Certification Association "Russian Register" consistent with European standards for education quality assurance ENQA, requirements of ISO 9001, national and international professional standards, employer associations, customers;
- Conformity assessment of information security management, IT service management necessary for research and development activities;
- Certification of integrated management systems for conformity to the requirements of 2 or more standards, including ENQA, professional standards;
- Integration of the above stated procedures – opportunity to receive a complex service, including using the transfer procedure;
- Training of an educational organization personnel.

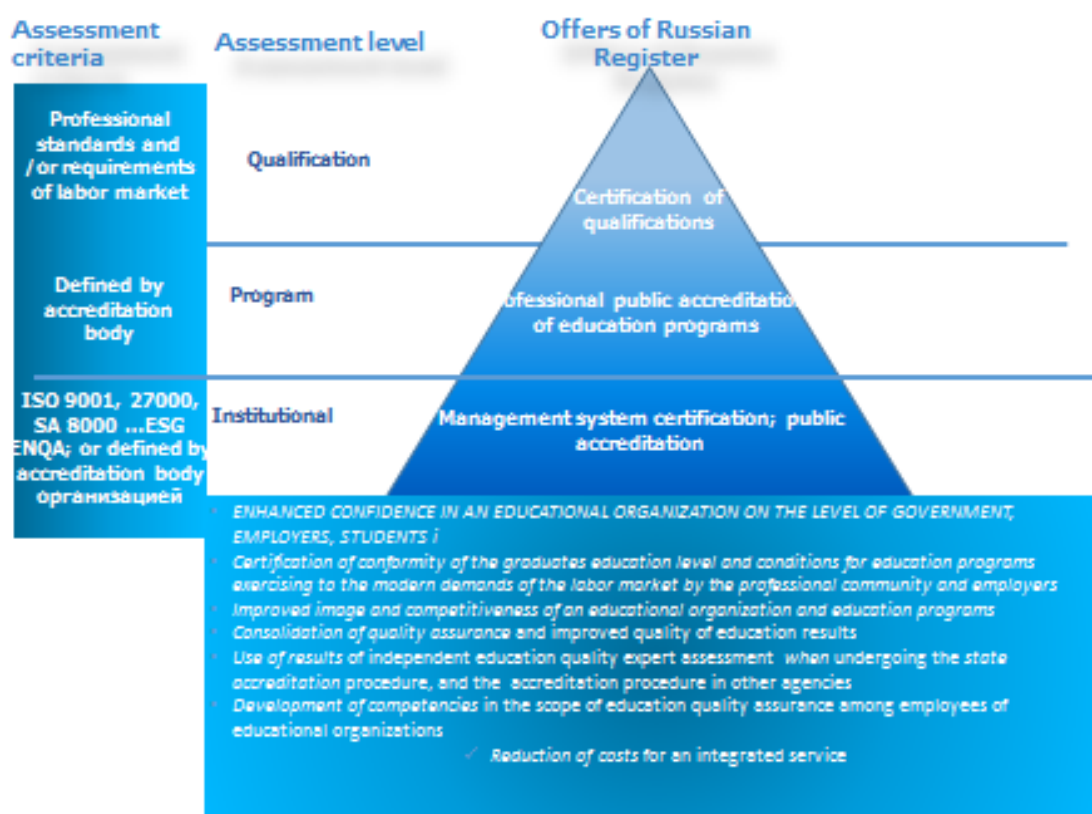


Figure 2 – Complex approach of Russian Register towards assessment of education quality

Independent education quality assessments allow educational organizations to consolidate their image on the market of educational and scientific research services, improve their competitiveness and competitiveness of the main exercised educational programs on the market of educational services, improve quality assurance and quality of education results; to receive certification of conformity of the graduates education level and conditions for educational programs exercising to the modern demands of the labor market by the professional community and employers.

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### **GUIDANCE FOR PERFORMING TEACHER SELF-EVALUATION IN ORDER TO ENHANCE THE QUALITY OF TEACHING AT HIGHER EDUCATION INSTITUTIONS IN THE ASIA-PACIFIC REGIONS**

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#### **Abstract**

*Adaptation to globalization and diversification in Higher Education opens new horizons and leads to re-engineering of the existing higher education (both teaching and learning) in order to cope with the expanding scope and differences. Consequently, Higher Educational Institutes (HEIs) will need to adopt new theories and practices to dissolve the boundaries of quality in HE. The Internal Quality Assurance subdivisions of HEIs play an important role in these processes and will need to focus on and guide the 'enhancement' of teaching and learning quality. This enhancement could be achieved by a variety of ways with the aim to develop quality in teachers. This is bound to result in the quality of the teaching process. When developing the quality in teachers', it is vitally important to have positive perceptions towards the changing needs. Thus, the Teacher Self Evaluation method (TSE) directly helps individuals improve their perceptions in the positive way and thereby achieve most of the characteristics of a quality teacher. Therefore the guidelines of good practices applicable to IQA units/evaluators for effective teacher evaluations/assessments, the characteristics of a quality teacher, the enhancement of the teaching quality at HEIs in the Asia-Pacific regions as well as the issues which disrupt the TSE have become vitally important for the teaching practice.*

## **1.0 Introduction**

### **1.1 Rationale**

Globalization and diversification in Higher Education (HE) opened up new horizons to the academic community, and as a result, there has been a significant increase in the number of students in higher education institutions and acceleration of the international student mobility on the global level. Thus, the existing higher education in other words, the processes of giving (teaching) and receiving (learning) systematic instructions, also need to be re-engineered to meet the expanding scope and differences. Therefore it is obvious that, the necessity to dissolve the boundaries of quality regions in HE has become increasingly important.

Consequently, Higher Education Institutions (HEI) will need to adopt new theories and practices which have been developed in various aspects of teaching and learning to assure and implement vigorous quality effectively and efficiently in HE. This is where the Internal Quality Assurance (IQA) subdivisions of HEIs play an important role and these IQA units will need to focus and guide on the 'enhancement' of teaching and learning quality rather than on the 'process' of teaching and learning only.

This enhancement of teaching and learning quality could be achieved in various ways such as: by improving the support given by governmental and educational authorities, by establishing teacher unions and by producing quality teachers.

On the other hand, according to UNICEF (2002) "Quality is non-negotiable for all stakeholders, including governments, donors and teachers. As noted by Elie Jouen, Deputy Secretary-General of Education International, teachers are pivotal to achievement in the classroom...". Not only that, according to UNESCO, "It is evident that a sufficient number of competent teachers is required in order to improve the quality of educational processes." And further, the Ministers of Education who met at UNESCO during 32<sup>nd</sup> general conference endorsed that, "...indispensable the role of teachers as purveyors of knowledge and values and as community leaders responsible for the future of our young. We should do everything in our power to support them and to learn from them". Hence, it is clear that, planting quality in teachers will harvest robust quality in the teaching process and subsequently, it will provide and maintain higher quality of tertiary education.

According to the research evidences, there are numerous approaches to assess teachers to ensure quality teaching and some of these are as follows: peer observation, observations by the head of the department and/or dean, observations by external evaluators, Assessing teachers using their student achievements (value-added models), students' ratings, Teacher Self Evaluation (TSE), teacher portfolios, Student Evaluation of Teachers (SET) mid-course, end-course or regular assessment, alumni feedback and surveys, focus group interviews of students and analysis of classroom artefacts.

Furthermore, there are six common components which should be considered when assessing teacher quality in order to ensure quality teaching and these are: (pedagogical) content knowledge, quality of instruction, classroom climate, classroom management, teacher beliefs and professional behaviors.

At this point it is also important to understand the characteristics of a quality teacher. Accordingly, the identified characteristics are: "Friendliness and congeniality, good personality, deep knowledge and great education, good communicator, good listener, good sense of humor, kindness, contagious enthusiasm for teaching, creative, encourager and motivator", etc.

When carefully examining the above mentioned characteristics of a quality teacher, it is clear that, most of the above characteristics could be achieved by the positive development, maintenance, and modification of individual perceptions towards the changing needs of the globalized higher education.

On the other hand, according to empirically-oriented psychologists, self-evaluation causes the development, maintenance, and modification of an individual's perceptions. Furthermore, there are four key self-evaluation drives namely: "self-enhancement, self-assessment, self-verification, and self-improvement".

Thus, all these taken together clearly emphasize that Teacher Self Evaluation (TSE) directly supports individuals to achieve most of the characteristics of quality teachers and successively leads to the production of quality teachers in HE. (**Figure1.1**).

Therefore, the current issues which disrupt TSE, guidelines of good practice for IQA units/evaluators to conduct teacher evaluations/assessments effectively, characteristics of a quality teacher and finally guidelines of good practices to perform TSE effectively for the enhancement of teaching quality in HEIs in the Asia-Pacific regions have become vitally important.

## 1.2 Aims and Objectives

The aim of this paper is to promote guidelines of good practices to perform TSE effectively for the enhancement of the quality of teaching at HEIs in the Asia-Pacific regions under the guidance of the respective IQA unit.

The objectives are as follows:

- ✓ To list the identified issues which disrupt the TSE process;
- ✓ To list the practical Guidelines for IQA units to conduct and encourage TSE effectively at HEIs;
- ✓ To identify characteristics of a quality teacher;
- ✓ To list the guidelines of good practices to perform TSE effectively for the enhancement of teaching quality at HEIs in the Asia-Pacific regions.

## 1.3 Advantages of this Study

The current research :

- ✓ Helps institutional IQA units, teachers and evaluators identify the issues which disrupt the TSE process;
- ✓ Provides clear guidelines for IQA units to conduct and encourage TSE effectively at HEIs;
- ✓ Supports the identification characteristics of a quality teacher;
- ✓ Provides clear guidelines of good practices required to perform TSE effectively for the enhancement of teaching quality at HEIs in the Asia-Pacific regions.

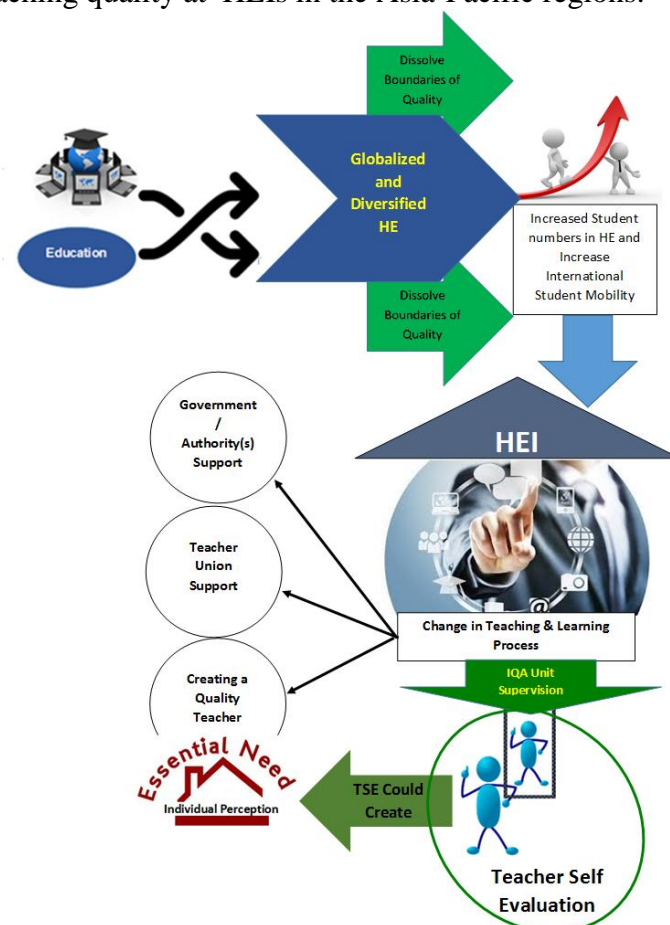


Figure1.1: Improving Teaching Quality using TSE in Higher Education (Author, 2017)

## 2.0 Instructions to remember when using the guidelines

When using the guidelines please note that:

- These Guidelines are proposed based on the experience and achievements gained by the South Asian Institute of Technology and Medicine (SAITM) IQA committee;
- SAITM IQA was formulated in May, 2011 and by July 2012 became an Institutional member of the Asia Pacific Quality Network (APQN). APQN recognized and awarded SAITM IQA as the *APQN's best/Model QA award* in 2014;
- All these are sensible guidelines of good practices which could be followed by any interested institutional IQA units;
- These Guidelines are intended to promote good practice;
- These Guidelines help institutional IQA units, teachers and evaluators overcome or minimize the identified issues to practice TSE effectively and guide to successful conduct of TSE for the enhancement of their teaching quality and thereby, help to dissolve the quality boundaries at HEI(s).
- These guidelines are a continuation of the previously introduced guidelines.

## 3.0 Identified issues with current teacher evaluation systems at the HEIs in the asia-pacific regions

Before exploring the good practices, this section identifies the issues evident in the current teacher evaluation systems. Further please note that, "Issue 1" means 1<sup>st</sup> issue but, these numbers do not indicate any sequence. Also, it is important to note that, the issues below are the common issues regardless of the technique utilized for teacher evaluation such as: peer observations, observations by the head of the department and/or dean, observations by external evaluators, Assessing teachers using their student achievements (value-added models), students' ratings, Teacher Self Evaluation (TSE), teacher portfolios, Student Evaluation of Teachers (SET) mid-course, end-course or regular assessment, alumni feedback and surveys, focus group interviews of students and analysis of classroom artefacts.

Table 1. Identified issues evident in the current teacher evaluation systems

| Issue Number & Name   | Description   |
|---|---|
| Issue 1:<br>Evaluations are conducted for compliance, not for improvement   | It is a fact that, most of the HEIs conduct teacher assessments semester wise and/or annually just for the compliance but not with the intention of improvement. Most of the time although these assessments are conducted the results are not revealed to the teacher. Thus, no or minimum room is available for improvements.       |
| Issue 2:<br>Unavailability of well- defined and detailed set of good practices to be followed to improve teacher's teaching quality | Teachers, IQA units and evaluators are not clear about a common set of good practices to be followed to improve teaching quality.   |
| Issue 3:<br>Lack of time and resources allocated by the management  | The amount of time and resources allocated to conduct evaluations are limited due to be busy schedules.   |
| Issue 4:<br>Most evaluations pay little or no attention to the performance of students  | In practice, most evaluations pay little or no attention to the performance of students as evaluations are regularly focused on easy to observe practices such as: classroom management and whether students are on task, rather than looking for evidence that students are actually mastering the Intended Learning Outcomes (ILOs) |
| Issue 5:<br>Evaluations are conducted on pre-defined schedules mandated by management of the HEIs                                   | At present, teacher evaluations are conducted on pre defined schedules mandated by management of the HEIs. Thus, actual needs of teachers are not addressed and those have no sense of urgency about which teachers' work needs more careful support or scrutiny  |
| Issue 6:<br>Use of uniform system to evaluate all teachers  | Current evaluations do not support the professional development of the teachers and those do not support to improve the areas in which they need additional knowledge or skills   |

|   |   |
|---|---|
| Issue 7:<br>Evaluation systems are not flexible                       | Teaching evaluation systems should be flexible to accommodate diversity in instructional methods such as: lecture, discussion, lab, case study, small group interaction, practicum, studio, field work, clinical work. etc.   |
| Issue 8:<br>Evaluation system adopted are not credible and acceptable | Since different disciplines require different methods and settings for instruction, they require different methods and criteria for evaluation. But, most of the time the management decide the evaluations type and criteria but, the consent of the groups involved are not obtained. |

#### **4.0 Guidelines of good practices for IQA units/evaluators to conduct teacher evaluations effectively at HEIs in the asia-pacific regions**

Table 2: Identified guidelines of good practices to avoid and/or mitigate issues in the current teacher evaluation systems (Author, 2017)

| <b>Issue</b>  | <b>Good Practice</b>  |
|---|---|
| Issue 1:<br>Evaluations are conducted for compliance, not for improvement   | <ul style="list-style-type: none"> <li>• Upon the completion of the evaluation(s), the results should be revealed to the teacher with evidences and subsequent discussions should be conducted then and there with the relevant authorities to discuss about the improvements.</li> <li>• At the end of the discussion(s), copy of the evaluation results along with the recommendations decisions of the discussion should be maintained by the teacher for future references and the another copy should be maintained at the faculty or Registrar's department for official purposes.</li> <li>• Note: IQA units should encourage teachers to perform Teacher Self-Evaluation (TSE) as these are absolutely conducted by the teacher him herself with an individual intention for self-improvements. IQA could provide the guidance and the scrutiny.</li> </ul> |
| Issue 2:<br>Unavailability of well- defined and detailed set of good practices to be followed to improve teacher's teaching quality | <ul style="list-style-type: none"> <li>• IQA units Evaluators should maintain a well-defined and detailed set of good practices, criteria and assessment methods to be followed to improve teacher's teaching quality and this should be accessible by all parties involved at the HEI.</li> </ul>  |
| Issue 3:<br>Lack of time and resources allocated by the management  | <ul style="list-style-type: none"> <li>• Sufficient time should be allocated from the academic calendar to conduct teacher assessments</li> <li>• IQA unit of die HEI with die support of the faculty/department could facilitate to conduct and analyze teacher assessment and subsequent results.</li> <li>• IQA units should encourage teachers to perform Teacher Self-Evaluation (TSE) as these do not need additional planning, time or resources. IQA could provide the guidance and the scrutiny</li> </ul>   |
| Issue 4:<br>Most evaluations pay little or no attention to the performance of students  | <ul style="list-style-type: none"> <li>• Evaluations must be conducted equally considering common components such as: Pedagogical content knowledge. Quality of instruction. Classroom climate. Classroom management, Teacher beliefs and Professional behaviors</li> </ul>   |
| Issue 5:<br>Evaluations are conducted on pre-defined schedules mandated by management of the HEIs                                   | <ul style="list-style-type: none"> <li>• Practically, conducting teacher evaluations on request then and there other than the scheduled ones would not be possible and/or easy to handle.</li> <li>• Thus, IQA units should encourage teachers to perform Teacher Self-Evaluations (TSE) as per a need arise and the IQA unit should facilitate this by providing guidance and/or scrutiny.</li> </ul>  |
| Issue 6:<br>Use of uniform system to evaluate all teachers  | <ul style="list-style-type: none"> <li>• Different disciplines require different methods and settings for instruction and thus, teaching evaluation systems should be flexible to accommodate diversity</li> </ul>  |
| Issue 7:<br>Evaluation systems are not flexible   | <ul style="list-style-type: none"> <li>• IQA units should encourage teachers to perform TSE as these are absolutely flexible under their guidance and scrutiny</li> </ul>   |
| Issue 8:<br>Evaluation system adopted are not credible and acceptable   | <ul style="list-style-type: none"> <li>• Before adopting teaching evaluation systems, the faculty/department members should determine their criteria for effective teaching.</li> <li>• Departments and schools could then take responsibility for developing their own evaluation methods under die guidance of the IQA unit committee.</li> <li>• Then these evaluation criteria and must be reviewed for compatibility within the university, standards, understood, and accepted by all groups involved before the implementation and promotion at theHEI.</li> <li>• IQA units should encourage teachers to perform TSE as these are absolutely credible and acceptable if conducted under guidance and scrutiny of the IQA unit.</li> </ul>   |

This section aims to introduce guidelines of good practices to avoid and/or mitigate those issues effectively.

#### **Few Additional guidelines of good practices to avoid and/or mitigate the issues in the current teacher evaluation systems**

- ❖ Evaluation should be frequent and must be conducted by experts;
- ❖ Evaluation leading to teacher tenure must be more intensive and should be an ongoing part of a serious teaching induction process that helps novices raise in their profession, with the help of mentors and coaches, guided by clear standards of practice;
- ❖ Train the trainers: There should be strong training opportunities available for evaluators/assessors;
- ❖ Evaluation should be accompanied by useful feedback, connected to professional development opportunities, and reviewed by evaluation teams;
- ❖ TSE should be a part of an overall strategy for improving the teaching quality. TSE should be used along with other assessment methods (e.g., mid-semester feedback, STE, peer observation, teaching portfolios, etc.)

#### **5.0 Identified characteristics of a quality teacher**

The identified characteristics are as follows:

Table 5: Characteristics of a good teacher

| <b>Characteristics</b>             | <b>Description</b>   |
|------------------------------------|--|
| Friendliness and amiability        | Students should be able to share any problems, doubt with teachers. Also quality teachers are good-natured.  |
| Good personality                   | Students always get attracted to teachers with good personality which leads to better communication, understanding, and ultimately good results. Quality teachers possess a good, decent, likable, and presentable personality and also will dress sensibly well, smell good, and be a little gentle and kind. |
| Deep knowledge and great education | Quality teachers will sign up with only that subjects which they have really good expertise, knowledge and confidence. Simply, if you do not have a confidence on something how could you make another person confident on it?   |
| Good communicator                  | Quality teachers are good and a clear speaker. Sometimes although teachers possess knowledge due to lack of communication skills they cannot explain and express what is there in their heads.   |
| Good sense of humor                | A quality teacher is the one who can keep up with his/her sense of humor, and with his/her strong communication skills and personality, can also maintain the discipline of the class  |
| Good listener                      | Good teachers work on increase their serenity and as a result, they become better listeners.   |
| Kindness and fairness              | Good teacher is a gentle, kind, chivalrous, and benevolent person  |
| Contagious enthusiasm for teaching | Quality teachers will love teaching as well as his/her students. Teaching is a passion other than a duty.  |
| Creative/Innovativeness            | Quality teachers are technologically updated other than theory. Also should practice creative and innovative techniques other than contemporary teaching methods.  |
| Encourager                         | Quality teachers can inspire their students and boost up the spirit of students  |
| Motivator                          | Quality teachers can be the stimulus or reason behind the success of his/her students.   |

#### **6.0 Guidelines of good practices to perform TSE effectively for the enhancement of their teaching quality at HEIs in the asia-pacific regions**

This section concentrates on identifying the guidelines of good practices to perform TSE effectively for the enhancement of the teaching quality at HEIs in the Asia-Pacific regions.

Table 4: Guidelines of good practices to perform the TSE effectively for the enhancement of their teaching quality at HEIs in the Asia-Pacific regions (Author, 2017)

| <b>Assessing component/area</b> | <b>Assessing criteria &amp; possible model questions</b>  | <b>Required quality teacher characteristic</b> |
|---------------------------------|---|--|
| Good classroom climate          | <p>Create and maintain the environment for learning</p> <ul style="list-style-type: none"> <li>❖ Do you: <ul style="list-style-type: none"> <li>• encourage students to express and examine their ideas, opinions and values.</li> <li>• encourage students with a reasonable measure of humor, praise, commendation and constructive criticism.</li> </ul> </li> </ul> | encourager, motivator, good sense of humor     |



|   |   |   |
|---|---|---|
|   | <p>Provide a motivational environment for students</p> <p>❖ Do you:</p> <ul style="list-style-type: none"> <li>realise that certain aspects of teacher performance (e.g. Drama, tonality of voice, expressions, gesture, posture, etc.) and enthusiasm affect students' motivation?</li> <li>use desirable digressions and discussions on topics of student interest and current events?</li> </ul>   | good personality, contagious enthusiasm for teaching  |
| Higher pedagogical/academic knowledge               | <p>Maintain a sensible balance between teacher-centered and student-centered activities</p> <p>❖ Do you:</p> <ul style="list-style-type: none"> <li>ensure that students talk more than you do?</li> </ul>  | good listener, friendliness and amiability, deep knowledge and great education                                      |
|   | <p>Use effective questioning techniques</p> <p>❖ Do you:</p> <ul style="list-style-type: none"> <li>have to explain your question always to get satisfactory responses?</li> <li>use questions which require students to use a variety of cognitive processes in answering?</li> <li>use the methods that effectively spread questions throughout the class, and accept answers in such a way as to encourage further participation?</li> </ul> | deep knowledge and great education, good communicator   |
|   | <p>Use techniques that make clear the purpose and content of each lesson</p> <p>❖ Do you:</p> <ul style="list-style-type: none"> <li>use summaries, reviews, recaps and overviews at the beginning and end of the lesson appropriately?</li> <li>emphasize the important points?</li> </ul>   | contagious enthusiasm for teaching, good communicator, deep knowledge and great education                           |
| Higher quality of instruction/teaching strategy     | <p>Use diverse and effective methods of presentation</p> <p>❖ Do you:</p> <ul style="list-style-type: none"> <li>use techniques such as: questioning, group discussions, laboratory, debates, panels, demonstrations, lectures, role playing, team teaching, independent study, debates and simulation games where suitable, etc?</li> </ul>  | creative attitude/innovativeness, contagious enthusiasm for teaching, friendliness and amiability                   |
|   | <p>Provide written and oral assignments requiring analytical and critical thinking</p> <p>❖ Do you:</p> <ul style="list-style-type: none"> <li>use assignments which require students to comprehend ideas, apply these ideas, analyze, synthesize and evaluate information?</li> </ul>  |   |
|   | <p>Evaluate effectively, thereby improving both teaching and learning</p> <p>❖ Do you:</p> <ul style="list-style-type: none"> <li>use students' achievements as a measure of your teaching effectiveness?</li> <li>invite students to give a brief written feedback of the session and things to improve on the first day after the first session?</li> </ul>   |   |
|   | <p>Utilize community resources to enrich the classroom program</p> <p>❖ Do you:</p> <ul style="list-style-type: none"> <li>feel positive, like and believe peer-observation?</li> </ul>   | creative attitude/innovativeness, good personality  |
| Good classroom management                           | <p>Classroom procedures are designed to develop the positive learning environment</p> <p>❖ Do you:</p> <ul style="list-style-type: none"> <li>set and maintain a high standard of decent and courteous language?</li> </ul>   | good personality, friendliness and amiability, good sense of humor  |
|   | <p>Have an effective method for dealing with clerical matters</p> <p>❖ Do you:</p> <ul style="list-style-type: none"> <li>keep accurate records of administrative matters and promptly reply the office requests?</li> </ul>  |   |
| Positive teacher beliefs and professional behaviors | <p>Strive to upgrade my professional competence</p> <p>❖ Do you:</p> <ul style="list-style-type: none"> <li>actively participate in training sessions, workshops, research work.</li> </ul>   | good personality, friendliness and amiability, contagious enthusiasm for teaching, creative attitude/innovativeness |
|   | <p>Make use of available means of evaluation to improve teaching</p> <p>❖ Do you: receptive to the suggestions of your colleagues?</p>  |   |

|  |  |   |
|--|--|---|
|  | Take an active part in continuing curriculum development<br>❖ Do you:<br>• evaluate the effectiveness of the courses of study that you teach with regard to students' interest and relevance to the modern scene?  |   |
| Good inter-personal relationship with students, staff and other stakeholders | Consistently fair and impartial with students<br>❖ Do you:<br>• respect the dignity of each young person and try to ensure that any rewards and punishments used are appropriate to the situation?   | Good sense of humor, good personality, friendliness and amiability, contagious enthusiasm for teaching, creative attitude/innovativeness, kindness and fairness |
|  | Recognize my responsibilities in helping students to mature socially and to achieve self-realization<br>❖ Do you:<br>• try to be an "accessible" person who is available with a sympathetic ear when needed?   |   |
|  | Attitude and efficiency at work has an effect on other staff members<br>❖ Are you:<br>• considerate in relation to the workload and feelings of secretarial, custodial and paraprofessional staff?   |   |
|  | Make use of contacts to promote confidence and goodwill towards the study programs and staff<br>❖ Do you:<br>• positively present your school/institute and the teaching profession?   | good personality  |
| Active contribution to the total school effort                               | Fulfillment of extra duties<br>❖ Do you:<br>• think that your colleagues know your positive attitude and are always prepared to assist whenever necessary?   | encourager, motivator, good personality, friendliness and amiability, good communicator, good listener, creative attitude/innovativeness                        |
|  | The concern of my students goes beyond the teacher-pupil relationship<br>❖ Do you:<br>• encourage the students to take action to improve the school environment, to respect the school property and that of others?<br>• make administrative decisions for good, and use the proper channels to modify those decisions with which you disagree |   |
|  | Try to promote the positive climate at school<br>❖ Do you:<br>• make a genuine effort to meet and help new staff members and actively participate in staff, social and recreational activities   |   |

## 6.0 Conclusions

Adaptation to globalization and diversification in Higher Education (HE) has open up new horizons. As a result the processes of teaching and learning also need to be re-engineered. Therefore, it is necessary to dissolve the boundaries of quality areas in HE.

Higher Educational Institutes (HEI) will need to adopt new theories and practices in various aspects of teaching and learning in order to assure and implement appropriate quality. Consequently, IQA units will need to focus and guide on the 'enhancement' of the teaching and learning quality.

This enhancement could be achieved by a variety of ways. The development of quality teachers will inevitably result in the quality of the teaching process.

In the process of the teachers' quality development the individual perceptions towards the changing needs exert a huge impact.

The TSE helps individuals improve their perceptions in the positive way and thereby, achieve most of the characteristics of a quality teacher.

Thus, the following issues were defined and listed:

- ✓ Current issues which disrupt the TSE;
- ✓ Guidelines of good practice to conduct teacher evaluations effectively;
- ✓ Characteristics of a quality teacher;
- ✓ Guidelines of good practices to perform TSE effectively for the enhancement of the teaching quality at HEIs in the Asia-Pacific.

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## II. New Assessment Methodologies in Higher Education

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### THE QUALITY ASSURANCE OF ONLINE LEARNING

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#### **Abstract**

*Over 2016-2017 TEQSA has led an Asia Pacific Economic Cooperation (APEC) Quality Assurance of Online Learning project in Higher Education. This has involved active engagement with APEC members in the development of a discussion paper and toolkit on the quality assurance of online learning. This project has involved extensive engagement across many countries including: Australia, Chile, China, Hong Kong China, Indonesia, Japan, Malaysia, Mexico, Papua New Guinea, The Philippines, Thailand, United States and Vietnam. The resulting Quality Assurance of Online Learning toolkit and discussion paper has been validated by APEC member countries and provides a sound basis to assist Quality Assurance Agencies and Higher Education Institutions to quality assure online higher education.*

#### **1. Introduction**

In 2016 TEQSA, in consultation with APEC countries, developed a toolkit and discussion paper for the quality assurance of online learning for countries in the Asia region. The toolkit, discussion paper and accompanying workshops were the culmination of numerous discussions and research. This developmental work drew on the multiple tools and references on the quality assurance of online learning in higher education to develop a toolkit which is pragmatic and versatile enough to be used by both Higher Education Institutions and Quality Assurance Agencies in the quality assurance of online learning. The toolkit recognises that many countries are approaching online learning from different perspectives and have different levels of appreciation of online learning. The toolkit has been designed to assist at various different stages in thinking about and developing strategies and approaches to quality assured online learning. Participating countries included: Australia, Chile, China, Hong Kong China, Indonesia, Japan, Malaysia, Mexico, Papua New Guinea, The Philippines, Thailand, United States and Vietnam.

#### **2. Methodology**

The project team developed an initial discussion paper which provided a snapshot on how the quality assurance of online education is managed around the world at a point in time. The discussion paper highlights the fact that many economies have different approaches to the quality assurance of online education and that there is no simple or prescriptive 'one size fits all' approach to the development of approaches to the quality assurance of online learning.

A toolkit was developed based on nine domains and these were validated at a workshop with strong engagement and representation from APEC countries. Further validation visits were then scheduled in Indonesia, Vietnam and Mexico and a final toolkit was then completed.

#### **3. Toolkit: the framework and domains**

The toolkit which was developed was based on nine domains. Each domain consists of principles, research findings, focus points and evidence. Each domain includes evidence of tools provided from the range of APEC countries involved in the project.

The toolkit is structured as follows:

- Domains – represent assessable areas of institutional practice
- Principles – provide a statement of good practice
- Research findings – summarise recently tried and tested quality models
- Focus points - challenge institutional practices
- Evidence - demonstrate the application of the principles in practice.

A list of the domains and the principle of each domain follows:

**Domain 1: Leadership and Management**

- Principle: Leadership and management actively support the realisation of quality online and blended education by developing strategic plans, creating performance indicators and by influencing quality within an institution.

**Domain 2: Staffing profile and professional development**

- Principle: Staff involved in the teaching, management and support of online and blended education have the appropriate qualifications, knowledge and skills required to support the achievement of student learning outcomes.

**Domain 3: Review and improvement**

- Principle: Performance data and a broad range of feedback from stakeholders, including students, are fed into planned cyclical reviews.

**Domain 4: Resources and Information**

- Principle: The necessary technical and digital infrastructure including clear information about online study is reliable, accessible and regularly updated.

**Domain 5: Student Support**

- Principle: Mechanisms to identify students who require additional technical, educational and personal support are implemented and monitored; and each student is aware of all support systems in place.

**Domain 6: Student Experience**

- Principle: Each student has the opportunity to interact socially and academically with staff and other students and feedback of student experience is acted on through monitoring.

**Domain 7: Curriculum design**

- Principle: Curriculum design is based on sound educational principles and provides a coherent and interactive series of learning experiences that develop knowledge and skills aligned to learning outcomes appropriate to the qualification level.

**Domain 8: Assessment and Integrity**

- Principle: A range of policies and mechanisms ensure that assessment tasks for students studying online are clearly communicated, effectively moderated, and allow opportunities for students to demonstrate the program learning outcomes.

**Domain 9: Learning outcomes**

- Principle: Learning outcomes for students studying online are equivalent to face-to-face cohorts for the same qualification level and are assessed with rigour.

**4. Discussion**

There are a number of key findings which emerged as the quality assurance of online learning project progressed which are now discussed in detail.

*Approaches to the Quality Assurance of Online learning*

There are significant challenges in achieving buy-in to online modes of education and managing change processes. This is different in every economy and each is taking a different approach to the development of approaches to the quality assurance of online learning. Acknowledging that every economy is at a different stage of development in the quality assurance of their online programs.

### *Student engagement*

As with all modes of delivery of higher education, student support and engagement are important. There are different tools and processes which need to be developed and monitored in supporting students in an online environment. This was a key point of discussion at the workshop and in considering the implications of support for students in online environments. Most participants generally agreed that blended models of delivery where there is some face-to-face contact with students are most relevant and this was the model of delivery favoured by most economies. It was also recognised that access to education in regional and other remote locations through online learning needs to be supported if students are to be successful.

The provision of information to students, including marketing and enrolment practices for online courses also needs to be considered and be transparent. For example, students should be given appropriate information before they start an online program, and this like any program information needs to include information on learning outcomes and assessments that are appropriate to online environments.

An emerging issue is the importance, regardless of the mode of study, of maintaining a focus on the student as well as on the student-teacher relationship, and that this responsibility is as much about the student interacting with the teacher as the teacher interacting with the student. Online education does not diminish this focus but uses different tools and approaches for teachers to work with students.

### *Monitoring and design*

As with any form of higher education delivery, monitoring and managing metrics such as progress and attrition are important. Different forms of deliver, such as online delivery, require the use and development of different measurement tools. This is particularly the case when thinking about such issues as academic integrity and technology. It is recognised that different online modes of delivery require the development of different monitoring and student supports as a student progresses.

An exploration of the use of inclusive or adaptive design in course development is preferable to make technology accessible to a broad range of people. In any mode of delivery the correct design parameters are to be considered and developed. In particular, it is important to recognise the correct tool for the correct mode of delivery. It was also very aptly highlighted that instructional designers need to work in tandem with discipline experts in order to develop curriculum for online delivery and these materials will be different to those used for traditional face-to-face delivery.

### *Future focus*

Overall, there is a range of different approaches to online learning and the quality assurance of online learning across economies. A range of political and economic drivers are often in play in the consideration of online learning and its take up in different economies. The roll out of approaches to online learning has a tremendous reach, enabling access to higher education and this is becoming increasingly appealing in some economies where there is a need to up skill a workforce that is already technology enabled through everyday connectivity. At the same time, there are societal perceptions that the completion of a qualification online is of lesser status. The importance of a strong approach to the quality assurance of online learning should underpin the quality of online programs and assist in changing perceptions over time.

Further, at the more developed end of the online learning spectrum there is an emerging need to consider the disaggregation of degrees, micro-credentialing and the provision of credit for Massive Open Online Courses (MOOCs). It is recognised that the world of online learning will continue to develop, and it is important that the quality assurance of approaches to online learning also continues to evolve.

## **5. Application of the toolkit**

It is anticipated that the final toolkit that has been developed is of relevance to a range of stakeholders from governments and international Quality Assurance Agencies and through to Higher Education Institutions in considering the quality assurance of online learning activities.

Overall the development of the toolkit highlighted the need for openness and transparency about how governments quality assure degrees, and the power of online delivery can be used by governments to reach the poorest members of society and the non-economic benefits of online education.

Workshop discussion highlighted the range of perceptions of online learning and of the different levels of development in online learning capacities across economies. In some cases participants are grappling with low societal perceptions of the quality of online learning and how to change perceptions. Approaches to this issue include working with partner economies, being aware of and responding to global trends, and sharing developments across economies to change perceptions.

It was noted that some economies are very focused on the quality of traditional delivery and this is the primary driver for them before starting the journey to online education. Discussion also focused upon the indicators that governments will use to measure success in the future and how this differed across economies. Again there was considerable interest in indicators, including the establishment of relevant frameworks and infrastructure to support online learning. This includes the development of regulations that build confidence and support distance education, ultimately resulting in increases in the number of students accessing online learning.

At an institutional level issues explored included collaboration between online or technical and discipline expertise, and consideration of a student's digital footprint to help identify cheating and breaches of academic integrity and a consideration of online learning accessibility is important and an increasingly personalised approach to online learning is being developed in many economies.

It was acknowledged that there are numerous regional and political challenges in developing and regulating approaches to quality assurance and every country is at a different stage of development. Some economies are focused on establishing strong qualifications frameworks for higher education; others are interested in how to up-skill staff to operate in online environments, and others are undertaking integrated approaches to the quality assurance of online learning alongside face-to-face modes of delivery.

## **6. Conclusion**

It is recognised that the APEC Quality Assurance of Online Learning project, with its outputs of a toolkit and discussion paper provide a strong foundation upon which both countries and institutions can consider and validate their approaches to the quality assurance of online learning. Some countries will use these resources and Toolkit to begin a discussion about how to develop approaches to the quality assurance of online learning in their specific country or region. Other Higher Education Institutions will use the toolkit as a good practice guide in quality assuring a Higher Education Institution's online learning capacity across a range of courses and online learning activities.

The next steps in this project are the development of an online tool to assist users in considering approaches to the quality assurance of online learning.

Within an Australian context, a further workshop is to be conducted over 2017 to develop a tool which is integrated with the 2015, Australian Higher Education Standards (threshold standards) and which allows for an integrated approach to the quality assurance of online learning within the context of the requirements of these threshold standards.

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## **A COMPARATIVE OVERVIEW OF NATIONAL APPROACHES TO TNE AND ITS QUALITY ASSURANCE**

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### **Abstract**

*This paper offers a comparative overview of different countries' approaches to transnational education (TNE) and its quality assurance (QA), intending TNE to refer to the delivery of national degrees overseas. It will first look at four key sending countries, the UK, Australia, the US and Germany, considering the main drivers for outgoing TNE, its main features and how it is quality assured. It will then turn to consider the same aspects from the perspective of receiving countries, looking at four key receiving locations, China, Dubai, Singapore and Hong Kong.*

*In the backdrop of this overview of different approaches to TNE and its QA the paper will conclude by outlining the importance of cross-border cooperation amongst QA agencies in sending and receiving countries for effective and efficient QA of TNE. In this context it will point to a number of recent initiatives aimed at improving reciprocal understanding and trust between QA agencies and strengthen cooperation.*

### **Out-bound TNE**

#### *United Kingdom*

In the UK HE providers with degree-awarding power are self-accrediting, and do not need to obtain prior approval by government or the QAA to engage in TNE activities. These can take any shape that suits UK providers' strategies and needs. Collaborative partnerships and distance learning are the dominant models, while branch campuses represent a minor share of the UK TNE landscape. In this context of high degree of institutional autonomy TNE is regarded as a commercial activity. Providers in receipt of public funding are not allowed to use taxpayers' money to support their international operations.

In fact, one of the key drivers, amongst others, for UK providers to engage in TNE activity is to increase international student's enrolment, including by increasing enrolment in the UK either through articulation agreements, but also by enhancing institutions' international visibility overseas.

QAA has monitored TNE provision since its inception as part of its mission to ensure the quality and standards of UK HE *wherever* this is delivered. The way QAA has done so has been twofold: as part of mainstream institutional reviews in the UK, which look at the total provision of a provider including their overseas provision; and through a complementary dedicated TNE review process. This TNE review process includes visits to overseas delivery sites to test the implementation of institutional policies and processes for ensuring the quality and standards of TNE, and to gain an understanding of the TNE student experience. Given the geographical spread and quantity of UK TNE arrangements QAA has adopted a country-based approach to ensure the efficiency of its TNE review processes. On an annual basis, a country with significant UK TNE is selected and a sample of provision in the country is reviewed, rather than looking at providers' TNE provision as part of their mainstream institutional review. QAA also regularly seeks to cooperate with host countries agencies to coordinate the oversight of UK TNE.

#### *Australia*

Australian self-accrediting universities are also free to engage in any type of TNE activity without having to seek prior approval from the national regulator, the Tertiary Education Quality Standards Agency (TEQSA). Collaborative partnerships, or third-party arrangements, is also the predominant form of TNE activity. TNE, as in the UK, is not publicly subsidised, and Australian providers share the same drivers for engaging in TNE activities with UK providers. However, Australia's TNE landscape is much more limited in scale and scope, and this affects the way in it is quality assured.

TEQSA, maintains an oversight of Australian TNE to ensure the equivalency of the student experience and student learning outcomes. The two main differences with the QAA is that, because



of the smaller scale of Australian TNE, TNE is looked only as part of national institutional review processes (i.e. no country based approach is needed) and that reviews of TNE delivery sites are undertaken only when justified by risk-triggers. The UK approach to TNE review is instead more enhancement driven.

#### *United States*

The driving forces for outbound TNE in the USA include, in addition to commercial motives, an emphasis on outward mobility, as well as on exporting the USA HE teaching and learning experience. Two common forms of USA TNE are in fact study abroad centers, allowing US students to gain an international experience, and American universities integrated in national HE systems – to be considered as foreign universities delivering US style education and seeking USA accreditation. The only other form of American TNE is branch campuses.

In the USA QA is undertaken by different accreditation agencies recognised by the US Department of Education or the Council for HE Accreditation (CHEA), in particular the main 7 regional accreditation agencies. Different accreditation agencies will have different policies for TNE. However, branch campuses and study abroad centers are generally considered as a substantive change in a provider's HE offering requiring initial accreditation. After initial accreditation, an American university's TNE won't be reviewed directly unless there is a serious concern or if selected in a sample of overseas activity to look at as part of national re-accreditation. Another common feature is that US regional accreditation agencies would not accept collaborative or third-party arrangements, the most popular forms in the UK and Australia.

There is no available data about US TNE, but it is fair to say that it is much more limited in scope and scale to UK TNE.

#### *Germany*

In the context of a conception of HE as a public good, where HE is largely subsidised, TNE in Germany is publicly funded through the German Academic Exchange Service (DAAD), which disburses funding from different governmental departments.

The main drivers of out-going TNE are therefore not commercial, but national policies aimed at fostering the internationalization of German HE providers, promoting German cultural relations and education policy, as well as supporting international capacity development.

DAAD puts emphasis on the fact that German TNE provision should be characterised by a high degree of engagement and presence by the German institutions. No validation or franchise arrangements, the main forms of TNE for the UK and Australia, are funded by DAAD. The three types of DAAD funded TNE mirror the types of TNE in the USA:

- 'German study programmes abroad' to facilitate outward mobility;
- 'German-backed universities', where under the mentorship of one or more German providers a new HEI abroad is founded which is part of the local HE system, normally seeking accreditation by relevant German accreditation bodies;
- full branch campuses, also generally integrated in the local HE system.

The different funding model also affect the dominant subject areas. UK, Australian and USA TNE being private endeavours are predominantly oriented towards programmes which are low cost to run, such as in business administration or informatics. German TNE can focus instead on resource-intensive disciplines such as engineering or natural sciences, where German university are traditionally strong. The funding model also limit the extent of German TNE which is more limited than Australian and UK ones.

All programmes of state recognized HE providers have to be accredited by agencies licensed by the German Accreditation Council (GAC). GAC's standards apply to programmes leading to a German degree, irrespective if the degree is offered inland or abroad.

DAAD will also undertake quality controls on a periodic basis to ensure that the German universities involved in TNE projects it funds fulfil the requirements for funding. These requirements include academic and QA requirements, as well as ensuring TNE projects becomes self-sustainable. DAAD funding are in fact generally limited to a number of years.

## **In-bound TNE**

### *China*

China, if compared to sending countries', presents features that can be regarded as closest to the German approach. In particular, the demand and types of imported foreign provision are driven and regulated by national education and social policies and priorities, and TNE partnerships must run as not-for-profit academic ventures.

China sees in-bound TNE primarily as a way to facilitate transfer of knowledge in the country and to develop the capacity of local HE institutions. This key rationale informs the types of TNE accepted in the country and the criteria for approving incoming TNE. TNE can only take the form of partnerships between foreign and national providers; China refers to TNE as China Foreign Co-operation in Running Schools (CFCRS)- covering both jointly run institutions and programmes.

CFCRSs are seen involving substantial involvement by both partners. Foreign institutions have to commit resources, delivering at least one third of the programme, and jointly-developed programmes are favoured by the Ministry of Education. The MoE has also put a limit to the number of CFCRSs that foreign providers might enter into in order to avoid the risk of overstretching.

Responding to previously unregulated growth, the MoE has also indicated priorities subjects and geographical areas, in order to ensure that new CFCRSs meet the labour and development needs of the country. Therefore programmes in popular subject areas like business, finance, and management are not encouraged or favoured, while partnerships in Western China are encouraged and favored.

The regulatory system for TNE can be split in the preapproval and post-approval stage. At pre-approval stage the agency playing a role is the China Education Association for Internal Exchange (CEAIE), operating under the ministry of civil affairs, and leading on international educational exchanges and cooperation (This applies to HE programmes only, since sub-degree level TNE is regulated at provincial level). CEAIE helps the MoE in screening new applications for CFCRSs, and in doing so it seeks cooperation with sending country agencies to ensure the MoE receives only genuine applications. CEAIE has also the statutory responsibility for quality assuring sub-degree level TNE, and runs a voluntary accreditation scheme for HE level TNE.

The statutory responsibility to quality assure HE level TNE after the approval stage rests with another agency, the China Academic Degrees and Graduate Education Development Center (CDGDC), which in relation to Chinese HE has the statutory responsibility to quality assure post-graduate education. CDGDC monitors TNE through desk-based analysis, and where they detect lack of or risk of non-compliance with the MoE's criteria for CFCRSs they might carry out a review visit.

### *Dubai*

The Dubai approach to TNE and its QA can be placed at the opposite side of the spectrum from China. Dubai's drivers for importing TNE are very different as it is not interested in the development of local providers' capacity, but rather in meeting the skills and knowledge needs of a growing knowledge economy and a huge expat society representing approximately 90% of resident population. Dubai is also interested in developing education as an industry alternative to oil production through the creation of a HE hub. For this reason Dubai wants quality undiluted foreign provision in the form of branch campuses, and it is not interested in collaborative partnerships.

TNE providers in Dubai mostly operate from free-trade zones (FTZs), which are exempted from federal regulations, and therefore do not need to have federal accreditation by the Commission for Academic Accreditation. However, they need authorization to operate by the Dubai the Knowledge and Human Development Authority (KHDA) and have their programmers registered with them. KHDA adopts an institutional authorization and programme registration process which is based on what they refer to as an 'equivalency model', whereby through a panel of international experts it assesses the extent to which TNE providers fulfil the QA expectations of the home country agencies, *whatever* these might be. The international panel also checks that TNE providers have policies, practices and resources in place to ensure that the learning experience and learning outcomes are substantially equivalent to those on similar programmes at the home campus. This is

generally a desk-based exercise, although KHDA reserves the right to undertake institutional visits where it detects any cause for concern.

KHDA has traditionally required TNE providers to deliver programmes that they already run back home, as a guarantee that the same QA processes are applied. However KHDA has recently reviewed its programme approval regulations allowing providers with a strong record of performance in the FTZs to deliver programmes in Dubai not already delivered at home in order to better meet local knowledge and skills needs. This reflects a move in Dubai toward an approach to TNE which is more strategically linked up with other broader economic and social policies and priorities of Dubai.

#### *Singapore*

Singapore's main drivers for importing foreign provision have been varied, including meeting unmet demands, filling skills gap, developing the capacity of local providers, and creating a HE hub. For this reason no type of TNE provision is privileged or discouraged.

In recent years there has however been, like for Dubai, a move towards consolidating quality and the relevance of TNE provision to local socio-economic needs. The approval process for new programmes has become therefore more selective. The gate keeping role in Singapore is played by the Committee for Private Education (CPE), which oversees private education in the country. The near totality of TNE provision is undertaken in partnership with local private education institutions (PEIs), as they are referred to in the country (branch campuses are regarded as private providers themselves.). All TNE provision in partnership with PEIs needs CPE approval. The key academic criteria for approval are similar to those for Dubai, namely that the foreign degree-awarding body is a legitimate institution in the home country and is in good standing with the local regulatory bodies; and that the degree programmes offered at the local PEIs are subject to the same QA processes as the programmes offered at their home campuses.

The CPE model differs from that of Dubai in that the assessment of equivalency of the learning experience and the QA processes with those at the home campus is conducted by CPE officers rather than a dedicated panel of international experts, and the assessment is more mechanistic, going less in-depth with regard to institutional QA policies and processes. It is more a registration than a QA process, and it is exclusively a desk-based exercise.

However, CPE has from this academic year made it mandatory for all PEIs to seek EduTrust certification, a local QA certification traditionally required only for eligibility to recruit international students. CPE will therefore be exercising more of a QA function than it has previously done, looking at TNE providers' compliance with local standards.

#### *Hong Kong*

Hong Kong's key drivers for TNE are very similar to those for Singapore, with a lesser interest in creating a HE hub. All types of TNE arrangements are accepted, collaborative partnerships with private providers are by far most common, but there is also a high number of TNE arrangements with public universities.

The gate keeping role is played by the Education Bureau of the Ministry of Education. All TNE programmes, referred to as 'non-local programme, need to be registered with the Bureau, which seeks the advice from the Hong Kong Council for Academic and Vocational Qualifications (HKCAAVQ) as to whether a non-local course meets the criteria for registration. The key criteria is again that the awarding organization is a bona fide institution in its home country and in good standing with its home country's regulatory bodies, and that the quality and standards of the learning experience are comparable to those of similar programmes offered at home. This is, as for Singapore, exclusively a desk-based exercise conducted by HKCAAVQ officers. HKCAAVQ will offer expert advice but the final decision for inclusion on the register is with the Education Bureau itself. Non-local programmes in Hong Kong can also seek voluntary accreditation by the HKCAAVQ against local standards. This will allow them to be recognised under the local Qualification Framework and listed on the HK Qualification Register, both managed by HKCAAVQ. Once accredited non-local programmes are treated as local programmes and their students can be eligible for public loans.

### **Conclusions: inter-agency cooperation**

The comparative overview offered above highlights different approaches to TNE and its QA. These differences raise the question of how it is possible for the international QA community to ensure an effective and efficient oversight of TNE. Cross-border quality assurance of TNE cannot possibly, for the time being, take the form of an international agreed approach. However, there is scope for QA agencies to strengthen cross-border cooperation in the QA of TNE across differences.

A number of recent international initiatives, differently involving agencies mentioned above, have been trying to facilitate cross-border cooperation in a number of ways, including for instance:

- the *Quality Assurance of Cross-Border Higher Education (QACHE) project*, managed by the European Association for Quality Assurance in Higher Education (ENQA) and undertaken by a project consortium including APQN, which developed a Toolkit for strengthening inter-agency cooperation in the QA of TNE
- the Quality Beyond Border Group (QBBG), a *KHDSA led initiative aimed at facilitating information sharing between key sending and receiving countries*
- and the more recent *Cross-Border Quality Assurance Network (CBQAN)*, led by CDGDC aimed at strengthening Europe-Asia cooperation in the QA of TNE

All these recent initiatives share the same goal to helping improve *QA agencies' mutual understanding and therefore build reciprocal trust as a first step towards facilitating cross-border coordination of QA activities*. They demonstrate the shared view that QA agencies should be enablers not inhibitors of quality and relevant TNE, and that key to realising this is growing inter-agency cooperation.

This view is based on the realisation that TNE should not only be seen as an activity posing challenges to QA, but also as an innovative form of HE provision capable to benefit students, societies as a whole, as well as providers. Inter-agency cooperation is a way for QA agencies to respond in effective and efficient ways to the growth of cross-border HE provision.

## **DEVELOPING AND VERIFYING A CHECKLIST FOR INTERNAL QUALITY ASSURANCE OF INTERNATIONAL COLLABORATIVE PROGRAMS IN ASIA**

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### **Abstract**

*Due to the increasing number of international collaborative programs between Japanese universities and universities in other Asian countries, the National Institution for Academic Degrees and Quality Enhancement of Higher Education (NIAD-QE) has developed a checklist as a self-evaluation tool for internal quality assurance. The target audience for the checklist was universities in Asia, especially Japanese universities, which have been planning, developing, and running international collaborative programs so far. In order to verify the effectiveness of the checklist, we conducted an online survey. The results indicate that mean scores for "degree of implementation" and "recognition of importance" were high for most items on the checklist. Therefore, it can be inferred that the checklist is considered important and that it will be used to plan, develop, and manage international collaborative programs and as a tool for internal quality assurance.*

### **Keywords**

*Internal Quality Assurance, International Collaborative Programs*

## 1. Introduction

Quality assurance methodology to assess international collaborative programs

International organizations and networks of quality assurance (QA) agencies, such as, UNESCO-OECD, INQAAHE, APQN, ENQA, issue guidelines related to QA methodology. Similar to the European Union (EU), some projects, such as the Multilateral Agreement on the Mutual Recognition of Accreditation Results (MULTRA) and Joint Programmes: Quality Assurance and Recognition of degrees awarded (JOQAR), are operated by the European Consortium for Accreditation (ECA). Additionally, the Quality Assurance of Cross-border Higher Education (QACHE) project aims to address the quality assurance of Cross-Border Higher Education in terms of information and practical support. As part of the project, a toolkit has been created to provide practical guidance to QA agencies.

There have also been attempts at assuring quality of international collaborative programs in Asia, such as the “Internationalization Award (iAward)” project that focuses on student mobility in Southeast Asia and the “CAMPUS Asia Monitoring” project that identifies good practices in trilateral exchange programs in Northeast Asia. Most of these programs are award credits, and some universities operate programs that award degrees in CAMPUS Asia. In addition, the Working Group on Mobility and QA has created the “ASEAN Plus Three Guidelines on Student Exchanges and Mobility.”

## 2. Research subjects and method

In order to support and facilitate student mobility and inter-university activities, it is essential to develop a QA procedure that is practical and can be used by universities. Additionally, Asian regions are extremely diverse and distinctive and have different Higher Education (HE) systems. Therefore, there have been attempts to harmonize HE systems in the region with respect to QA, credit transfer, academic calendar, and so on. In view of these changes, the QA methodology for international collaborative programs should be applicable for both degree and non-degree seeking programs. In addition, internal QA may be more realistic and preferable at this time, than an external QA.

Given this context, the National Institution for Academic Degrees and Quality Enhancement of Higher Education (NIAD-QE) began a research project in 2013 to support high quality inter-university activities, especially international collaborative programs, between Japan and other Asian countries, to promote student mobility. The project also aimed to develop a checklist of good practices and recommendations for improvement for those programs. The target audience for the checklist was universities in Asia, especially Japanese universities, which have been planning, developing, and running international collaborative programs so far.

Thus, we attempted to figure out the significance and challenges of international collaborative programs by examining how international collaborative programs have been planned, developed, and administered in the light of quality assurance.

Qualitative research methods such as interviews and document analysis were employed in this study. The documents included previous studies (Takayuki et al. 2012; Sounghee et al. 2012; Carriere and Frederiks 2013; ECA 2013) and reports by CAMPUS Asia Monitoring (NIAD-QE 2014). Semi-structured interviews were conducted with faculty and staff members involved in international collaborative programs and officers to understand how the programs were managed. Fifteen programs from Japanese universities were selected from the “Re-inventing Japan” and other projects, and eight partner universities in ASEAN.

## 3. Major findings

### 3.1 Developing an internal QA checklist for international collaborative programs

The major findings of this study are as follows:

(1) The definitions of concepts related to cross-border and transnational education are currently not well established. Although this is distressing, it is a known fact and a cause for concern among researchers and higher education providers. Questions such as – how many “theses” are required to obtain double degrees or how long do students have to study to obtain degrees – abound.

The answers always depend on the definitions of keywords like “thesis,” “degree,” “teaching,” and “internship” that vary across institutions, countries, and academic fields.

(2) Mutual trust is the most important factor among participants including faculty, staff, and students. All collaborative programs have Memorandum of Understandings (MOUs) and agreements signed by department heads or university presidents. However, more importantly, successful programs are supported by interpersonal mutual trust. Such trust is usually created through long-standing research collaboration that is especially instrumental in creating successful collaborative graduate programs.

(3) Despite efforts towards shared understanding and mutual trust, there is a chronic imbalance between inbound and outbound student flow. Essentially, there is little authentic reciprocity between universities even in “collaborative” programs. In some programs involving Japanese universities, there are no outbound students altogether, or at best, fewer than inbound students.

(4) Credit transfer systems such as the ASEAN Credit Transfer System (ACTS) and UMAP Credit Transfer Scheme (UCTS) are advantageous and are utilized by some programs. However, others do not use this system. Findings indicate that although credit transfer systems are important, ensuring course content consistency is considered more imperative.

(5) In the context of international collaborative programs, the concept of learning outcomes and their measurement have not received adequate attention. Aside from credit transfer frameworks, not only the equivalence of each subject’s content is difficult to verify but also the equivalence of grading systems. Additionally, most programs have not conducted systematic student surveys or follow-up studies targeting degree or certificate awardees.

Other findings from the research include issues on student support and finance or scholarship. These findings provide the context for selecting the checklist items. The checklist consists of 13 sections with 90 items for Degree Programs (DPs) and 12 sections excluding “Awarding degrees” with 85 items for Non-Degree Programs (NDPs). Many items overlap between DPs and NDPs. Table 1 displays sample items of 13 sections for a checklist.

This checklist is intended as a reference when universities conduct their programs and is not a standard or rule. Simultaneously however, the checklist considers the benefits of student participation.

Table 1. Sample items for a checklist

|  |
|--|
| 1. Program Launch Preparation  |
| • Legal system (education, quality assurance)  |
| • Selection of partner university with mutual trust  |
| 2. Objective and Implementation  |
| • Setting and sharing of clear goal definitions  |
| • Protecting students from program discontinuation   |
| 3. Academic and Administrative staff   |
| • A sufficient number of qualified academic staff  |
| • Promoting faculty and staff mobility   |
| 4. Admission and Students selection  |
| • Explicit selection criteria and transparency   |
| • Balanced student exchange  |
| 5. Finance and Facilities  |
| • Sufficient budget to achieve the program’s purpose   |
| 6. Teaching and Learning   |
| • Confirmation and recognition of educational content, teaching methods, and education equivalence |
| 7. Student Assessment  |
| • Coordination of grading standards and methodologies  |
| 8. Credit Transfer and Recognition   |
| • Understanding and establishing an appropriate credit transfer and recognition system             |
| 9. Support for Learning  |
| • Clear and explicit syllabus and sufficient information about the curriculum and study plan       |

|   |
|---|
| 10. Support for Life and Career Development                                 |
| • Sufficient information on financial aid and accommodation                 |
| • Career support after the completion of the program                        |
| 11. Measurement and Certification of Learning Outcomes                      |
| • Appropriate methods to measure learning outcomes                          |
| 12. Awarding Degrees (only for DPs)   |
| • Well-defined and sufficient standards and procedures for awarding degrees |
| 13. Internal Quality Assurance  |
| • Monitoring or self-assessment of programs including student feedback      |

### 3.2 Verifying the effectiveness of the checklist

We conducted an online survey between November 1 and December 13, 2016 to verify the checklist's effectiveness. The survey invitation email was sent to the 80 faculty and staff members who attended the "Re-inventing Japan" project advisory meeting. The questionnaire contained six items on respondent's basic information, four items on international collaborative program objectives (on a five-point scale) and content such as program type, major fields/disciplines, number of inbound/outbound students, and partner institution countries. In addition, it contained a question regarding the "degree of implementation" (on a three-point scale) and "recognition of importance" (on a five-point scale) for each checklist item.

Seven faculty members and 11 staff members responded to the survey. Among the survey respondents, five universities offer double degree programs, four universities offer Twinning programs, while six universities offer Articulation (Fig. 1).

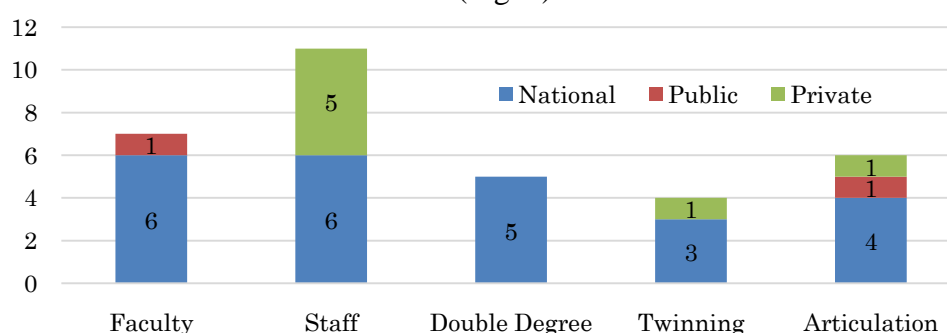


Fig. 1 Faculty/staff and program type by types of university

Of the 18 responses, 12 valid responses were analyzed.

Overall, the lowest mean was nine. Most universities tend not to emphasize promotional activities requiring specific educational research facilities overseas. The mean scores for implementation objectives of international collaborative programs indicate that "double degree programs" scored the highest followed by "articulation" and "twinning programs." This was due to variability between one university running a doctoral course twinning program placing importance on most elements and other universities. In addition, universities implementing double degrees were inclined to place importance on several items and were ambitious.

Regarding the mean scores of the "CAMPUS Asia programs" and "programs with ASEAN," generally the CAMPUS Asia program was given more importance than the ASEAN program, but the difference was relatively insignificant (Fig. 3).

However, a significant difference was observed regarding "enhancing the international awareness levels of one's own university" and "cultivating researchers among one's own university students who can become active on the international stage" compared to other items. This is because CAMPUS Asia programs included three double degree programs aimed at graduate schools.

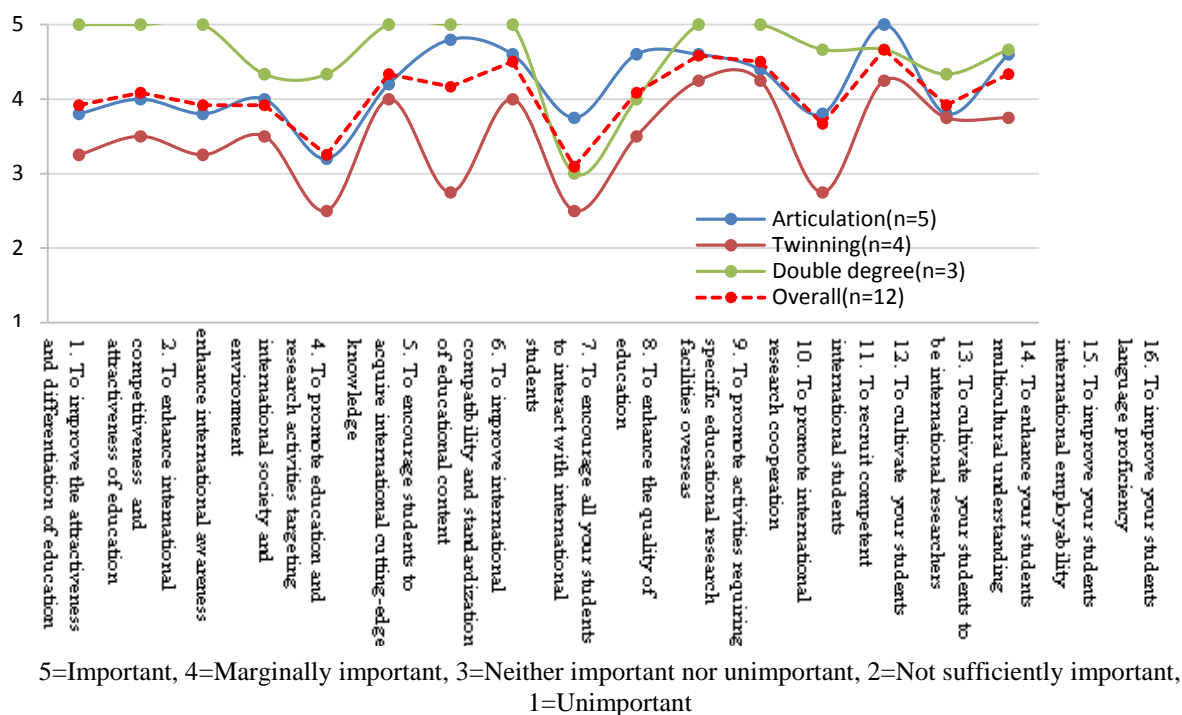


Fig.2 Implementation objective by program type

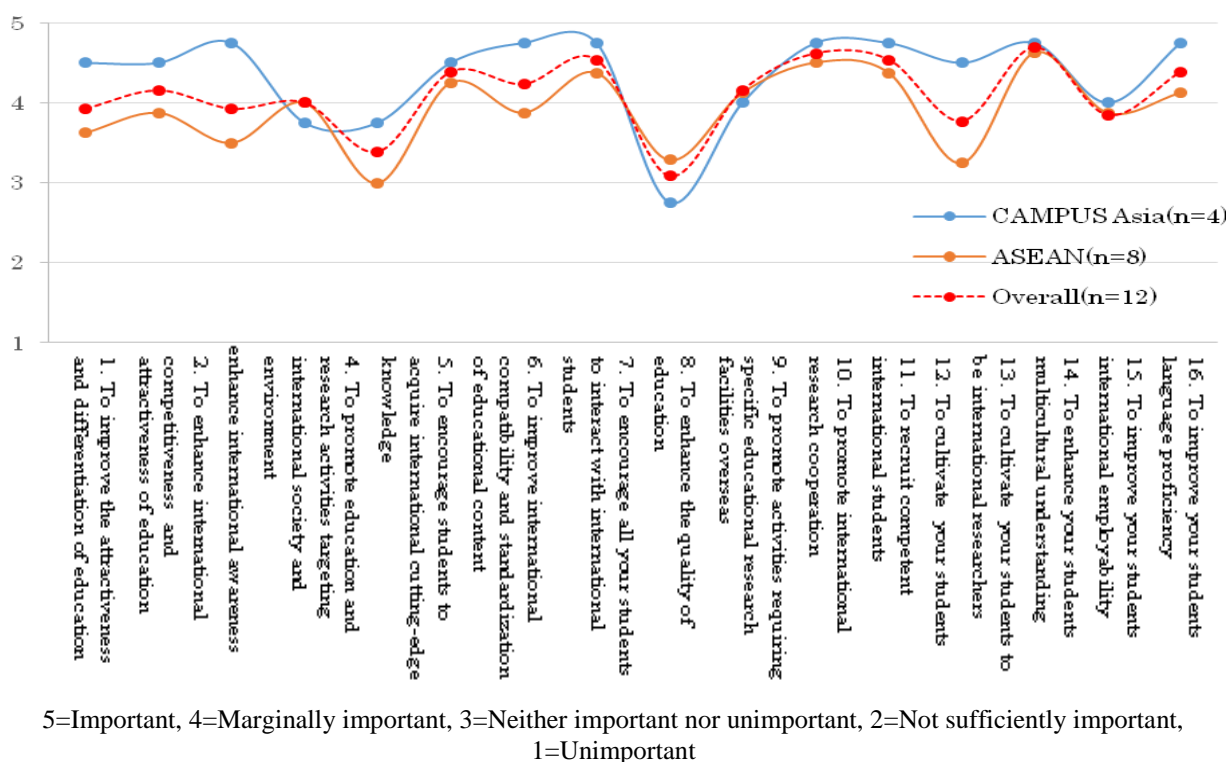


Fig.3 Implementation objective by campus Asia/Asean

Analysis of the “degree of implementation” and “recognition of importance” checklist items scores revealed that both these mean scores were high for most items on the checklist. Meanwhile, Table 2 shows some sample checklist items with low scores for “degree of implementation” although they had high scores for “recognition of importance.” For example, the item “12.8 Have the students who participated in the program been protected if the program concludes or is discontinued for some reason?” had an overall low mean score (1.8) for “degree of implementation.” In contrast, it had a relatively high mean score (4.5) for “recognition of importance.” This implies there is a lack of protection policies against unexpected conditions. Furthermore, the implementation status of



items “16.4 Reviewing the curriculum content,” and “17.1 Ensuring a valid/reliable grading system between partnering institutions” is low.

In addition, the item “23.3 Providing opportunities for student input” and “23.4 Reflecting student input” are related to “internal quality assurance.” Thus, perhaps a regular and continuous improvement approach is required.

Table 2. Average of implementation and importance in checklist

|   | Degree of implementation |             |               |                   | Recognition of importance |             |               |                   |
|---|--------------------------|-------------|---------------|-------------------|---------------------------|-------------|---------------|-------------------|
|   | DD<br>(n=3)              | Tw<br>(n=4) | Arti<br>(n=3) | Overall<br>(n=10) | DD<br>(n=3)               | Tw<br>(n=4) | Arti<br>(n=3) | Overall<br>(n=10) |
| 11.12 Have the methods and challenges of non-degree programs been reviewed while developing the collaborative degree program?   | 2.7                      | 1.5         | 2.2           | 2.1               | 5.0                       | 5.0         | 4.4           | 4.8               |
| 12.8 Have the students who participated in the program been protected (e.g., by guaranteed certification validity) if the program concludes or is discontinued for some reason?                                       | 2.0                      | 2.0         | 1.7           | 1.8               | 4.3                       | 4.8         | 4.3           | 4.5               |
| 13.2 Are any incentives being offered to the faculty members participating in program management?   | 2.3                      | 2.0         | 1.7           | 2.0               | 4.7                       | 3.8         | 4.3           | 4.2               |
| 16.4 Do the partnering institutions regularly review the curriculum content to ensure the education level does not deteriorate over time?   | 2.3                      | 1.8         | 1.7           | 1.9               | 5.0                       | 5.0         | 4.7           | 4.9               |
| 17.1 Is there appropriate coordination between the partnering institutions with respect to their grading standards and methodologies and do they have valid/reliable grading systems?                                 | 2.0                      | 2.0         | 1.7           | 1.9               | 5.0                       | 4.5         | 4.7           | 4.7               |
| 18.4 When appropriate, are any of the existing international framework (ACTS, ECTS etc.) for credits transfers used?  | 2.0                      | 1.3         | 1.7           | 1.6               | 5.0                       | 4.0         | 3.7           | 4.2               |
| 19.2 Are the participating students provided the means to view their stage of registration and earned credits?  | 2.7                      | 1.5         | 2.3           | 2.1               | 4.7                       | 4.3         | 4.0           | 4.3               |
| 23.3 Does the program regularly provide opportunities for student input? The methods of receiving student input may include questionnaire surveys, informal meetings, and student participation in review committees. | 2.7                      | 2.0         | 2.0           | 2.2               | 4.7                       | 4.5         | 4.0           | 4.4               |
| 23.4 Does the program constantly try to improve itself based on analyses of student input?  | 2.7                      | 1.7         | 2.0           | 2.1               | 4.7                       | 4.3         | 4.0           | 4.3               |

DD: Double degree, Tw: Twinning, Arti: Articulation

Degree of implementation: 3=Implemented, 2=Only planned not implemented, 1=Not implemented, Recognition of importance: 5=Important, 4=Marginally important, 3=Neither important nor unimportant, 2=Not sufficiently important, 1=Unimportant

#### 4. Conclusion

We developed a checklist for international collaborative programs and conducted an online survey to verify its effectiveness. First, we questioned the implementation objectives of international collaborative programs and analyzed the results. Regarding the overall importance of items, a higher tendency was observed in Double Degree, Articulation, and Twinning programs. Additionally, the CAMPUS Asia programs were higher than the ASEAN programs.

Second, concerning the checklist, it is evident that universities have not implemented them although they recognize their importance. Thus, we can state that the checklist items are perceived as important and could be utilized in planning, developing, and administering international collaborative programs as an internal QA tool.

However, this survey was limited in that it only considers Japanese universities. Additional information and understanding of the calculated data is required. Thus, further work is required not only in terms of this survey’s interview respondents but also in employing this survey to validate partner universities.

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## **ACADEMIC PROGRAMME DESIGN AND QUALITY ASSURANCE PROCESSES: TRANSFORMATION OF NCPA'S VISION AS A RESULT OF ALIGN TEMPUS PROJECT**

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### **Abstract**

*In 2013-2017 the National Centre for Public Accreditation (NCPA, Russia) participated in the international ALIGN Tempus project "Achieving and checking the alignment between the academic programmes and Qualifications Frameworks" funded by the European Commission. In co-operation with other Russian partner-institutions the National Centre for Public Accreditation developed the mechanisms ensuring achievement of alignment of academic programmes with the National Qualifications Framework as well as the mechanisms for checking this alignment. NCPA provided methodological support to Russian HEIs in aligning the academic programmes with three groups of standards: the European Standards, the Federal State Educational Standards, and the National Occupational Standards. Revision of academic programmes at three HEIs and pilot evaluation of the developed mechanisms was carried out. NCPA's vision of academic programme design and quality assurance processes has substantially changed as a result of ALIGN project. Academic programmes should be designed, reviewed and evaluated using outcome-based and student-centred approach. During site-visits NCPA combined two different models of external evaluation of academic programmes: the Eastern European model of external review and the Western European model of audit. ALIGN project proves it possible to correlate the National educational standards to the international ones when designing academic programmes.*

### **Key words**

*Alignment, academic programme, qualifications framework, quality assurance, learning outcomes, assessment mechanisms, external evaluation.*

### **1. Introduction**

Rapid changes on the labour market facilitate the increased requirements to competences and professional skills of graduates. Therefore, the requirements to the quality of education and the criteria imposed to this quality are currently more demanding than ever. The alignment between the academic programmes and qualifications frameworks is bound to ensure training of highly qualified personnel, able to perform their functions properly and be competitive on the dynamic world labour market.

When conducting international or joint accreditation, quality assurance agencies often face the problem of harmonizing various standards, and agreeing on different approaches. With internationalization of higher education and enhancement of academic mobility, the necessity arises to use common approaches to HEI programme design and quality assurance processes in different countries. Russian HEIs are greatly interested in coming onto the international arena, facilitating international student academic mobility, awarding degrees that are recognized at the international level. This is not easy at the moment, as the standards and approaches used in Russia are still different from the international ones. In 2013-2017 NCPA participated in the international ALIGN Tempus project “Achieving and checking the alignment between academic programmes and qualifications frameworks”, funded by the European Commission. As a result of this project NCPA gained great experience in harmonizing academic programmes with the European standards.

## **2. Short Description of ALIGN project**

The main objective of ALIGN project was to enhance intelligibility, consistency and transferability of qualifications through establishment of mechanisms for HEIs to achieve alignment of academic programmes with the National Qualifications Frameworks and for Quality Assurance agencies to check such alignment.

Specific objectives were:

- to promote a better understanding in HEIs and European Quality Assurance agencies of the role of Qualifications Framework, its structure, as well as the differences between different kinds and levels of student achievements;
  - to build the capacity in HEIs of defining and assessing learning outcomes that determine various types of student achievement;
  - to employ the capacity of the HEIs to use the qualifications framework alignment to facilitate credit transfer, joint qualifications and benchmarking;
  - to enable the European Quality Assurance agencies to check whether the proposed learning outcomes and their assessment mechanisms match the Qualifications Framework descriptors at each level by establishing the mechanisms for ensuring consistency of judgments across institutions.
- Quality Assurance agencies and a few HEIs from Russia, Armenia and Ukraine worked for over three years with the support from the European partners to achieve the following outcomes:
- capacity building of HEI and Quality Assurance agencies to ensure achievement and checking alignment with the National Qualifications Frameworks;
  - development of mechanisms ensuring achievement of alignment with the National Qualifications Frameworks (for HEIs);
  - development of mechanisms for checking alignment with the National Qualifications Frameworks (for Quality Assurance agencies);
  - revision of 2 academic programmes at each HEI and pilot evaluation of the developed mechanisms;
  - adoption of the alignment tools at HEIs, Quality Assurance agencies and governmental bodies.

Twenty six partners (including Quality Assurance agencies, HEIs, Student Unions, Ministries of Education, Associations of Employers) participated in Align project from different European countries: Russia, Armenia, Ukraine, Great Britain, Germany, Ireland, Belgium, Poland.

The participants of ALIGN project in Russia were the National Centre for Public Accreditation, Northern (Arctic) Federal University (Case 1), Volga State University of Technology (Case 2), Moscow State University of Education (Case 3), Moscow State Humanitarian University, the Russian Union of Industrialists and Entrepreneurs, the Russian Student Union, and Ministry of Education and Science of the Russian Federation. The Russian National Qualifications Framework is currently underway. The draft National Qualifications Framework was developed by the Ministry of Education and Science of the Russian Federation in cooperation with the Russian Union of Industrialists and Entrepreneurs in 2007. Since then the draft National Qualifications Framework has been a subject for a vivid public discussion between the government, academic community, and

businesses. At present Russian HEIs design the study programmes in accordance with the National Educational Standards and Occupational Standards, both being in the process of devising.

The National Centre for Public Accreditation did a large amount of work related to methodological provision of the process of alignment, and carried out the external evaluation of the Russian HEIs achievements in ALIGN project. The major task was to help Russian HEIs make the selected academic programmes consistent with three different standards:

- European standards (Dublin descriptors);
- National Educational Standards (Federal State Educational Standards);
- National Occupational Standards. In the way they would be valid, could be practically applied and wouldn't contradict each other.

### **3. Capacity building and development of mechanisms for achieving and checking the achievement of alignment**

In order to promote to a better understanding of the role of Qualifications Framework and its structure, as well as of the differences between the various kinds and levels of student achievements, a lot of training was provided to staff members of Russian, Armenian and Ukrainian HEIs and quality assurance agencies for the purpose of capacity building. The European partners from Great Britain, Ireland, Belgium, Germany, and Poland shared their knowledge and experience in European Qualifications Framework, Dublin descriptors, student-centred learning, course and curriculum design, writing learning outcomes, developing assessment methods and tools, making students' handbooks, organizing peer-review, etc.

At the next stage of ALIGN project the National Centre for Public Accreditation developed the mechanisms for achieving and checking the achievement of alignment. Two documents were produced with the support from the European partners:

1. "National Guidelines to assist HEIs in aligning and checking the alignment of programme learning outcomes with the National Qualifications Frameworks"
2. "External quality assurance policies/procedures and evaluation criteria of checking the alignment between academic programmes and Qualifications Frameworks"

These documents laid out mechanisms and tools ensuring the alignment, set recommendations for developing programme learning outcomes which map the academic programme to the relevant occupational standards, described standards and criteria to be used in self-evaluation and during an external review.

The documents enabled Russian HEIs to set the requirements and procedures for the development of new and revising the existing academic programmes / modules; quality assurance agencies to check to what extend the alignment has been achieved between the programme learning outcomes, on the one hand, and the Dublin descriptors, the Federal State Educational Standards and the Occupational standards, on the other.

### **4. Piloting the developed mechanisms for alignment**

The next stage of ALIGN project focused on piloting of the developed mechanisms for alignment. Each Russian HEI selected two Master's degree programmes to align their learning outcomes with the National Qualifications Framework (Table 1).

Table 1 Master's degree programmes selected by Russian HEIs for alignment

| <b>HEI</b>    | <b>Academic Programmes</b>  |
|---------------|---|
| <b>Case 1</b> | <b>Programme 1</b> Applied Linguistics: Teaching English as a Foreign Language<br><b>Programme 2</b> Ecology and Environmental Management, Environmental Risk Management in the Arctic (ERMA) |
| <b>Case 2</b> | <b>Programme 1</b> Quality Management in Agriculture and Food Industry<br><b>Programme 2</b> International Cooperation in the Field of Protection of Environment and Nature Management        |
| <b>Case 3</b> | <b>Programme 1</b> Management of Research, Development, Innovation in the University  |

The universities reviewed the academic programmes they have chosen, developed learning outcomes in line with National qualifications framework descriptors, developed assessment methods for evaluating student achievement of learning outcomes, appropriate teaching and learning methods, curricula and other components of the academic programmes.

## 5. External evaluation of alignment of the academic programmes and their quality assurance

In order to check whether proposed learning outcomes and their assessment mechanisms match qualifications framework descriptors, an external evaluation of the alignment between programme learning outcomes and National Qualifications Framework was conducted at three Russian HEIs in 2016. The peer-review panel consisted of:

- two EU members from partner-universities (KU Leuven, Belgium; A. Mickiewicz University (Poznan), Poland),
- one EU member from Central and Eastern European Network of Quality Assurance Agencies in Higher Education,
- one member from the National Centre for Public Accreditation,
- three host university staff members,
- one employer / external stakeholder,
- one student / recent graduate / alumni from one of the aligned academic programmes.

The alignment was checked with regard to two standards:

Standard 1. Alignment of academic programmes (in designing, delivering and monitoring an academic programme, the programme team (including its teachers and supporters of student learning) meet the appropriate European and national standards and requirements). Standard 2. Alignment of quality assurance processes (in setting and maintaining standards and assuring quality, the university operates clear and effective processes for the design, approval, delivery, monitoring, and support and development of its academic programmes in accordance with the European and national standards and requirements). Each standard comprised 10 indicators - criteria of “good practice” (Table 2).

Table 2. Indicators of checking the alignment

| Indicators with regard to Standard 1  | Indicators with regard to Standard 2   |
|---|--|
| The academic programmes are properly titled and lead to awards at the appropriate level, consistent with European standards and NQF.  | There are clear criteria against which academic programmes are assessed in the programme approval, monitoring and review processes.  |
| The academic programmes are informed by and consistent with occupational/industry standards/requirements, where appropriate.  | The roles and responsibilities for programme design, development, approval and monitoring are clearly articulated.   |
| The aims of the programmes are appropriate for the student intake, and can be realized through students' attainment of the programme/module learning outcomes.  | Students are involved in programme design and in the processes of programme development, approval, monitoring and review.  |
| All learning outcomes at module level are at the appropriate level, and are assessed through fair, valid and reliable student assignments/tests.  | There are effective policies which ensure that the academic standards for credits and awards are rigorously maintained at the appropriate level, and that student performance is judged against these standards.                                   |
| Throughout their course of study, students are able to monitor their academic progress and development, and receive advice on how they can improve and enhance their work.  | There are clear and effective policies and processes for assessing the recognition of prior learning and supporting student mobility between courses of study and institutions.  |
| The teaching and learning activities employed within the modules are informed by reflection on professional practices, and designed to enable students to develop the knowledge, skills, abilities and professional competencies that will enable them to achieve the modules' learning outcomes. | Knowledge of professional standards/requirements and external expertise (e.g., from subject experts, employers and professional associations) is used to inform the design, development, approval and monitoring of academic programmes.           |
| The structure of the programme ensures the progression of students' learning, and provides appropriate opportunities for student choice.  | There are appropriate arrangements to train and support academic and professional/administrative staff who are involved in the design, delivery, approval and monitoring of academic programmes.   |
| The credits ratings (national and ECTS) for modules are properly aligned with the designated student workloads for the modules.   | There are clear policies and processes in place to ensure the integrity of student assessment (e.g., through marking schemes, moderation processes, examination board regulations), and the effectiveness of these policies is regularly reviewed. |

|  |  |
|--|--|
| Students are provided with clear and current information about the learning opportunities and support available to them.   | The policies and processes of programme design, development, approval and monitoring are regularly reviewed in order to ensure the effectiveness and continuous enhancement of current practices.  |
| The design, delivery and monitoring of the academic programmes is ‘student centred’, engaging students collectively and individually as partners in the development, assurance and enhancement of their educational experiences (e.g., through effective representation of the student voice, discussions about opportunities for course enhancement, involvement in quality assurance processes, and the monitoring and evaluation of student experiences). | There are effective policies in place to ensure that staff appointed to teach and support student learning on academic programmes are appropriately qualified, and that delivery of the programmes is supported by the appropriate learning resources. |

The key aspects of review were: learning outcomes, curriculum, staff, students, quality system, results achieved. The scale of assessment parameters used a five grading evaluation of the academic programme:

- fully achieved;
- largely achieved;
- partly achieved;
- not achieved;
- not applicable in this stage of the alignment.

The results of external evaluation are given in Table 3.

Table 3. Results of external evaluation of the alignment between academic programmes and qualifications frameworks

| HEI           | <b>Standard 1</b><br>Alignment of academic programmes   | <b>Standard 2</b><br><b>Alignment of quality assurance processes</b> |
|---------------|---|--|
| <b>Case 1</b> | <b>Programme 1</b> fully achieved<br><b>Programme 2</b> fully achieved                                  | <b>Programme 1, Programme 2</b> fully achieved                       |
| <b>Case 2</b> | <b>Programme 1</b> largely achieved<br><b>Programme 2</b> not applicable in this stage of the alignment | <b>Programme 1, Programme 2</b> largely achieved                     |
| <b>Case 3</b> | <b>Programme 1</b> largely achieved   | <b>Programme 1, Programme 2</b> largely achieved                     |

The alignment of two academic programmes (Standard 1) in Case 1 was assessed as “fully achieved”. The alignment of academic programme 1 in Case 2 and programme 1 in Case 3 was assessed as “largely achieved”, and of programme 2 in Case 2 was assessed as “not applicable in this stage of the alignment”. This is because the programme is currently virtual, and the review panel could not see the programme handbook, the alignment process is not completed yet. The alignment of quality assurance processes (Standard 2) was assessed as “fully achieved” in Case 1, and “largely achieved” in Case 2, Case 3.

The peer-review panel stated that in Case 1 a good and clear list of learning outcomes was made. Learning outcomes are up-to-date, aligned with the European Qualifications Framework and Federal State Educational Standards, and with the draft National qualifications framework, sufficiently programme specific, and fitting domain-specific demands. In Case 2 the peer-review panel emphasized that learning outcomes could be made more specific by including descriptors such as those included in the Dublin descriptors. The panel also made a comment that the learning outcomes didn’t include knowledge in a sufficient measure. Following the results of the external evaluation, three peer-review reports were produced that reviewed the documents submitted and the site visit outcomes, comments of the panel members on how to improve the programme and quality assurance alignment, assessment of the expectation for alignment of the academic programme and quality assurance, and recommendations for further improvement.

The results achieved by the National Centre for Public Accreditation and three Russian HEIs in ALIGN project were presented to the National Accreditation Board of Russia in January 2017. Three academic programmes positively assessed at the peer review were accredited for a period of

six years and received certificates of international accreditation. Thus, the outcomes of ALIGN project were recognized at the national level.

#### **6. Transformation of NCPA's vision of academic programme design and quality assurance processes as a result of ALIGN project**

NCPA's vision of academic programme design has substantially changed as a result of ALIGN project.

1. The National Centre for Public Accreditation and Russian HEIs came to a better understanding how academic programmes should be designed in the context of an outcome-based approach, described by some authors (Kennedy D., 2007). The traditional way of programme design, in which teachers decide on the content, plan how to teach it and then assess how well the students absorbed the material ("teacher-centred" approach) should be replaced by an outcome-based approach which focuses on what the students are expected to be able to do at the end of the module or programme.

2. "Student-centred" approach should be implemented more intensively, which means that students should actively participate in programme design, review and evaluation.

3. ALIGN project helped the Russian partner-institutions to learn how to write and access learning outcomes that define the various types of student achievement. Programme learning outcomes were aligned with three different standards: the Dublin descriptors, Federal State Educational Standards, Occupational Standards.

NCPA's vision of quality assurance processes has also changed.

1. With the support from the European partners the National Centre for Public Accreditation developed mechanisms for checking the alignment with NQFs.

2. NCPA is now able to check whether proposed learning outcomes and their assessment mechanisms match the Qualifications Framework descriptors.

3. NCPA came to a better understanding how academic programmes should be assessed from the perspective of an outcome-based approach.

4. NCPA tried to combine two models of external evaluation of academic programmes. Before participating in ALIGN project NCPA used the Eastern European model of external review. The evaluation procedures focused mainly on checking the conditions and outcomes of the learning process. Therefore standard practice for NCPA at site visits was holding meetings with HEI staff, students, alumni, and employers. Implementation of Standard 2 "Alignment of Quality Assurance Processes" required revision of NCPA's practice. The necessity to use the Western European model of audit arose in which Internal quality assurance is also reviewed. Meetings with the representatives of Internal Quality Assurance System and Academic Department were included into site visits. These meetings were aimed at obtaining general information about the mechanisms of internal quality assurance policy from the persons who are in charge of initiating, designing, implementing and monitoring Internal quality assurance.

#### **7. Conclusions**

ALIGN project helped NCPA and Russian HEIs develop a better understanding of the role of Qualifications Frameworks, their structure and differences between the different kinds and levels of student achievements. It also assisted in building on the capacity of HEIs to write and assess learning outcomes that define the various types of student achievements. Due to the activities performed, NCPA gained experience of checking the alignment between programme learning outcomes and National Qualifications Framework by appropriate quality assurance mechanisms and procedures.

NCPA gave significant methodological support to the Russian HEIs in aligning academic programmes with three standards: the European Standards, the Federal State Educational Standards, and the National Occupational Standards. Conclusions were drawn and recommendations were given in each case. The project proved the possibility of aligning the National Educational Standards of Russia with the international standards when designing academic programmes. This huge experience of methodological work can be used in future for aligning academic programmes with different standards both at the national and international levels.

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## **THE INTERNATIONAL STUDENTS' LEARNING CHALLENGE AND ITS COUNTERMEASURES**

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### **Abstract**

**Objective:** *With the increasing number of international students coming to our campus for their professional training, it is necessary to learn about the challenges they are facing in learning and adjusting to our teaching methods accordingly in view of the teaching quality.*

**Methods:** *An interview about cultural adaption, language issues, academic adjustment, and personal strengths and weaknesses on autonomous learning was conducted among 20 international students.*

**Results:** *They thought that the greater help came from the senior international medical students, the international student office and the academic staff. The biggest challenge was language, and other obstacles were differences in life-styles, culture, communication skills, teaching styles and so on.*

**Conclusion:** *Language training courses should be provided for both international students and teachers. More extra curriculum activities should help international students adapt to the new environment, the teaching methods should shift from teacher-centered to student-centered.*

### **Keywords**

*International students, challenges, language, culture*

### **Background**

Nowadays, as the context of continuous changes in higher education, and quantitative expansion of students' mobility in Asia and the Pacific, all these need quality assurance of cross-border education. With China's comprehensive national strength enhancing and the quality of higher education improving, more and more international students are coming to China to receive their higher education (Gan and Zhou 2015). Over the recent years, most of medical colleges and universities in China have launched a special program MBBS (Bachelor of Medicine & Bachelor of Surgery Program) to recruit overseas students. Chinese teachers delivered lectures in English. After the graduation, these students return to their home countries or go to other countries to take Medical Licensing Examination and start their clinical medical work. The quality of teaching is very important for these students, as it ensures whether they pass the Medical Licensing Examination and take up a relevant occupation or not.

Kunming Medical University launched the MBBS program in 2011. Up to now, there are 463 international students at the campus, most of whom are South-Asians (94.6%) (India, Nepal, Bangladesh), and the rest come from South-East Asia (3.9%), like Thailand and Burma, and other countries (1.5%) (as of May, 2016). These students have various cultural and educational backgrounds,



and their learning needs, expectations and ideologies are diverse, too. In order to to guarantee the quality of MBBS program, it is necessary to understand the challenges these students are facing in learning and adopt appropriate teaching methods to facilitate their learning. For that reason, we conducted an interview to learn about their difficulties.

## **Methods**

### **Interview questions**

Referring to other scholar's studies (Malau-Aduli 2011; Gagliardi et al. 2009), We designed a set of interview questions focusing on four topics – cultural adaptation, language issues, academic adjustment, and personal strengths and weaknesses in autonomous learning.

### **Sample**

The interviewees were 20 international students in Kunming Medical University (5 Indians, 3 Bangladeshis, 3 Nepalese, 3 Thais, 3 Burmese, 1 South African, 1 Kenyan, and 1 Tanzanian). Ten of them were freshmen, 5 sophomores, and 5 juniors. The seniors and the fifth-year students didn't take part in because they were off the campus in their internship at hospitals.

### **Ethical issue**

The study received the ethical approval from the Higher Education Research Institute of Kunming Medical University in July 2014. All the students who agreed to participate in the study were asked to sign a consent form.

### **Interview**

Before the interviews were conducted, we got in touch with those interviewees, informed them of the purpose and the requirements of the interview, and made an appointment with them about the time and place of the interview. During the interviews, we asked for their permission of recording first. When the interview began, we used the same questions to interview every candidate and recorded the whole process at the same time. Each interview lasted for about 20 minutes. Afterwards, we transcribed the recordings and sorted them out.

## **Results**

### **Demographic data**

Among the 20 participants, males (60%) are more than females (40%). All are under the age of 20. The South-Asian students account for 55%, including 25% of Indians, being the biggest group. The South-East Asians are 30% of them. 70% of the interviewees studied here with the financial support from their families, 15% of them obtained the government support, and the rest 15% were self-funded. Most of them (70%) have basic Chinese proficiency while 25% of the interviewees have acquired advanced Chinese proficiency (see Table 1).

### **The results of the interview**

The interviewees admitted that they got much greater help from “the senior international medical students”(70%) and the “international student office and academic staff”(45%) when they were adapting to a new environment, but the greater barriers in the adoption were “different life style”(45%), “lack of understanding of Chinese culture”(30%) and “exotic foods”(30%). Language issue was their greatest challenge. Nearly 80% of them had “language problems” and 50% of them lacked “communication skills”. Language even put strains on their academic adjustment. Half of them thought the greatest pressure came from the “Chinese language”. Other external stressors were “busy schedule of classes” (40%) and “teachers’ language and teaching style” (35%). The majority of them regarded themselves as high motivators (60%) but easily distracted in class (60%), and they believed that they were “good at accessing the Internet for learning resources (50%) (see Table 2).

## **Discussion**

### **Cultural adaption**

Our interview shows that there were some factors hindering the cultural adaptation of the international students. The most challenging was the “different life style” (45%), then followed the “lack of understanding of Chinese culture”(30%) and “exotic foods”(30%). Our international student office and academic staff have done a great job, which was satisfactory for nearly half of the interviewees (45%). They should keep on their efforts. However, these international students got a little help from their Chinese peers. Only 15% of them made Chinese friends. Chinese students are

the greatest population on campus and young people make friends easily if they have suitable chances. Mitchell reported how ‘cultures of learning’ influenced students’ approaches and indicated the importance of cultural influences as a factor amongst international and home learner groups (Mitchell et al. 2009). In order to reduce the barriers to acculturation for the international students studying in China, therefore, the international student office should arrange more extra-curriculum activities hand in hand with other schools or departments. Via involving in the same extra-curriculum activities, the international students will have more chances to make friends and mingle with Chinese peers. These Chinese students will help them pick up more of Chinese culture and life style from the daily life and their communication skills with Chinese could be improved quickly by such contacts. The university authority could even establish a Chinese-foreign student association. On the other hand, Chinese teachers and administrators in charge of the international students’ education should learn about their cultures, customs, religions, and taboos etc. Niemantsverdriet indicated that socio-cultural differences between students and supervisors could hamper productive learning (Niemantsverdriet et al. 2006). Such understanding will simplify these teachers and administrators’ efforts and make them more effective to help these international students get used to the new environment as soon as possible, which will alleviate learning obstacles caused by cultural differences. From the efforts of both sides, some cultural misunderstandings can be avoided and the period of culture shock for the international students might be shortened a bit.

### **Language issue and academic adjustment**

Language was and remains the biggest challenge for the international students. Nearly 80% of the interviewees admitted that they had “Language problem” and 50% of them lacked “Communication skills”. It even caused their great pressure in academic adjustment (50%). To some extent, this challenge affected their acculturation and timely progress throughout their medical education, leading to delays in progress and other kinds of assimilation and cultural integration difficulties in classrooms and clinical practices. In order to ensure our education quality, the language training should be offered as a compulsory course all through the programme. Cultural elements should be integrated into the language training course.

Although students felt helpful support in medical subject learning (80%), they complained about “busy schedule of classes” (40%) and “teachers’ language and teaching style” (35%). Only 20% of them regarded Chinese teachers as great helpers. Even if English is the language of instruction in their classroom, some teachers’ are not proficient enough in the English language. In order to solve the problem and to guarantee the teaching quality, it is advisable to hand over the teaching platform to as many “oversea returnee” teachers as possible. In the meanwhile, the university authorities should provide advanced academic English course for those potential young teachers, who need oral presentation skills in English to deliver their courses.

As to teaching methodology, the traditional teacher-centered lectures dominated the classroom. However, a problem-based learning method (McLean and Arrigoni 2015; Holen et al. 2015), case-based learning method (Srinivasan et al. 2007; Gade and Chari 2013), and team-based learning method (Zeng et al. 2017) are worth learning from. We can give students assignments and ask them to do some research after the class. During the class, the students are required to contribute their research results and discuss the suggested solutions together. In this way, teachers needn’t present everything in the class, and the teaching schedule in class doesn’t seem so busy. At the same time, these students can be better involved in class activities and the traditional teaching style is shifting towards the western one.

### **Students’ personal strengths and weaknesses on autonomous learning**

The interviewees reported a high lever of learning motivation (60%) and being good at accessing the Internet for learning resources (50%). But they were easily distracted in class (60%) and couldn’t manage their time properly (30%). Again, these features put forward the necessity to cut down the lecture time and involve those students in classroom activities. We should provide those students with sufficiently easy access to the Internet and encourage them to do online learning. In order to help them with time management, it is better to split the assignments into several parts and check their work frequently with short intervals. The last but not the least, the evaluation of interna-

tional students should be diversified. For example, brief students' recitations in the classroom should be encouraged. Assignments and online work should count more in their term achievements.

### Conclusion

Globalization of medical education requires cultural reflection that will ensure its success in different environments and among different groups (Stevens and Simmonds Goulbourne 2012). Our interview reveals that language is the biggest challenge faced by these international students. It affects the effective communication and the cultural adaption. Furthermore, it hinders academic adjustment. We should provide language training courses both for the international students and teachers. Besides, in terms of teaching methods it was suggested to make a shift from teacher-centered to student-centered methods such as PBL and CBL. International students should be more involved in extracurricular activities in order to increase their chances to mingle with the Chinese peers. All these suggestions will undermine the language and cultural barriers in their learning so as to enhance the teaching effect. We expect these measures will help our education on the way to globalization.

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### Appendices:

| Table 1<br>Demographic Characteristics of the Participants (Total numbers=20) |                     |     |                      |      |                     |      |
|---|---------------------|-----|----------------------|------|---------------------|------|
| Category  | First-year students |     | Second-year students |      | Third-year students |      |
|   | No                  | (%) | No                   | (%)  | No                  | (%)  |
| <b>Gender</b>   |                     |     |                      |      |                     |      |
| Male  | (6)                 | 55  | (3)                  | 53.9 | (3)                 | 59.5 |
| Female  | (4)                 | 45  | (2)                  | 46.1 | (2)                 | 40.5 |
| <b>Age</b>  |                     |     |                      |      |                     |      |
| ≤20   | (9)                 | 45  | (9)                  | 45   | (2)                 | 10   |
| <b>Finacial Assistance</b>  |                     |     |                      |      |                     |      |
| Family  | (8)                 | 40  | (3)                  | 15   | (3)                 | 15   |
| Self  | (0)                 | 0   | (1)                  | 5    | (2)                 | 10   |
| Government  | (2)                 | 10  | (1)                  | 5    | (0)                 | 0    |
| <b>Nationality</b>  |                     |     |                      |      |                     |      |
| India   | (3)                 | 15  | (1)                  | 5    | (1)                 | 5    |
| Bangladesh  | (1)                 | 5   | (1)                  | 5    | (1)                 | 5    |
| Nepal   | (2)                 | 10  | (1)                  | 5    | (0)                 | 0    |
| Thailand  | (2)                 | 10  | (1)                  | 5    | (0)                 | 0    |
| Burma   | (3)                 | 15  | (0)                  | 0    | (0)                 | 0    |
| South Africa  | (1)                 | 5   | (0)                  | 0    | (0)                 | 0    |
| Kenya   | (1)                 | 5   | (0)                  | 0    | (0)                 | 0    |
| Tanzania  | (1)                 | 5   | (0)                  | 0    | (0)                 | 0    |
| <b>HSK level</b>  |                     |     |                      |      |                     |      |
| Entry/Basic   | (7)                 | 35  | (4)                  | 20   | (3)                 | 15   |
| Advanced  | (2)                 | 10  | (1)                  | 5    | (2)                 | 10   |
| No HSK  | (1)                 | 5   | (0)                  | 0    | (0)                 | 0    |

Hanyu Shuiping Kaoshi (HSK) ; Entry/Basic=HSK level 1-3; Advanced= HSK level 4-6; No HSK= no HSK certificate.

Table 2 Themes of Interview (n=20)

|   |
|---|
| <p><b>Topic 1: Cultural adaption (Number of responses)%</b></p> <p><u>Factors that aided adaptation:</u></p> <ul style="list-style-type: none"> <li>✧ Senior international medical students (14) 70%;</li> <li>✧ Support from international students office and academic staff (9) 45%;</li> <li>✧ Other international students in the class (3) 15%;</li> <li>✧ Making Chinese friends (3) 15%.</li> </ul> <p><u>Factors that hindered adaptation:</u></p> <ul style="list-style-type: none"> <li>✧ Different life style (9) 45%;</li> <li>✧ Lack of understanding of Chinese culture (6) 30%;</li> <li>✧ Exotic foods (6) 30%;</li> <li>✧ Weather (2) 10%;</li> <li>✧ Different learning styles (2) 10%.</li> </ul> |
| <p><b>Topic 2: Language issues (Number of responses)%</b></p> <ul style="list-style-type: none"> <li>✧ Language problem (16) 80%;</li> <li>✧ Communication skills (10) 50%;</li> <li>✧ Different dialects people speak (4) 20%.</li> </ul>  |
| <p><b>Topic 3: Academic adjustment (Number of responses)%</b></p> <p><u>Most stressful areas:</u></p> <ul style="list-style-type: none"> <li>✧ Chinese language (10) 50%;</li> <li>✧ Teachers' language and teaching style (7) 35%;</li> <li>✧ Busy schedule of classes (8) 40%</li> </ul> <p><u>Most helpful areas:</u></p> <ul style="list-style-type: none"> <li>✧ Medical subjects (16) 80%;</li> <li>✧ Laboratory classes (5) 25%;</li> <li>✧ Chinese teachers' s help (4) 20%</li> </ul>  |
| <p><b>Topic 4: Personal strengths and weaknesses on autonomous learning. (Number of responses)%</b></p> <p><u>Major strengths:</u></p> <ul style="list-style-type: none"> <li>✧ Learning motivation (12) 60%;</li> <li>✧ Good at accessing the Internet for learning resources (10) 50%;</li> <li>✧ Learning strategies (6) 30%;</li> <li>✧ Learning contents (5) 25%.</li> </ul> <p><u>Major weaknesses:</u></p> <ul style="list-style-type: none"> <li>✧ Distracted in class (12) 60%;</li> <li>✧ Lack of communication skills with Chinese teachers and administrators (7) 35%;</li> <li>✧ Lack of proper time management (6) 30%.</li> </ul>  |

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## **THE USE OF BLOOM'S TAXONOMY TO ASSESS STUDENTS' PERFORMANCE EFFECTIVELY IN WRITTEN EXAMINATIONS**

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### ***Abstract***

*Bloom's Taxonomy is widely used, to bring out thinking ability in students, as an assessment method. In this article we emphasize four types of methods generally used in evaluating the intended learning outcomes in written examinations. How questions should be structured in each level of cognitive domain is discussed with an example in multiple choice questions (MCQ), short answer question (SAQ), structured type questions (STQ) and essay type questions (ETQ). Common biological applications were used as example questions. The questions were developed to show how students' thinking ability was brought out when questions were structured in line with the levels of cognitive domain in Bloom's Taxonomy. In conclusion, this paper defines how the application of Bloom's Taxonomy helps in developing complete answers which come out not from the students' memory but from applying, analyzing, synthesizing and evaluating.*

### ***Keywords***

*Bloom's Taxonomy; Multiple Choice, Short Answer, Structured, Essay*

### ***Introduction***

One of the main objectives in teaching is to promote thinking ability in learners. When a theory is taught targeting to further thinking leading to the development of new knowledge, the educational process is highly effective. In order to encourage this, Benjamin Bloom and his co-workers (1956) introduced Bloom's Taxonomy. Using Bloom's Taxonomy the concepts, processes, procedures and principles are analyzed and evaluated at the stage of contents design of the educational programmes (Nobel, 2004). Bloom's Taxonomy uses multi-tiered scales in three aspects to describe the level of knowledge required to achieve each measurable student outcome. It will allow assessment techniques to be undertaken for the designated course learning outcomes by organizing it according to the Bloom's Taxonomy. It mainly deals with the learning which takes place in multiple domains such as cognitive (knowledge and mental skills), psychomotor (motor skills), and affective (feelings, values, dispositions, attitudes) (Haq Nawaz Anwar, Malik Muhammad Sohail 2014). In 2001 Lorin Anderson introduced changes into a cognitive domain in Bloom's taxonomy based on findings of cognitive science following the original publication. In the later version, the levels are designated as *remember, understand, apply, analyze, evaluate, and create* (O'Neill and Murphy, 2010). This paper was written with the objective of describing how levels of cognitive do-

main can be used to construct different types of questions to bring out the thinking ability of students in written examinations.

### **Cognitive Domain**

The structure of this domain as introduced by Bloom and his collaborators (Bloom, et.al,1956) consisted of six major categories: Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. The categories after Knowledge were presented as “skills and abilities,” having the knowledge as the base for putting these skills and abilities into practice. When it is organized in a triangle the knowledge is the bottom most level and it rises with six levels becoming more complex.

### **Affective Domain**

Unlike cognitive domain the affective domain deals with a person’s emotions. Studying this domain, students normal and abnormal behavior can be identified and the necessary actions can be taken.

### **Psychomotor Domain**

This domain addresses the physical abilities of a student such as coordination, and motor-skill usage. As this has a lot of physical inputs, thus developing the skills necessary in practice. (<https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/>).

### **The Cognitive Domain**

*Categories and steps of the Cognitive Domain are Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation.*

This domain implies memory recollections, understanding of the information, application of the gained knowledge, division of the knowledge into sections and thinking further, creating new ideas and new knowledge (<https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/>).

### **Cognitive domain and assessing performances**

Students performance is assessed in a variety of ways including exams, evaluation portfolios (Wickramasinghe and Peiris, 2015), assignments, oral presentations, theses defenses either in the middle or at the end of the semester. The examinations are designed to evaluate the achievements of the intended learning outcomes. The evaluations appear within the frame of cognitive domain. The lower part of the pyramid evaluate students’ memory and when propelling further the evaluation will rather focus on applications, analysis and creativity. Questions in written examinations can be referred to one of the methods for evaluating students’ performances and can be addressed very effectively if the questions are compiled bearing in mind the categories of the Bloom’s Taxonomy. In the most common way of written examinations several types of questions are included to evaluate the achievement of intended learning outcomes of students. This includes multiple choice questions (MCQ) short answer questions (SAQ), structured type questions (STQ) and essay type questions (ETQ). In this paper we would like to elaborate on these four types of questions, which will appear in a written exam paper.

### **Multiple Choice Questions**

We would like to use some information about spider monkeys as an example to develop the MCQ questions.

Tropical rain forests in Central and South America up to Mexico are the habitat of Spider monkeys (of several species). They have long, limbs and the most prominent feature on the spider monkey's body is its long, prehensile tail that enables them to move easily from tree to tree. Tail facilitates movement through the dense vegetation. Spider monkeys are named that way because they hang from the trees by holding different branches with their limbs and long tails, "shaped" like spiders. Spider monkeys do not have a thumb. Their four fingers are in different sizes and curved to look like a hook, which is specially adapted to the life in the forest. (<http://animals.nationalgeographic.com/animals/mammals/spider-monkey/>)

### **Knowledge**

Question: How many fingers do spider monkeys have on one hand?

- a. Two
- b. Three

- c. Four
- d. Five

Here only memory is tested which is appropriate for the level of knowledge in the cognitive domain.

### **Comprehension**

Question: What statement explains a spider monkey's fingers in one hand?

Answers:

- a. They have 4 fingers and all are of the same size.
- b. They have 4 fingers and all in of different sizes.
- c. They have 5 fingers and all are of the same size.
- d. They have 5 fingers and two of them are different in size.

In the level of comprehension the same knowledge can be tested in order to find out whether a student comprehends the material. Students have to give the number of fingers and their disparity or similarity. If the teacher has just talked about the number of fingers, the students may not remember. However, if the teacher had described the size of fingers comparing all four fingers, there is a higher possibility to give a correct answer as students comprehend the sizes of fingers and their disparity in size.

### **Application**

Question: Spider monkeys use their hands in a similar way like human beings do. However, there is a difference between the **anatomies of hands**. Select the correct answer which describes the **disparity**.

Answers:

- a. Spider monkeys' limbs are longer than humans' limbs.
- b. Spider monkeys have no thumbs whereas humans have thumbs.
- c. Human fingers and toes are of difference sizes, whereas a spider monkey's fingers and toes are of the same size
- d. Spider monkeys use their tails to hold on to things, whereas humans do not have tails.

Students should be able to apply the knowledge gathered about spider monkey fingers in the classroom. It can be tested using the above question. Answering this question they will think about the anatomy of the hand of both spider monkeys and their own. They apply the knowledge gathered in real life situation.

### **Analysis**

Question: Select the correct answer which emphasizes the use of fingers special to spider monkeys.

Answers:

- a. As the fingers are curved they can hold the branches very firmly.
- b. They use the toes but not fingers to hold when swinging to jump long distances.
- c. As the fingers are long and slender they facilitate fishing out food from water sources.
- d. Their fingers are used to dig holes in trees to find food.

Students should be able analyze a situation in order to answer this question. They can use the information gathered in the classroom about the spider monkeys and analyze it accordingly. In this question it is not just the number of fingers they should know. They should know for what purposes they use fingers effectively. Students have to analyze the use of fingers.

### **Synthesis**

Question: What is the feature of their fingers which shows adaptation to the life in the forest?

Answers:

- a. Use of a tail to hold branches.
- b. Their four fingers are curved and look like a hook.
- c. Lack of thumb on hands.
- d. Fingers can be used to grab things very easily.

This MCQ question will allow students to think about the structure of fingers. Just the memory will not be enough to answer the question. Answer to this question should come out after think-

ing for sometime. Even if they know from their memory that spider monkeys lack a thumb and they have four fingers they should synthesize a situation how the monkey's fingers help them adapt to the forest environment.

### **Evaluation**

The benefits of adaptations of their fingers lead to:

- a. grabbing tree branches in a situation where predators are chasing.
- b. eating fruits and leaves well without dropping much.
- c. scratching the enemy quickly and escaping for survival .
- d. grabbing many items in one hand such as branches and fruits at one time.

Students have to analyze the situations, thinking about the structure of the hand and the fingers and their use and evaluate the most beneficial use.

### **Short Answer Questions**

Short answer questions require answers which are concise, accurate, aiming directly at the question. Students should read the question carefully to answer the short answer questions accurately. It is possible that students wrote answers which are irrelevant if the questions are not properly understood. However, the answers can be in higher order of the cognitive domain as they are in descriptive form even it is short (Clay and Root, 2001).

Some knowledge about photosynthesis is used to compile short answers questions as an example.

### **Knowledge**

Question: Define photosynthesis.

Here it is only necessary to write what photosynthesis is. Which can be done by recalling the information from the memory.

### **Comprehension**

Question: Explain why photosynthesis does not take place during night time.

This needs some comprehension. A teacher explains the whole procedure of photosynthesis but never says that it does not occur during night time. However, a teacher's description of photosynthesis is enough to comprehend and answer correctly.

### **Application**

Question: Explain how the plants, which do not have green colour prominently, photosynthesize?

This answer has application of other situations which a teacher might not have directly talked about. But a teacher may have talked about the pigments involved in photosynthesis. Hence students can apply that knowledge.

### **Analysis**

Question: Explain the relationship of temperature on accumulation of photosynthate in relation to the rate of respiration.

The answer should include the analysis of situations such as high and low temperature and what happened to carbon assimilation and how respiration is involved in this.

### **Synthesis**

Question: Describe why crop yield in a given land area in tropical countries is lower when compared to temperate counties.

In order to give the answer students have to synthesize reasons from the familiar facts such as high night time temperature, respiration rate and their relationships etc.

### **Evaluation**

Question: Briefly explain photosynthesis systems which reduce photorespiration.

Students have to evaluate other photosynthesis systems such as C<sub>4</sub> and CAM in order to give a successful answer. In that context, further thinking on comparison of three photosynthesis systems is required. This indeed needs evaluation of the photosynthesis process and its differences among the three systems with the basic knowledge.

### **Structured Type Questions**



In structured type questions all the steps of cognitive domain can be used. The structured questions should be similar to essay type questions in contents but with four or five sections. The first few sub-questions in one question are simple, so the quick answers are expected. These questions can be memory recalling in the category of knowledge of the cognitive domain. Gradually descriptive answers can be expected and questions can be elaborated bearing in mind the levels of cognitive domain. However, the questions should be designed appropriately within ILOs to get the expected level of answer. When the answers are put together they should make up a single story, as if it is one essay type question.

**We would like to provide an example of plant tissue culture technique to demonstrate the structured type question.**

Plant tissue culture was first introduced by Gottlieb Haberlandt in 1892, is known as the father of plant tissue culture. This technology is based on the unique ability of plant cells, to regenerate a whole plant from a single cell, known as ‘totipotency’. In order to regenerate, grow and multiply plant parts should be grown in an artificial medium which contains all required elements, water, vitamins, sugar and growth regulators. By manipulating growth regulators such as cytokinins and auxins in the medium plants parts can regenerate embryos, shoots and roots. Cytokinin, Benzyl Amino Purine (BAP) in particular multiply true to type shoots in large numbers through sub culture. Auxins can be applied to get callus and roots. This can be applied to produce large numbers of true-to-type uniform saleable plants within a short period of time continuously.

**Knowledge**

Question: Who is the father of plant tissue culture.

Just by recalling the name students can answer.

**Comprehension**

Question: Describe totipotency.

Students have to think about it little more by comprehending the ability of plant cells.

**Application**

Question: Discuss the difference between the growing medium of plants in *in-vivo* (normal condition) and the plants growing *in vitro* (inside glass).

Students have to apply their knowledge in growing plants outside. As outside plants undertake photosynthesis and vitamin synthesis they are not given sugar and vitamin. Students have to first indicate the differences and discuss the reasons in order to get full marks.

**Analysis**

Question: Describe the effects of plant tissue culture medium on regeneration of plants.

The students should include the requirements of the medium, specially the plant growth regulators and how they are manipulated to get callus followed by embryos, adventitious shoots and adventitious roots. This would be a quite comprehensive answer with analyzing the situation of requirements of plant growth regulators, their types, concentrations and at what stage these growth regulators should be applied so on. This cannot be done just by memory recalling or comprehending on what teacher has said in the class. They have to have a thorough knowledge on how plant growth regulators affect embryogenesis and organogenesis.

**Evaluation**

Question: Explain how plant growth regulators can manipulate the target number of saleable plants. This is a question where they have to show the output. In order to get a target output a certain plant growth regulators (cytokinins- BAP) should be applied in the medium for shoot multiplication. They have to discuss the performances of cytokinin, a particular type, and how the concentration affects the multiplication. If too much is added for too long it can have disorders and plants will not be saleable. Hence they should show when to stop growth regulators and when to add the rooting growth regulators.

The answer for this question is quite lengthy and a lot of evaluations of different situations are involved.

### **Essay Type Questions**

Essay type questions are unstructured questions that are open and students have to construct the answer using some or all the levels of cognitive domain. Hence these answers have an appeal of quality. They do not require pre-defined categories and they allow students expressing their views openly. However, this openness can be advantageous as well as disadvantageous. Open-ended questions, produce a higher cognitive load in the sense that the students have to contribute more cognitive efforts to produce an answer. This can result in a lower response rate and sometimes lower quality answers. On the other hand, they can produce rich insights that provide in depth meaning to structured questions.

We would like to provide the same example as with structured type question, which is related to plant tissue culture.

Question: Discuss the role of growth regulators in plant tissue culture when a targeted amount of plants are to be sold during the designated time period. You can select any fruit crop to develop your answer.

In this question students have to have a thorough knowledge about the basics of growth regulator effect in plant tissue culture. They also have to apply knowledge gathered on how plants are multiplied and rooted using growth regulators. Also they should know the correct amount to be applied and the short term and long term repercussions for the particular crop. They have to synthesize the answer targeting an amount to be sold and the time period required. They can describe how the time period can be manipulated with the growth regulator concentration. Evaluations should also be done with the quality of plants and its relationship to reducing growth regulators in correct time.

### **Conclusions**

Application of Bloom's Taxonomy should be in line with the learning outcomes of the module being tested. The Bloom's Taxonomy principles serve as guidelines for the staff involved in the development of question papers, but it is largely up to the teachers to produce a balanced question paper as the final outcome. Bloom's Taxonomy can be applied to all common types of questions for written examinations in order to stimulate students' effective and analytical cognition and develop their creativity.

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## **QUALITY TEACHING IN INDIAN HIGHER EDUCATION SYSTEM: A DESCRIPTIVE STUDY**

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### **Abstract**

*The higher education system in India has grown astoundingly, especially in the post-independence period, to end up distinctly one of the biggest arrangement of its kind on the planet. Nonetheless, the system has a lot of disputable aspects, such as financing and administration including access, value and significance, reorientation of projects by laying accentuation on wellbeing cognizance, qualities and morals and nature of higher education together with the evaluation of foundations and their accreditation. These issues are vital for the nation, as they concern the use of higher education as an intense instrument to construct a knowledge-based society of the 21st century. This paper analyses the quality teaching and higher education system in India. The framework establishes a hypothetical foundation arrangement of training in higher education. It highlights the primary civil arguments on the subject and the alternative points of view that exist in education.*

### **Key Words**

*Higher education, evaluation, accreditation, quality teaching, instructing.*

### **Introduction**

***“We want that education by which character is formed, strength of mind is increased, the intellect is expanded, and by which one can stand on one's feet”–Swami Vivekananda***

Higher education area has seen a gigantic increment in the quantity of universities/university level institutions and colleges since Independence. The quantity of universities has expanded by 34 times from 20 in 1950 to 677 in 2014. The area features 45 central universities including 40 which are under the Ministry of Human Resource Development, 318 state universities, 185 state private colleges, 129 deemed to be universities, 51 institutions of national importance (built up under the acts of parliament) under MHRD (IITs - 16, NITs – 30 and IISERs – 5) and four institutions (set up under different state enactments). The quantity of schools has likewise skyrocketed from only 500 in 1950 to 37,204, as on 31st March, 2013.

Indian schools and colleges are undergoing significant changes as they explore the 21<sup>st</sup> century and settle on choices that won't just affect higher education yet will likewise add to our nation's future aggressiveness in the worldwide commercial center. This article analyzes different impacts on organizations of higher learning as they move toward customer-orientation. It additionally focuses on the significance of adjusting the requirements of different client bunches while keeping on filling in as purveyors of instructed HR in a worldwide economy.

This article recognizes and assesses the results of endeavors to change quality gauges in higher education. While changes are unavoidable and higher learning faces troublesome decisions, we can settle on proactive choices and get to be specialists of progress. The budgetary commitments of running a foundation today are a noteworthy concern. While not another idea, there is a pattern for open establishments to rethink their way of life as administration associations and organizations.

Because of the expanded money related requests, there has likewise been an emotional ascent in the cost of going to post-optional schools. Today, institutions rely on a progressively large numbers of students to help balance disbursements. As institutions face mounting monetary limitations due to current financial events, there is even a better apprehension that institutions will concede to the value of the monetary assistances of increased registrations, particularly in the face of scarcer state resources. Given the significance of enrolment monies, it is not astounding that colleges have turned out to be extremely keen on showcasing their establishments to the understudy client. If the focus is engaged at attracting greater numbers of probable students even when it is essential to alter admission standards, there is an allied risk of also conveying academic standards to create easier

courses and modify academic requirements. The status of the institution becomes the greatest expensive fatality of all when academic standards that motivate scholarly integrity are compromised.

Higher education in India experiences a few complete inadequacies. In this way, it keeps on giving graduates that are unemployable in spite of rising deficiencies of talented labor in an expanding number of areas. The principles of scholarly research are low and declining. A portion of the issues of the Indian higher education, for example, – the clumsy affiliating framework, resolute scholastic structure, uneven limit crosswise over different subjects, dissolving self-rule of scholarly foundations, and the low level of open financing are notable. Numerous different concerns identifying with the useless administrative condition, the accreditation framework that has low scope and no outcomes, nonattendance of impetuses for performing great, and the despicable open financing strategies are not all around perceived. Driven by populism and without great information, there is minimal educated open civil argument on higher education in India. Higher education in India has extended quickly in the course of the recent decades.

This development has been for the most part determined by private segment activities. There are authentic worries about a large portion of them being substandard and exploitative. Because of the administration's inner conflict on the part of private division in higher education, the development has been unrestrained and unprepared. The administrative framework has neglected to keep up the principles or check the abuse. Rather, it brought about raising imposing section hindrances that create undesirable rents. Intentional accreditation appears to have no takers from among private suppliers and clearly fills little need for any of its partners.

Regardless of its great development, higher education in India could keep up just a little base of value foundations at the top. Benchmarks of most of the institutions are poor and declining. There is a large number of small and non-feasible academic institutions. Segment to the little number of value establishments is extremely aggressive offering ascend to high stake entrance tests and a prospering private educational cost industry. The stakes are high to the point that share based reservation of seats in such organizations for the sake of governmental policy regarding minorities in society has come to involve the focal point of the audience in appointive governmental issues. Notwithstanding some legitimacy, it has brought about fracture of rightfulness space and further strengthened rivalry for the restricted limit in quality establishments.

### **Higher Education system in India**

Before we discuss the current higher education framework in India, a short authentic foundation will be useful to comprehend its institutional setting. India has an extremely rich history goes back centuries. The information was safeguarded and proliferated through an oral custom. In this specific situation, the educators set up 'private schools' in their own particular homes. Students were to live with the educator and his family and were required to share the everyday chores of the family. Sanskrit was the language of the informed and the writings were made in this language. The greater part of the real present day vernaculars in India are gotten from Sanskrit.

Amid the guidelines of Buddhist rulers having a place with the Mauryan line in the third and second century BC India thrived with the foundation of institutions of learning. Taxila, now in Pakistan, turned into the seat of comprehending where researchers ventured to learn and to be taught. Nalanda in eastern India got to be distinctly well known for the Buddhist University where a few religious conferences were held. In the tenth century, India was attacked from the northwest and many established their dynastic manage in India. Persian turned into the court language and the informed elites got to be distinctly familiar with Farsi and Arabic. The double customs of Sanskrit and Farsi training were kept alive till the colonization of India by the British. The British built up schools to teach English and sciences. These universities offered instruction in the aesthetic sciences. The principle target was to educate individuals for the positions in administration, legitimate calling and in medicine. The requirement for specialized instruction was likewise felt by the British, who set up the principal mechanical school appended to the Gun Carriage Factory in Guindy, Chennai, in 1842.

In 1857, three federal probing at colleges on the example of London University were set up at Calcutta, Bombay and Madras. The total of 27 schools were associated to these three colleges. Lat-

er, more colleges were built up. After gaining independence in 1947, there were 19 colleges and a few hundred associated universities (CABE, 2005a). The higher education system in India developed quickly ever since. By 1980, there were 132 colleges and 4,738 schools in the nation enlisting around five for every penny of the qualified age bunch in higher education. Today, while as far as enrolment, India is the third biggest higher education framework on the planet (after China and the USA); with 17973 establishments (348 colleges and 17625 universities) is the biggest higher education framework on the planet regarding number of organizations.

The quantity of organizations more than four circumstances the quantity of establishments both in the United States and whole Europe. Higher education in China having the most noteworthy enrolment on the planet (almost 23 million) is composed in just around 2,500 organizations. Though, the normal enrolment in higher education establishment in India is just around 500-600 students, higher education organization in the United States and Europe would have 3,000-4,000 million students and in China this would be around 8,000-9,000 students. This makes arrangement of higher education in India as an exceedingly divided framework that is much harder to oversee than some other arrangement of higher education in the world.

### **Quality Teaching**

Quality teaching has turned into an issue of significance as the scene of higher education has been confronting ceaseless changes. The learner or student body has significantly extended and enhanced both socially and geologically. New students call for new educating strategies. Present day advances have entered the classroom, in this manner altering the way of communication amongst students and teachers. The governments, students and their families, businesses, assets suppliers progressively request an incentive for their cash and craving more effectiveness through teaching.

Quality teaching absences of clear definitions and to some degree can't be detached from verbal confrontations on Quality or Quality culture in higher education that stay questionable terms. A few researchers see quality principally as a result, others as a property. Some consider instructing as the endless procedure of diminishment of deformities thus Quality Teaching can never be completely gotten a handle on and assessed. Indeed, originations of value teaching happen to be partner relative: students, educators or assessment offices don't share the meaning of what "great" educating or "great" a teacher is.

The earlier researches stresses that "great teachers" have compassion for students, they are for the most part experienced educators and above all else they are sorted out and expressive. "Magnificent educators" are the individuals who have interests: interests for learning, for their field, for instructing and for their students. In any case, inquire about likewise shows that "great educating" relies on upon what is being instructed and on other situational elements.

Research pointed out that quality educating is essentially student centric; its point is most and for all student learning. In this manner, consideration ought to be given not just to the instructor's educational abilities, but rather additionally to the learning condition that must address the students' close to home needs: students ought to know why they are working, ought to have the capacity to identify with different students and to get help if necessary. Sufficient support to staff and students (monetary support, social and scholastic support, support to minority students, guiding administrations, and so on) additionally enhances learning results. Learning people group – gatherings of students or potentially instructors who learn cooperatively and fabricate information through scholarly collaboration – are judged to improve student learning by expanding students' and educators' fulfillment.

### **Assurance of Quality Teaching**

Actually, there are no generally accepted strategies for measuring quality, and assuring the effect of higher education on students is so far an unexplored territory also" in addition it contends that the way of life of estimation that has trivialized showing brilliance as of late and the vernaculars of business that has transformed it into an item should be supplanted by suitable types of judgment and expression.

Indian Higher Education system has thriving and attractive teaching institutions, with a reputation for excellence in both undergraduate and post graduate education. For the reasons, which we

set out few recommendations, we are of the firm view that Indian Higher Education should continue to give prime importance to this role and to pursue excellence in teaching and learning. In so doing, we believe that Indian Higher Education system must have the following objectives:

- ✓ to give academically thorough, intelligible however adaptable courses, equipped for extending the capacities of the most intellectually able students;
- ✓ to pull in staff and students of the most astounding scholarly measure, drawing students from a relentlessly wide scope of foundations, and meeting the difficulties postured by the developing assorted qualities of pre-college training;
- ✓ to make a domain for educating and realizing which makes best utilization of the gifts and capacities of staff and students inside the assets accessible - specifically by guaranteeing powerful arranging and coordination, by decreasing weights on scholarly and other screening staff, by recognizing and embracing the best strategies for instructing and learning and by giving sufficient framework and support;
- ✓ to cultivate an atmosphere in which educating is exceedingly esteemed and in which educational issues, for example, the advancement of instructing and evaluation techniques, are the subject of standard, very much educated level headed discussion;
- ✓ to monitor, maintain and strive to raise the standards of teaching provision, in order to ensure that the students are consistently offered the highest quality of education;
- ✓ to give a situation in which students can grow actually and additionally scholastically, by offering them the chance to secure an expansive scope of abilities and to profit by social collaboration with scholarly staff and kindred students;
- ✓ to bolster students in both their scholastic and individual life by giving compelling measures to checking and for peaceful care;
- ✓ to give students and their future bosses with an exact impression of their capacities and accomplishments using reasonable and far reaching techniques for appraisal.

### **Quality assurance systems**

The University and schools have tended to quality confirmation for their teaching arrangement in a range of ways, and the boundless affirmation given to the elevated requirements of Indian Higher Education System's instructing is proof of their adequacy. Notwithstanding, Higher Education System in India trust that different elements, for example, the expanded size of the Universities, the more noteworthy assorted qualities of courses and the assortment of instructing and evaluation strategies, imply that the Higher Education should now embrace a more deliberate and composed way to deal with quality confirmation than has been required before. Furthermore, as advanced education in India moves towards an idea of a notional or genuine legally binding relationship between an organization and individual 'learners', it is turning out to be progressively vital that both the University and individual understudies ought to know ahead of time the sum and nature of showing expected, and have the capacity to screen regardless of whether those desires have been addressed, in this way, that there is a requirement for Indian Higher Education framework to give facilitate thought to its quality confirmation game plans, to guarantee that successful frameworks are set up for the setting of subjective and quantitative models, the observing of value and the raising of measures.

### **Setting standards**

There are worries that the nature of training in Indian Higher Education is more factor than it ought to be which goes for perfection over the world. There is impressive variety in the standard of instructing in addresses, instructional exercises and research supervision, and some of analysts communicated the worry at the component of chance in being designated a decent coach or supervisor. While some of this feedback might be misrepresented, it is by and by a sign of the requirement for Indian Higher Education System is to guarantee that the nature of training which it offers is steady for all students. The main stage in this procedure is for measures of value to be set, against which teaching arrangement can be judged.

### **Raising standards**

Notwithstanding the Educational Policy's part in observing the nature of teaching, the Higher Education framework ought to likewise assume an extremely dynamic part in raising gauges of training. As the Education framework, would oversee starting examination of, and where important research into, issues of educational approach and improve, and for encouraging the spread of best practice all through the Higher Educational establishments. It would likewise screen and cover patterns from outside country which affect teaching practice, for example, arrangements started by the government and the examination chambers, and improvements in higher education.

### **Raising respect for teaching**

The Study suggests that the Indian Higher Education framework ought to cultivate a culture in which brilliant teaching is requested and compensated by:

(a) assigning unambiguous accountability for considering comprehensive pedagogic issues to the academic boards and the Educational Policy and other Higher Education Committees like UGC, AICTE, NCTE etc;

(b) Introduction of individual assessment and teaching performance;

(c) Launching teaching capability more decisively as a standard for endorsements to retiring age, promotions and the making of distinction awards.

(c) Indian Higher Education System should consider the desirability and feasibility of establishing a teaching award scheme in India.

### **Conclusion**

Education without vision is unbeneficial and teaching without quality is negligible. The teaching of the quality and qualities and advancement of qualities in educational framework is a need of great importance for a nation like India to make all the conceivable endeavors to inculcate esteem and quality arranged teaching in the higher learning academic institutions. The Teachers interest with a dream to make teaching significant and important will add to the overall improvement of the development of the higher education of the nation all in all.

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## **RELATIONSHIP AMONG STUDENTS' LEARNING STYLE, ASSESSMENT OF LEARNING OUTCOMES AND STUDENTS' PERFORMANCES**

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### **Abstract**

*Learning Outcomes are statements that describe significant and essential learning that learners have achieved, and can reliably be demonstrated at the end of a course or a program. In other words, learning outcomes identify what a learner will know and will be able to do by the end of a course or a program.*

*Assessment is a systematic process of looking at student achievements within and across courses by gathering, interpreting and using information about student learning for educational improvement*

*Curriculum is a planned educational experience in a given discipline implemented within a specified time period to foster the desired academic & professional development of learners in that discipline.*

*Our main objective is to train quality specialists capable to meet the national/international requirements. This paper extensively discusses the importance of assessment, learning outcomes, students' learning styles and the relationship between Students' Learning Style and the assessment of Student Learning Outcomes.*

*The survey outcomes depict that the identification of Students' Learning Style is very important during early stage of a module as it is greatly helpful to prepare assessments and teaching methods which can be used in delivering the module. Students with different learning styles perform differently during assessments in practical and theoretical classes. Most of the lecturers do their best to finish the module according to the given time period. But the important thing is how students achieve the learning outcomes of the particular module. By considering these aspects, it is clear that there is a close relationship among Students' Learning Style, Assessment of Student Learning Outcomes and Students' Performances.*

### **Keywords**

*Assessments, Learning Outcomes, Learning Styles, Curriculum*

### **1.0 Introduction**

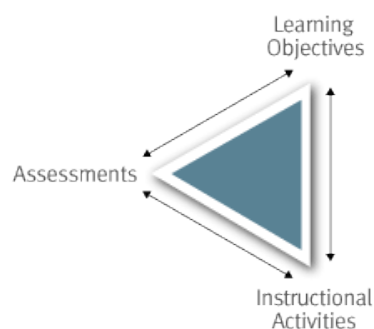
A study has been conducted to observe which learning style (Auditory, Visual and Tactile) would be better under two types of assessments such as Theory or Practice.

According to the Nelson Mandela "*Education is the most powerful weapon which you can use to change the world*", unfortunately most of lecturers use assessment as the weapon. Therefore, most students fear to face the assessments. Hence, as lecturers we have a duty to change students' mindset and we have to make them aware that assessments are not used to penalize anyone, they are used as a tool/indicator to improve student learning by introducing new assessment methodologies to improving learning quality and student performances.

Assessment is claimed to be the 'life-blood' of learning and by assessing we make inferences about our students' current and future performance (Fardon, 2013). The investigation considers the effect of identifying learners' perceived abilities, in relation to their visual, auditory and kinesthetic learning styles, in order to help guide and develop them and their tutors to maximize their abilities and desires.

Assessments should reveal how well students have learned what we want them to learn while instruction ensures that they learn it (Eberly Centre, Teaching Excellence & Educational Innovation, 2015). For this to occur, assessments, learning objectives, and instructional strategies need to be closely aligned so that they reinforce one another.





In order to ensure that these three components of your course are aligned, ask yourself the following questions:

- **Learning objectives:** What do I want students to know how to do when they complete this course?
- **Assessments:** What kinds of tasks will reveal whether students have achieved the learning objectives I have identified?
- **Instructional strategies:** What kinds of activities in and out of class will reinforce my learning objectives and prepare students for assessments?

If assessments are misaligned with learning objectives or instructional strategies, it can undermine both student motivation and learning. Consider these two scenarios: Your objective set for students is to learn how to *apply analytical skills*, but your assessment measures only *factual recall*. Consequently, students hone their analytical skills and are frustrated that the exam does not measure what they learned.

Assessment measures students' ability to *compare and critique* the arguments of different authors, but your instructional strategies focus entirely on *summarizing* the arguments of different authors. Consequently, students do not learn or practice the skills of comparison and evaluation that will be assessed.

Table 1 presents examples of the kinds of activities that can be used to assess different types of learning objectives (adapted from the revised Bloom's Taxonomy).

Learning takes place in students' heads where it is invisible to others. This means that learning must be assessed through performance: what students can do with their learning. Assessing students' performance can involve assessments that are formal or informal, high- or low-stakes, anonymous or public, individual or collective.

Here we provide suggestions and strategies for assessing student learning and performance as well as ways to clarify your expectations and performance criteria to students.

- Creating assignments
- Creating exams
- Using classroom assessment techniques
- Using concept maps
- Using concept tests
- Assessing group work
- Creating and using rubrics

Assessment and grading are not the same. Generally, the goal of *grading* is to evaluate individual students' learning and performance. Although grades are sometimes treated as a proxy for student learning, they are not always a reliable measure. Moreover, they may incorporate criteria – such as attendance, participation, and effort – that are not direct measures of learning.

The goal of *assessment* is to improve student learning. Although grading can play a role in assessment, assessment also involves many ungraded measures of student learning. Moreover, assessment goes beyond grading by systematically examining patterns of student learning across courses and programs and using this information to improve educational practices.

During any assessments, simply checking how students have achieved the learning outcomes as a result of a particular module/course. Students' grades are varied from student to student

at the assessments based on how they achieved the same learning outcomes. There are four (4) levels of thinking about learning and teaching.

1. What a student is?
2. What a teacher does?
3. What a student does?
4. How a student manages?

When we try to find answers to What a student is? question or What a student does?, students' learning style provides the answer for both questions. My personal idea is when we conduct assessments, not only concentrate to the Learning Outcomes, but also consider the Students' learning style.

Table 1 - Types of activities that can be used to assess different types of learning objectives

| Type of learning objective  | Examples of appropriate assessments  |
|---|--|
| <b>Recall<br/>Recognize<br/>Identify</b>  | Objective test items such as fill-in-the-blank, matching, labeling, or multiple-choice questions that require students to: <ul style="list-style-type: none"> <li>recall or recognize terms, facts, and concepts</li> </ul>  |
| <b>Interpret<br/>Exemplify<br/>Classify<br/>Summarize<br/>Infer<br/>Compare<br/>Explain</b> | Activities such as papers, exams, problem sets, class discussions, or concept maps that require students to: <ul style="list-style-type: none"> <li>summarize readings, films, or speeches</li> <li>compare and contrast two or more theories, events, or processes</li> <li>classify or categorize cases, elements, or events using established criteria</li> <li>paraphrase documents or speeches</li> <li>find or identify examples or illustrations of a concept or principle</li> </ul> |
| <b>Apply<br/>Execute<br/>Implement</b>  | Activities such as problem sets, performances, labs, prototyping, or simulations that require students to: <ul style="list-style-type: none"> <li>use procedures to solve or complete familiar or unfamiliar tasks</li> <li>determine which procedure(s) are most appropriate for a given task</li> </ul>  |
| <b>Analyze<br/>Differentiate<br/>Organize<br/>Attribute</b>                                 | Activities such as case studies, critiques, labs, papers, projects, debates, or concept maps that require students to: <ul style="list-style-type: none"> <li>discriminate or select relevant and irrelevant parts</li> <li>determine how elements function together</li> <li>determine bias, values, or underlying intent in presented material</li> </ul>  |
| <b>Evaluate<br/>Check<br/>Critique<br/>Assess</b>   | Activities such as journals, diaries, critiques, problem sets, product reviews, or studies that require students to: <ul style="list-style-type: none"> <li>test, monitor, judge, or critique readings, performances, or products against established criteria or standards</li> </ul>   |
| <b>Create<br/>Generate<br/>Plan<br/>Produce<br/>Design</b>                                  | Activities such as research projects, musical compositions, performances, essays, business plans, website designs, or set designs that require students to: <ul style="list-style-type: none"> <li>make, build, design or generate something new</li> </ul>  |

## 2.0 Literature review

Learning outcomes describe what students are able to demonstrate in terms of knowledge, skills, and values upon completion of a course, a span of several courses, or a program (Tiu). Clear articulation of learning outcomes serves as the foundation for evaluating the effectiveness of the teaching and learning process.

The Components of a Measurable Learning Outcome. Three essential components of a measurable learning outcome are:

- Student learning behaviors
- Appropriate assessment methods
- Specific student performance criteria / criteria for success

**Formative assessment** is an assessment that determines how much students already know, and if they possess mastery of the content matter. Examples of formative assessments might be a *pre-test, rough draft, quizzes, homework, rough drafts of papers, or answering questions in class.*

Information gathered from these assignments will provide insights as to how much students already know, and how well they can articulate what they know. ***Formative assessments help instructors learn what needs to be taught.***

**Summative assessments** are intended to *determine how much, and to what extent, students have learned and mastered the content.* Summative assessments include final projects (be sure to use rubrics), final exam, final test over a unit of learning, portfolio, or final paper.

Summative assessment scores/ grades also help to provide information about the effectiveness of the curriculum, and the extent to which the curriculum is aligned with instruction and assessment. Wise instructors pay attention to summative assessments and make instructional adjustments during the teaching/ learning process.

Further, the assessment should be changed based on the majority learner type of the class.

### **Understanding Learning Styles**

What do you know about learning styles? How can you use knowledge about learning styles in your teaching?

#### **Visual: learning by seeing visual images.**

Visual learners learn best when information is presented in a written language format or in another visual format such as pictures or diagrams. If you are a visual learner, the suggestions that follow can help you to succeed at school to the best of your ability.

- Create graphic organizers such as diagrams and concept maps that use visual symbols to represent ideas and information.
- When trying to remember information, close your eyes and visualize the information.
- Include illustrations as you take notes in class.
- Use highlighter pens of contrasting colors to color code different aspects of the information in your textbooks.
- Sit at the front so that you can clearly see the teacher. This will allow you to pick up facial expressions and body language that provide cues of what your teacher is saying is important to write in your notes.
- Study in a place that is free from visual distractions.
- When using flashcards, limit the amount of information on a card so that you can form a mental picture of the information.
- Watch videos about topics you are studying in class.
- When encountering a new word you want to remember, visualize its spelling.
- When reviewing information, rewrite or draw the information from memory.
- When taking notes, replace words with symbols wherever possible.
- Type your written notes from class using different fonts, bold print, and underlining to make the most important concepts and facts visually apparent.
- When solving math problems that involve a sequence of steps, draw a series of boxes, each containing the appropriate piece of information in a sequence.

#### **Auditory: learning by listening or by speaking.**

Auditory learners learn best when information is presented in a spoken language format. If you are an auditory learner, the suggestions that follow can help you to succeed in school to the best of your ability.

- Participate in study groups in which you can talk things out.
- If allowed by your teacher, use a recording device to record class sessions. Use the recordings to support your written notes.
- Use a recording device to record the important information from your textbooks so that you can listen to the information as frequently as needed.
- Work out math problems aloud, explaining to yourself the steps you are doing.

- Repeat facts and definitions of words over and over to yourself with your eyes closed.
- Create musical jingles or songs to remember information.
- Dictate assigned papers and type them later.
- Participate in class discussions as much as possible.
- Look for books on tape or other audio materials when learning about a subject.
- Be certain that your study place is free from auditory distractions.
- When you encounter new words while reading, pronounce them syllable by syllable.
- Sit in front of the class to minimize things that might distract you from what your teacher is saying.
- Read aloud when doing proofreading.

**Bodily-Kinesthetic: learning by using bodily movements such as doodling, outlining, or actively taking notes.**

Bodily-kinesthetic learners are those who have to be actively involved by doing something that requires physical engagement. These learners need to be actively involved. During lectures these are the ones who are busy writing and taking notes. Instructors should plan some time during the class period for students to work in groups, go to the library to accomplish a specific, time-oriented task, be given class time to work on an individual project, etc.

Good instructors find a way to incorporate all of these into a given class period, so that each learning style can benefit.

If you are a tactile/kinesthetic learner, the suggestions that follow can help you to succeed at school to the best of your ability.

- Be physically active while you study. Rather than just sit at your desk, occasionally walk back and forth with your textbook or notes as you read the information out loud.
- To decrease your fidgeting as you study, listen to music, preferably baroque music. However, discontinue this if you find the music to be distracting.
- Make extensive use of a computer and the Internet. Actively touching the keyboard will keep your mind active.
- Take extensive written notes in class. Edit and type them later.
- Study in short blocks of time with frequent but short breaks.
- Do something physical as you study such as tapping a pencil or squeezing a stress ball.
- Use your finger as a guide while reading.
- Act out things you have to learn whenever possible.
- Construct models of things you have to learn whenever possible.
- If you find it difficult to sit at a desk when studying, try lying on your stomach or back.
- When trying to remember information, close your eyes and "write" the information in the air. Picture the information in your mind as you do so.
- Use concrete objects to help you understand math concepts.
- When trying to learn the spelling of a difficult word, arrange letter blocks to spell the word.

### **3.0 Methodology**

Primary data is collected through a questionnaire survey and secondary data collected from existing information on Student Marks in different assessment during Semester II at "Database Management Module". Questionnaire (Attached in Annex 2) has been prepared and distributed among undergraduates' students of the faculty of IT at their 1<sup>st</sup> lecture of the "Database Management" module to identify the learning style of the group. Survey outcomes are shown in table 2.

Based on the outcome of the survey the researcher/lecturer of the module has been used different teaching methods of delivering the lecture such as presentation, group presentations, discussions, practical demonstrations, hands-on practical session etc.

The researcher selected Database Management module (Detailed course outline is attached in Annex 1) which has theory and practical component to monitor same student sample's marks in different assessments. Quizzes, Mid-term (Theory & Practical) and End-term (Theory & Practical) are the main assessment methods conduct in the module.

Table 2 – Student Distribution with Different Learning Styles

| Learning Style        | Number of Students |
|-----------------------|--------------------|
| Visual                | 01                 |
| Auditory              | 01                 |
| Kinesthetic           | 05                 |
| Visual/ Kinesthetic   | 07                 |
| Auditory/ Kinesthetic | 05                 |
| Visual/Auditory       | 10                 |

Table 3 illustrates the learning outcome of the ‘Database Management’ module and which type(s) of assessment are given to evaluate student performance/learning quality.

Table 3 - Learning Outcome of the ‘Database Management’ module and Different Assessments Methods Conducted

| Learning Outcomes of the Database Management Module   | Different type of Assessments methods conduct |         |           |          |           |
|---|---|---------|-----------|----------|-----------|
|   | Quizzes                                       | Midterm |           | End term |           |
|   |   | Theory  | Practical | Theory   | Practical |
| 1. Describe various logical database architectures  | ✓   | ✓       | -         | -        | -         |
| 2. Design and develop relational databases using ER diagrams  | -   | -       | ✓         | -        | -         |
| 3. Normalize relational database tables and apply integrity constraints   | ✓   | -       | -         | ✓        | -         |
| 4. Manipulate data and prepare forms and reports using SQL  | -   | -       | ✓         | -        | ✓         |
| 5. Use SQL to insert data into the database, update existing data, delete records from tables, and retrieve information from a database | -   | -       | ✓         | -        | ✓         |
| 6. Use integrity constraints to maintain database integrity   | ✓   | -       | -         | ✓        | -         |
| 7. Backup and restore databases   | ✓   | -       | -         | ✓        | -         |

#### 4.0 Analysis

When we consider on Table 2, there are 18 students having Visual Learning Style, 16 and 17 students are Auditory and Kinesthetic Learning Styles respectively. According to the information on Table 4 clearly shows that Kinesthetic Learning Styles Students performed better at the Practical Assessments (Both Mid and End-term) and Visual & Auditory Learning Style Students performed better at the Theory Assessments in Database Management Module.

Table 4 illustrates the learner styles of the sample of undergraduates and marks for different types of assessments conducted in “Database Management Course”

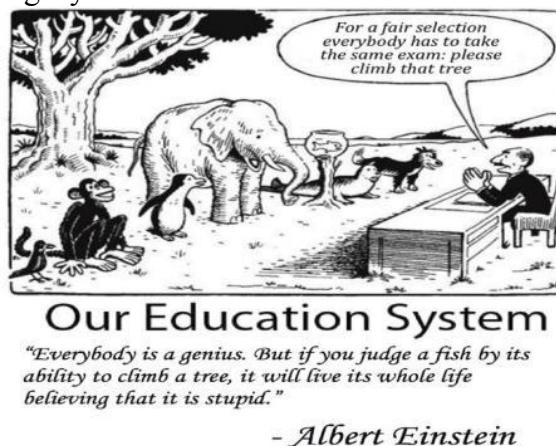
Table 4 – Assessments’ Marks for Database Management Module and Students’ Learning Style

| Identification Number | Learning Style       | Assessments’ Marks [%] |           |        |           |
|-----------------------|----------------------|------------------------|-----------|--------|-----------|
|                       |                      | Mid Marks              |           | Final  |           |
|                       |                      | Theory                 | Practical | Theory | Practical |
| N1                    | Visual/Kinesthetic   | 45                     | 78        | 44     | 70        |
| N2                    | Visual/Kinesthetic   | 68                     | 94        | 63     | 75        |
| N3                    | Auditory/Kinesthetic | 54                     | 94        | 63     | 84        |
| N4                    | Visual               | 65                     | 39        | 69     | 48        |
| N5                    | Kinesthetic          | 60                     | 100       | 58     | 78        |
| N6                    | Visual/Auditory      | 49                     | 60        | 51     | 65        |
| N7                    | Visual/Auditory      | 80                     | 65        | 70     | 50        |
| N8                    | Visual/Kinesthetic   | 68                     | 100       | 72     | 85        |
| N8                    | Auditory/Kinesthetic | 83                     | 93        | 97     | 83        |
| N9                    | Auditory/Kinesthetic | 67                     | 67        | 70     | 75        |

|     |                      |    |    |    |    |
|-----|----------------------|----|----|----|----|
| N10 | Kinesthetic          | 70 | 79 | 63 | 80 |
| N11 | Visual/Auditory      | 68 | 53 | 60 | 50 |
| N12 | Visual/Auditory      | 60 | 56 | 78 | 62 |
| N13 | Auditory/Kinesthetic | 18 | 50 | 48 | 66 |
| N14 | Visual/Kinesthetic   | 72 | 72 | 79 | 89 |
| N15 | Visual/Auditory      | 40 | 53 | 60 | 60 |
| N16 | Visual/ Kinesthetic  | 61 | 66 | 75 | 80 |
| N17 | Visual/Auditory      | 18 | 47 | 53 | 69 |
| N18 | Visual/Kinesthetic   | 70 | 76 | 80 | 84 |
| N19 | Visual/Auditory      | 13 | 33 | 50 | 38 |
| N20 | Auditory             | 25 | 51 | 59 | 45 |
| N21 | Kinesthetic          | 62 | 82 | 60 | 81 |
| N22 | Visual/Kinesthetic   | 42 | 45 | 70 | 72 |
| N23 | Auditory/Kinesthetic | 50 | 66 | 60 | 74 |
| N24 | Kinesthetic          | 64 | 73 | 69 | 85 |
| N25 | Visual/Auditory      | 55 | 67 | 60 | 55 |
| N26 | Visual/Auditory      | 49 | 64 | 60 | 55 |
| N27 | Visual/Auditory      | 42 | 32 | 55 | 35 |
| N28 | Kinesthetic          | 41 | 55 | 45 | 68 |

## 5.0 Conclusion

Students selected were having different learning styles. The Database Management module has different methods of teaching and learning (lectures, case studies and practical classes), assessment methods such as continuous assessments and end semester examinations. When we measure learning outcomes of a module we can use different assessment methods. But at the same time we have to consider students' learning style.



Survey outcomes depicted that there is a close relationship among Students' Learning Style, Assessment of Student Learning Outcomes and Students' Performances. Hence, when preparing assessments we have to think not only about learning outcomes but also bear in mind students' learning styles before they undergo assessment or take exams.

Most of the Kinesthetic Learners performed well in Practical exams and Auditory/Visual Learners performed well in Theory exams in the "Database Management" module.

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## **INTERNATIONAL INITIATIVES IN QUALITY ASSESSMENT OF INDIAN HIGHER EDUCATION: AN OVERVIEW**

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### **Abstract**

*This paper is an attempt to provide an overview of setting up of quality assurance mechanism through the design, development and implementation standards and to ensure the fulfillment of criteria, goals and objectives of Indian higher education. This paper also attempts to provide approaches to quality by higher educational institutions around the world in general and India in particular. The recent initiatives of the Government of India relating to the mandatory assessment and accreditation with few references are highlighted in this paper. With the initiatives of the National Accreditation Regulatory Authority for Higher Educational Institutions (NARAHEI) Bill, 2010 and also the UGC Regulations, 2012, make 'Mandatory Assessment and Accreditation' for each Higher Educational Institution in India. The National Assessment and Accreditation Council (NAAC) has been continuously fine-tuning its assessment and accreditation methodologies in synch with local, regional and global changes in higher education scenario. This helps in reaching out to HEIs (Higher Educational Institutions) and wider acceptance of the methodology. The methodology of NAAC has stood the test of time for last 20 years, mainly because it has remained dynamic and responsive to the stakeholder feedback.*

### **Key Words**

*Quality Assurance, Assessment, International Initiatives, Indian Higher Education, NAAC*

### **Introduction**

Higher educational institutions universally, are at present confronting comparable difficulties of expanding student population, diversity within student group, under-prepared students, increasing workloads and decreasing resources. There are external pressures from funding agencies, accreditation professional bodies and employers which necessitate the maintenance of quality academic programmes through periodic reviews and assessment.

The previous four decades have seen the change of higher education in the greater part of the nations from prompting to a mass system. This development has occurred through the mix of two altogether different ideas of higher education: the routine colleges and universities, which were dependable to nobody for the nature of their arrangement, and the current expert and professionally situated establishments of higher realizing, which are capable to the observing and accreditation bodies. The massification of higher education has been joined by the improvement of an arrangement of a great deal more nosy quality affirmation and examination game plans.

Quality affirmation is the accomplishment of the fancied models through the use of concurred strategies. It requires constant performance control. Accreditation is a formal acknowledgment by an approved office of an organization having accomplished concurred gauges. It depends on, and takes after, quality evaluation. Quality to the possibility of value affirmation is the idea of value evaluation. The strategy of value appraisal can be both unpredictable and troublesome. The arrangement of accreditation is seen by many just like a method for guaranteeing the nature of program, or foundation, through evaluations and a motivating force for their change.

### **International Initiatives**

The explanations behind the sympathy toward quality in higher education change from nation to nation. Variables like history, culture, condition of financial improvement and mindfulness and approach to the development of higher education, assume a huge part in the development of value guaranteeing and controlling system in a specific nation. In any case, it turns out to be evident that self-direction combined with associate audit made by an independent organization could acquire a period of value in higher education.

Lately, establishing national evaluation systems for higher education has been a noteworthy component of improvements in a number of countries. There are presently more than 70 quality



evaluation offices around the globe which have the duty of undertaking an audit of the higher education arrangement in their countries. Sympathy toward quality in Higher Education has turned into the primary plan of the nations world over. In nations like India, the unequivocal concentration on quality affirmation in higher education is moderately new. Until recently the access to higher education for an expanded rate of the pertinent age aggregate itself was a marker of national advance and for the individual going out of a foundation of higher education, it implied a stamp of separation from the masses. Be that as it may, in the changing setting of globalization of financial exercises, training has turned into a universal administration and to withstand the weight of this evolving setting, the nations have been pressurized to guarantee and guarantee quality at a worldwide level. Thusly, numerous nations have started quality affirmation systems. Presently, following a couple of years of viable experience, there is a reconsidering on many issues of value confirmation and nations search for the encounters and practices somewhere else.

### **American and British Perspective**

Accreditation started first in the USA and that as well as a generally straightforward thought a willful exertion by a little gathering of educational foundations to concede to benchmarks of recognizing a school from an auxiliary school. In the course of the last eighty-five years or somewhere in the vicinity, be that as it may, accreditation has formed into an a great deal more modern process for assessing and enhancing educational quality in schools, colleges and equivalent establishments. The procedure that started as a method for setting up, safeguarding and deciphering in like manner terms the gauges of admission to universities, whatever be the strategy or the blends of techniques for affirmation, so as to suit relocating understudies and to secure simply understanding and organization of principles, has now been raised to a more extensive area of value in training.

Accreditation, the path honed in the USA, was for the most part obscure in most different nations since they depended on legislative supervision and control of educational organizations. Be that as it may, things are changing in every one of the nations.

### **Trends in Other Countries:**

The evaluation of value in higher education is presently on the plan of numerous nations. The approach and techniques are pretty much the same. The main cross national contrasts of approach concern the topic of what is to be incorporated into quality appraisal; specifically, regardless of whether both instructing and research go together or they are to be dealt with independently. The Netherlands has recently endeavored to survey the higher education in Dutch Universities. The Association of Universities in the Netherlands does outside quality appraisal of instructing in Dutch Universities. The Dutch Model depends on self-assessment and associate survey. Despite the fact that it is too soon to make a judgment on the effect of external evaluation on Dutch Universities, we can state that there is a rationale in assuming the quality of resources to be important.

In Germany the strategies for quality evaluation in the field of instructing are immature and request scholastic associations, in this regard, have not yet been converted without hesitation. The ascent of private higher education in Portugal has made the Portuguese Council of Rectors (CRP) present a quality evaluation instrument. They have received the Dutch model with specific adjustments. The anxiety is on strengthening the free character of the outer going to group.

Taking a gander at these occasions at a worldwide level and the present wave for disguise of training, it could be really anticipated that the unrest for quality, as of now enveloping the areas of higher education will be further fortified later on. The whole procedure of evaluation and accreditation is aimed towards accomplishing the quality in higher education.

### **An Indian Perspective**

Over the past 60 years India has built up an extensive arrangement of training and has made an endless assemblage of very gifted academicians furnished with logical and innovative capacities, powerful humanist, philosophical thought and inventiveness.

India is the biggest majority rules system in the World and India has the largest educational system too. Indian higher education system is one of the biggest on the planet. There were only 20 colleges and 500 schools with 0.1 million undergraduates at the time India gained autonomy. This



has expanded to 740 colleges and college level organizations and 34,452 schools in 2015-2016 (AISHE, 2016).

The educational system in India is today in a basic state impervious to change. It is in risk of soon getting to be distinctly unimportant. Since Independence, however many commissions have presented their reports and numerous prominent men have propounded their arrangements for restoring the system, there has dependably been a wide hole between the arrangement and the activity leaving the system still stranded on the streets. This huge arrangement of higher education merits that move must be made intermittently to evaluate its execution, to lead scholarly reviews and furthermore give a system to its appraisal and accreditation. Though large, our educational system is neither relevant nor effective. India's educational ethos needs major reforms in the context of changes that are sweeping our country. Transformation that society is going through warrants a rejuvenation in the way we teach and what we teach. Restructuring of our educational institutions and the contents of the curricula is what is needed to produce the desired outcome.

The subject of appraisal and accreditation is new to the Indian higher education system. Just as of late individuals have begun perceiving these phrasings. Being recently created ideas they make a greater amount of a fear as opposed to a preparation to endeavor to comprehend what they mean. The inclination is that it is one more development that is skimmed by those higher up in the approach stepping stool and, subsequently, when educators or educationists or so far as that is concerned supervisors of instruction are asked whether they might want to think about evaluation, keeping up elevated expectations, guaranteeing institutional responsibility, making training more important and accreditation, the reaction is normally not extremely positive. Nonetheless, on the off chance that they are asked whether they would be keen on such themes like giving more independence to organizations, being receptive to understudies' and society's needs and creating more assets, the intrigue level takes off. Truth be told appraisal and accreditation deliver themselves to every one of these subjects and it is a movement to accomplish change in the working of an establishment in every one of its circles of exercises in order to create quality in its prime assignment that is training.

Higher education being exceptionally costly, countless nations including India can't offer it to all who need it. It will be much more regrettable to give higher education without legitimate and sensible offices. Truth be told this is what is as a rule really done by a large portion of the colleges and universities with the lamentable outcome that unemployable graduates are being created in extensive numbers. Truly higher education in India is intensely subject to government bolster and in that capacity it can scarcely create private assets to keep up its free status and extension.

Administrative financing on such a substantial scale additionally has brought about bringing down of the quality, getting simple higher degrees and confirmations bargaining, the scholastic legitimacy and skill. An adjustment in this example is in reality required.

#### **Role of UGC to make Accreditation a Must**

Accreditation has been made compulsory inside six months for higher education organizations in the general stream to meet all requirements for awards from the Center. The University Grants Commission (UGC) today informed the new control that progressions the way of accreditation, which till now was intentional. The compulsory control will cover each broad stream establishment that has either finished six years or has given instruction to two clumps of understudies, whichever is prior.

As per the Mandatory Assessment and Accreditation of Higher Educational Institutions Regulations, 2012, any establishment of higher learning, other than those in specialized and restorative streams, should obligatorily take accreditation from an authorizing office inside six months from now in the event that they satisfy certain conditions. The notice said no college or school would be qualified for gifts from the focal government unless authorize. In the event that any unaccredited organization is getting awards, the UGC will issue notification and stop the distribution.

The nation now has more than 500 colleges and around 30,000 general universities. Before March 31, 2011, only 161 of 504 colleges and 4,371 of 28,000 schools were authorized by the National Assessment and Accreditation Council (NAAC).

The UGC issued a new control under guidelines from the Union human asset advancement service. The service had as of now presented in Parliament the National Accreditation Regulatory Authority for Higher Educational Institutions Bill which accommodates obligatory accreditation for all establishments. The service has likewise asked the specialized instruction controller, the All India Council of Technical Education (AICTE), to detail isolate directions for obligatory accreditation for specialized institutions. The service is of the view that required accreditation will guarantee quality. The higher education system in India is growing with colossal inconsistencies among the establishments and immense contrasts in foundation offices exist amongst open and private organizations. In India, the idea of obligatory accreditation comes from proposals of two higher education boards. The National Knowledge Commission, headed by Sam Pitroda, had in 2007-08 prescribed the foundation of a free administrative specialist for higher education with various accreditation offices to survey quality and give office insightful rating notwithstanding institutional evaluations.

The Vision of NAAC is to make quality the characterizing component of higher education in India through a mix of internal and external quality assessment, advancement and sustenance activities. The statements of purpose of the NAAC go for making an interpretation of the NAAC's vision without hesitation arranges and characterize particular errands of NAAC engagement and attempt as given beneath:

- ✓ To organize intermittent appraisal and accreditation of organizations of higher education or units thereof, or particular scholastic projects or undertakings;
- ✓ To empower the scholastic condition for advancement of value in showing learning and research in higher education organizations;
- ✓ To empower self-assessment, responsibility, self-rule and developments in higher education;
- ✓ To attempt quality-related research studies, consultancy and preparing programs, and
- ✓ To team up with different partners of higher education for quality assessment, advancement and sustenance.

Endeavoring to accomplish its objectives as guided by its vision and statements of purpose, NAAC fundamentally concentrates on evaluation of the nature of higher education establishments in the nation. The NAAC system for Assessment and Accreditation is particularly like that took after by Quality Assurance (QA) offices over the world and comprises of self-appraisal by the organization and outside companion evaluation by NAAC.

#### **The Assessment Process of NAAC**

NAAC's procedure of appraisal is towards all encompassing, efficient, objective, information based, straightforward and shared understanding for institutional change.

The procedure for evaluation and accreditation extensively comprises of:

- ✓ Preparation of Self-study Report (SSR), and transferring on the foundation site before accommodation of LOI.
- ✓ On-line accommodation of the Letter of Intent (LOI).
- ✓ On-line accommodation of Institutional Eligibility for Quality Assessment (IEQA) for material organizations.
- ✓ Submission of Hard Copies of SSR
- ✓ Peer group visit to the establishment.
- ✓ Final choice by NAAC.

#### **Implementation of revised Grading System of NAAC w.e.f. 1st July 2016**

As per the decision of Executive Committee the Grading System of NAAC has been revised as below. The revised grading system will come into effect from 1st July 2016.

| CGPA        | Letter Grade | Status         |
|-------------|--------------|----------------|
| 3.76 – 4.00 | A++          | Accredited     |
| 3.51 – 3.75 | A+           | Accredited     |
| 3.01 – 3.50 | 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 |

A+ Accredited A Accredited B++ Accredited B+ Accredited B Accredited C Accredited D  
Not Accredited

- ✓ The present system of descriptors for letter grades, i.e., Very Good, Good, Satisfactory, Unsatisfactory, is discontinued in the revised grading system.
- ✓ All higher education institutions for which visits will take place from 1st July 2016 onwards will be graded as per the revised grading system irrespective of the date of submission of Self Study Report (SSR).
- ✓ As of now except for the latter grades to be assigned, all other aspects of Assessment and Accreditation methodology such as the Criteria, Key aspects, calculation of Cumulative Grade Point Average (CGPA) etc. and the manuals remain the same.
- ✓ Higher Education Institutions already accredited in the earlier grading system will continue with the same accreditation status till validity period.

### **Summing Up:**

The overall encounters show that a large portion of the issues in evaluation and accreditation focus on the accompanying appropriate inquiries:

- ✓ Should the accreditation be made compulsory and connected up with the (a) standards of subsidizing (b) standards of acknowledgment to colleges and lasting association to universities?
- ✓ Can the criteria connected now be made more delicate to the fluctuating institutional settings?
- ✓ What would be the Benchmarks against which we can put the establishments on the quality continuum?
- ✓ What pointers could be helpful in narrowing down the between group changes in their appraisal of organizations and projects?
- ✓ How such pointers could be translated to help the associate judgment dispassionately?
- ✓ Mushroom development of colleges and schools has been the primary driver of absence of value in HEIs. There must be an arrangement choice as respects opening of another educational establishment and this be taken simply subsequent to looking at its need and possibility.

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## **THE INTEGRATION AND PRACTICE OF MEDICAL EDUCATION STANDARD OF CHINESE UNDERGRADUATES IN THE CULTIVATION OF MEDICAL STUDENTS IN KUNMING MEDICAL UNIVERSITY**

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### ***Abstract***

*The school integrates and practices Chinese standards of medical education continuously in the process of cultivating medical students, through remodeling the training objectives and curriculum systems, researching the teaching reform and construction of quality guarantee system, to make the cultivation of the medical students in this university more in line with the requirements of China and the world. And the existing problems and the direction of the future development of the medical school students are discussed.*

### ***Key words***

*Medical education standards; cultivation of medical students*

Since the beginning of this century, with The World Federation for Medical Education developing the "global standards of undergraduate medical education" and with International Institute of Medical Education, American Chinese Medical Fund releasing "the minimum essential requirements in global medical education", the globalization trend of medical education standard has become increasingly prominent, prompting the research of Chinese local medical education standard. After 6 years' research, the Ministry of Education formulated and promulgated the " Medical Education Standard of Chinese Undergraduates " <sup>(1)</sup> (here in after referred to as the "standard") in 2008 with the connotation of fully integrating into the standards of medical education in the region and the world, combining with China's medical education evaluation experience. "Chinese undergraduate medical education standards" determines the medical students' 35 basic training requirements from the three dimensions of moral and occupation quality, knowledge and skills, defining 10 professional medical education standards and so becomes the basis of China medical colleges reform and development and the ground of teaching quality evaluation.

### **1.The cultivation of medical students under the Medical Education Standard of Chinese Undergraduates**

#### **1.1 Remodeling the training objectives of medical students**

In order to make the school medical students match the medical education standard, in order to promote the reform of medical education, this university began to re-examine the training objectives, basing on the training concept of the Education Ministry since the second year of the promulgation of the standard. Through the interpretation of the substantive standard, we put forward the general target of this university which is to cultivate students of all-round development, good occupation quality, consciousness of medical safety and cost, clinical ability, innovation ability, basic scientific research ability and development potential and other three sub-objectives that are: to develop students' ideological, moral and professional quality; to develop knowledge; to develop skills.

The ideological and moral quality and occupation quality education is an important part of Chinese medical students' general knowledge education and the purpose of the ideological education is to cultivate medical students' attitudes, behavior, emotions and values. Through in-depth analysis of the essence of the standard, this university set the medical students' socialist citizen quality, occupation quality and development potential as an important part of training objectives. In the process of rebuilding the knowledge goal, as response to the weak points in previous general knowledge education, the school put forward more specific development goals for some fields, such as humanities, natural sciences and innovation and entrepreneurship in medical education. In the field of professional education, we pay more attention to the knowledge acquisition of general medicine, health education, disease prevention and screening, epidemiological investigation and re-

search. For the first time we put forward skill objectives independently, formulating the requirements of the ability training in such fields as illness-history collection, physical examination, diagnosis and treatment of common diseases, clinical thinking, communication, independent learning, foreign language, computer application, innovation, entrepreneurship and scientific exercise skills.

### 1.2 Reconstruction of medical curriculum system

The training goal and ability quality request must be supported by the complete curriculum system, and the school reconstructs the curriculum system with the aim of achieving the training goal. First, we construct the framework of the course system, set up two sets of credit system: in-class and after-class. In-class credit system includes compulsory and elective courses, and compulsory courses are divided into three sections: public basics, professional basics and professional courses. Elective courses system is divided into public elective courses and professional elective courses. Public elective courses aim to nurture medical students' comprehensive quality such as aesthetic, humanistic and spirit of innovation while professional elective courses aim to broaden students' professional knowledge and skills of medical. The after-class credit system includes extra-curricular classes, social practice, scientific research activities and community activities. The credits should be no less than 7 credits before graduation and the practice in and investigation of primary hospitals should be no less than 4 credits. Second, about study hours, we reduced 327 hours of compulsory theory study under the circumstance of guaranteeing practice hours (see Table 1), at the same time, elective credits requirements for graduation increased from 8 to 40 credits (see Table 2). Thirdly, in the aspect of available courses, through integration and reorganization, we have set up four compulsory courses groups for college students, such as innovation and entrepreneurship curriculum group, preventive medicine curriculum group, basic medical curriculum group and clinical skills curriculum group. The number of available courses increased from 70 to 400, involving natural sciences, social sciences, humanities, physical life, innovation, entrepreneurship etc. Finally, in the aspect of practice, the clinical practice was extended for 2 weeks, and the credits in the practical sessions of the compulsory courses were increased by 32%. The test OSCE was also added in.

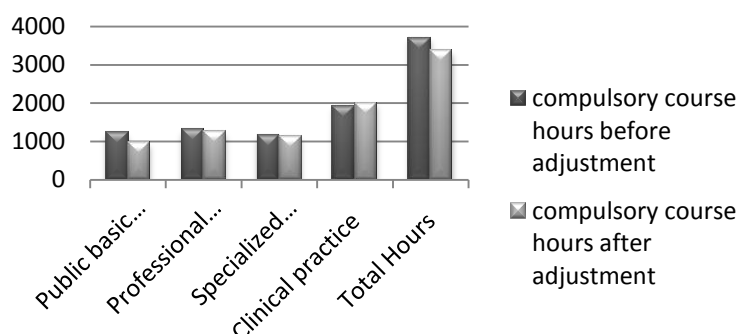


Table 1. structural changes of compulsory courses in clinical medicine major (requiring 5 years of study) of Kunming Medical University

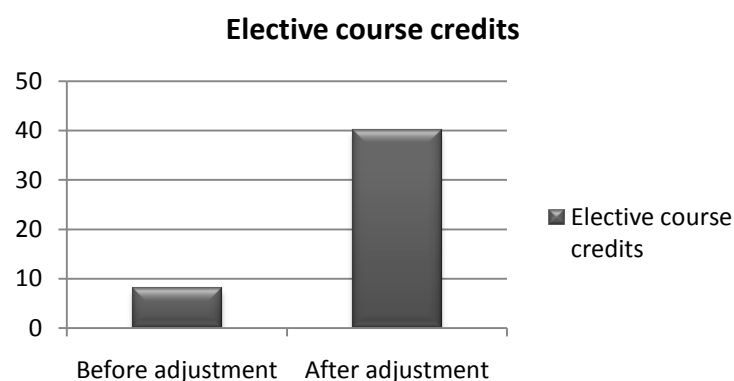


Table 2. credits changes of elective courses for clinical medicine major of Kunming Medical University

### **1.3 The research of medical teaching reform**

In order to further practice the Chinese medical education standard and deepen the reform of medical education, after resetting the training goals and curriculum system, the university has set up the innovation experimental class in 2015, whose 50 students were chosen from the clinical major every year as a kind of pilot training. Depending on this, the research on the integration of the curriculum centered on the organ system has been carried out. Furthermore, the student-centered PBL\CBL teaching method has been studied. Through the network curriculum platform the university also carries out online testing, answering questions, and discussions so as to make the curriculum assessment method more suitable for the requirements of the three dimensions of medical students' quality, knowledge and skills. In 2017, the school will join the first phase empirical research of national medical examination centered on the qualification examination of doctors in order to seek the academic assessment ways which fit the quality requirement of medical education more.

### **2. The construction of quality assurance system under the integration of Chinese medical education standards**

China medical education standard is not only the compass of the reform of medical education but also the measuring ruler of the quality of medical education. So while the university is exploring into the education reform, it is also actively exploring the construction of medical quality assurance system under the standard. Adhering to the principle that combines external evaluation with internal monitoring, in 2016, the university accepted the audit of the Education Ministry of undergraduate teaching, during which, it improved the construction of the quality standard, forming the three grades of teaching quality standard, which are: quality standards in key teaching sectors, curriculum quality standards and teaching quality standard of clinical medicine education. This is to promote internal quality construction of the university through external evaluation. The university adheres to the construction of quality control under the medical education standard, so in the training process, the standards are supplemented and improved and the teaching process monitoring system is increasingly perfect and the information utilization of teaching evaluation is increasing year by year. After years of efforts the university has established the quality control system.

### **3. Achievements and problems**

#### **3.1 Achievements**

The standard of Chinese medical education has set up a bridge between Chinese medical education and international medical education. Since it was promulgated 7 years ago, the university has been exploring ways to connect students nurture with that of the era. Fully injecting the thoughts and concepts of Chinese medical education standard into target customization process through in-depth thinking, rational analysis, the university makes the training goal orientation more diversified and specific, reflecting that the modern medical education pays more attention to the developmental potential of medical students such as the citizen quality, professional quality, post competency and innovation ability

The school remodeled and reconstructed the curriculum system that covered the range from in-class to after-class, from elective to compulsory, from theory to practice, from the foundation to the clinical, setting up a set of curriculum system which suit the requirements of the modern medical model. The students gained more learning time and space, so the student-centered education teaching thought is prominent and the number of available elective courses and credits has been greatly improved. Furthermore, the general knowledge education has been strengthened and the practice proportion increases. And the practical ability of medical students has been consolidated. For the first time, social practice is required if a medical student wants to graduate. Also, post competency training of medical students gets intensified. In addition, the reform of teaching research is also continuing and the quality assurance system of medical students training is also improving.

#### **3.2 Problems**

However, the school is also aware that, due to historical, economic and geographical reasons, there is a gap between the standard of our medical students and that of the national and the world medical education. To transform from the traditional pure bio-medical model to bio psycho social

environmental medical model, the education process of the university needs great change. So we need trials and hardships, tempering forward.

#### **4. Efforts and prospects**

In 2017, the school will officially launch the preparation of clinical medical professional certification, when the medical education will be assessed and identified by China's medical education standard for medical education and personnel training comprehensively. As an eighty-four year old medical university, in the inheritance and development, the university will integrate and practice Chinese medical education standard with a positive attitude continuously, undertaking the task of training medical personnel in the southwest China .

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### III. Internal Quality Assurance in HEIs

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#### NEXUS BETWEEN INTERNAL QUALITY ASSURANCE AND QUALITY CULTURE: EVIDENCE FROM LAHORE SCHOOL OF ECONOMICS

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##### **Abstract**

*This paper shows a close relationship between internal quality assurance and quality culture with the help of an example of one of Pakistan's top business schools, the Lahore School of Economics. We show that with the help of stakeholders, the internal assurance policies along with internalization can result in quality culture in contrast to Harvey (2009)'s critique on quality culture being completely separate from internal quality assurance. The discussion in the paper supports the idea that if internal assurance policies are made by giving a sense of ownership to students, faculty and administration, quality culture can indeed be achieved from the QA process.*

##### **1. Introduction:**

This paper will examine some of the key instruments of internal quality assurance employed at the Lahore School of Economics, which ranks in amongst the top five business schools of Pakistan. The research objective of this paper is to establish a neat nexus between the Lahore School's IQA policies, including the unique aspect of internationalization, and development of quality culture through it.

Harvey (2009) argues that internal quality assurance mechanism does not always reflect an institute's quality culture. An institute might employ internal quality control mechanisms just to fulfill the requirements posed by an external auditor such as the Higher Education Commission in case of Pakistan which means that the procedures are not the same as quality culture. The bureaucratic procedures, guidelines and manuals may or may not help in developing a quality culture in a higher education institute.

Quality culture is rather a hard concept to define. Just like it has remained hard to define quality precisely, quality culture also turns out to be an equally subjective term. Where quality is "an overpowering feeling that the university is doing everything with excellence," (Rauf 2011) culture can be broadly defined as "a way of life" (Harvey and Stensaker, 2008). Quality culture can thus be defined as the characteristics of the community within the university. These characteristics constitute of the methods and procedures in which the members of the community interact and share knowledge with each other. The community would comprise of students, teachers and administrators. The various aspects of quality culture would then include "ownership, processes and decisions; recognition of the need for a system, a focus on behavior rather than systems; clarity of purpose of any system; an appreciation of different stakeholder perspectives; co-operation and working in partnership; community-oriented action rather than individualism; inspiring and enabling rather than dictatorial leadership; being welcoming of external critical evaluation; embracing self-reflection and taking the initiative to improve" (Harvey 2009).

Taking into account this critique on quality culture, we show how an institute like the Lahore School of Economics from developing countries has catered to the development of quality culture within the internal quality assurance mechanism. IQA may not lead to quality culture, however, a reverse relationship can be established if the IQA policies made by the institute incorporate the aspects of quality culture. If embedded properly within the IQA, quality culture may become an outcome or result of IQA. The idea would be to develop quality culture by employing procedures and techniques which gives the community a certain degree of control and incentive in practicing quality in daily university life.



The remaining paper is divided into the following sections: Section II gives a brief review on the definition of internal quality assurance. Section III provides an overview of the university in question i.e. Lahore School of Economics along with its success in the job market. Section IV discusses some key constituents of the IQA policy at Lahore School and its success in developing the institute's quality culture. Section V ends the discussion by highlighting some of the challenges the university faces in IQA and way forward.

## ***II. What is Internal Quality Assurance and its Significance?***

Internal Quality Assurance can be called the keystone of Quality Assurance. The goals of quality assurance is to review, improve and implement acceptable standards of education. Quality Assurance is an on-going process which is categorized into internal and external quality assurance. The main features of internal quality assurance according to European/international standards comprise of (i) establishing focused objectives, plan and procedures of higher education, (ii) management, assessment and periodic upgrading of programmes, (iii) evaluation of students, (iv) quality assurance of faculty, (v) provision of learning materials, students support, (vi) information systems incorporated at the university and (vii) public information.

External Quality assurance is done by an auditor or government agency to evaluate the reliability of internal quality assurance. The prime difference between the two is that external quality assurance is done at intervals whereas internal quality assurance is done daily. It is because of this daily practice of internal quality that fosters quality culture of the institution. Loopholes in the outline and implementation of internal quality assurance would result in a weak quality culture. A strong quality culture is only instigated if the internal quality assurance procedures are implemented in the daily life of the university, an objective which may sound difficult but not impossible to achieve as this paper shows.

## ***III. The Lahore School of Economics: A Center of High Quality Teaching and Research***

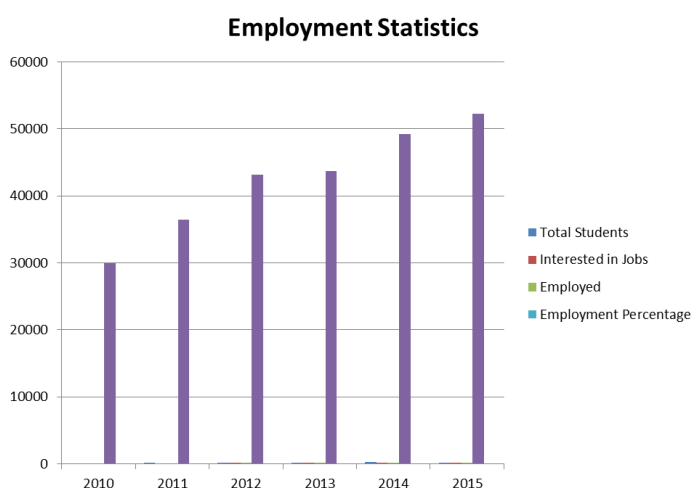
With almost 150 full time faculty members and around 3,100 undergraduate and graduate students, the Lahore School of Economics ranks amongst the leading business schools of the country (The university gained 2<sup>nd</sup> position in the national higher education *business* institutes ranking finalized by Higher Education Commission, Pakistan. The ranking is based on five factors: (i) quality assurance, (ii) teaching quality, (iii) research, (iv) finance and facilities, (v) social integration and community). The institute was established in 1993 and received a charter in 1997 by the Government of Punjab. Since its inception, its major success has been the employment statistics of the graduates it produces.

Pakistan faces a grave challenge in the educational sector. The number of graduates it produces has increased in recent years, however the job market is sluggish in their accommodation. Thus, it makes it a serious challenge for the universities to produce graduates who are competitive and meet the requirements of the job market. Including innovation in teaching and learning helps to meet this target. The challenge is handled in a way that the Lahore School makes sure that the students it produces are ready to enter the practical field of life as leaders and accelerators of positive change in society.

Table 1. Employment Statistics of Graduates

| Year | Total Students | Interested in Jobs | Employed | Average Salary | Employment Percentage |
|------|----------------|--------------------|----------|----------------|-----------------------|
| 2010 | 81             | 74                 | 74       | 30,000         | 100%                  |
| 2011 | 151            | 107                | 107      | 36,485         | 100%                  |
| 2012 | 198            | 153                | 153      | 43,174         | 100%                  |
| 2013 | 215            | 137                | 137      | 43,761         | 100%                  |
| 2014 | 236            | 187                | 184      | 49,239         | 98%                   |
| 2015 | 184            | 148                | 148      | 52,235         | 100%                  |

The success story shared above has been a result of the internal quality assurance schemes employed at the institute. In the next section, we assess some key components of IQA employed at the Lahore School. The quality culture which arises as a result of these policies makes the university's environment more promising not just for the current students but prospective students as well.



#### ***IV. Assessing the Components of Internal Quality Mechanism Employed at the Lahore School***

The Lahore School of Economics provides multidisciplinary programmes at the undergraduate and graduate level. Currently the undergraduate academic programmes it offers covers six disciplines of Business Administration and Finance, Economics, Social Sciences, Mathematics and Statistics, Environmental Sciences and Media Studies, Art and Design.

Each of the aforementioned discipline is run by a different head of department.

The graduate programmes are offered by the Departments of Business and Finance, Economics, and Environmental Sciences.

As globalization and internalization gains pace all around the world, the need for a planned internal quality assurance policy is stressed by governments and university heads in order to achieve the objective of developing a knowledge economy. The most important thing for higher education institutes is to make sure that the programmes it offers have an alignment between its mission, objectives and outcomes. The objectives of these programmes is not just what is required by the Higher Education Commission but includes innovative ideas from the faculty and Deans of departments.

#### **Innovation in Teaching and Learning to Support Quality Teaching and Learning**

In this new era of social sciences, researchers (Mezirow, 1999, O'Sullivan, 2003 and Harvey 2010) have shown how students are no longer only customers of university education but also its stakeholders and participants in policy making. Transformative learning through critical reflection gives "intellectual performers" and leaders to the labor market.

At the Lahore School of Economics, innovation in teaching and learning is practiced at the individual level by the faculty in an attempt to promote critical thinking in students. Innovations in teaching practiced at the university includes classroom activities which revolve around collaborative and project-based learning. Experiments are carried out within classes to help students make a connection between theory and practice. Case Studies and research-led projects are used to enhance technical and problem-solving skills of students.

The university arranges a distinguished lecture series which relies on speakers from the corporate world to engage students in discussions and share with them the knowledge requirements and experiences of the labor market. The objective of this exercise is to bring the students, researchers and practitioners together. In the year 2016, the corporate relations department of the Lahore School of Economics arranged 53 speaker sessions for the graduate students.

The synergy between students, practitioners and researchers is also created through the annual seminars and conferences held by the institute. Quality student learning is stimulated by on-campus activities arranged by student-led societies to bridge the gap between theory and application. Lahore School Innovation Challenge and Econothon are two major annual events which gives students ownership of university spurring transformative learning (Both events are organized and executed by an elected student council in collaboration with the Extra-Curricular Department. Lahore School Innovation Challenge consists of a business idea competition between thirteen teams and a debating competition between four teams invited from universities across Pakistan. It was held on 14 November, 2015 for the first time. Econothon initially began as an internal Economics Quiz Competition in 2015. This year the event is expected to grow larger as the first national event in the discipline of Economics as students from universities across Pakistan would be invited to participate. The event generally allows students to explore basic knowledge of economics and apply it to real world situations in teams).

The important element of quality assurance in teaching is affirmed in two ways: Faculty Development workshops and mentoring, guidance and discussion amongst the young and experienced faculty.

Each year, thirteen to fifteen mandatory faculty development workshops are held for the faculty belonging to each discipline taught in the institute. The faculty development workshops provided ground for the faculty to interact, share ideas, assess and improve teaching methodology. This is very closely linked to the quality culture of the institute. As it is held every semester, it encourages the faculty to innovate in classroom and teaching methodology. Connections are made and discussions following the workshop continues till the next workshop in the subsequent semester.

### ***Curriculum Improvement***

Department meetings are held after every two weeks each semester which sums up to a total of sixteen meetings in a year. The curriculum discussions are primarily held after student and faculty feedback. The upgrading of the curriculum takes place every year which includes updating the textbooks and class materials used for teaching, in particular the applications, experiments and case studies to be used in classrooms.

### ***Internationalization***

A key driver of innovation in teaching and learning discussed above is internalization of higher education. Globalization and internalization are different in the way in which national base is used. In globalization the national boundaries lose significance and educational decisions are made transnationally. In internationalization, the national education policy remains viable, however, practices and procedures are undertaken by institutions and individuals to cope with the global academic environment.

Seeking and sharing knowledge from the world, designing curriculum which includes international examples, and student exchange programs are some of the practices included in internalization. The Lahore School of Economics is currently active in seven participatory programmes. The following table gives a brief description of each of the programmes aimed at gaining and exchanging knowledge from the international education market.

| <b>Partner University</b>   | <b>Year of Collaboration</b> | <b>Brief Description</b>   |
|---|------------------------------|--|
| <i>International Collaborations through Memorandum of Understanding (MOU)</i> |                              |  |
| Bahcesheir University, Istanbul, Turkey                                       | 2006                         | An undergraduate one semester exchange programme for a group of 5-10 students chosen from the sophomore year.  |
| University of Colombo, Sri Lanka  | 2010                         | A four week research-based study tour arranged every summers for students in the junior year. The tour includes interactive sessions between the students and the Sri Lankan faculty along with workshops held on research methods.  |
| Macquarie University, Sydney, Australia                                       | 2014                         | A one-month tour for eight students from the junior year focused on exploring Australian university life revolving around campus activities and classes of Business Administration and Economics.  |
| University of St. Gallens, Switzerland  | 2016                         | Summer school for post graduate students of the Lahore School. The arrangement is organized by the Global Business School Network under scholarship for the Global School in Empirical Research.   |
| University of Sains Malaysia, Pulau Pinang Malaysia                           | 2016                         | Lahore School has recently established a long term cooperation with University of Sains Malaysia in areas of student exchange, faculty exchange and research exchange.   |
| <i>Other International Collaborations</i>                                     |                              |  |
| Oxford University   | 2015                         | A Visiting Scholars program with the School of Interdisciplinary Area studies (SIAS) at Oxford University known as the Oxford- Lahore School ILM Program. The programme comprises of exploring campus life, participating in workshops and interactive sessions with faculty from SIAS as well as the Department of Economics for dissertation work. |
| Warwick University  | 2016                         | Another visiting scholar program. Students attend lectures given by the top economists in the world where they present their work which exposes them to new avenues of research and sophisticated economic techniques.   |

### ***The Tie between IQA and Quality Culture***

As it follows from the above discussion, we can now link quality culture to IQA. As already discussed in the introduction that it is hard to define quality culture. However, in the case of Lahore School, the quality culture is attributed to the interaction between the various stakeholders of the institute. This includes administration, faculty and students. The internal quality assurance policies are embedded in the university's life as connections are formed across the institute's stakeholders. A sense of ownership is instilled in every stakeholder, which gives them representation in internal assurance policy making. Since the policies are made by those practicing it, through this causality, quality culture is not developed but also reformed every year with the exchange of new ideas, information and methodologies in the departmental meetings, faculty development workshops and student-centered education events.

### ***V. Way Forward.***

Some of the aspects which the institute is currently working on are listed below: Support academic and administrative staff exchange program, Building an interdisciplinary microculture in learning through collaborated on-campus activities and curriculum design, Enhance socio-constructivist approach to promote technology-enhanced learning environment by creating networks amongst the student body and alumni for lifelong learning and unending relationship with the institute, Academic service to the community outside the university; collaboration with the government on various projects.

In all circles of social sciences, it is known that quality assurance is not a myopic system, in fact an on-going and forward looking process. The vision of quality assurance future is rooted in quality improvement. On the other hand, quality culture "cannot be codified in a manual" (Harvey 2009) hence it has to be inculcated in the life of the university through policies made and enacted by the stakeholders themselves. This is achieved through teamwork, self-reflection by the Heads of Departments and synergies created between departments and stakeholders of the university. As a result of this engagement amongst stakeholders the culture induced in the university life is expected to spillover in the whole country as the students and faculty both take home the unique trait of learning via cooperation and communication. In the process of making quality assurance a responsibility of each individual related to the university, the idea of attaining quality in the area of society living can be also be achieved; this can perhaps be called the first step in the creation of a knowledge economy.

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## **THE ROLE OF PUBLIC EVALUATION IN ACCREDITATION PROCEDURE IN THE RUSSIAN FEDERATION**

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### **Abstract**

*The paper analyses the quality assurance system of higher education in the Russian Federation. "Best Programs of Innovative Russia" project, implemented within this study, is an attempt to offer new approaches of assessment of quality of higher professional education. The authors propose the methodology for quality evaluation of the educational programmes.*

Nowadays the quality assurance system in Russia implies three components which are complementary rather than mutually exclusive. These are licensing, state accreditation and public accreditation. Licensing is carried out to ensure that a HEI has sufficient facilities and resources (classrooms, equipment, teaching staff, information and library resources) to carry out educational activities. At present licensing of educational programmes is indefinite in term. It means that licensing is carried out only once.

State or national accreditation in Russia is the status, which shows that an educational institution has met and is maintaining the level set in the Federal State Educational Standards. As a result of state accreditation HEIs are eligible to award national diplomas. A HEI has to reconfirm its state accreditation status every 6 years.

In recent years public accreditation has been actively evolving in Russia. Public accreditation procedures are voluntary for HEIs. In accordance with the legislation of the Russian Federation public accreditation of educational programmes can be provided by organizations established by public (non-governmental) or professional associations and unions. Unlike state accreditation public accreditation does not award higher education institutions with the rights and privileges, but it meets the expectations of public organizations and employers' regarding the educational programmes. This significantly contributes to the prestige of accredited programmes, thus making them more attractive for the prospective students and relevant for the employers.

Public accreditation is carried out by independent quality assurance agencies and therefore is not regulated by the governmental educational authorities, though public accreditation may be recognized by the state accreditation authorities.

Over the past twenty years Russian higher education system has gone through significant transformations which determined the necessity for evaluation.

According to ROSSTAT, as of January 1, 2017 there were 817 educational institutions delivering programmes of higher professional education and about 900 branches offering about 25,000 educational programmes to over 4.4 million students in the Russian Federation.

In recent years a few new categories of HEIs have emerged within the system of higher education: Federal Universities, National Research Universities and flagship universities which have been assigned a special mission of becoming the driving force of higher education development in modern Russia. They are expected to develop the best practices and models in management, methodology and contents of educational process and research, in order to ensure the most effective ways of integration into the global educational area.

Federal Universities – 9 universities were granted this status – train highly qualified professionals for priority fields of economy in the developing regions and federal districts of the Russian Federation in accordance with the long-term strategic plans of the social and economic development.

Research universities – twenty-nine Russian HEIs were granted this status – are to supply the priority fields of science, engineering and cutting edge technologies with highly qualified professionals.

Flagship universities – 11 higher education institutions were granted this status – imply consolidation of several universities or institutes into one enlarged educational institution for the pur-

pose of their synergetic strengthening. This reform is aimed at promotion of social and economic development on the regional level in order to avoid brain drain.

Two Russian universities, Lomonosov Moscow State University and Saint Petersburg State University, were granted a special status within the Russian higher education system, as well as the right to issue their own diplomas.

On the one hand, higher education became more accessible and appealing to students, on the other, the excessive accessibility of education has led to low quality programmes, uncompetitiveness and loss of prospective students' interest to such programmes. Applicants for academic programmes, employers, national and international academic community need trustworthy information on the quality of the educational programmes rather than on the higher education institution itself.

Today the Quality Assurance System in Russia is represented by state procedures (mandatory) and non-state procedures (voluntary). State procedures include: licensing of HEIs and programs, state accreditation of HEIs, state control of the quality of education, state control of the compliance of education with the legislation, monitoring of the effectiveness of HEIs' activity. Non-state procedures are independent and include: public accreditation, public evaluation (e.g. rankings, contests, independent projects etc.), certification of professional qualifications, external review of the quality of higher education.

The main difference is that state accreditation is based on strict threshold standards. Public accreditation is more flexible. Public accreditation implies involving all the stakeholders to the accreditation procedure: academic experts, employers and students. Another significant difference is that in case of negative evaluation there are no legal consequences.

Public accreditation is more oriented to the detailed consideration and evaluation of the programmes, and relies on expert opinion.

Public accreditation does not duplicate state accreditation procedures and standards, rather complements them. Professional and public associations are eligible to establish their own standards for the evaluation of academic programmes. Russian accreditation agencies develop their own standards and criteria on the basis of the European and US Standards and Guidelines for Quality Assurance.

The name of the public accreditation itself is rooted in a 2-phase approach, including the analysis of public opinion and the evaluation of the professional community or the external review.

The project *"Best Programmes of the Innovative Russia"* refers to expert evaluation of the higher education programmes.

Expert survey is carried out using the Internet poll technology from the website [www.best-edu.ru](http://www.best-edu.ru). Evaluation focuses on the quality of a certain educational programme delivery, therefore the project puts emphasis on the educational programs. The developed methodology and technological advances grant the representatives of the academic and professional communities an opportunity to manage the process of education.

The voting experts are appointed from the reputable academic community. They are eligible to select up to 10% from the total of approximately 25,000 educational programmes, and can vote only once. The survey is carried out in real time.

The survey is carried out nationwide. All the educational programmes delivered by higher education institutions of the Russian Federation are subject to evaluation. The respondents are regionally scattered. The methodology is applicable to many internet polls and is considered reliable.

We took territorial constituents of the Russian Federation as a unit of measurement. In order to make sure we have a balanced sample of data we set a survey quota for every constituent area depending on the number of students in the area. According to the data compiled by the Federal State Statistics Service the number of students is calculated and published for every constituent of RF, the results are normalized per 10,000 students. Based on these aggregate data we compiled a list of constituents and quotas of respondents eligible for every constituent.

Once the cap is reached the respondents are automatically screened out, thus ensuring fair chances of all the regions for leadership. In order to be included in the quota for the survey the respondents should meet the conditions of territorial eligibility and competence and qualification eligi-

bility. Provided the conditions are met, they get individual logins and passwords to access the system.

The data are collected separately for every cluster and every region. Should any gaps emerge, further actions might be taken depending on whether filling these gaps is possible. Once the competence level and geography of respondents are suitable for the poll, but for some reason the respondents are evading sharing their expert opinion, they are encouraged to participate in the poll by a variety of means including direct contact.

Respondents are divided into two types: the Federal level respondents and the Regional level respondents. The federal level respondents include the national employers' association "Russian Union of Industrialists and Entrepreneurs", Chamber of Commerce and Industry of the Russian Federation, The Russian Union of Youth, The Russian Union of Young Researchers, various academic communities (different study fields) (54 units), leading Russian researchers, well-informed on the terms and quality of education in the field of their expertise. The regional level experts include the Regional Chambers of Commerce and Industry (76 organizations), Regional branches of the Russian Union of Youth (75 organizations), Regional branches of the Russian Union of Young Researchers (45 organizations), local associations of trade unions organizations-members of the Federation of Independent Trade Unions of Russia (79 organizations), local bodies of the Federal Labor and Employment Service (88 branches), local education authorities (Ministries of Education of the Subjects of the Russian Federation (88 Ministries), federal experts in the sphere of education, heads of Russian HEIs.

Students' achievements are also taken into consideration, unlike the popular rankings, where the preference is given to teachers' achievements. Student's achievements include student contests and competitions of different levels, scholarships, student grants, certification of voluntary independent evaluation, etc.

Only those educational programmes which reach the threshold value can be top-ranked within the *Best educational programmes of innovative Russia* project. The list of these programmes is annually published in hard-copy and e-reference book. No more than 15% of educational programmes with the highest scores can be enlisted.

It is possible to rank higher education institutions depending on the results of the programme evaluation. This enables compiling different kinds of rankings, i.e. the ranking of the regions with top-ranked educational programmes, the ranking of institutions with top ranked educational programmes, etc.

According to the data provided by the Federal State Statistic Service, there are 817 educational institutions delivering the programmes of higher professional education and about 900 branches. All HEIs (state, non-state and branches) offer about 25,000 educational programmes to over 4.4 million students in the Russian Federation. Top 15% are ranked as the best. The Project aims to select the programmes for public accreditation.

Table 1 – Statistics of the project for 2017 by federal districts

| Region                           | Total programs | Top-ranked programs | %      |
|----------------------------------|----------------|---------------------|--------|
| Russia                           | 25,242         | 3,641               | 14.42% |
| St. Petersburg                   | 1,322          | 385                 | 29.12% |
| Moscow                           | 3,045          | 751                 | 24.66% |
| Volga Federal District           | 4,796          | 695                 | 14.49% |
| Siberian Federal District        | 3,105          | 430                 | 13.85% |
| Far Eastern federal District     | 1,330          | 175                 | 13.16% |
| North Caucasian Federal District | 1,326          | 169                 | 12.75% |
| Northwestern Federal District    | 1,448          | 156                 | 10.77% |
| Ural Federal District            | 2,135          | 230                 | 10.77% |
| Southern Federal District        | 2,270          | 234                 | 10.31% |
| Central Federal District         | 4,465          | 416                 | 9.32%  |

The value of the top-ranked programmes is the highest in St. Petersburg. The Central Federal District has the lowest value. The results of the project are open to public and all the stakeholders. The reference books are disseminated among all the accreditation agencies, prospective students, parents and employers. The reference book is published in two languages – Russian and English to expand global outreach.

The educational programmes, included in the reference book *Best Educational Programmes of Innovative Russia* recognized by professional, academic and scientific community are apt for professional accreditation. This involves external review carried out by authoritative experts, representatives of professional, academic and student communities specialized in a certain field. The external review of a programme (or a cluster of programmes) is conducted by an external review panel. Accreditation agencies in cooperation with European and Asian Quality Assurance agencies nominate experts for the procedure of the external review. The status of public accreditation means that an educational programme was highly appreciated and recognized by the professional and academic community.

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## **THE USE OF EDUCATION FOR SUSTAINABLE DEVELOPMENT TOOLKIT TO ENHANCE QUALITY OF TEACHING AND LEARNING**

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### **Abstract**

Countries continue to invest in policies and practices to strengthen the capacities of Education for Sustainable Development (ESD) characteristics at local and regional level, giving recognition to international and cross border education for the advancement of the sustainable development of higher education. Quality assurance on the other hand boosts its regional developments and drives the forces of economic, social development and quality of higher education. This paper briefly reviews how internal quality assurance of HEIs can enhance and complement the reorientation of the curriculum using ESD characteristics to make the programmes more sustainable. Engaging all levels of education requires changing the direction of education systems and structures as much as maintaining the quality of teaching and learning. The ESD is mandated not to just add on existing curriculum or educational practices to improve the quality of teaching and learning but encourage “transformation of education” that would contribute effectively to the future of society. Both concepts aim at the same baseline of implementation and ideas that is to produce quality graduates who are knowledgeable, skilled, can think critically, and adapt values and attributes. The similarities of these characteristics can result in comprehensive practices and continuous improvements of HEIs.



## **Introduction**

The Education for Sustainable Development (ESD) was implemented by the United Nations for a period of nine years (2005-2014). It integrates practices and principles of sustainable development characteristics and features to enhance education and learning. However, the history of ESD and reorientation of curriculum strongly linked to the UN Conference on Environment and Development (UNCED) in 1992, where the framework for action as per Agenda 21 – chapter 36 stated; “recognizing education, training and public awareness were critical tools for the transition towards sustainable development”. However after this period, ESD prepares to plan, find solution and coping with the mechanisms to the issues that threaten one’s sustainability and further aimed to inspire a learner’s knowledge, values and attributes with a vision of enabling a more sustainable society for all (UNESCO, United Nations Decade of Education for Sustainable Development (2005-2014), 2005a) p. 7)). The report further states that many countries across member states, education sector, private and public sectors and civil society work in partnership to change the direction of education systems by preparing their citizens to address the future global sustainability challenges. The ESD implementation involves a number of stakeholders including staff, faculty, funding bodies, students, industries and communities and these goals may not be achieved without the cooperation between the stakeholders (Van Weenen, 2000).

According to the (UNESCO, *Shaping the Future We Want. UN Decade of Education for Sustainable Development (2005-2014)* , 2014), monitoring and evaluation for the ESD shows a growing number of higher education institutions (HEIs) tend to relate their research and teaching with the sustainability aspects based on their local communities and knowledge in order to provide quality graduates. Member countries continue to invest in the policy and practices to strengthen the capacities by committing to advance ESD at the local and national level, thus giving recognition to international and cross border education for the advancement of the sustainable development. Wright (2002) stated that one of the critical roles is to adopt the bottom up approach in order to raise awareness and encourage interactions between HEIs and various stakeholders including students. There are two complementary approaches to advocacy used in the ESD (1) support community in its role in the education transition to sustainable development and (2) support stakeholders by incorporating sustainability education into their work; whilst the two approaches focus on four main areas reaching out to both education and sustainable development, policy support to realign their education systems, enhancing the network and interaction between stakeholders and finally developing approaches for the assessment on the progress of ESD. Therefore, this paper briefly reviews how internal quality assurance of HEIs can enhance and complement the reorientation of the curriculum using ESD characteristics to make the programmes more sustainable for the society.

Engaging all levels and aspects of education requires changing the direction of education systems and structures as much as maintaining the quality of teaching and learning. The ESD is mandated not to just add on to existing curriculum or educational practices to improve the quality of teaching and learning but to encourage the transformation of education that would contribute effectively to the development of the society. According to more recent studies (Yuan, 2012), student’s awareness and opinions of sustainable development (SD) were investigated, and the study conducted by (Turner, 2008), established that university students are fairly aware of the definition of SD and that 75% gave priority to sustainable development projects. It also notes that the integration of the key SD issues to enhance the teaching and learning are biodiversity, climate change, disaster risk reduction, poverty reduction, sustainable livelihoods, production and sustainable consumptions. The teaching and learning methodology according to the ESD intends to consider characteristics of learners such as being able to imagine future scenarios and think systematically, critically and be able to make decisions in a more collaborative way and empower learners to take action towards sustainable development.

Quality assurance on the other hand boosts regional developments and drives the forces of regional economic, social development and quality of higher education (Huashan, 2016). The scales and multidimensional process of internationalization of the HEIs stand at integrating to an international dimension curved on purpose, goals, functions and delivery of higher education (Knight,

1999). Given the diversity of governing environment, one of the biggest challenges of cross-border education has been balancing quality and accessibility (Ibid). According to (Knight, J., 2008), such issues as the potential increase in poor quality providers and the lack of recognition of foreign qualifications create tension among domestic employers or HEIs. Based on the values of fairness, acceptance, justice, responsibility and adequacy, ESD promotes social cohesion, gender equality and poverty reduction.

Other principles underpinning ESD are environmental protection, sustainable use, natural resource conservation and peaceful societies (UNESCO, Bonn Declaration., 2009b). The richer and much more diverse understanding of the process of ESD in all sectors expects to be accomplished in years to come through implementation and consideration of new forms of teaching and learning (UNESCO, Shaping the Education of Tomorrow: 2012 Full Length Report on the UN Decade of Education for Sustainable Development, 2012a.). According to (Jones, P., Trier, C., & Richards, J. , 2008), the approach to teaching and learning that supports the pillars of education is based on the transdisciplinary argument and in terms of ESD, sustainability is considered to be a holistic concept of deeper learning credited with quality. However, the authors further state that the challenge for HEIs creation of active and transformative and quality learning allows values to be lived out than to only teach concrete facts about the environment. The current and future for HEIs to critically self-assess using their internal quality assurance and align their approach to fully engage the ESD strategies remains a challenge. In exploring the educational trends, the two basic components of education are theories and practices in teaching and learning which are well balanced or in a way complement each other. Teaching theories and learning through practices using national qualifications is more industry focused, thus it becomes a competency based assessment for learners.

#### **How the Internal Quality Assurance (IQA) compliments the Implementation of ESD to Enhance Teaching and Learning.**

In order to encourage the two concepts to work together, firstly the role of IQA and self-assessment should be understood within the HEIs. A new dimension of quality assurance components is to establish a base by recognition, registration of HEIs, accreditation of national and provider qualifications within the national guidelines. Therefore, this shows a greater emphasis on self-evaluation and review to focus on *educational outcomes and continuously improve the quality*.

The IQA requires quality dimension of input, process and output whereby the input segments include students, teachers, curriculum, facilities, and the process includes the emphasis on teaching and learning interactions, research, student support and evaluation, staff development and administrative practices (Nair, 2016). Therefore the expected output is the *quality graduates, research outputs and service to the community*. The HEIs using the above processes can self-assess themselves for continuous improvement. A couple of good strategies together with this system enhance the overall quality assurance operations and as such the characteristics of ESD should complement and complete this process.

The intended outcomes of the process is for the HEIs self-realization, performance improvement, mobilization of national human resources and transformation making the institute more competitive and sustainable gaining more recognition nationally and internationally. Almost similarly the international implementation scheme (IIS) framed by UNESCO promoted the efforts of the ESD which constructs on four major thrusts of ESD and seven strategies as per the figure below.

Quality Assurance ensures that quality is maintained and enhanced at all times with more than one approach such as policies, attitudes and procedures. It limits in a sense that it indicates the set minimum standards and accountability to its stakeholders (Woodhouse, 1999).

According to (Dubois, 1998) and his research based on European Community including some eleven HEIs concluded that evaluation for the quality assurance can cause improvement in HEIs performance and convinced these conditions:

- The presentation, its nature of evaluations and its results
- Intellectual learning, identity, cultural and legitimating the effects during the evaluation
- Taking ownership of the evaluation results by the members and institutions
- Permanent mechanisms for the internal evaluation

Table 1: Four Major Thrusts of ESD and Seven Strategies for ESD. Source: (UNESCO, United Nations Decade of Education for Sustainable Development (2005-2014), 2005a)

| Four Major Thrusts of ESD  | Seven Strategies for ESD                                 |
|--|--|
| 1. Improving access and retention in <i>quality basic education</i>                    | 1. Consultation and ownership                            |
| 2. <i>Reorienting</i> existing educational programmes to <i>address sustainability</i> | 2. Vision building and advocacy                          |
| 3. Increasing <i>public understanding</i> and awareness of sustainability              | 3. Partnership and networks                              |
| 4. Providing <i>training to advance sustainability</i> across all the sectors          | 4. Research and Innovation                               |
|  | 5. Capacity building and training                        |
|  | 6. Use of Information and Communication Technology (ICT) |
|  | 7. Monitoring and evaluation                             |

The self-assessment in quality assurance process is a critical evaluation consisting of variety of aspects of the international scopes of the HEIs. It is noted that the more importance given to self-assessment, the more meaning it will give to the training and will assist HEIs in taking ownership and responsibility for their own quality improvement making them more sustainable in producing quality graduates.

It produces information and opportunity to conduct analysis of the extent and quality initiatives internationally thus, making it easier or complementing the process or adaptation of the ESD characteristics (Woodhouse, 1999).

Table 2 Strategies of Internal Quality Assurance System

|   |                                       |
|---|---------------------------------------|
| Basic Internal Quality Assurance Strategies | Curriculum aspects                    |
|   | Teaching, Learning and Evaluation     |
|   | Research and Consultancy              |
|   | Learning Resources and Infrastructure |
|   | Student Support                       |
|   | Governance, Leadership and Management |
|   | Best Practices and Innovations        |

Through the awareness and influential policies, ESD has laid a firm foundation by generating the significant amount of good practices in the areas of education and learning. Thus, there ten key findings that emerged in the 10 years of work under the Decade of ESD and trends guides the ESD for the future.

Figure 1 Ten Key Findings - Source: UNESCO (2005)

| ESD, an enabler for sustainable development                             | ESD is galvanizing pedagogical innovation  |
|---|--|
| 1. Education systems are addressing sustainability issues               | 6. Whole institution approaches help practice ESD                                    |
| 2. Sustainable development agendas and education agendas are converging | 7. ESD facilitates interactive, learner driven pedagogies                            |
| Importance of stakeholder engagement for ESD                            | ESD has spread across all levels and areas of education                              |
| 3. Political leadership has proven instrumental                         | 8. ESD is being integrated into formal education                                     |
| 4. Multi-stakeholders partnerships are particularly effective           | 9. Non-formal and informal ESD is increasing   |
| 5. Local commitments are growing  | 10. Technical and vocational education and training advances sustainable development |

### Analysis of the Concepts

The recent trend worldwide for higher education accountability and quality of HEIs gives assurance through regular accreditation system. Facing global challenges of socio and economic development, higher education tends to be an important stimulator of the national economic growth. The European Union established European Network of Quality Assurance (ENQA) ensuring the qualities of higher education in Europe by recognizing higher education quality assurance agencies

together with the Asian continents aiming at Asia and the Asia Pacific Quality Network (APQN) extends its greater network towards Asia and the Pacific.

The vision of the ESD has developed and continuously enhanced the needs for fundamental human development through quality education. It is commonly implicit that quality is not all about accessibility or to inspire competencies but it covers the purpose, methodology, is outcome-based, which supports the learners in adaptation to lifelong values and proves relevancy underpinning sustainability.

Regardless of the many achievements and successes during the Decade of ESD, Member States and other stakeholders have indicated significant challenges remain in comprehending the full potential of ESD. These challenges are the future alignment of education and sustainable development sectors, institutionalizing ESD on a systematic level to ensure strong political support and the need for more research, innovation, monitoring and evaluation to further develop and prove the effectiveness of ESDs good practices (UNESCO, Shaping the Education of Tomorrow: 2012 Full Length Report on the UN Decade of Education for Sustainable Development, 2012a.). Ensuring quality is all about continuous improvement and the two (IQA and ESD characteristics) can both enhance and complement each other to advance the philosophy through complete integration of ESD and quality into education systems. These possibly can be succeeded through ensuring quality teaching and learning from side to side with mutual understanding that incorporates political, cultural, academic and development aid goals and gives stronger emphasizes on staffing (Knight, J., 2008).

With the necessity to assure the quality of activities in higher education, Organization for Economic Cooperation and Development (OECD) and The United Nations Educational, Scientific and Cultural Organization (UNESCO) has developed international guidelines on Quality Provision in CBHE, to strengthen quality assurance, accreditation and recognition of qualifications at both national and international levels (Yung-ch, A. H, Chen, K., Chan, Y., Tsai, S., Wang, W., & Hung, S. L. V., 2016). According to the guidelines, the leading quality assurance and accreditation agencies are expected to intensify their international cooperation among other agencies and develop strategies to cover national schemes with clear guidelines that student/learners must be protected from the risk of misinformation, low-quality provision and limited validity of qualifications (UNESCO, Guidelines and Recommendations for Reorienting Teacher Education to Address Sustainability, 2005b). This strengthens HEIs to attract more students, inspire teachers, develop proper assessments and establish a basis of transfer system improving the performance of students. The “*quality education for sustainable development*” instills what learners learn with relevance to the current global challenges and how this complements the development of their skills, knowledge and attitudes to respond to such challenges of now and future.

### **Conclusion**

One must understand that the quality assurance of higher education and implementation of ESD characteristics is being addressed in a number of ways for its purposes and may not be consistent in all HEIs due to different country needs and the development goals. However, the two concepts aim at the same baseline of implementation and ideas, that is to produce quality graduates who are knowledgeable and skilled. The similarities of the characteristics and structures can result in comprehensive practices and continuous improvements if policy makers find ways to syndicate these initiatives. While some countries relate to their environmental, cultural, economic, political and social considerations, others may base on technical aspects of quality assurance mechanisms for sustainability.

All HEIs worldwide should aim at quality graduates marketable both nationally, regionally and internationally, thus verifying the ability and transparency of constructive and effective programmes. Each learner and graduate must develop the maximum educational outcomes, be skillful and ready for the marketability and employability.

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## **ESTABLISHMENT OF INTERNAL QUALITY ASSURANCE MECHANISMS IN SELF-ACCREDITATION INSTITUTIONS IN TAIWAN: HAS QUALITY CULTURE BEEN EMBEDDED ON CAMPUS?**

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### **Abstract**

*In 2013, the Ministry of Education (MOE), Taiwan launched a new quality assurance policy called “self-accreditation”, aiming to give institutional autonomy as well as to establish their internal quality mechanism. In the self-accreditation policy, higher education institutions are encouraged to develop their own QA framework based on missions and features. At the same time, the self-accreditation policy has brought several impacts on self-accrediting universities in terms of IQA implementation and quality culture building. Hence, the purpose of the study is to realize: (1) The establishment of internal quality assurance mechanism in 14 self-accrediting higher education institutions; (2) The challenges that self-accrediting institutions faced in terms of quality culture building.*

### **Key word**

*Self-Accreditation, Quality Culture, Higher Education*

#### **1. Introduction**

Over the past decades, the number of Taiwan universities and colleges increased up to 160 with more than 1.3 million student enrollments, which has successfully transformed Taiwan Higher Education system from Elite type into universal type. Concurrently, quality issues related to “massification” in higher education have not only aroused public concerns but also resulted in the development of a quality assurance framework in Taiwanese higher education in the early 21<sup>st</sup> Century.

The Higher Education Evaluation and Accreditation Council of Taiwan (HEEACT), the first national accrediting body, was established in 2005 with funds from the government and 153 colleges and universities. Prior to the establishment of HEEACT, several self-funded local accrediting bodies had been founded, including Taiwan Assessment and Evaluation Association (TWAEA), Taiwan Medical Accreditation Council (TMAC), Taiwan Nursing Accreditation Council (TNAC), the Institute of Engineering Education Taiwan (IEET) (Hou, 2014).

As a national accreditor, HEEACT operates both institutional and program-based accreditation. The external review costs are completely covered by the MOE. The detailed final reports are published on HEEACT’s official website (HEEACT, 2015). In 2006, HEEACT began a 5-year, program-based, and nation-wide accreditation. Starting in 2011, HEEACT conducted a new comprehensive assessment over 81 4-year national and private universities and also continued the second cycle program accreditation. Following the global trend of quality assurance, both institutional and programmatic accreditation focused on the assessment of student learning outcomes.

In 2012, the MOE determined to launch its “self-accreditation” policy in order to respond to various requests, particularly university autonomy enhancement and internal quality assurance establishment (MOE, 2013). Self-accrediting universities were expected to realize their strengths and weaknesses as well as to develop their own review standards. At the same time, they would be given authority to conduct an external evaluation over their programs without being reviewed by HEEACT. Therefore, the new policy represents that universities needed to build quality culture on campus. Therefore, the purpose of the study is to realize: (1) The establishment of internal quality assurance mechanism in self-accrediting higher education institutions; (2) The challenges that self-accrediting institutions faced under the new self-accreditation policy. Three research questions addressed as follows:

- (a) How did the self-accrediting institutions implement the self-accreditation policy?
- (b) How was internal QA established by self-accrediting institutions under the self-accreditation policy?
- (c) What challenges and impacts have been brought into 14 institutions?

#### **2. Literature Review**

## 2.1 Development of a self-accreditation system

According to the International Network for Quality Assurance Agencies in Higher Education (INQAAHE, 2013) self-accreditation is, “a process or status that implies a degree of autonomy, on the part of an institution or individual, to make decisions about academic offerings or learning” (INQAAHE, 2013). Self-accreditation derived from accreditation is defined as the status accorded to a mature institution conducting its IQA and which is exempted from the process of external accreditation (Harvey, 2014). In other words, self-accrediting universities are given autonomy to either award degrees in their own name or accredit their own programs without going through an external party. A self-accreditation institution is fully authorized to invite its review panel to inspect institutional or program quality. With greater familiarity with the specific nature of the institution itself, ideally, self-accreditation can lead institutions to a more informed process of self-improvement (Sanyal & Martin, 2007; Kinser, 2011). Hence, the main purpose of self-accreditation is to develop a quality culture on campuses throughout a rigorous internal quality review process by universities.

Self-accreditation tends to apply with a “fitness for purpose” approach only, inspecting how a university’s performance fulfills its specific missions. Within a well-developed internal quality assurance system, institutional capacity will be also enhanced in order to deal with more complicated quality issues, such as program restructuring, faculty development, etc. (Stensaker, Langfeldt, Harvey & Westerheijden, 2011). With the emphasis on self-enhancement, self-accreditation focuses more on the development of internal quality assurance rather than external review.

## 2.2 Quality mechanism and quality culture at the institutional level

In order to achieve the university educational objectives quality should be part of the institutional mission and vision in carrying out all the activities of teaching, learning and research. This means putting internal quality management systems, policies and procedures in place according to relevant regulations, bylaws, and statutes. Through effective institutional management and a well-structured internal quality system, a quality culture will emerge. The university leaders should initiate the process and support all quality activities, including processes and procedures. Quality assurance should be an integral part of institutional governance and clearly identified within the overall institutional management structure and system. This requires the collaboration and engagement of administrators, faculty and staff across all levels of academic sectors and disciplines, with the functions and responsibilities of all administrative sectors and academic units with regard to quality being clearly defined (Hou, 2016).

The functions and responsibilities of the quality assurance office need to be clearly articulated. It should develop a quality assurance manual for faculty and staff and provide training for them. A healthy and balanced quality assurance system would express both educational objectives and social expectations. Public accountability will develop into a quality plan, particularly the provision of information to the public.

In order to ensure the university’s long-term sustainability, the quality assurance system is able to adapt to change through feedback mechanisms and consultation with stakeholders, including faculty and staff representatives, student bodies, government, industry and other external agencies (Hou, 2016).

## 2.3 Rationales and Phases of Self-accreditation in Taiwan

According to the MOE, universities could apply for self-accreditation status if they meet one of the following criteria: they are recipients of MOE grants of the Development Plan for World Class Universities and Research Centers of Excellence; (2) recipients of MOE grants of the Top University Project; (3) recipients of MOE grants for the Teaching Excellence Project exceeding 6.7 million in USD over a consecutive four years. Currently, these are 34 institutions eligible for application.

Applicants for self-accrediting status engage a two stage process. In the first stage the applicant is required to submit documents and evidence demonstrating their capacity to conduct an internal review process. All documents will be reviewed by a recognition committee organized by the MOE. The review standards, including eight aspects (MOE, 2013):

- (1) University has set up its own self-accreditation regulations based on the consensus of the whole university.
- (2) The self-accreditation standards developed by the university are properly integrated with its educational goals and uniqueness.
- (3) A steering committee of self-accreditation is organized by the university and its responsibility is properly defined in the regulations. The committee consists of 3/5 external experts.
- (4) The whole review process of the self-accreditation is properly designed with multiple data resources and self-improvement function.
- (5) The peer reviewers should be comprised of experienced experts, academic scholars, and industrious representatives.
- (6) The self-accreditation system is fully supported by the university itself with enough financial support and human resources.
- (7) A feedback system set up by the university continuously makes self-improvements according to the accreditation results and the review comments.
- (8) The self-accreditation results are transparent and will be announced to the public.

The second stage focuses on the actual review process and procedures undertaken by self-accrediting institutions and recognizes review outcomes submitted by the self-accrediting institutions. The audit is carried out by HEEACT through document checks. After going through and approving HEEACT's audit, the MOE allows self-accrediting institutions to publish their review outcomes on their official website (Chen & Hou, 2016). By the end of 2016, the self-accrediting policy has been moving to the new stage. The qualifications of applicants are not only limited to those with Research and Teaching Excellence Project recipients. Since 2017, all universities are eligible to identify themselves as a self-accrediting authority.

### 3 Research Method

Fourteen accrediting institutions were selected as research subjects in order to document how MOE's self-accreditation policy impacts institutional internal QA. Three focus groups targeting the reviewers from accreditation outcomes recognition task force, heads of QA office, program heads and faculty members will be held respectively. The research team invited the total of 24 representatives to take part in focus groups. The data from focus groups were analyzed using the Miles and Huberman (1994) method for generating meaning from transcribed and interview data. Their methods of noting patterns and themes; clustering items into categories; building logical chains of evidence through noting causality and making inferences; and making conceptual coherence allow typically large amounts of qualitative data to be reduced (Cohen, Manion, & Morrison, 2007). In addition, Triangulation involving using multiple data sources in an investigation to produce understanding were adopted a method for validation or verification of major findings (Patton, 2001).

The interview questions for focus groups are as follows:

#### Part I: The establishment of internal quality assurance mechanism

1. What do you think of self-accreditation process undertaken by universities/colleges? Did they comply with the principles of equity, impartiality, and transparency? Were the evaluation items and criterions appropriate?
2. Do you think that self-accreditation process undertaken by universities/colleges fully engaged different stakeholders, such as college, staff, students, and alumni? Why?
3. Do you think that the procedures of recruiting committee and qualifications of reviewers were developed at universities appropriately?
4. Do you agree that the highly passing rate at self-accrediting institutions means good quality of departments and programs?
5. What are the big challenges for universities and colleges to implement self-accreditation during the process and procedures?

#### Part II: Role of quality assurance unit at self-accrediting universities

- (1) What do you think that the organizational structure, level and human resources of quality assurance office should be? For which level would they be more appropriate?
- (2) What responsibilities do you think the institutional self-accreditation committee should take?



- (3) How do you think the quality of staff at a QA office can be ensured? What kind of training programs did your university provide for QA staff and faculty members?
- (4) What commitment do you think that universities themselves should have in administrative support, financial resource, and human capital in order to undertake self-accreditation?
- (5) How do you think the relationship between the administrative cadre and academic programs should look like?
- (6) How do you think a QA office should help other academic programs to undertake the internal review process?
- (7) How do you think a QA office should help academic programs to develop their characteristics?
- (8) How do you think a QA office should help academic programs to build quality culture through the review procedures?

### Part III: Impact of Self accreditation on higher education

- (1) Do you think that self-accreditation can help universities and colleges promote the development of quality assurance mechanisms?
- (2) Do you think that self-accreditation can help universities and colleges develop their features?
- (3) Do you think that self-accreditation can encourage faculty members and staff to participate in the development and planning of academic programs actively?
- (4) How do you think the eligibility of self-accrediting universities and colleges should be determined? Should their self-accreditation status be terminated if they do not implement it appropriately? And How?
- (5) What kinds of advantages and disadvantages of self-accreditation policy have been brought to Taiwan higher education?

#### 4 Major Findings

- (1) Most universities tended to adopt HEEACT model, including standards and review procedures

Given the fact that universities were given autonomy to develop their particular features through a self-accreditation process and related procedures, they would be able to determine if they would like to follow the HEEACT model or operate with their own standards. The MOE did not set up specific regulations for either set of review criteria or the composition of a review panel.

In reality, most universities tended to follow the HEEACT QA model without many changes which has led to a lack of innovation though some self-accrediting institutions tended to strengthen the “internationalization” character within the review procedures, such as having internationalization item, inviting international reviewers, etc. (Hou, et.al, 2014). Yet, there are still a plenty of aspects in external review process which needed to be improved, including selection of reviewers, composition of panel, final accreditation decisions, etc. Even so, internal quality assurance culture has been gradually developed and eventually embedded with campuses.

- (2) Reviewers recruitment and training are the biggest challenges

Self-accrediting universities faced several challenges, including unclear reviewers’ recruitment process and procedures, insufficient human resources and lack of standards for final decisions making (see table 1). There are four major approaches of a panel composition: (a) recommended by reviewed programs and approved by institutional steering committee; (b) recommended by programs, colleges, Dean of academic affairs, and Vice presidents, then approved by institutional steering committee; (c) recommended by programs and colleges, and selected by President; (d) Screening certified reviewers by HEEACT, then selected by evaluated programs and approved by institutional steering committee. Yet, QA office did not have the capacity in reviewer training.

Table 1: Analysis of 14 self-accrediting institutions’ quality assurance mechanism

|    | Dimensions  | QA mechanism by institutions                                 |
|----|---|--|
| 1. | Evaluation Items                                    | Between 4-9 items  |
| 2  | Additional feature standards at institutional level | 50% did  |
| 3  | Number of evaluation indicators                     | Between 13~51/ one adopted HEEACT’s standards and indicators |
| 4  | Additional feature standards at program level       | 13 institutions did  |

|    |  |  |
|----|--|--|
| 5  | Recruitment of reviewers                         | There are four models: (1) recommended by reviewed programs and approved by institutional steering committee; (2) recommended by programs, colleges, Dean of academic affairs, and Vice presidents, then approved by institutional steering committee; (3) recommended by programs and colleges, and selected by President; (4) Screening certified reviewers by HEEACT, then selected by evaluated programs and approved by institutional steering committee. |
| 6  | QA staff training offered                        | 13 institutions did  |
| 7  | Authority of Self-accrediting Activity           | (1) Office of Research and Development; (2) QA office; (3) Office of Academic Office, (4) Task Force on QA; (5) University Secretariat   |
| 8  | Human Resources                                  | Around 1-4   |
| 9  | Budget   | (1) From University Fund (2) proposed by the office in charge  |
| 10 | Alignment/ embedded with Lon-term Strategic plan | 12 institutions did  |
| 11 | Transparency                                     | 13 institutions did  |
| 12 | Final Review Status                              | (1) All comply with HEEACT model<br>(2) 9 out of 14 has a rating system over each indicator  |

Sources: compiled by Authors

## 5. Discussion and Conclusion

The core value of quality assurance is continuous self-improvement. Hence, an institution is expected to become a learning organization through a well-established internal quality assurance mechanism. But there would be challenges of implementation in several aspects. First, shared responsibility between administration and academic sectors is needed. Sometimes the roles and responsibilities of administrative sectors and academic units for assuring quality are not clearly defined. This can create misunderstandings and hamper implementation.

Second, inclusion of faculty could not be ignored. In some institutions, faculty members do not take much part in quality assurance activities due to their heavy responsibilities in teaching and research. Engaging them more fully is a major challenge. Third, development of indicators and learning outcomes measures are supposed to be carried out and supported by top administrators, faculty members, and students. For developing criteria and quality indicators needs the engagement of various stakeholders, reaching consensus can be time consuming. In addition, quality culture building would result in more administrative work and this extra burden may create resistance on campus. Last, there remained large gaps in the feedback cycle remain on most campuses. A functioning feedback cycle enhances the quality of the whole institution. However, it was found that most universities did not develop a systematic alignment between review results and strategic quality goals successfully.

In conclusion, the key aim of a quality culture is continuous enhancement of quality. It can be seen that self-accreditation has already been implemented in several Asian countries, including Taiwan. As a late-comer, the Taiwan government is attempting to build universities' capacities by giving them more autonomy. However, it remains a very challenging job for universities to strike a balance between the often perceived conflict between accountability and autonomy. From the perspective of universities, self-accreditation will definitely encourage them to develop their features and strengths through a well-established internal quality assurance mechanism. In reality and perhaps in future practice, it will likely take universities a greater period of time to develop their quality culture in a manner that is firmly rooted on campus.

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## **HOW TO LINK STUDENTS' LEARNING OUTCOMES AND OCCUPATIONAL STANDARDS**

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### ***Abstract***

*Many countries are trying to improve the cooperation between education and labor market. Russia is not an exception. The paper aims at drawing attention to the growing need to provide tight links between these two worlds. The effective mechanism to achieve this linking is to embed requirements of occupational standards into educational programmes, namely to develop competencies and learning outcomes in correspondence with occupational standards.*

### **1. Introduction**

In 2009, the Russian system of higher education underwent great changes, and namely the transition to the federal state educational standards of new generation (FSSES). FSSES required adoption of a new educational paradigm, i.e. the shift from the knowledge-based model to the model of competence-based education. Thus, for the past eight years Russian universities have been facing the challenge of the development and implementation of new competence-oriented educational programs, including the addition to the list of professional competencies, the development of new curricula, working programs of academic disciplines, funds of assessment tools. Herewith one of the main requirements is to adjust new educational programs to the needs of the labor market (employers).

### **2. Employers' participation in the sphere of education**

Today Russian employers have the opportunity to participate actually in every stage of organization and implementation of a HEI's learning process, including participation in the development of requirements of student learning outcomes (SLOs), learning content, network training, final examinations, giving masterclasses and workshops.

At the same time some of the most frequent negative comments from the experts in the sphere of higher education are as following:

- the educational institution does not involve any employers in the training process, thus does not ensure education of appropriate quality;
- the educational institution does not adjust the monitoring of students' progress and assessment of SLO to the terms of their future careers.

The reasons for that can be quite different. For example, HEIs consider it is not obligatory and may be too tough to involve employers in educational process, or, on the contrary, employers are not ready for such an activity and even more - they do not know how to get engaged.

What would encourage more employers to become engaged in education and training? These are a few of the many possible ways.

Firstly, HEIs and other relevant bodies should be more proactive in approaching employers. Many employers are willing to help but have limited time or have no idea how. In this case development of simple guidance for employers could be for education and business relation a good finding.

Secondly, employers should be aware and be sure that they have an opportunity to influence the quality of the students' educational outcomes, and thus their potential employees.

Thirdly, education-business links are not clearly evaluated, which means that there is little evidence to demonstrate to employers the value of their involvement. If HEIs developed some form of evaluation of the opportunities provided by businesses then this might help employers to see the value arising from their efforts. It could serve as a good basis for incentives for employers to co-operate with the education sphere.

### **3. Relationship between occupational standards and training**

Educational process needs to be linked to OS if training is to be relevant to the real world of work. This linkage is sometimes absent or is not always clear because HEIs have not explicitly linked their training programs to labor market needs. For instance, OS do not exist, or educational institutions do not use existing standards. Here a quite reasonable question may arise 'Why? What are the reasons?' The answer may be that the worlds of employment and education are different and separate so far. They exist independently of each other. Employers are interested in what people need to do, how they will do it, and how well they do it. They are interested in outcomes.

Education is also outcomes/competence-oriented but HEIs traditionally are overloaded with such routine activities as developing and updating of learning content (curriculum, working programmes of disciplines), teaching/learning process (methods), assessment, research, writing different reports and many others. Educators are interested in what people learn, how they will learn it, and how the quality and content of learning will be assessed. Herewith there are cases when HEIs demonstrate antagonism and keep guarding their independence and their ability to design educa-

tional programs as they see fit. Also, they may regard the use of OSs defined by employers as too narrow in scope and consider such standards as an invasion of their area of responsibility.

Despite all the above-mentioned reasons, it is wrong to assert absolutely that there is no linkage between the worlds of work and education. There is linkage, yet not so strong and tight. The situation is not static. It is constantly developing. More and more employers are involved by HEIs in the process of developing or updating the list of competences and learning content. The number of occupational standards approved by the state has grown up to 835 (rosmintrud.ru). And the process is underway.

To achieve better employability and ensure that training is relevant to the needs of the labour market, the worlds of work and education must cooperate closely (Figure 1.).

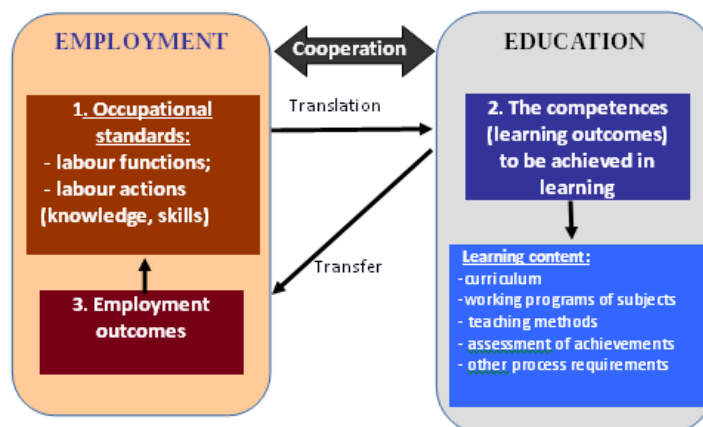


Figure 1. Translating occupational standards into education

To make this cooperation effective the needs of employment (occupational standards) must be translated into a language that can be understood in the educational sphere. The goal is to translate the language of actions in OS into the language which will enable education professionals to plan and deliver learning programs. One immediate step that can be taken by HEIs is to develop new lists of competences that describe what people will be able to do at the end of educational programs. The competences should be linked to the requirements defined in occupational standards (Fretwell, p.31).

#### 4. How it works: methodology of linking

The algorithm of linking can be presented as a system of ten steps:

##### Ensuring the quality of the work on the development of the program

Step 1. Establishing the working team

##### Analyzing occupational standards and their aligning with educational standards

Step 2. Identifying the volume of embedding occupational standards in the educational programme

Step 3. Analyzing the general job descriptors

Step 4. Analyzing the labor functions

##### Results of analyzing occupational standards

Step 5. Writing up a list of competences to be added to the competences from the FSES

Step 6. Formulating programme learning outcomes (competences) linked with the OS

##### Developing/updating educational programme

Step 7. Developing a pool of assessment tools embedding the requirements of the OS

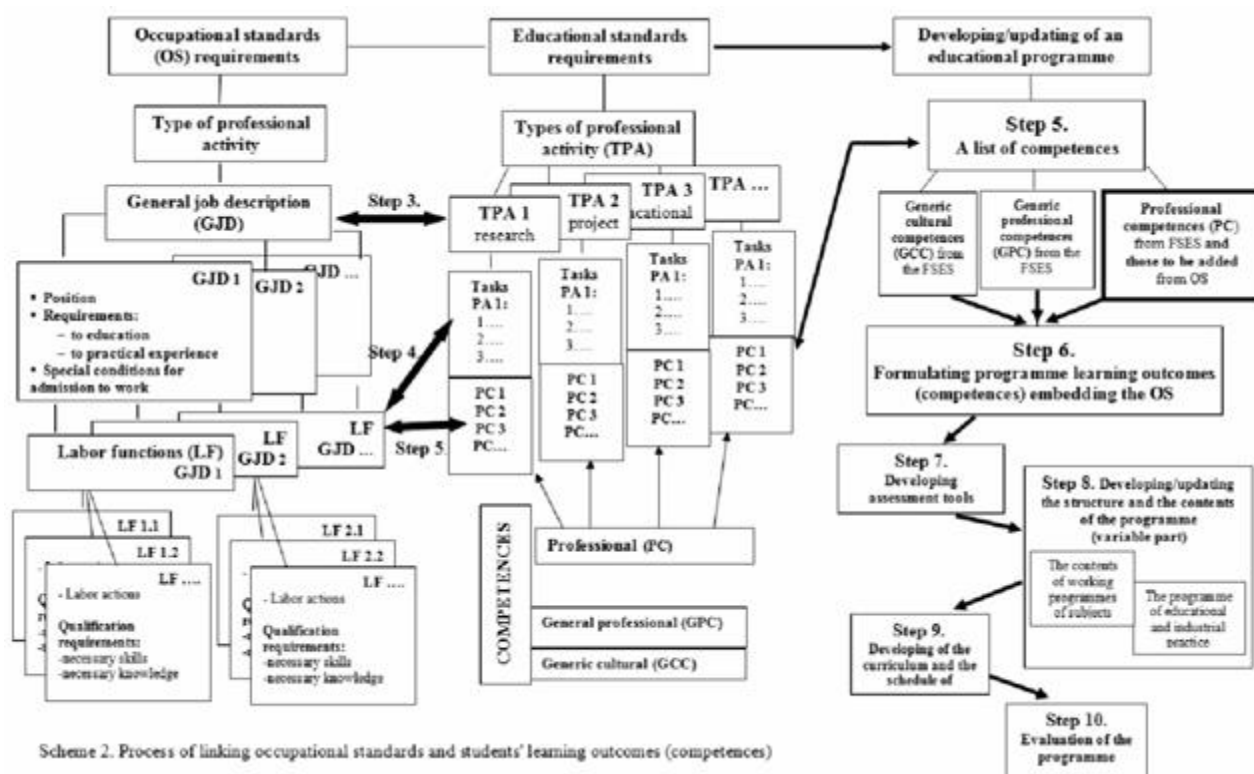
Step 8. Designing a structure and content of an educational programme embedding the qualification requirements of the OS

Step 9. Developing a curriculum and a training schedule

##### Using Quality assurance procedure

Step 10. External evaluation of the educational programme

The Scheme in Figure 2. presents the entire process of linking occupational standards and SLOs (competences) including the subsequent updating of assessment tools, the content and other parts of the educational program. But in the context of the paper the steps 2,3,4,5,6 are of our special attention.



*Step 2. Identifying the volume of embedding occupational standards in the educational programme*

Educational programmes should reflect real needs of the labor market, employers' associations and society. Successful completion of an educational programme must result in award of the qualification, relevant to the level of development of science, technologies, economy and society. Thus, programme developers should relate the requirements of the OS, requirements of the FSES and programme objectives for the purpose of developing the key competence model of a graduate, who is ready for professional performance and able to demonstrate sufficient level of knowledge, skills, and competences.

*Step 3. Analyzing the general job descriptors*

It is recommended to:

- analyze the list of general labor functions of the OS as relevant to the educational programme;
- choose the most relevant general labor functions that are not represented in the FSES;
- define types of professional activity relevant to the chosen general labor functions, and then align these to the types of professional activities in the FSES.

During the process of alignment, it is important to understand whether the general labor function, which is not represented in the FSES, needs to be taken into account in the educational programme.

*Step 4. Analyzing the labor functions*

This step specifies the professional activities that a graduate should be ready to perform.

It is recommended to:

- analyze the list of labor functions as relevant to the educational programme;
- choose the most relevant labor functions;
- write a general list of tasks of professional activity of a graduate of the educational programme

The results of such analysis can be described in a table (Table 2.).

Table 2. Aligning professional tasks from the FSES with the labor functions of the OS

| Requirements of the FSES | Requirements of the OS                                 | Findings |
|--------------------------|--|----------|
| Professional tasks       | General labor functions (GLF),<br>labor functions (LF) |          |



*Step 5. Writing up a list of competences to be added to the competences from the FSES*

The FSES already have a minimum set of competences a graduate should be ready to demonstrate upon completion of an educational programme.

Although the competences are described in the FSES, the need to expand the list may arise, while aligning the educational programme with the OS. For that purpose it is recommended to:

- analyze Part II 'Description of the labor functions (functional map of a type of professional activity)' and Part III 'Profile of a type of professional activity' taken from all the OS, which were previously selected for the alignment with the educational programme;
- choose labor functions, that are most relevant for the specific educational programme;
- analyze qualification requirements to the chosen labor functions;
- write up professional competences based on the chosen OS and qualification requirements.

The results of such an analysis can be described in a table (Table 3).

Table 3. Aligning professional competences from the FSES with the labor functions of the OS

| Requirements of FSES  | Requirements of OS                                       | Findings |
|---|--|----------|
| Professional competences specific for each kind of activity | Qualification requirements to the chosen labor functions |          |

**Step 6. Formulating programme learning outcomes embedding the OS**

The alignment done with the previous steps can help formulate programme learning outcomes. The programme learning outcomes should include generic (GC), and general professional competences (GPC), as well as professional competences (PC).

The requirements for formulating programme learning outcomes in correspondence with the requirements of the OS can be better described with the help of the Table 4 below.

Table 4. Programme learning outcomes

| Types of professional activity          | Professional tasks | Professional competences |
|---|--------------------|--------------------------|
| 1                                       | 2                  | 3                        |
| TPA 1 ...                               |                    | PC ...                   |
|   |                    | PC ...                   |
| TPA 2 ...                               |                    | PC...                    |
|   |                    | PC...                    |
| General Professional Competences (GPC): |                    |                          |
| Generic Competences (GC):               |                    |                          |

## 5. Measuring the quality of educational programmes linked with the relevant occupational standards

The last step of the linking process is Step 10. External evaluation of the educational programme. The step assures the quality of the educational programme. This part of the paper gives brief information on measuring the quality of the linkage between educational programmes and the relevant occupational standards and results of such work done by the National Centre for Public Accreditation (NCPA) ([www.ncpa.ru](http://www.ncpa.ru)).

NCPA is a participant of the Tempus project ALIGN (Achieving and checking the alignment between programmes learning outcomes and qualification frameworks). Within this project NCPA in cooperation with other participants (Volga State University of Technology, Northern (Arctic) Federal University after M.V. Lomonosov, Moscow State Pedagogical University, the regional office of the Russian Union of Industrialists and Entrepreneurs, the Russian Student Union) developed the Guidelines for aligning and checking the alignment of programme learning outcomes with European Qualifications Framework, the draft National Qualifications Framework and OS.

The part of the Guidance devoted to aligning learning outcomes to occupational standards was agreed with the above-mentioned recommendations (issued by Ministry of Education and Science of the Russian Federation).

The external evaluation procedures, devoted to checking the accomplishments of the alignment process, involved all stakeholders:

- representatives of professional associations, employers, including those from the working team, who set the basic rules of aligning the educational programmes with qualification requirements of occupational standards;

- representatives of the student community (students, post graduate students) and alumni;

- representatives of the academic community, from those who were involved in the process of educational programme implementation (European and Russian experts).

Below are some of the conclusions of the Review team:

The learning outcomes approach is new for Russia. The input of the occupational standards is very important; however, the learning outcomes can be made much more specific by including also descriptors such as those included in the Dublin Descriptors. The most important elements of the level 7 are included, but there is too much focus on occupational competencies and not enough on generic and generic professional competencies. Currently, the learning outcomes do not include knowledge in a sufficient measure. However, good work was done on the domain-specific competencies. In Russia there is the draft NQF; all the programmes are developed in accordance with FSES. We have received a good and clear list of learning outcomes which were up-to-date. They are aligned with EQF and FSES, with the draft NQF which specifies 3 types of competence, and they are in fact specific for the two programs. Now, of course, they have to be assessed continuously and in cooperation with the stakeholders. SLOs are at the level of Masters education and fitting domain-specific demands.

## **6. Conclusions**

So, OS are valuable tools for bringing together employment and education. They serve as benchmarks for competences and learning outcomes as well as for defining roles at work, staff recruitment, supervision and appraisal. There's still very much work to overcome the existing resistance between educators and employers. However, these two worlds can be linked only with the help of a prospective employee able to demonstrate the knowledge, skills and abilities on the one hand given and developed at a HEI and on the other hand demanded in the labor market. The achieved linkage will destroy the boundaries between education and employment and open up new horizons for improving the quality in these spheres.

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## UNDERGRADUATE LEARNING ASSESSMENT: UNIVERSITY POLICY AND DISCIPLINARY CULTURE IN TAIWAN

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### **Abstract**

*Learning assessment in higher education has recently become the focal research issue attracting the attention of the academic community and causing extensive debating. Assessment used to be the exclusive responsibility of a teacher. However, the situation has substantially changed in the recent years due to increased attention to educational accountability, students' core competencies, employability and tightening of internal quality control within the university. For the purpose of our research we chose a typical university in Taiwan as a case study example and explored whether the learning assessment has been coherently structured, arranged and implemented or not. Moreover, students from different colleges were asked to share their first-hand experience in terms of learning assessment practices. Our findings indicate that the university under study has been lacking systematic policy in learning assessment. Moreover, assessment culture, awareness and skills for the whole university are yet to be improved. Various disciplinary measures and approaches have led to different assessment practices and experiences gained by students. Two competing notions emerge from the empirical evidence: respect for professional/teaching autonomy and greater university standardization. How to balance such tension and enhance the university's role in learning assessment have become major objectives for these universities in Taiwan.*

### **Keywords**

*Learning assessment, quality assurance, assessment methods, disciplinary culture, teaching autonomy, assessment standardization*

### **1. Introduction**

In general, learning assessment refers to all those activities undertaken by teachers, and by their students in assessing themselves, which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged. It is the main task for teachers to take a wide variety of techniques or instruments to determine whether learning has been achieved or not. This indicates that assessment is typically taken by individual teacher. In echoing this stance, Peng (2010) pointed out that 'students learning performance is assessed by individual teacher during the class. It is quite unusual the overall learning outcome is verified by university, faculty/school or department' (p.87). Such assertion seems to insist that learning assessment should be entirely in the hands of teacher's autonomy. Should university, faculty or even department level engage into such process by instituting relevant policies, initiatives or projects? In answering these questions, we can look into some practical issues taking place at university daily life.

There are several pragmatic issues heatedly debated among the faculties and students. For example, are diverse assessment methods encouraged (Maki, 2002)? Are there specific competencies encouraged in relation to certain assessment methods? Is the grading system using score, grade or pass? Should student's learning achievement be presented as a normal distribution? How do universities measure the overall outcome of the students in the long run? Are teachers well-equipped with the appropriate assessment skills for the job (University of Texas at Austin, 2017)? In terms of assessment techniques used, whether university is interested in encouraging adopting multiple assessment methods or not. This is an essential question that academic staff should face. In response to cultivating different skills, teachers might be advised to take various assessment orientations. For example, skillfully using machinery tools or software requires demonstrating hands-on ability. For the sake of maintaining student's quality, what are the proportions that students can receive the highest level grade or there is fixed standards to be achieved? If leaving this issue entirely to teacher, it will be subject to the quality control of each faculty. All these lingering issues are difficult to answer and pose obvious challenges to modern higher education systems. Particularly, if the higher

education sector wants to play appropriate roles in meeting the demands prescribed above. Therefore, it is very timely and meaningful to investigate this emerging important topic.

## **2. Literature Review**

### **2.1. Macro drivers in relation to learning assessment**

While we direct our attention to learning assessment in higher education, several macro drivers deserve a closer examination. The massification of higher education in many countries leads to the concerns of what students have been taught and how desirable learning outcomes appear to the wider society. On the one hand, the public would like to have further information about how effective and efficient universities deliver knowledge, skills and literacy to students (Ewell, 2009); on the other hand, parents, students and employers also wonder what the learning results or outcomes actually are. In other words, the former intention is based on a wider social incentive of educational accountability, while the latter is highly related to the pursuit of understanding ‘core competence’ that each student should retain. In this growingly competitive workforce, companies and enterprises are keen to gauge the completeness of each graduate in terms of their ‘employability’. Student learning outcome, therefore, is directly related to the ability and capacity cherished in the labour market. Based on the previous macro drivers, the assessment and evaluation of student learning increasingly becomes the focal element in the higher education sector. In addition, how different qualifications and degrees are comparatively equal at the international level also lead to the emphasis of student learning assessment, as national accreditation organizations have strong motivation to undergo degree and even credit mutual recognition (and transfer). Greater international mobility of students, programs and providers also forms the needs of learning assessment in this globalized world.

### **2.2 Institutional assessment policy and mechanism**

Learning assessment policy and mechanism at the institutional level are getting important due to their strategic roles as discussed previously. Therefore, there are some systematic components required to sustain effectively student learning. First of all, as Peng (2010) mentioned, university should clarify what its educational mission and objectives are. These will be used to guide assessment policy and mechanism. For example, University of California Los Angeles emphasizes ‘inquiry-based’ education. It serves the basis to design meaningful assessment policy. Second, university should cultivate a culture for learning assessment within the campus. For instance, teacher training courses should be provided. Setting course teaching objectives and assessment standards can be under the leadership of Dean for Academic Affairs, dean of college and head of department. Faculty is encouraged to improve teaching through assessment outcomes. Finally, it would be good to institute a specialized unit or office to promote assessment policy/project at the university level. This work can be done through institutional research office (IR) or center for teaching and learning development.

### **2.3 The USA case study**

The main motivations why an American university is interested in establishing such assessment policy and mechanism are related to the requirement of the state government and quality assurance agency. Peng (2010:97) indicated there are seven parts to be covered with respect to assessment policy and mechanism:

- Goals and objectives of assessment;
- Strategies and principles of assessment;
- Administrative organization and obligations
- Assessment scope and concrete projects;
- Assessment information dissemination and service;
- Utilization and benefit of assessment information.

Western Michigan University is a meaningful unit promoting learning assessment in higher education. It set up an Office for Assessment and Undergraduate Studies (<http://wmich.edu/assessment/about>), which covers all the major components including mission, administration, policy, instructor course, resources and outcome report etc.

### **2.4 Academic disciplines, types of learning outcome and assessment**

Within the university campus, a wide range of subjects vary in terms of assessment methods. Becher & Trowler (2001) indicated that ‘disciplinary contrasts include the relative differences in staff approaches to student assessment’ (p.196). They distinguish disciplinary subjects into two fields: hard and soft subject. For the former one such as natural sciences and engineering, it prefers ‘short answer papers and multiple choice questions’. The latter is ‘greater openness to continuous assessment, long essay questions and oral examinations sometimes’.

In addition to the differences of disciplines, there are different types of learning outcomes. According to Ewell (1987), there are knowledge outcomes, skills outcomes, attitudes and values outcomes, and behavioral outcomes. If undergraduates require all these learning outcomes, it is essential to encompass a variety of assessment measures and strategies for acquiring these abilities and skills.

### **2.5 Student assessment methods**

In addition to the institutional assessment policy and planning at the university level, some concrete methods, techniques or tools are used by faculty and teacher to detect to what extent that undergraduate students have learnt from the teaching activities. Here are the popular and frequently used ones.

- Assignment after class
- Classroom test (include quiz, mid-semester and final exam)
- Classroom discussion and Dialogue
- Interview
- Project report(written or oral)
- Works and hands-on test
- Classroom behavior and learning attitude such as attendance and participation
- Peer review, contribution of collaborative learning

Another focal point is how to use different assessment methods in a coherent and effective way sustaining student learning. Students tend to be concerned with assessment methods, proportions, items and standards. What the detailed requirements that student should attain in each assessment methods. For example, what are the requirements for a hands-on test? They should be clear, detailed and easy to follow.

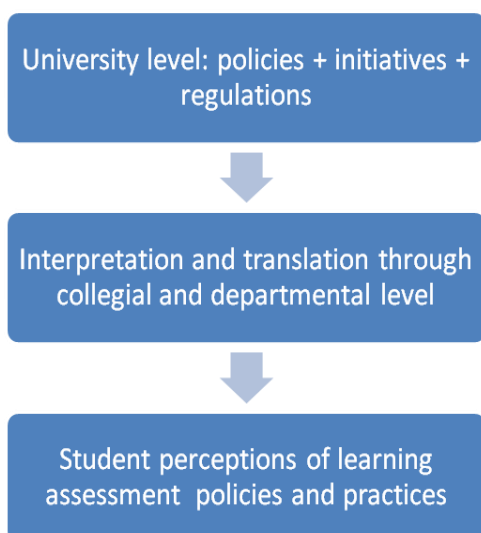
## **3. Research Questions, Design and Methods**

Based on the previous exploration and literature review, we can summarize four major research questions. First, what the major policies, regulation and measures in terms of investigated case university are. Second, it is our intention to examine the mainstream methods, issues and roles that teachers play in relation to assessment. Finally, how student perceive the current learning assessment practices at the investigate university.

In this study, we purposely choose one university as the case study so as to deeply understand its system, practices and behaviors of teacher and student. The main research methods adopted include document analysis and interviews. As far as the document analysis is concerned, they cover relevant initiatives, regulations, mechanisms and rules etc. as well as the assessment methods in courses syllabuses. As to the interview, we targeted both at students and teachers (we have finished student interviews and partially teachers’). In total, we interviewed 30 students at this case university, divided into three wider disciplinary areas: humanities and education, social sciences, and engineering and natural sciences. Each area has ten students ranging from different academic subjects. Their perceptions and opinions are critical information to examine the learning assessment in higher education.

### **3.1 Research framework**

Our main analyses on the learning assessment can be divided into three layers as shown below. They are university level, college/department level and students’ perception. University has the legal right to enact overall policies, initiatives and regulations on learning assessment. These, in turn, are interpreted and implemented by the college/department level. Finally teacher and students become the practitioner and receivers of these concrete practices and measures.



### 3.2 Main Focuses of Interview

- Do you know the learning assessment policies and regulations?
- How do you perceive these policies and regulations? Are they necessary or important? And why?
- Please reflect upon the course, which retains the most comprehensive student learning assessment, from the last semester. In this course, (a) what assessment methods used by the teachers are? (b) do you think teacher's assessment plan is consistent with the university's policy and regulation? Why?
- What are the advantages and disadvantages of these learning assessment policies and regulations at your university?
- What are your suggestions to these policies and regulations?

### 3.3 Case study: institutional profile

This is a public-funded university located in the mid-southern part of the island in Taiwan. Founded as a comprehensive institution in late 1980s, the investigated university has seven colleges with high quality teaching and research force. Among its more than 500 faculty, up to 98% retains a doctor degree from leading universities in the West or well-known local ones. This is a very typical university in Taiwan following national regulations and practices like its counterparts. Therefore, the findings generated from this case, to some extent, can be applicable to other institutions. Among its relevant policies and regulations in relation to learning assessment, this university has the following:

- (a) University Learning Principle, degree requirement (core competence and indicators)
- (b) A comprehensive curriculum map for each department or college  
(<http://coursemap.ccu.edu.tw/>)
- (c) Teaching Syllabus for each course under the supervision of Office of Academic Affairs
- (d) Teaching Survey for each course by the end of semester

## 4. Research Findings

### 4.1 Lack of complete learning assessment policy

After reviewing all the available online and written documents, it is obvious that this investigated university has no complete and appropriate assessment policies, regulations and even practices. These interviewed students commonly agreed that they don't know what learning assessment policies and practices are. They 'assume' that these should be entirely decided by teacher. This means that individual teacher can do assessment as he/she see fit within their professional autonomy and judgment. As a matter of fact, students believe that learning assessment should be under the jurisdiction of 'Office of Academic Affairs' of this university. However, there is no corresponding information on the website, in a student handbook or a detailed instruction guide. Only degree requirements for each department are presented, where thresholds include compulsory, elective and common courses etc.

### 4.2 Curriculum Map: Don't touch upon assessment

The investigated university indicated that curriculum map, as a powerful tool for student, 'can guide self-exploration, understand ability, ponder access path and career development so as to do curriculum planning and enhance competitiveness'. In principle, this university has relatively appropriate structure of curriculum map and proposes the 'core key competence'. In this curriculum map, general education, service learning and interdisciplinary learning at the university levels are extra credits that students should or are strongly advised to take. At department/faculty level, individual curriculum map is presented and plotted with core competencies, which are main learning objectives for students. However, these documents and plans rarely touch upon the meanings or im-

plementation of assessment. How they measure students' achievement in relation to the core competencies.

#### **4.3 Diverse approaches to learning assessment: standardized university version versus teacher professional autonomy.**

When students were asked that should university have learning assessment policy campus-wide, their responses vary substantially among different disciplinary backgrounds. For students at colleges of social sciences, they agree a standard model should be provided to teachers. At the same time, it should be transparent and public. Taking similar stance, students from humanities and education fields believe university should enact assessment criteria and in turn require teachers to design their course syllabus accordingly. However, if we ask the same question students mastering engineering and natural sciences, their responses would be opposite. These students universally indicated that university should respect the teacher's professional autonomy in deciding how to do assessment. Therefore, there are two major camps emerging from this initial investigation: standardized university version versus teacher professional autonomy.

#### **4.4 Various Assessment methods**

What are the main methods used to measure students' learning achievement? This question again varies by disciplines. In terms of social sciences, some tend to focus on pencil-and-paper test while others emphasize on hands-on or practical assignment. As far as humanities and education are concerned, teachers tend to choose essays, group report, and film production or even interview. As to the sciences and engineering, main assessment method goes to pencil-and-paper test with quantitative manner. They use quiz, mid-semester exam and final report to reach the ultimate score or grade for students. Sometime, they take attendance into consideration. These differences among assessment methods respectively adopted seems to coincide with the observation of Becher & Trowler (2001) in relation to 'hard subject' and 'soft subject'. Table 1 randomly shows the assessment methods employed in six courses from different colleges at the investigated university. Taking an overall perspective, they also point out the similar characteristics we just discussed previously.

Table 1 Various assessment methods adopted at different colleges

| A course from College of Social Sciences   | A course from College of Engineering  | A course from College of Humanities                                      |
|--|---|--|
| Mid-semester exam*20%<br>Attendance*20%<br>Personal project (4 homework)*30%<br>Final exam and group case report*30% | Attendance*10%<br>(before 9.00 am)<br>Homework*10%<br>Mid-semester exam*40%<br>Final exam*40% | Course Participation*40%<br>Mid-semester exam*30%<br>Final exam*30%      |
| A course from College of Management  | A course from College of Sciences   | A course from College of Education                                       |
| Assignment*50%<br>Final exam*50%   | Four tests*80%<br>Assignment*20%  | Attendance*10%<br>Project*40%<br>Assignment*25%<br>Mid-semester exam*25% |

#### **4.5 How to respond to different assessment approaches**

In principle, there are various assessment approaches in this research. However, it is also very important to know how students respond to these different orientations. We observe some variations in terms of different disciplines. For social sciences students, they insist that university should regulate teacher and need to ensure equality and standards. As to the humanities and education, students indicated they don't know how to react to teachers' assessment practices as there is fixed and stable assessment standards and criteria. Finally, students at colleges of sciences and engineering point out that they have to adapt to the different teaching styles and evaluate their own learning outcomes. Summarizing the previous findings, it seems to echo the two competing explanations towards learning assessment. Social sciences, humanities and education tend to agree a standardization model while sciences and engineering surprisingly emphasize to respect the teaching autonomy and their own standards.

### **5. Discussions 5.1 Lack of coherent learning assessment policy**

As we have demonstrated previously, this investigated university has no comprehensive and coherent learning assessment policy. At the university level, there should have intensive linkage among educational objectives, core competency, learning outcome, curriculum map and internal quality control. Literature review points out certain American universities did set up their own educational missions and has linked them to overall assessment strategies and planning. After all, the core educational objectives have to rely on the implementation of corresponding assessment policies so as to ensure their realization in the educational context. For example, if innovation and critical thinking are important, then how such abilities should be measured, particularly at sciences and engineering college. Moreover, it is imperative for this investigated university to strengthen institutional assessment culture, awareness and skills. These can be enhanced through the establishment of Center for Teaching Development or Office of Institutional Research. These institutional mechanisms can help to empower faculty's skill formation and the importance of having better assessment culture as a whole.

### **5.2 The role of disciplinary culture**

Previous analyses clearly indicated that assessment practices at the classroom level perceived by interviewed students vary significantly due to their disciplinary background. This can be mainly explained by their diverse approaches towards assessing knowledge and ability students learn (Nesi & Gardner, 2006). Hard sciences such as engineering prefer quantitative and simple techniques and ignore the benefits of multiple assessment strategies. Instead, soft sciences such as humanities, social sciences and education tend to adopt different standards, angels and criteria to judge the various ability dimensions. Owing to such varied disciplinary cultures and faculty's assessment styles, students also responded differently towards whether university should have unified learning assessment policy. Nevertheless, as far as 'multiple ability development' for student is concerned, differentiated assessment methods, strategies and standards should be endorsed and encouraged. Unfortunately, there remains to be improved at our case university as empirical evidence has shown.

### **5.3 Teaching autonomy and standardization**

Traditionally, assessment seems to lie at the discretion of faculty professional autonomy in Taiwan. The public believe it is entirely at the hand of individual teacher (Adelman, King, & Treacher, 1990). University should not intervene too much and our investigated university also follows this path. However, along with the emergence of macro-driver such as educational accountability, core competencies, employability and internal quality control, the role, scope and nature of assessment have gone beyond the traditional definition. Therefore, university needs to re-ponder whether or how assessment policy should be regulated at the institutional level. However, due to the disciplinary divergences, students had responded differently towards respecting for teaching autonomy and greater standardization. In essence, they are quite different developments with respect to assessment policy. We argue that there should be some principles and grading standards for faculty and students at soft science subjects. At the same time, it is also very meaningful to promote 'multiple assessment techniques' to hard science subjects.

## **6. Conclusions**

It is important to examine the learning assessment at undergraduate level. If we take the notion of 'employability' into account, the assessment policy matters seriously as it can help to determine whether undergraduates are equipped with required skills, attitudes and knowledge after years' learning. Therefore, universities in Taiwan should establish a complete and coherent assessment policy with the vision of having better assessment cultures, awareness and skills among faculty and staff. Moreover, our discussions also confirm that disciplinary culture and the degree of standardization of knowledge have led to the different challenges and controversies to learning assessment. How to balance various needs is critical. On the one hand, we are keen to pursue better assessment policy with transparent and open standards to faculty and students; on the other hand, promoting flexible and multiple assessment techniques and strategies are beneficial to nurturing student's diverse skills and abilities. All these reflect the complicated challenges caused by the mixture of disciplinary cultures, respecting teaching autonomy and greater standardization.

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## **TOTAL QUALITY MANAGEMENT IN HIGHER EDUCATION INSTITUTIONS**

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### **Abstract**

*The paper addresses the issue of quality education. The definition of the concept is analyzed from a variety of aspects. The concept of Total Quality Management with a number of its education-related dimensions as evidenced from the literature is also considered in the paper. The authors emphasize that the measurement of the quality, inherently subjective, can be evaluated using different parameters following the researchers in the field, who regard three dimensions of quality in higher education - Product, Software and Service. Pre-requisites for the application of Total Quality Management (TQM) in higher education institutions and the challenges faced are also considered here. The authors draw a conclusion of the benefits of TQM for quality enhancement in education and meeting the needs and expectations of all the stakeholders.*

### **Introduction**

The issue of quality education has been a matter of concern for everybody, is widely discussed and debated, and remains to be immediately addressed because of growing aspirations of various stakeholders - students, parents, business, industry, academia and society. This concern for higher education has become a global phenomenon and new buzzwords like accountability, transparency, customer orientation, responsiveness and quality have been associated with higher education. Now one of the most urgent questions is the definition of quality of higher education and how it can be achieved. Therefore, by identifying what the quality means we shall have to undergo plenty of explanations, which somehow reflect industry, business and society perspective. Campell, and Rozsnay have defined concept of quality of education in many ways:  
Quality as excellence: Quest to be the best.

Quality as fitness: Fits with customer (students and other stakeholders) needs and requirements.

Quality as zero error: This concept may be applied in industry but in education, all students can never be at the same level.

Quality as improvement: This emphasizes continuous improvement aiming to achieve and maintain quality which is taken as best at any point of time.

Quality as transportation: Education, which leads to a complete change in the skills, knowledge, attitude and character of student to make him capable of living and working in the knowledge society.

Quality as threshold: Setting certain benchmarks of quality and achieving these is called quality.

However, when we talk of quality we must understand the difference between education and industry because educational institutions are not factories, students are not products but learning and education of a student is product, and this product is an outcome of a collaborative effort not a simple result of paying some money to some educational institution and reaping the harvest.

As such, it can be concluded that quality education provides every student with an opportunity to improve knowledge, wisdom, knowhow and character and a quality educational institution create a situation, which allows its students to be high achievers through quality of its educational services. This quality assurance can be given only if one observes TQM.

### **Total quality management**

This concept of Total Quality Management is taught in all educational institutions throughout the world. Usually it is taught in the context of business and industry. A lot of work has been done for Total Quality Management and now this has become a matured concept. Today TQM means the assurance that product meets all the specifications before it reaches to consumer.

Sallis (1996) has given chronology of quality management, as mentioned hereunder:

**Table 1 The chronology of quality management**

|              |   |
|--------------|---|
| Before 1900  | Quality as an integral element of craftsmanship                                       |
| 1900-1920    | Quality Control by foreman  |
| 1920-1940    | Inspection based quality control  |
| 1940-1960    | Statistical Process Control   |
| 1960-1980    | Total Quality Control   |
| 1980-1990    | Total Quality Management  |
| 1990-Present | TQM - The culture of continuous improvement and organization wide quality management. |

As precise universal definition of TQM is not available, hence, to understand TQM we have to understand the definitions given by some distinguished scholars. Suganthe & Samuel in "Total Quality Management" (2011) gave a set of definitions by different scholars, which is as under:

**Table 2 Definitions of TQM**

|   |                                |
|---|--------------------------------|
| Total Quality is defined as conformance to requirements   | Crosby (P.2, 1967)             |
| A total approach to put quality in every aspect of management   | Creech (P. 6, 1995)            |
| TQM is the integration of all functions and processes within an organization in order to achieve continuous improvement of the quality of goods and services. | Omachonu and Ross (P. 3, 2004) |
| Quality in fitness for use  | Juran (P. 2-2, 1974)           |

As it is evident from Table 2, there are various dimensions of TQM, if we go through the literature on TQM, we shall find some most cited and common dimensions of TQM. These concepts are widely used by researchers in higher education related researches as well as studies on industries.

**Table 3 Concepts of TQM and their evidence from literature**

| <b>CONCEPTS</b>                      | <b>EVIDENCE IN LITERATURE</b>  |
|--------------------------------------|--|
| Leadership (L)                       | Zhang (2000); Lim et.al. (2004); Rosa et.al. (2007); Bayraktar et.al. (2008) and Asif et.al., (2013) |
| Vision (V)                           | Zhang (2000); Aspinwall (1997); Venkatraman, (2007); Bayraktar et.al. (2008) and Asif et.al. (2013)  |
| Measurement and Evaluation (M)       | Zhang (2000); Bayraktar et.al. (2008) and Asif et.al. (2013)   |
| Process Control and Improvement (PI) | Zhang (2000); Lim et.al. (2004); Rosa et.al. (2007); Bayraktar et.al. (2008) and Asif et.al. (2013)  |



|                                 |   |
|---------------------------------|---|
| Program Design (PD)             | Zhang (2000); Bayraktar et.al. (2008) and Asif et.al. (2013)  |
| Quality System Improvement (QI) | Zhang (2000); Bayraktar et.al. (2008) and Pandi et.al. (2009) |
| Employee Involvement (E)        | Zhang (2000); Venkatraman, (2007) and Bayraktar et.al. (2008) |
| Recognition and Reward (R)      | Zhang (2000); Bayraktar et.al. (2008) and Ooi, (2009)         |
| Education and Training (ET)     | Zhang (2000); Bayraktar et.al. (2008) and Asif et.al. (2013)  |
| Student Focus (S)               | Zhang (2000); Bayraktar et.al. (2008) and Asif et.al. (2013)  |
| Other Stakeholders' Focus (OS)  | Bayraktar et.al. (2008) and Asif et.al. (2013).               |

*Source: Total Quality Management in Public Sector Higher Education Institutions, Syed Sohab Zubain (2013)*

#### **Advantages of quality management**

The Certified Manager of Quality/Organizational Excellence Handbook has mentioned the following advantages of quality management:

- Improved Competitive Position
- Adaptability to changes
- Increased productivity level
- Improved cost control and management
- Higher customer orientation and satisfaction
- Increased job security
- Higher stakeholder value
- Better and Innovative processes

These advantages of Quality Management are encouraging managers to implement this concept in all spheres of life not only in business and in industry only.

#### **TQM implementation in higher education institutions**

Aspinwall (1997) said "there appears to be no apparent reason for rejecting the applicability of TQM as general philosophy."

This healthy practice needs to be implemented in higher education too, but for the success of TQM, one should understand the various dimensions and parameters of quality in higher education. Owlia and Appinwell mentioned three dimensions of quality in higher education - Product, Software and Service. The Product dimensions could be understood with the Table mentioned hereunder.

**Table 4 Product dimensions of quality in higher education**

| <b>DIMENSIONS</b> | <b>DEFINITION IN HIGHER EDUCATION</b>  |
|-------------------|--|
| Performance       | Primary knowledge/skills required for graduates.   |
| Features          | Secondary/Supplementary knowledge and skills   |
| Reliability       | The extent to which knowledge/skills learned are correct, accurate and up to date                      |
| Conformance       | The degree to which, an institutional program /course meets established standards, plans and promises. |
| Durability        | The depth of learning  |
| Serviceability    | How well an institution handles customer's complaints?   |

*Source: Owlia and Aspinwall (1996)*

In addition to Product dimensions, understanding of Software quality dimensions is also necessary. A table below exhibits the Software Quality Dimensions:

**Table 5 Software quality dimensions in higher education**

| <b>DIMENSIONS</b> | <b>DEFINITION IN HIGHER EDUCATION</b>  |
|-------------------|--|
| Correctness       | The extent to which the program/course complies with the specified requirements.               |
| Reliability       | The degree to which knowledge/skills learned is correct, accurate and up to date.              |
| Efficiency        | The extent to which knowledge/skills learned are applicable to the future career of graduates. |
| Integrity         | The extent to which personal information is secure from unauthorized access.                   |
| Usability         | The ease of learning and communicativeness in the classroom.                                   |
| Maintainability   | How well an institution handles customer's complaints?   |
| Testability       | How fair examinations represent a subject of study.  |
| Expandability     | Flexibility  |
| Portability       | The degree to which knowledge/skills learned is applicable to other fields.                    |

**Source: Owlia and Aspinwall (1996)**

Service Quality Dimensions of education are also mentioned hereunder:

Table 6 Service quality dimensions in higher education

| DIMENSIONS              | DEFINITION IN HIGHER EDUCATION  |
|-------------------------|---|
| Responsiveness          | Willing and readiness of staff to help students                                 |
| Reliability             | The degree to which education is correct, accurate and up to date.              |
| Understanding Customers | Understanding students and their needs  |
| Access                  | The extent to which staff are available for guidance and advice                 |
| Competence              | The theoretical and practical knowledge of staff and other presentation skills. |
| Courtesy                | Emotive and positive attitude towards students.                                 |
| Communication           | How well the students and lecturers communicate in the class.                   |
| Credibility             | The degree of trustworthiness of institution.                                   |
| Security                | Confidentiality of information  |
| Tangible                | Sufficiency and availability of equipments and facilities                       |
| Performance             | Primary knowledge/skills required for graduates                                 |
| Completeness            | Supplementary knowledge/skills, use of computer.                                |

**Source: Owlia and Aspinwall (1996)**

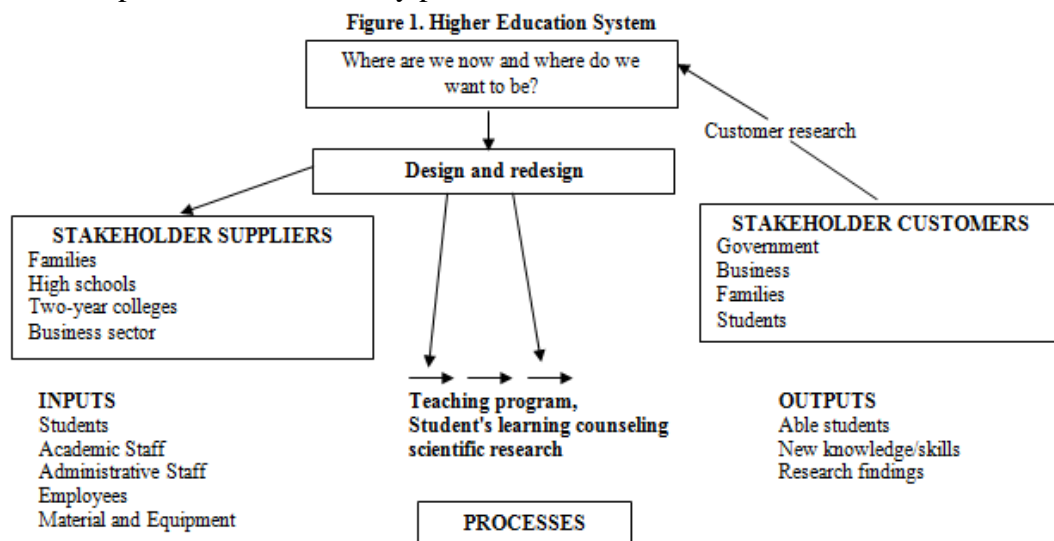
But before the implementation of TQM in Higher Education we shall have to understand the various fields and levels of higher education and their impact on them and simultaneously we shall have to understand the university system or say high education system to evolve a TQM model for implementation in higher education.

#### Application of TQM in higher education:

The TQM concept applied to higher education embraces all the fields and levels of education and has an effect on the following:

- Physical infrastructure (buildings, sport complexes, open field etc.)
- Academic infrastructure (laboratories, library, documentation, communication, information infrastructure, etc.)
- Curriculum
- Examinations and evaluation system
- Supplying academic and administrative personal and their improvement systems
- Research and publication
- Institutional development plans (strategic planning)
- University - industry - society relations

As mentioned by *Evans and Lindsay*, *ibid*, p. 51-52, Deming claimed his production system could be applied to service organizations as well as to manufacturing organizations. Figure 1 with reference to TQM applies Deming's production model to higher education. This system depends on the answers to these main questions. Who are the stakeholders (customers and suppliers)? What are the inputs and outputs? What are the key processes?



**Source:** "Yuksekogretimde Toplam Kalite Yonetimi Yaklasmlari veABDOrneklari",  
<http://www.tubitak.gov.tr/btpd/btspd/platform/akred/ek3.html>

Industry has a product or service which can be quantified but in educational institutions product can't be quantified in short term.

Due to peculiarity of higher education, a specific model is required for TQM implementation in higher education institutions.

#### **Quality improvement in higher education institution (HEI):**

HEI provides service to students, parents, future employers and to the society at large and quality of any service could be measured with the satisfaction level of customers. Measurement of the quality can be subjective and may be evaluated on various parameters like effectiveness of educational program, updating of classrooms, quality of faculty, modernization of teaching methods, suitable infrastructure, etc. The results of education are intangible but the quality of learning can be measured and the problems in education can be solved through TQM.

With regard to the quality of education, *Willborn and Chung* mentioned that "The University assures students, their parents and the community that it will create situations which allow its graduates to be high achievers through the quality of its educational services. This quality arises from the hard work of teachers, administrators and students. A university must try to convince students of the value of successful learning wherever possible."

All stakeholders in higher education institutions, especially academic administrators always see the scope of improvement in quality of education. Quality of education is dependent upon the collective dedication of stakeholders, as dedicated teachers cannot do anything without the receptive and dedicated students, hence, for quality improvement to be successful everybody has to contribute.

*Romana Key Michael and Others* (1997) emphasized "The concept of TQM can indeed be applied to higher education but it must be modified to recognize some of the unique aspect of education." Quality is what the customer says it is, in the case of education because the product in higher education is not a visible and tangible product in the same sense as a manufactured product.

Sunil Belbar (1995) said, "Lecturers can continuously improve their teaching techniques to more effectively educate train and influence their students. TQM can guide such efforts, Lecturers must be open to ideas and should constantly evaluate the processes they use and innovatively apply TQM elements to their own teaching. TQM, basically "...stresses improvement in work processes."

#### **Pre-requisites for application of TQM in higher education institutions**

Following are the pre-requisites for application of TQM in Higher Education Institutions:

1. Institute must have well defined visions and goals.
2. All stakeholders of the institute must be aware of goals and vision of the Institute.
3. Those involved in the quality work must know the concept of quality.
4. All the segments of the institution must have a commitment for quality.
5. People should actively participate in quality work.
6. Task of different groups must be clearly communicated and these must be assigned some well-defined goals and objectives.
7. A quality model should be developed which can be replicated elsewhere.
8. Every quality process must be well defined and closely monitored.
9. A SOP must be developed for quality.
10. All the segments of the university must have the same quality procedure.
11. Quality work must not result in more work but rather in smart work.
12. All the stakeholders should make efforts to match the objectives of the institutions.
13. Practical quality tools must be used to facilitate more structured data collection and analysis.
14. Some external agency must be hired for quality audit and some accreditation agency must be invited for overall assessment of institute, as it will be a good motivation and will develop stakeholders confidence in the institution.

#### **Challenges in application of TQM in higher education institutions**

Many academicians doubt the success of TQM in higher education institutions due to the following reasons:

1. Many institutions do not agree to change their ways.
  2. Involvement of students as customers in quality control process is taken as a threat to autonomy of the teacher.
  3. Faculty is not ready to accept the basic concept of the quality - "the customer (here student) is always right."
  4. May academicians believe that students are not mature enough to understand their needs as *S.Helms and C.Key* mentioned that "Are students more than customers in the classroom?"
- We can say that it is believed that many times what students ask they really don't need that and if institutions work to do what students ask then institutions may ignore the need of the society.
5. Education institutions are not ready to accept any quality benchmark.

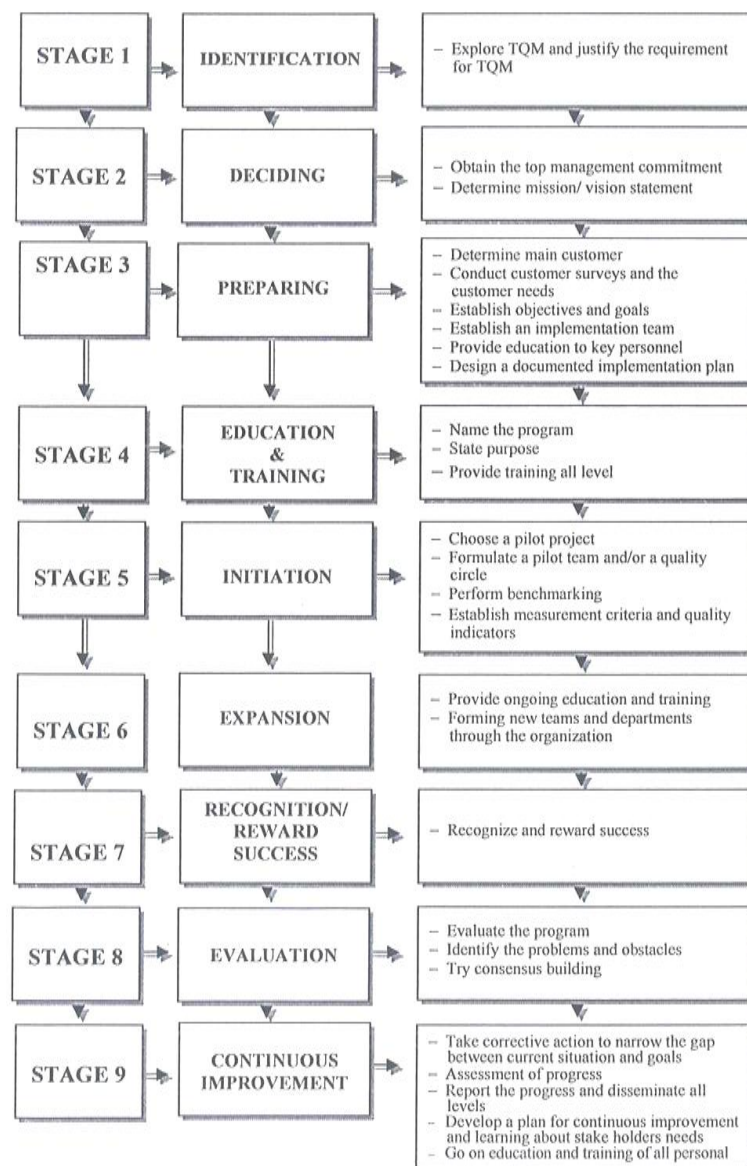
### How to apply TQM in HEI

As mentioned above, higher education institutions are not ready to accept any intervention in their system and are satisfied with their own working, hence, are reluctant to implement TQM.

Still many academic administrators are fancied with the idea of TQM but they do not have an understanding of how it can be applied in higher education institutions.

An education institution, which is desirous of implementing TQM, must understand the TQM model for educational institutions as shown here below:

Figure 2 TQM model for education



After understanding the standard concept of TQM every higher educational institution should develop its own model according to its own requirements and should work on the following lines:

1. Top management should have a complete idea of TQM.
2. They must have a commitment to provide quality education and other related services to continuously satisfy the needs of its stakeholders and achieve excellence through TQM.
3. Institution must identify its stakeholders and define their needs and must evolve a specific quality policy for each.
4. There must be an effective Management Information System (MIS) at all levels to understand the quality concept of the institutions.
5. Institution should design a documented Total Quality Management implementation plan and all key personnel of the institution should be acquainted with it.
6. Every member of the institution must be educated, trained and empowered to implement TQM at each level and there must be left no scope for any ambiguity or confusion.
7. Initially TQM measures must be implemented as pilot project and for this a pilot be formulated representative of all levels of management.
8. TQM quality measures must be realistic and attainable and must be fixed only after consultation with customers and the person responsible for delivery of service.
9. An educational institution must develop its benchmarks against the standards in other peer institutions.
10. The institution from which the benchmarks have been taken has to be researched and identified as being the best in its class and having similar characteristics to one's own institution.
11. After the success of a pilot project, TQM can be implemented in the whole institutions and a team of experts may be formed to monitor the implementation.
12. After implementation a thorough evaluation of TQM must be carried out and suitable solution must be found if any gap is detected and good, performing employees should be rewarded to keep their morale high and to encourage creativity at the institution.

Quality is not a destination rather it is a never-ending journey, hence, TQM must be adopted as a continuous process and a forward plan must be developed and all the people engaged in TQM should be properly educated and trained.

### **Conclusion**

Through TQM methods, higher education institutions can raise morale and productivity of their employees. Therefore, it is advisable to all higher education institutions to adopt TQM. If academia adopted the philosophy of TQM in general then they can satisfy all the stakeholders and can further improve higher education institutions. It is observed that through TQM institutions performance improved, their productivity was enhanced and the cost of delivery was reduced. Therefore, it can be recommended to all higher education institutions to adopt TQM and develop their own model keeping their own needs in view.

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## INCLUSIVE TRAINING IN RURAL-URBAN MIGRATION

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### **Abstract**

*There has been a tremendous increase in rural to urban migration around the world caused, amongst other factors, by the climate change, which is a major cause of migration particularly in the countries where rural income comes from agricultural production. Pakistani economy remains heavily dependent on the agriculture production. This means a massive influx of population with limited to no education, and different ethnicities and backgrounds to the cities. In the framework of the current research the authors came to the conclusion that inclusive education could address this problem. The authors refer to Indus University case study, in which the best practices in inclusive education have been implemented. The paper also analyzes different methods that have been used internationally in order to increase inclusive practices.*

### **Introduction**

#### **Background and Significance of inclusive practice**

The objective of writing this paper is to determine the challenges in education and training quality arising as a result of the growing Rural-Urban Migration. Due to various changes and post globalization economies, there has been a tremendous increase in rural to urban migration around the world. According to Jedwab, Christiaensen and Gindelsky (2014) urbanization caused by rural-urban migration has grown because of the urban-rural wage gap and subsequent rural poverty. As per this research in general the rate of urbanization has gone up to 40% around the world. Henderson, Storeygard and Deichmann (2017) highlighted that the climate change is also a major cause of migration particularly in the countries where rural income comes from agricultural production. Diminishing returns on agricultural products, cause farmers to look towards urban manufacturing centers which provide an escape route.

Pakistani economy remains heavily dependent on agriculture production. According to the 10-year economic survey presented by Government of Pakistan in 2010 the agricultural sector contributed 21% to the overall GDP of Pakistan, while employing 45% of the labor force. According to Ishfaq, Saeed, and Salik (2016) climate change in Pakistan is pushing the rural population towards urban centers. According to Yusuf (2008) in the decade of 2000-2010 65% of the total population in Pakistan lived in rural areas. Whereas, GoP (2014) predicted that by the year 2030, 50% of the population will be living in urban centers. This will mean a massive influx of population with limited to no education, and belonging to different ethnicities and backgrounds. Javed (2012) stated that in Pakistan rural areas, the quality of education as well as enrollment drops off. A significant portion of the population either drops off completely or the quality of education is not high enough.

Therefore, it is imperative worldwide and especially in developing countries like Pakistan that the measures are taken to ensure that such a large chunk of population is not neglected. It may require structural changes, changing how education is delivered, making education and training more inclusive for those who have a different background.

**Problem Statement.** The problem statement for this particular research study is as follows “The need of inclusive training in relation to Rural to Urban Migration.”

### **Discussion**

Inclusive education is a big topic for discussion amongst the education quality management circles. However, the discourse is often limited to people with special needs, and women. As the world foresees changes in our demographics, education quality management will have to react to these changes and be proactive where possible to preempt the dynamic needs of the modern day education. Sylvia (2001) emphasized that student’s self perceived enhancement is an essential part of the educational process. The study emphasizes inclusivity as equally important since students who go through this process and come out to be empowered, more informed generally and socially responsible. It pushes them towards, becoming an active part of a socially diverse society.

Gurin, Dey, Hurtado and Gurin (2002) stated that campus activities are very important for student development. The study also found a relationship between the activities carried out by different students and their self development. A report by the US Government in diversity and inclusivity in education presented the following outcomes of diverse and inclusive training in higher education.

- Academic growth;
- Cognitive development;
- Complex thinking skills;
- Critical thinking skills;
- Engagement in educational process;
- Institutional satisfaction and involvement;
- Intellectual self-confidence;
- Motivation to achieve.

Moreover, the report presented the benefits of inclusive educational activities in terms of improvement of the social and cultural awareness of students. Moreover, they are more open to learning and understanding different points of views.

#### **Inclusive education at Indus University**

As we discussed earlier, a significant number of students at Indus University come from rural or semi urban centers. Therefore, it is our responsibility, as a university, to support those who come from a less privileged background. Their education level is often on par with those, who come from urban centers where private education is prevalent. As highlighted by Akhtar (2013) the quality of education in government schools is generally lower than in private school due to various reasons. So when these students proceed with their higher level education in the multicultural environment based on the principals of globalization, they feel challenged and it is difficult for them to adapt. Their exposure is limited in comparison.

Therefore, the quality assurance department in collaboration with the executive development department of the Indus University, focused on providing training and educational sessions. This was done for the purpose of broadening their horizons and enhancing of engagement. These sessions were conducted by top professionals in the industry, educationists and movie stars. All these sessions were conducted during the semester. So all the students with different backgrounds are trained together. This allows different students to learn and have fun together. This also enhances ethnic inclusivity. In general, the aim of such programs is to make all the students more rounded and ensure that they will play a positive role in community development.

#### **Work on inclusivity**

The best practices in inclusive education would be slowly implemented at Indus University. There are different methods that have been used internationally in order to increase inclusive practices. Some suggested the research-based strategies including the following:

- Ruggs and Hebl 2012; Blanton, Crocker and Miller, 2000; Marx, and Roman 2002; Marx, Stapel and Muller 2005, highlighted the importance of presenting examples of familiar role models. During classroom training, it is important to provide different examples. This enhances the opportunity for students to gain knowledge in a specific domain. This has been incorporated via trainings/awareness sessions and further progress will be made in this regard (See Appendix)
- McCoy and Bradley (2003) suggested that having educators/trainers from diverse background also helps inclusivity of students. This is already being implemented and further efforts will be made to increase the diversity levels (See Appendix).
- Knight and Hebl (2005) stressed upon the need of training/educators for the benefit of inclusivity and diversity. Such training sessions/visits are being conducted. (See Appendix)
- Vaughns, et.al (2008) argued that official material (promotional and administrative) of the educational institutions should display their openness to diversity. We will consider this issue further in the framework of the training session.



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## **MACRO-LEVEL ANALYSIS OF DOCTORAL EDUCATION IN PAKISTAN FOR PURSUIT OF INTERNATIONAL QUALITY EDUCATION**

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### **Abstract**

*This paper is an attempt to evaluate the doctoral education in Pakistani universities. The research has two facets of horizontal and vertical coherence of quality. Horizontal coherence of quality refers to external measures for quality of doctoral education in Pakistan by regulatory bodies specifically by Higher Education Commission of Pakistan. On the other hand, the vertical coherence of quality refers to inter-institutional measures of quality including supervisor-candidate relationship, administrative system, academic-research assistance, financial support, etc. After deep comparative analysis of doctoral education there were a number of pragmatic recommendations introduced to HEC Pakistan, universities and doctoral candidates for making more effective, efficient and shared strategic solutions.*

### **Keywords**

*Higher Education, Doctoral Education, Pakistan*

### **Introduction**

In recent years we observe that the whole world has become a global village as a result of increase of information, technology and developing international and supranational structures of economics, politics and governance. This is also evidence that doctoral education and research has also become globalized. We witness the level of competition in business as well as in doctoral education and research. Its means the doctoral education also has a great deal of globalization and consequently different countries around the world give exceptional attention to policy making to the doctoral education, teaching and research.

#### **Pakistan towards pursuit of excellence**

In Pakistan the education following the 12 grade education is called higher education that is sub-divided to universities/degree awarding institutes and colleges (World Bank, 2009).

There was a remarkable shift of Pakistani policy makers towards doctorate education by early 2000s during Musharaf's era. A study shows that total number of PhDs in Pakistan were 8,142 throughout history but 5,000 of them were awarded PhD after establishing Higher Education Commission of Pakistan (HEC) in 2002 (Shaukat, 2012).

With the great emphasis of HEC's initiations on development of higher education in Pakistan, now six Pakistani universities are included in top 300 Asian, two of them among 300 science and technology institutions of the world (HEC Annual Report, 2012-13).

The Commission also produced highly qualified manpower regarding research and development. It provided foreign and indigenous scholarship for PhD and post-doctoral scholars, 6,000 scholars have been sent abroad for MS, PhD and Post-doctoral research in which 4,000 have successfully completed their research and they are serving Pakistan after proceeding back. Among 5,000 scholarships given to indigenous scholars, around 1,200 scholars have completed their doctoral degrees. Other than this 1,000 scholars from different provinces are still Indigenous PhD fellows funded by HEC (HEC Annual Report, 2012-13).

Other than funding PhD and Post-doctoral programs, HEC also encourages the faculty development program. These initiatives increased doctoral studies in Pakistani public sector universities to 76% between 2002 and 2008 (Shaukat, 2012).

#### **HEC initiatives in Pakistan**

**The advancement of knowledge through original research:** HEC Pakistan declared its improvements for respect, recognition and nurturing of research. (HEC Plagiarism Policy) Furthermore, this system encourages the original works accomplished with the career development and financial gaining linkage. This system implies avoiding replication. For making this system well

equipped, HEC set a compulsory requirement of plagiarism test of doctoral theses (and research papers applied for HEC funding). HEC has published a clear plagiarism policy which sets the line of action for doctoral candidates and higher education institutes both (HEC Plagiarism Policy).

The HEC showed its sincere loyalty to develop good quality doctoral training. For providing the best possible facilities to PhD scholars it initiated measures for hiring foreign faculty, PhD indigenous fellowship program, foreign doctorate and post-doctorate funding, indigenous universities linkage program, establishment of Pakistan Education Research Network (PERN) 1 and 2, digital library, Pakistan research repository, university-industry linkage program, and many more (Safdar & Baloch, Nafees, 2013)

Since its establishment, HEC shows its ambition for improving research by developing doctoral studies and for this, there were number of doctoral theses caught plagiarized. There were several people dismissed from different universities convicted to plagiarize their PhD theses. In April 2015, HEC updated a list of twenty one university academicians who were found plagiarizing research theses and papers (Haq, 2015).

But this campaign of HEC on indigenous level was criticized by some experts as a synthetic boom of research papers and theses. Famous Pakistani physicist and educationist Hoodbhoy (2013) criticizes on Pakistan's universities to produce *a bumper crop of research writings* every year. He also criticized the HEC to trumpet its success as increasing numbers of publications by professors and PhD theses by scholars rather having quality and originality.

**Institutional strategies embed with PhD education:** Higher Education Commission of Pakistan has done significant efforts to encourage public and private universities for developing a research culture within universities. In 2002 it developed a policy for promotion of faculty where there was a great share of research work including MS/PhD studies, research publication and research presentations in conferences. By fostering this, few public sector universities such as Quaid-e-Azam University (QAU) and National University of Science and Technology (NUST) in Islamabad emerged with having research culture. On the other hand we found various private university's mission and vision statements showing a great deal of research. Institute of Business Administration, Karachi aspires to undertake original research. (Official Website: IBA) Lahore University of Management Sciences (LUMS) also aims to achieve excellence through unparalleled teaching and research. (Official Website: LUMS). Institute of Business Management (IoBM) uses the tag of *Pursue leading-edge research* (Official Website: IoBM) and Agha Khan University as *strength in research and excellence in education*, (Official Website: AKU).

For quality assurance both in academics and research, the HEC developed a regulatory authority as Quality Assurance Agency (QAA) that undertakes the quality of education within universities for higher education. This system monitors and evaluates the university's overall performance and ranks them every year. The ranking criteria weigh for 100 marks of three components of *Implementation status of QA criteria's, teaching quality and research*. The HEC emphasizes over PhD studies is illustrated in the tables below:

#### Implementation Status of QA Criteria

| S# | Components                               | Assigned scores during 2011-12 |
|----|--|--------------------------------|
| 1  | Appointment Criteria for faculty members | 4                              |
| 2  | Criteria for M.S, MPhil/PhD              | 6                              |
| 3  | Plagiarism Standing Committee (PSC)      | 5                              |
| 4  | QEC Categorization:                      | 7                              |
| 5  | Peer Perception Survey                   | 2                              |
|    | <b>Total</b>                             | <b>24</b>                      |

### Teaching Quality

| S#  | Components                              | Assigned scores during 2011-12 |
|---|---|--------------------------------|
| 1   | Full time PhD faculty                   | Amended *                      |
| 2   | Ratio of PhD faculty to total faculty   | 7                              |
| 3   | Student teacher ratio                   | 10                             |
| 4   | Enrollment ratio to total Applicants    | 4                              |
| 5   | Computers per full time student         | 4                              |
| 6   | Library books per full time student     | 3                              |
| <b>*Amended and newly added parameters during 2011-12</b> |   |                                |
| 1   | Ratio of full time faculty to Part time | 6                              |
| 2   | Teacher Evaluation                      | 3                              |
| 3   | Training of faculty (3 years data)      | 3                              |
|   | <b>Total</b>                            | <b>40</b>                      |

### Research

| S# | Research Components   | Assigned scores during 2011-12          |
|----|---|---|
| 1  | HEC approved PhD supervisors per total full time faculty  | 4                                       |
| 2  | Indigenous scholars studying in the university per total full time PhD faculty  | 2                                       |
| 3  | HEC Research grants approved per faculty  | 2                                       |
| 4  | HEC Travel Grants approved per full time faculty  | 3                                       |
| 5  | Publications in Impact Factor Journals[2011] per faculty  | 5                                       |
| 6  | Total Number of papers published in impact factor journals by the university  | 3                                       |
| 7  | University H Index  | 2                                       |
| 8  | Number of W, X, Y, Z Journals Published by the University <ul style="list-style-type: none"> <li>W =2 max score</li> <li>X=1.5</li> <li>Y=1</li> <li>Z=0.5</li> </ul> | 4<br>W=1.5<br>X=1.25<br>Y=0.75<br>Z=0.5 |
| 9  | Internet Bandwidth (PERN) utilization per Student   | 4                                       |
| 10 | Number of Conferences Organized per faculty   | 3                                       |
| 11 | Total PhD output for 2011   | 4                                       |
|    | <b>Total</b>  | <b>36</b>                               |

In table 01 point 02 & 03; table 03 point 01, 02 and 11 are directly concerned about doctorate education. It provides a clear picture for HEC's ambition for promoting doctorate education in the country.

Our observational research in Pakistani universities suggests that few universities are there including research in their mission/vision statements and the rest need to adopt a core research policy and make doctoral education as a strategic goal. A study shows that there is a share of few universities in producing PhDs and the rest have a very small share.

#### ***PhDs Produced by Universities /Degree Awarding Institutions recognized by HEC (province-wise)***

| Chartered by                  | No. of Universities | No. of Universities which Produced PhD | % of Universities which Produced PhD |
|-------------------------------|---------------------|--|--------------------------------------|
| Govt. of Pakistan             | 30                  | 13                                     | 43.33                                |
| Govt. of the Punjab           | 42                  | 20                                     | 47.61                                |
| Govt. of Sindh                | 44                  | 16                                     | 36.36                                |
| Govt. of Khyber Pakhtunkhwa   | 28                  | 11                                     | 39.28                                |
| Govt. of Balochistan          | 6                   | 1                                      | 16.66                                |
| Govt. of Azad Jammu & Kashmir | 6                   | 1                                      | 16.66                                |
| <b>Total</b>                  | <b>156</b>          | <b>62</b>                              | <b>39.74</b>                         |

This statistics shows that there are 156 universities and higher education institutions in all over Pakistan but only 62 universities/Higher education institutes awarded 3,949 PhD degrees by December 2013. This is only 39.74 per cent share among 156 universities. (Shaikh, 2014) Its means Pakistani universities should have to increase their share in developing PhD education.

**Diversity in doctoral programs:** There are a lot of authors who claim HEC is more focused on natural and applied sciences (Siddiq, 2011). Moreover, there is a need for cutting-edge research on national policies, law & order, different societal, local and regional problems in Pakistan and HEC should extend its focus to everyday problems of Pakistani society. (Abbasi, 2015)

This is also illustrated from the Annual Report of HEC for 2012-13 (currently latest report) in Table 05

| PhDs completed by June 2013 (Discipline/Gender-wise) |        |        |                                     |                                 |                   |                            |                    |                                       |                             |                           |
|--|--------|--------|-------------------------------------|---------------------------------|-------------------|----------------------------|--------------------|---------------------------------------|-----------------------------|---------------------------|
| Scholarships   | Gender |        | Discipline                          |                                 |                   |                            |                    |                                       |                             |                           |
|  | Male   | Female | Agriculture and Veterinary Sciences | Biological and Medical Sciences | Physical Sciences | Engineering and Technology | Business Education | Social Sciences & Arts and Humanities | PhDs Completed by June 2013 | PhDs Completed in 2012-13 |
| Foreign  | 1412   | 220    | 194                                 | 211                             | 555               | 443                        | 72                 | 157                                   | 1632                        | 325                       |
| Indigenous   | 1001   | 267    | 227                                 | 247                             | 505               | 129                        | 44                 | 116                                   | 1268                        | 227                       |
| Total  | 2413   | 487    | 421                                 | 458                             | 1060              | 572                        | 116                | 273                                   | 2900                        | 552                       |

According to the above statistics among the total number of foreign scholarship holder PhD by 2013 were 1632 in which 157 scholars were from social sciences background that is only 9.2% among other disciplines. For indigenous scholarship this ratio is bit same as 9.1% for social sciences. High officials of HEC are well aware of this missing link as the HEC chairman, Dr. Mukhtar Ahmed urged that even social sciences were important for our education system but not that prominent. (Daily DAWN, Karachi, 2016) In same occasion he was addressing the Second National Symposium on Thematic Research in Social Sciences at the HEC secretariat. At this point in time he declared to establish a Social Sciences Council of Pakistan under umbrella of HEC. This was a positive initiative and it is believed to be a serious concern for development of social sciences on doctoral education.

**Doctoral candidates as early stage researchers and professionals:** HEC has a clear and transparent procedure for financial support for indigenous and foreign doctoral candidates. On the other hand HEC provides need-based scholarship, PhD (jointly funded and closed programs), partial support for PhD studies abroad, and split PhD scholarships. Detail of certain financial support plans is available on its website. (HEC website, 2016)

These are very encouraging facilities provided by HEC in Pakistan but these are only available for those who comply with the strict HEC criteria for scholarship. Generally for other doctoral candidates, there is neither HEC financial support nor government stipend. Furthermore, the status of doctoral candidate is not recognized as early stage researcher or professional with having appropriate commensurate rights in Pakistan. There are different reasons of this status to be given to doctoral candidates including lack of government funds to educational sector that is only 2.1% of total GDP (Pakistan Federal Budget, 2016).

**Shared responsibilities of individual doctoral candidate, supervisor and higher education institution:** Likewise criterion 04, the HEC has very clear guidelines for supervisors who are providing supervision to indigenous scholarship holder doctoral candidates but for others, the HEC empowered universities and higher education institutions for developing standard operation procedure (SOPs) at their own requirement. Therefore, different universities in Pakistan develop their own doctoral SOPs for mechanism of shared responsibilities in which candidate, supervisor and university can take part accordingly.

HEC is ambitious to remove the obstacles from doctorate education. It barred around 19 universities with their sub-campuses and higher education institutes from carrying out their doctoral programs after they failed to meet the HEC's criteria. (Haq, 2015) According to HEC policy, a supervisor can take only five students for a PhD program at a time. But in above cases many supervi-

sors were convicted to violate this policy and were strictly barred to continue their PhD programs. (Haq, 2015)

There is also an imperative need for HEC to develop an appropriate system of evaluation for shared responsibilities among university, supervisors and candidates. Some authors believe that there is not appropriate system of formal checks on the supervisor-candidate relationship. (Agha, 2015) This is a reason why the supervisor feels him/herself accountable and answerable to anyone. Agha (2015) also mentions some cases by supervisors to enforce for publishing research papers by supervisor's name, assisting supervisors as their research helpers, using candidates for personal works and sometimes sexual favors etc.

Most of supervisor-candidate related problems are not merely cultural and limited to Pakistan but these are rather global (Vilkinas, 2002). These can be resolved with strict and comprehensive regulatory norms and mechanism shared with HEC and universities as well as supervisor and candidate.

**University exchange collaborations among universities:** The HEC has enthusiastically worked hard for getting a mass of doctoral programs. According to Annual Report (2012-13), a total of 6,726 scholar have been sent abroad for MS, PhD, Post-doctoral programs. Among all of them 4,084 are serving Pakistan after successful completion of their programs. HEC also invested on 5,524 scholars under indigenous PhD scholarship that shows HEC's ambition for getting critical mass of doctorate program. There was a significant gap of social sciences doctorate that has been filled by initiative of HEC chairman as establishing the social science council Pakistan.

The second part of this criterion is university exchange collaborations among universities. HEC Pakistan believes to develop collaborations among universities and higher education institutions and it has track record of maintaining relationship as a regulatory body. Other than different operational and administrative matters, the doctoral exchange collaboration among universities under umbrella of HEC is a missing link that needs to be established and improved.

**Doctoral programs completion on time:** Quality Assurance Agency (QAA), a body of HEC has direct concern to monitor the doctoral programs of university. It provides some strict guidelines/forms/proforma to universities for supplying accurate and appropriate information about doctoral programs. University's doctoral program is judged by this information. There are two forms provided by HEC; PhD scholar's proforma and PhD program review university proforma.

These initiatives help HEC to persuade universities for limiting their doctoral programs according to destined time duration.

**PhD programs for promoting the innovative structures:** For technological advancement there is a need to develop the National innovation systems in counties as it plays a crucial role specially in developing countries. (UNCTAD, 2005)

In Pakistan, the first ever initiative for innovation enhancement goes back to 1953 when an institute named Pakistan Council for Scientific and Industrial Research (PCSIR) was established. In 1960, the National Scientific Commission of Pakistan (NSCP), in 1984 the first National Science & Technology Policy, National Technology Policy and Technology Development Plan 1993 and then National Commission for Science and Technology are some considerable efforts by Pakistani governments (National Science, Technology and Innovation Policy, 2012).

HEC Pakistan is continuously working on bridging among research, academia and industry by promoting research programs, providing international scholarships and granting indigenous scholarships for local scholars and initiating training and development programs. Thus there is a need of promoting innovation among universities and institutions by themselves. HEC Pakistan recently established an Innovation Steering Committee for developing innovation activities in Pakistani higher education institutions that is ambitiously to promote job opportunities and industry-academia relationship. (Business Recorder, 2016)

This is a good initiative by HEC that can play important role in bringing maximum number of academia, researchers and students together for innovation and entrepreneurial endeavors. It can set mile stone in future if successfully accomplishes its objectives.

Although we observe numerous innovation plans and policies in Pakistani history but most of those policies suffered due to the reasons as mentioned below (UNCTAD, 2005):

- Lack of science & technology networks among universities and research institutes
- Isolation of institutions from industry
- Inadequate coordination level among national public policies including fiscal/monetary, trade, foreign investment, environment and health policies with science & technology innovation
- Insufficient coordination of national, regional, community policies with science & technology policies.
- Lack of consultation with government agencies, business, academia, labor market, civil groups etc.

**Doctoral programs seek to increase geographic, interdisciplinary and inter-sectoral mobility:** HEC Pakistan also leads PhD students enrolled in Pakistani universities to enhance their research skills in the technologically advanced countries. It has a six month research fellowship program as International Research support Initiative Program (IRSIP) designed for PhD students of Pakistani universities. According to annual report (2012-13) this scheme helps indigenous PhD students to conduct research abroad. With the help of this scheme 1511 scholars of Pakistan completed their research between 2012 and 2013, 241 scholars were still proceeded abroad by joining foreign universities from technologically advanced countries. (HEC, Annual Report, 2012-2013)

There is again a missing connection of Pakistani universities for enhancing interdisciplinary and inter-sectoral mobility programs among them. HEC Pakistan encourages the mobility programs but the numbers of scholarship holders by HEC are limited and mostly its focus is on international mobility programs. There is a lot of vacuum in Pakistani universities to develop inter-university doctoral exchange program in national, cross-provincial and cultural circumstances.

**Ensuring appropriate funding for doctoral programs:** Most of Pakistani public universities rely on HEC or national funding for PhD programs and private universities rely on self-financing by the scholars. This is apparently difficult for PhD scholars to be funded by individual university where they are enrolled. They usually look forward to HEC Pakistan and bear all expenses by themselves if they cannot comply with the strict criteria of HEC for funding.

#### **Problems with Doctoral Programs in Pakistan**

- Traditionally, Governments did not enlist education generally and doctoral education specifically in their priority. Therefore, focus on doctoral programs and strategic vision are scarce.

- Low budgets allocated to education. Pakistan spends 2.4 percent of its budget on education where 89 percent of total budget spends on teacher's salaries. Only 11 percent spends on education from primary to higher education (Hussain, 2015).

- Iqbal, Saeed, Abbas (2012) studied that PhD scholars in Punjab, Pakistan face diversified problems including financial support, accommodation, research knowledge, weak communication skills, less research competent supervisors, inadequate student-supervisor meetings, administrative staff's problems, and inadequate online and books resources. This situation is rather observable in many other public universities.

- There is no system of forecasting the industrial needs of doctorates and then their strategic execution. On the other hand production of PhDs is remarkably low and research structures within universities are thin.

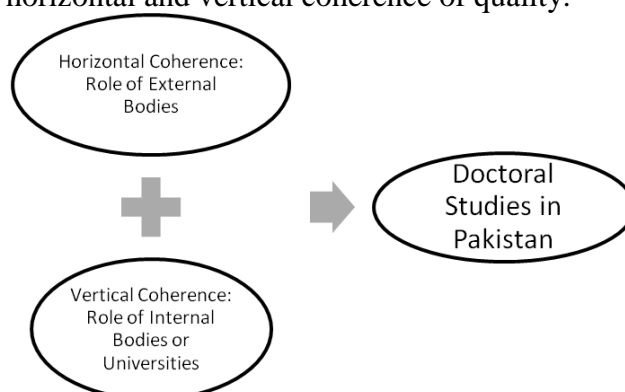
- There is less focus on applied doctoral programs in humanities and most of doctoral research is not persuaded to be conducted from basic sources.

- In 2007, The Planning Commission of Pakistan developed a comprehensive document as *Vision 2030* showing a multidimensional strategic road map during Musharraf's government but during current government new policy *Vision 2025* (Daily Times, 2016) was approved and old one obsolete. This is a behavior where governments have come and gone without setting a clear way forward (Hoodbhoy, 2009). This confusion of government also impacts on the delivery and quality of doctoral education.

- A remarkable PhD research was conducted by Iqbal (2004) in which he addresses numerous problems with higher education in Pakistan (in eight sample public universities) including low quality research, less competent faculty and staff, inadequate funds provided, no linkage between academic work and industry, non-existent good governance, examination system was faulty, library/laboratory facilities were inappropriate etc.

### **Discussion, Model Development and Conclusion**

Doctoral programs in Pakistan are running under the guidance of a national regulatory body, HEC Pakistan. HEC Pakistan has played significant role for setting norms and standards of procedure for doctoral programs in Pakistan. It provides step-by-step guidance to universities for running their doctoral programs. But other than HEC's enthusiastic initiatives for growing research culture in the country this is argued that total number of production for doctorates is very low and the quality of PhD theses is also under steak by some critics. Problems of doctoral programs in the country can be seen in two ways; horizontal and vertical coherence of quality.



The role of HEC and other external bodies for developing doctorate programs can be seen as horizontal coherence of quality and the efforts of internal actors including universities and higher education institutions are deemed to be called the vertical coherence of quality. There are diverse problems witnessed in both horizontal and vertical coherence of quality. Although there were two strategic policies presented by two governments in Pakistan as Vision 2030 and Vision 2025 but other than their own contradictions, these plans do not provide clear line of action for specifically doctoral or higher education because these are entirely the national plans rather educational or research plans. This is inevitable to lick into shape at least 10 to 20 years plan for production of PhDs so that national regulatory bodies can have clear mission, vision and measurable objectives. For this, forecasting and evaluation of industry needs would also be expected that is also a missing pearl.

### **Recommendations**

**For HEC Pakistan:** This is recommended for HEC Pakistan to adopt 25 years long strategic plan for higher education generally and PhD specifically including some features as below:

- Clear vision and mission statement showing directions towards its strategic aims and objectives
- Defining principles for advancement of knowledge through original research showing mechanisms, procedures, and systems for developing critical thinking and creative solutions among doctoral candidates.
- More emphasize on institutions to develop strategies and policies embedded with professional career development opportunities.
- Make sure there is a good selection of diversity in doctoral themes and programs
- Do not only focus on increase of PhD numbers but on quality of theses. Program entry requirements, progress reports and exit barriers should be aligned with more focused quality measures.
- Recognizing doctoral candidates as early stage researcher and professional is right as rain. This small recognition can impact positive on psychological empowerment of candidates.
- Clearly define the principles for shared mechanism among the candidate, supervisor and university. For more, HEC can become the fourth stakeholder in this shared-mechanism for making this mechanism more transparent.



- Set the numbers of PhD per year to be passed out with their disciplines/themes according to industry need and strictly monitor universities to follow and respect the quota
- This is very encouraging to see the focus of HEC on providing opportunities to international scholarships but this is recommended to give priority to local or indigenous doctoral programs because only few candidates comply with strict international competition as well as national competition for getting scholarships. Most of doctoral candidates work in their local circumstances. Other than indigenous and international scholarship holders, thousands of doctoral candidates are still working on their theses in different universities on national level and their research works are unattended by national bodies and sometimes from their own universities because they are suffering from less professional behaviors of supervisors or complex administrative bureaucracies.

**For universities:**

- Universities should develop their vision/mission and strategic aims/objectives align with HEC's suggested (as our proposal) 25 years' strategic vision/mission and objectives for best possible synchronized and harmonized system with national doctoral plan.
- Doctoral education is getting global as quality measures are getting synchronized gradually. Universities are recommended to grow their Quality Enhancement Cells (QECs) and Offices of Research, Innovation & Commercialization (ORIC) suggested by HEC Pakistan. According to our observational research many Pakistani Universities use these two sections only as HEC requirement and uplifting their university ranking rather understanding its own spirit. This is recommended to tentacle these divisions according to the models of successful national and international universities. Doctoral programs can play vital role in achieving this mile stone.
- Universities should develop a shared mechanism to monitor the doctoral programs including supervisor and doctoral candidate. And they should not keep them aside from supervisor-candidate relationship because many doctoral candidates in universities are suffering from bad supervisor-candidate relationship.
- Universities should realize that their distinction should be on research and innovation. They should include research and innovation on top in their vision, mission and academic aims and objectives.
- Universities should provide appropriate and best possible administrative and academic assistance to accomplish the doctoral education endeavors.
- This is recommended for universities to not only focus on national grant or financial assistance from regulatory bodies including HEC but they should work on developing their own industry linkage. HEC Pakistan requires them to develop ORIC and it has an integral office for industry linkage. This could be a best tool for developing industry links and working for generating funds by grant, donation and financial aid.
- Shared PhD and research mobility programs are also unattended in most of Pakistani universities. This is recommended for universities to start and develop similar doctoral programs with academic and research collaborations of other universities.

**For Doctoral Candidates:**

- This is recommended to be updated with international research trends. Always keep in touch with progress of your field in international universities, research centers and think tanks. This is a best way for sharpening your ideas.
- Develop social media contacts especially on LinkedIn, yahoo/Google groups and networks of your field.
- Do not always look forward financial rewards of your doctoral degree but focus on what and how your research can add value to the industry, society, nation and/or globe.
- Do not always focus on national or university grant for your research or academic's financial requirements. There are hundreds of international resources available worldwide that can help in financial hardship.

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## **ANALYSIS OF EQUILIBRIUM DEVELOPMENT OF HIGHER EDUCATION IN CHINA BASED ON THE HIGHER EDUCATION DEVELOPMENT INDEX**

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### **Abstract**

*Equilibrium development is the basic requirement of global education quality assurance. The balance of the quality is becoming an important subject on higher education development day by day. This paper sorts out design and assessment cases of education development index in China and abroad, summarizes relevant research analyzing Chinese higher education equilibrium development by calculating the chief indicators such as higher education opportunity, education input, education quality etc. Further inquiries into the applicability of education development index. Throughout a suggestion on improving the assessment of Chinese higher education equilibrium development, pointing at merits and drawbacks of these indicators.*

### **Key Words**

*Education development index; Equilibrium development; level of higher education development*

## Introduction

Equilibrium development has been a basic requirement of current quality assurance of global education. It has been an important subject to actualize the assessment of education development level, with the ceaseless development of higher education level of each country. How do we assess the level of education development of one country or district? Which indices do international organizations choose normally? How do we design the development index? It is with great significance for higher education equilibrium development of our country to structure a higher education development index, which is suitable to China.

This paper throws out relevant suggestions about the equilibrium development of higher education of our country, according to comparing and analyzing the designs of education development indices both home and abroad, sorting out the structuring principle and computational formula of the higher education development index, comparing and analyzing the level of higher education development of all provinces, and analyzing the districts diversities of higher education development level in each province.

### 1. The Summary of Education Development Index

Education development index (EDI) is an aggregative index structured by a number of single indicators. It shows and assesses the education development level of a country or a district.

Many international organizations use EDI to assess and monitor the level of international education development. For example, “Program on institutional management in higher education” which was aimed at promoting contributions to district development made by universities and other institutions of higher education launched by OECD in 2004.

Some international organizations, countries, and higher education institutions also released indicators in order to assess the higher education development, and pursued it in practical work of assessing. An overview of cases about the designs researches of EDI and the assessing of international education development level are listed in the table below (see Table 1).

Table 1. The summary of education development index designs at home and abroad.

|               |                            |   |
|---------------|----------------------------|---|
| International | OECD                       | “Education at a Glance, OECD”, which is published by OECD yearly, uses a series of education indices to show the education development conditions in OECD and their partner countries, and relation between education and income.   |
|               | UNESCO                     | UNESCO publishes “Global Education Digest” yearly. The EDI uses 16 statistic tables and hundreds of statistic indicators data, in order to make statistics about the education development conditions of each country in the world.   |
|               | The World Bank             | The World Bank publishes “World Development Indicators” yearly, which provides statistics data on economics, population, environment, education, etc. Five indicators are touched upon in the education section, specifically educational input, educational participation, efficiency of education, education completion rate, and equal access to education.  |
|               | Indian Planning Commission | Indian Planning Commission commissioned a research team of institute of applied human resource led by Anil K, Yadav to design an EDI. It compares and evaluates basic education development level of each district. To point at the problems in the compulsory education stage of each district in India, They designed an EDI with 4 Level II indicators, including educational opportunities, educational facilities, educational resources, and educational output, and 22 Level III indicators. |
| Internal      | Tan Songhua<br>Yuan Bentao | They structured “modern education evaluation indicators of China” with 7 indicators including literacy rate for more than 15-year old, expected years of schooling, gross enrollment rate of secondary education, gross enrollment rate of higher education, a number of students at institutions of higher learning for every 100 thousand people, public education funds proportion of GDP, public education expenditure per capita.  |
|               | Chu Jiangting              | He structured an EDI with 7 Level II indicators including educational background, educational input resources, educational opportunities, teaching orders and securities, referring to OECD's education index system.   |
|               | Wang Shanmai               | Referring to the domestic and international research and combining the development of education in China, he structured an EDI with 3 Level II indicators and 18 Level III indicators, and separated it to index of educational opportunity, index of educational input, and index of educational equity.   |

According to sorting out the EDI assessment cases of domestic and international, we can discover that the research and applications of assessing education development level with EDI were mainly in the field of basic education. However, the applications and evaluations of the higher education development level is less.

Most of the higher education encouraged universities through some policies, such as projects. Most of those policies benefit a small number of high-level research universities, with obvious orientation. Other universities can only flinch, so that the development gap between them is growing. It exacerbates the diversities of higher education development level among provinces.

China is a great country of higher education. Disequilibrium appears among the higher education development of each province, because of the effects of politics, economy, culture, geography, etc., even polarization situation. How to raise the input, expand the entrance opportunity, increase the quality of higher education is mostly paid close attention to by educational administrative department. Both the EDI design and whole analysis of higher education equilibrium development level are less. Educational administration evaluation mostly focused on the allocation of external resources, less focused on internal factors, such as gross enrollment proportion of higher education, level of teachers, etc.

## **2. Data Description of the Level Development in Higher Education**

The per capita cost of college students indicates the higher educational input index, the gross enrollment proportion of higher education indicates the higher educational opportunity index, the proportion of full-time teachers in college who have doctor's degree and the proportion of key colleges to the total quantity indicate the educational equity index during the EDI system above.

### **2.1 The Level of Higher Education Opportunity**

Most international organizations and districts use "gross enrollment rate of higher education" to indicate the level of higher educational opportunities. According to "China's education monitoring and evaluation index system" revised edition by China's Ministry of education in 2015, the rules and formulas for the gross enrollment rate of higher education is: *"Gross enrollment rate of Higher Education (%) = Higher Education in the total size / School age 18 to 22 population \*100% . The optimal value of gross enrollment rate of higher education in China is set to 50%"*

### **2.2 Higher Education Input Index**

Normally, the level of economic development directly affects the level of input in Higher Education. The college student fees (including infrastructure fees) can be applied to indicate the level of input in higher education. The highest one can be selected as the optimal value, resulting in higher education input index formula: *"The university student career index = College in the province of the national student career fees/ the highest fees in China."* (E.g. China's colleges and universities input in Beijing is the highest level reached RMB46, 515 yuan in 2010.)

### **2.3 Higher Education Quality Index**

Under the Higher Educational Quality Index, there are two indicators including the provincial key universities (211 and 985 colleges) accounted for the total number of provincial colleges and universities, and the ratio of full-time teachers who have a Ph.D. degrees.

According to "China's education monitoring and evaluation index system" revised edition by the China's Ministry of education in 2015, the proportion of full-time teachers who have a Ph.D. degree, refers to the percentage of the total number of full-time teachers in colleges and universities. The number of full-time teachers in colleges and universities in the province with a Ph.D. Formula for:

*"The proportion of full-time teachers who have a Ph.D. degree (%) = the number of full-time teachers with college / doctoral degree College of the total number of full-time teachers \*100%"*

## **3. Related Research of Education Development Index: Two Case Studies of China**

There are two chief cases of Chinese scholars performed the assessment of education equilibrium development level by calculating EDI. One is Professor Wang Shanmai compared the overall level of educational development, and the levels of education development, education opportunity, education input, and education equity in 2009 among 31 provinces in China (2013). The other is

based on Wang's research Dr. Chen Bin performed statistics and analysis of the level of higher education development in 2010 among 31 provinces in China (2016).

### 3.1 Case Study of Structure of District EDI in China

A research team led by Professor Wang Shanmai (2013), structured an EDI with 3 Level II indicators and 18 Level III indicators (see Table 2) by combining the education development situation of China. Based on this EDI, they compared and analyzed the levels of educational development, opportunities, input, and equity in 2009, including all the 31 provinces of China.

Table 2. Structure of district EDI

| Level I   | Education Development Index   |  |  |
|-----------|---|--|--|
| Level II  | Educational Opportunity   | Educational Input  | Educational Equity   |
| Level III | 1. Gross enrollment rate of preschool education<br>2. Gross enrollment rate of compulsory education<br>3. Gross enrollment rate of senior high school education<br>4. Gross enrollment rate of higher education | 1. Per capita cost of pupils<br>2. Per capita cost of junior high school students<br>3. Per capita cost of senior high school students<br>4. Per capita cost of college students<br>5. The proportion of full-time teachers in primary schools who have college or above degree<br>6. The proportion of full-time teachers in junior high schools who have bachelor's or above degree<br>7. The proportion of full-time teachers in senior high schools who have bachelor's or above degree<br>8. The proportion of full-time teachers in college who have doctor's degree | 1. Urban-rural difference of per capita cost of pupils<br>2. Urban-rural difference of per capita cost of junior high school students<br>3. Urban-rural difference of degree of full-time teachers in primary schools<br>4. Urban-rural difference of degree of full-time teachers in junior high schools<br>5. Gini coefficient of per capita cost of pupils among counties<br>6. Gini coefficient of per capita cost of junior high school students among counties |

### 3.2 Case Study of Structure of Higher Education Development Index in China

Chen Bin, a professor of education at Xiamen University, according to the study of China's Higher Education Development among 31 provinces, establishes a framework of higher education development index with three secondary indicators and four tertiary indicators, including higher education opportunity, higher education input and higher education quality (see Table 3).

Table 3. Structure of higher education development index in China

| Level I   | Higher Education Development Index  |   |  |
|-----------|-------------------------------------|---|--|
| Level II  | Higher educational input            | Higher educational opportunity                  | Educational equity   |
| Level III | Per capita cost of college students | Gross enrollment proportion of higher education | 1. The proportion of full-time teachers in college who have doctor's degree<br>2. The proportion of key colleges to the total quantity |

Based on the framework of higher education development index with three secondary indicators and four tertiary indicators, by calculating the educational development index in 2010 among 31 provinces in China. His findings are summarized as follows: The level of higher education development is higher in eastern China than in western and central China. Specifically, the higher education opportunity index of eastern China is significantly higher than that of western and central China, with no obvious difference between western China and central China; differences in higher education input index between provinces are significant; the higher education quality indices of Beijing and Shanghai are significantly higher than those of other provinces. The level of higher education development is affected by the level of economic development and population scale to a great extent, as well as by national policies and geographical environment to some extent. (Chen-Bin, 2016).

### 4. Conclusion and Inspiration

Through the comparative analysis of the design of educational development index can be seen that, the types of indexes and index system for the different areas, different stages of education,

have its characteristics. Therefore, design of index system should tally with the requirement of the area education development and education characteristic in China.

Take the two designs of EDI in India for instance. They have both commonalities with international education index, and obvious characteristics. The same as international organizations, they mostly focus on the education opportunity, teacher resources, education result, and education equity. But they also choose several indicators with Indian characteristics as chief indicators brought into EDI, such as potable water and toilet, class with more than 60 students, educational opportunities for all social classes and tribes, and etc.

In addition, education equity should be paid more attention to, and brought into EDI. It is important that equity is brought into any other index as a chief indicator, with the development of economics, and with the appearance of inequality and the gap between the rich and the poor in social development.

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## **ACCREDITATION OF JOINT STUDY PROGRAMMES: FROM OBSTACLES TO SOLUTIONS (VIEWPOINT OF A EUROPEAN QUALITY ASSURANCE AGENCY)**

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### **Abstract**

*The development of joint programmes offered by at least two Higher Education Institutions (HEIs) in different countries has received broad support in the context of the Bologna Process, both from politics and academia. European HEIs often regard such study programmes as a central and very promising element of their internationalisation strategies. However, a number of obstacles became visible, which hamper the development of collaborative programmes. One of the crucial challenges is a problem of external quality assurance and accreditation of joint programmes, which is related to the divergences in higher education legislation across the European Higher Education Area (EHEA). In countries where programme accreditation is obligatory, joint programmes are usually subject to multiple accreditation procedures, which can neglect their joint character and represent an organisational, a bureaucratic as well as a financial burden on the institutions involved. In order to dismantle these obstacles and to ease accreditation of joint programmes, the European Approach for Quality Assurance of Joint Programmes has been adopted by the ministers of EHEA. Still, only in a few countries HEIs can use this new approach. The latter is now the case in Germany, where FIBAA, a European, internationally oriented accreditation agency, basically operates.*

**Introduction.** The implementation of joint programmes at European Higher Education Institutions (HEIs) can be essentially viewed in the context of the Bologna Process. The development of study programmes offered by at least two HEIs in different countries, including those awarding joint degrees or double / multiple degrees, has received significant political support among the Member States of the European Higher Education Area (EHEA). In their Prague Communiqué in 2001, European Ministers in charge of Higher Education have called for increase in the development of “degree curricula offered in partnership by institutions from different countries and leading to a recognized joint degree”. The Ministers regarded these study programmes as a way to promote the European dimensions in Higher Education (EHEA ministers, 2001). From then on, joint programmes became a constant item on the agenda of the Bologna Follow-Up Group (BFUG) and the Ministerial Conferences, since such programmes support various Bologna action lines, such as student mobility, joint curriculum development and joint quality assurance (Erasmus Mundus National Structures, 2015). In the European discourse on higher education, joint programmes are often referred to as a “hallmark of the EHEA”.

Both at the European and national level practical instruments have been introduced to financially support HEIs establishing joint programmes together with their European Union (EU) and non-EU partner institutions. Prominent examples include major support measures like the EU’s Erasmus Mundus Joint Master Degrees and the Integrated International Double Degree Programmes funded by the German Federal Ministry of Education and Research (BMBF). The declared goals of these activities are to foster internationalisation in HEIs, to boost the attractiveness of the EHEA as well as to improve the level of competences of graduates and their employability (EACEA, 2017; DAAD, 2011).

A vast majority of countries, participating in EHEA, have reviewed their legislation in order to allow both the establishment of joint programmes and the award of joint degrees (European Commission/EACEA/Eurydice, 2015).

Not only in politics, but also at HEIs, interest in collaborative programmes has grown constantly over the past years (De Wit, H., Hunter, F., Howard, L. and Egron-Polak, E., 2015). European HEIs often regard joint programmes as a key element of their internationalisation strategies. In the European Association for International Education (EAIE) Barometer 2014, a survey of 2411 higher education practitioners from EHEA, a majority of respondents indicated that they are currently working on developing joint degree programmes with their institutional partners. 46% of respondents reported a perceived increase in activities related to joint programmes over the past three years (with an additional 7% of those who see even a substantial increase) (European Association for International Education, 2015; Sundback-Lindroos, A., 2016). It is estimated that there are over 3,000 joint programmes in the EHEA (BFUG Expert Group, 2014a). Broadening educational offerings, strengthening research collaboration, advancing internationalisation, and raising international visibility/ prestige are considered to be the top motivations for developing joint or double degree programmes (Obst, D., Kuder, M., Banks, C., 2011).

**Obstacles.** Altogether, there is broad support for joint programmes in political and academic spheres due to numerous advantages to be gained through these programmes. However, a number of obstacles became visible, which hamper the development of collaborative study programmes. Some of these challenges, which are quite wide-ranging, refer to the integration of joint programmes into the institutions (Sursock, A., 2015), or to coordination of cooperation between the partners, or to difficulties in getting access to additional funding on the national level (European Commission/EACEA/Eurydice, 2015). But it soon became clear that the divergences in higher education legislation across Europe are a major barrier to the development of the cross-border programmes. In some countries national legislation allows HEIs to establish joint programmes, but there is no mechanism to award joint degrees. Incongruent national legislation can comprise “variable entry points, credit weighting, workloads, learning outcomes” (Davies, H., 2009) and other aspects.

Still, the most frequently mentioned challenge is a problem of external quality assurance and accreditation of joint programmes, which, again, is rooted in the different national legislations in Europe and the still existing heterogeneity of national quality assurance regimes (Aerden, A., Braa-



then, K. & Frederiks, M. (Eds.), 2010). In more than half of the countries of EHEA, there are problems in recognising quality assurance decisions related to joint programmes. The latest Bologna Implementation Report states, that the development of appropriate quality assurance and accreditation mechanisms has been a major challenge for joint programmes – in large part because the added value and specificity of such programmes may be difficult to assess through typical procedures (European Commission/EACEA/Eurydice, 2015).

In practice, this means that in countries where programme accreditation is obligatory and is a prerequisite for the official recognition of degrees, joint programmes are often subject to multiple accreditation procedures. Such procedures are conducted by different quality assurance agencies in countries involved. As at 2011, accreditation of joint or double degree programmes has been predominantly performed in two ways: 1) part A of the joint programme has been accredited in country A, while part B of the programme in country B; or, 2) all parts of the programme have been accredited in both countries (Obst, D., Kuder, M., Banks, C., 2011). Both types of accreditation represent an organisational challenge as well as a bureaucratic and financial burden on the institutions involved. Furthermore, fragmented procedures, where every agency is only looking “at the bits and pieces in “their” country”, neglect the joint character (or “jointness” (European University Association, 2006)) of joint programmes (BFUG Expert Group, 2014b). The sheer amount of often contradictory national requirements, e.g. formal requirements regarding ECTS (European Credit Transfer System) or staff involved in the study programme (BFUG Expert Group, 2014a), makes it even more difficult to accredit cooperative programmes. This issue is sometimes very graphically described as a problem of “too many cooks in the kitchen”.

There is also an option of a joint procedure, where two or more agencies conduct a common accreditation of a joint programme. To be effective, they must agree on a common assessment framework. After that they can jointly employ a panel of experts who will undertake joint site visits at one or more locations as well to prepare a panel report. Joint procedures have the advantage that they look at the entire programme and avoid duplication in national processes. However, they also have their drawbacks. Since there is no standard procedure, agreeing on common assessment criteria ad hoc for nearly every programme, depending on the institutions and countries involved, can be quite time- and resource-consuming for the agencies. Dealing with several accreditation agencies also requires additional effort and expenses on the side of HEIs. Greater challenges arise if the cooperating agencies take different accreditation decisions (BFUG Expert Group, 2014a).

The problem with the accreditation of joint programmes has been identified early after joint degrees were politically prioritized within the EHEA. Already at their Berlin Conference in 2003, ministers have for the first time expressed the political will to actively support the “adequate quality assurance of integrated curricula leading to joint degrees” (EHEA ministers, 2003). It became important to find an effective alternative to current practice in order to facilitate accreditation and recognition of joint programmes. In 2009, the European Commission stated the “need to clarify the portability of national accreditation within the EHEA” and to elaborate clear principles that “might be useful to avoid the need for multiple accreditations” (Commission of the European Communities, 2009). The EU has funded several pilot projects, such as TEAM2 and JOQAR (in both projects FI-BAA was one of the participant accreditation agencies), where quality assurance agencies and other stakeholders have been working together with the aim to develop a European methodology for a single accreditation procedure of joint programmes (Braathen, K., Frederiks, M., Harris, N., 2010; De la Carrere, T. B., Frederiks, M., 2013).

**Solution Options.** An important political step in establishing an alternative to conventional quality assurance of joint programmes was taken in 2012 with the Bucharest Communiqué, in which the ministers of the EHEA member states agreed to allow agencies, which are registered in the European Quality Assurance Register for Higher Education (EQAR), “to perform their activities across the EHEA, while complying with national requirements”: “In particular, we will aim to recognise quality assurance decisions of EQAR-registered agencies on joint and double degree programmes. (...) We will examine national rules and practices relating to joint programmes and degrees as a way to dismantle obstacles to cooperation and mobility embedded in national con-

texts” (EHEA ministers, 2012). The BFUG was mandated to develop a corresponding policy proposal to implement the ministerial decision. This proposal of the Bologna Follow-Up Group (BFUG) and a small ad-hoc expert group, which was commissioned by BFUG, was adopted by EHEA ministers at the 2015 Yerevan Ministerial Conference as the European Approach for Quality Assurance of Joint Programmes (further referred to as the EA).

The idea of the EA is to ease quality assurance of joint programmes by setting common standards for these programmes that are based on the established tools of the Bologna Process, such as Standards and Guidelines for Quality Assurance in the EHEA (ESG) as well as Qualifications Framework for the European Higher Education Area (QF-EHEA), without applying additional national criteria. Thus, the EA puts the quality assurance of joint programmes on a sound European footing, additionally taking into account the distinctive features of joint programmes by specifying the “standard” approach accordingly. If one or more cooperating HEIs require programme accreditation, they should select a suitable quality assurance agency from the list of EQAR-registered agencies to perform one single joint accreditation, which genuinely reflects the joint character of a cross-border study programme. The set of standards defined in the EA can be used both in external quality assurance of joint programmes by agencies as well as in internal quality assurance of these programmes by HEIs. The EA also lays down the procedure principles to be applied for external quality assurance of joint programmes. The EA may be used for joint programmes that are offered by HEIs from both within and outside the EHEA. Involved institutions from non-EHEA countries should then inquire whether their national authorities would accept these standards and recognise the decision of an EQAR-registered agency (BFUG Expert Group, 2014c).

The EA has been approved on the political level of EHEA and received positively by many HEIs and agencies, but it will still take some time before it is going to be implemented on a national level. In many countries, the legal framework will need to be adjusted to recognise external evaluation or accreditation according to the EA (Tück, C., 2016a). Currently, the EA is very unevenly available for the HEIs and agencies from different EHEA countries. In the majority of countries it has yet to be put into practice. Only in a very few countries all HEIs can use the EA to satisfy national requirements. There are also some countries, where it is possible under specific conditions (Tück, C., 2016b). The latter is the case in Germany, where FIBAA basically operates.

### **Outlook**

Originally, the German Accreditation Council (GAC), which is the central body in German accreditation system, recommended nationally recognised agencies to refer to results gained in external quality procedures in other countries and to carry out joint procedures with foreign agencies when it comes to the accreditation of joint programmes (Akkreditierungsrat, 2004). Later the GAC adopted new rules, according to which three types of accreditation procedures of joint programmes have been permitted: 1) accreditation by an agency accredited by the GAC; 2) accreditation by an agency accredited by the GAC together with a foreign agency, and 3) recognition of the accreditation decision of a foreign agency (EQAR-listed or full member of ENQA) by an agency accredited by the GAC. In the first two procedures, the GAC-accredited agency ensures the compliance of the joint programme with the criteria of the GAC and the set of national requirements as defined by the German Kultusministerkonferenz (Conference of Ministers of Education). Still, the GAC may provide for exceptions if there are contradictions between German and foreign regulations (Akkreditierungsrat, 2009). Generally, these rules continue to apply.

In 2015, however, the GAC additionally declared the EA to be immediately applicable. Joint programmes awarding joint degrees, with the participation of at least one German university, can be accredited under the rules of the EA and receive the Quality Seal of the Accreditation Council (Akkreditierungsrat, 2015).

FIBAA considers this development as very positive. The accreditation of joint programmes can in this way be optimized for all participants. As an EQAR-listed agency, which has an excellent pool of foreign experts, and which quality criteria are already ESG-based, FIBAA feels ready for the application of the new approach.

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## **JOINT QUALITY ASSURANCE FOR CAMPUS ASIA PILOT PROGRAMS AMONG THREE COUNTRIES IN EAST ASIA**

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### **Abstract**

*CAMPUS Asia is based on the concept of the governments of China, Japan, and Korea jointly expand quality-assurance exchange among the national universities in these countries. In the framework of this initiative 10 pilot programs were selected in 2011, and the three governments decided to support these programs for a five-year period.*

*HEEC in China, NIAD-UE (Currently NIAD-QE) in Japan and KCUE in Korea jointly established the China-Japan-Korea Quality Assurance (QA) Council in 2010 to support CAMPUS Asia through QA of the programs. The Council decided to conduct monitoring for the pilot programs twice in the five-year period.*

*The first monitoring was conducted in 2013, when the three agencies independently monitored the programs. After that, the monitoring criteria and methods of each country were comparatively analyzed and the QA agencies jointly established a common framework for QA including principles, criteria and process, and jointly conducted the second monitoring in 2015. Monitoring results were compiled in a report featuring the examples of good practices in the international cooperative academic programs.*

*Based on the monitoring experience gained through the establishment of a common QA method, the three QA agencies formulated joint guidelines including monitoring procedures and criteria. This paper covers the results of joint monitoring and the content of the joint guidelines.*

### **Outline**

#### **Introduction**

The increasing globalization of higher education worldwide has brought the initiatives to assure quality in international cooperative education into the foreground in recent years. Northeast Asia is no exception. QA agencies in China, Japan, and Korea, i.e., the Higher Education Evaluation Center of the Ministry of Education (HEEC) in China, the National Institution for Academic Degrees and University Evaluation (NIAD-UE; Currently the National Institution for Academic Degrees and Quality Enhancement of Higher Education (NIAD-QE)) in Japan, and the Korean Council for University Education (KCUE) in Korea, have been committed to cooperate in a joint effort to monitor CAMPUS Asia programs. CAMPUS Asia is based on the concept of the governments of China, Japan, and Korea jointly expanding quality assurance exchange among the universities in three countries. The monitoring took place twice during the five-year period from 2011 to 2015. This paper focuses on the structure and format of the second monitoring in 2015 and outlines the projected plans for further monitoring of subsequent international collaborative programs involving both the original three countries and other countries.

#### **Background and Monitoring Procedures**

The governments of China, Japan, and Korea launched a trilateral initiative called CAMPUS Asia (Collective Action for Mobility Program of University Students in Asia) in 2011 to promote exchange and cooperation with quality assurance (QA) among the three countries' universities. Under this framework, 10 pilot international cooperative academic programs were selected in 2011, and the three governments decided to support those programs for a five-year period.

To support CAMPUS Asia by way of QA, HEEC, NIAD-UE, and KCUE set up the China-Japan-Korea Quality Assurance Council. The Council decided to conduct the CAMPUS Asia monitoring on the pilot programs twice in the five-year period.

The purpose of the CAMPUS Asia monitoring is not to confirm that programs realize a level of minimum quality but rather to pick out good practices from the standpoint of educational quality while getting a picture of the current state and initiatives of monitored programs and to widely disseminate those good practices throughout the higher education community not only in the three

countries but in other countries as well. As the selected 10 consortiums are all composed of flagship universities in the three countries, it was considered that the approach focusing on minimum QA might be ineffective. In this context, it was agreed that monitoring would be designed with a view to (1) identify good practices of high quality in transnational education and common issues, (2) disseminate them, and (3) develop common guidelines regarding QA of transnational education for QA agencies.

The first monitoring was conducted in 2013, when the three agencies independently monitored the programs in accordance with their own country's legislation, QA requirements, and methodology. After that, the monitoring criteria and methods of each country were comparatively analyzed and the three QA agencies jointly established a common framework for quality assurance including principles, criteria (see Table 1), process, etc., and conducted the second monitoring in 2015. At the time of the second monitoring, a CAMPUS Asia Joint Monitoring Committee and CAMPUS Asia Joint Monitoring Panel made up of Chinese, Japanese, and Korean academics and experts with knowledge in the internationalization of higher education and joint programs as well as representatives of QA agencies were established. The Joint Monitoring Committee was the decision-making body for conducting the monitoring. The Monitoring Panel was set up under the Committee to carry out the actual process.

Table 1. Joint Criteria for the 2nd monitoring

| Criteria   | Sub-criteria                             |
|--|--|
| 1. Objectives and Implementation                       | 1.1. Achievement of Objectives           |
|  | 1.2. Organization and Administration     |
| 2. Collaborative Development of Academic Program       | 2.1. Curriculum Integration              |
|  | 2.2. Academic Staff and Teaching         |
| 3. Student Support                                     | 3.1. Students Admission                  |
|  | 3.2. Support for Learning and Living     |
| 4. Added-value of the Collaborative Program (Outcomes) | 4.1. Student Satisfaction                |
|  | 4.2. Credit Transfer and Degree Awarding |
| 5. Internal Quality Assurance                          | 5.1. Self-assessment                     |
|  | 5.2. Continuous Quality Improvement      |

The process for the second monitoring is shown in Table 2. First, the 10 consortiums were asked to produce self-assessment reports. Each consortium was asked to write one self-assessment report in English in light of the joint monitoring criteria, with sufficient coordination among the participating Chinese, Japanese, and Korean universities. Panel members from the three countries carried out document studies of the self-assessment reports submitted. Following the document studies, joint site visits by Chinese, Japanese, and Korean panel members were conducted on three out of 10 consortiums. Events when the representatives from the universities of all three countries gathered together and set the timing for site visits. As the joint site visits were conducted for one consortium in each of the three countries, the panel members carried them out together in all three countries. As for the remaining seven consortiums, panel members conducted site visits or interviews at the universities in their own country and the results were shared among the panel members in all three countries. The draft joint monitoring report was ultimately approved and the Joint Monitoring Committee finalized the monitoring results.

Table 2. Procedures for the 2nd monitoring

|   |
|---|
| Production of one self-assessment report in English by each consortium                        |
| ↓   |
| Document review by Joint Monitoring Panel members from China, Japan, and Korea                |
| ↓   |
| Site visit / Interview  |
| ↓   |
| Notification of draft results (Joint Monitoring Report) to consortiums                        |
| ↓   |
| Statement of objections from consortiums  |
| ↓   |
| Finalization and publication of the Joint Monitoring Report by the Joint Monitoring Committee |

After the monitoring activities, good practices were identified with a focus on cooperation as a consortium, the added-value obtained in an international cooperative academic program, progress since the first monitoring, and sustainability after completion of the pilot program period. Examples of good practices from all 10 pilot programs were compiled by criteria and put into a Joint Monitoring Report accompanied by an outline of important points related to the respective good practices in an international academic cooperative program and hopes for further initiatives (see Table 3).

The CAMPUS Asia Joint Monitoring Committee published *Useful Tips on How to Design an International Cooperative Academic Program: CAMPUS Asia Pilot Program Joint Monitoring Report* in October, 2016, as a result of the collaboration of the three countries involved.

In the publication, good practices identified are described and explained in terms of the following categories, which correspond to the criteria for the second monitoring and major interests in the first monitoring: objectives for international cooperative academic program, organization and administration for international cooperative academic program, curriculum integration, academic staff and teaching, students admission, support for learning and living, student satisfaction, credit transfer and degree awarding, and internal quality assurance.

While the reader is advised to refer to the publication for more details, the notable findings include: Development of various methods for measuring student satisfaction and Establishment of a foundation for credit transfer through prior adjustment in the participating universities or the home university and through deliberation among the participating universities of a conversion method for credit transfer / limit management in credit transfer / recognition of research activities (credits for research activities) / coordination among participating universities regarding a grading system / establishment of a grade confirmation system common across participating universities / issuance of certificates of completion / and policy on double degree awarding.

The criterion 4 has been instrumental in identifying the good practices above, and it is to be appreciated that the quality of the program is brought to greater attention than in the first monitoring.

### **Future Perspectives**

At the First Trilateral Education Ministers' Meeting held in Seoul, Korea in January, 2016, the Ministers of Education from China, Japan, and Korea expressed their intention to increase financial support for CAMPUS Asia, which became a full-fledged program following the termination of the pilot period in 2015. Seventeen programs altogether including nine new programs were selected in fall 2016. With a long-term outlook, they decided to keep discussing the feasibility of expanding the CAMPUS Asia across the Asian region at large.

Keeping in mind the inclusion of other Asian countries in CAMPUS Asia in the future, the three QA agencies formulated joint guidelines based on their experience gained through establishment of a common quality assurance method. The content of the joint guidelines include general principles, implementation system, procedures, criteria and viewpoints, and considerations at the time of conducting monitoring.

The second objective is to be a good reference for other QA agencies when they conduct monitoring/evaluation of international cooperative academic programs, especially when conducting with partner agencies in other countries, and for institutions of higher education when they carry out internal quality assurance of international cooperative education.



Table 3. Joint Monitoring Report (excerpt)

## Criterion 1. Objectives and Implementation

### 1-1. Achievement of Objectives

#### GP I. Joint establishment of original program goals and basic framework

The goals of the academic program must be clearly articulated based on sufficient discussion among the participating universities at the stage of program design. For international cooperative academic programs in particular, it is expected that **goals and a basic framework are jointly established through international cooperation with the foreign universities to a level that combines the participating universities' features and strengths and that could not be accomplished by a single university.**

An outline of important points related to GP I in an international academic cooperative program

The goal of the **Program for Core Human Resources Development: For the Achievement of the Common Good and a Re-evaluation of Classical Culture in East Asia** program (hereinafter referred to as the "Common Good program") is to train human resources who have a deeply cultivated understanding of the cultural and social background of the three countries of Japan, China, and Korea, developed through the process of students themselves searching for the common "good" in East Asia. The three universities have formed jointly an East Asian global education program in the humanities with Okayama University providing original courses and fieldwork on study of the common good, Jilin University providing courses on international relations, such as "East Asia's Common Interests," and Sungkyunkwan University providing courses on East Asian classics and traditions. Additionally, the consortium offers a unique program by using common textbooks jointly developed.

Examples of good practice identified in the CAMPUS Asia pilot programs through the monitoring

**i** Bold font shows the abbreviation of the CAMPUS Asia pilot program name. Refer to the list on page 4 regarding the participating universities in each program.

#### • Hopes for Further Initiatives

In light of the current circumstances of the CAMPUS Asia pilot programs, the following are the main expectations for future initiatives in regard to Achievement of Objectives.

- **Clear articulation and sharing of the significance of three-way exchanges among Japan, China, and Korea**
  - Establishment of objectives that further clarify and maximize the unique features of a CAMPUS Asia program: indicating why it is a trilateral exchange instead of a mere bilateral exchange
- **Continuous analysis of the achievement of goals and targets**
  - Joint establishment of methods to verify the progress of plans in advance; in this regard, analysis of human resource development in light of the goals and objectives through continuous follow-up of graduates, surveys of employers, and other means

A list of matters for which the monitoring committee encourages CAMPUS Asia pilot programs to make further development on the whole (matters that have already been conducted by some programs are also included)

## Conclusion

In the future, international cooperative academic programs are admittedly likely to increase among universities around the world as well as in China, Japan, and Korea. Accordingly, cross-border cooperation among QA agencies will be increasingly necessary. We hope that the joint report and the joint guidelines will not only contribute to the development of the CAMPUS Asia programs but also provide some insights as a reference point for universities considering the establishment of international collaborative academic programs and for QA agencies that would conduct quality assurance activities in cooperation with agencies in other countries.



## **DEVELOPING WEB BASED QUALITY INFORMATION SYSTEMS FOR QUALITY IMPROVEMENT AT THE HORIZON CAMPUS**

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### ***Abstract***

*Quality Information Systems (QIS) provide quality related information to stakeholders. In e-learning applications, QIS should provide e-learning materials to the lecturers and the learners who use them. In Student Management Systems (SMS), QIS provide all the facilities to run the administrative functions smoothly. Electronic Research Repository (such as DSpace) enhances the quality of the institute as it reflects the research competencies of the academic staff of the institute.*

*Horizon Campus QIS include eLearning, SMS, DSpace, Library Management System, all based on a single platform. QIS provide better service to their stakeholders anywhere, anytime effectively and efficiently. Students' pass rate has been increased after introducing the Learning Management System (LMS). eLearning platforms immensely facilitate the teaching and learning process as they offer an environment-friendly and efficient mechanism for ensuring learner centered teaching and learning. As QIS implemented in a Cloud based System, it is easy to maintain and run with minimal cost.*

### ***Keywords***

*E-Learning, DSpace, Web based Student Management System, QIS*

### **1.0 Introduction**

Horizon Campus allocates a considerable amount of funds for operational costs such as photocopying of learning materials & student files, maintenance of lecture halls, payments to lecturers, etc. to facilitate traditional classroom teaching in each year. At present, these functions are handled by the Registrar's office. The documentation work, attendance tracking, time table & academic calendar, recording marks, programme are maintained by coordinators on the faculty level. Student payments and inquiries are handled by the Finance and Marketing Divisions. Basically all these activities are handled manually within various divisions and MS Excel is used to store records due to no proper Student Management System (SMS).

Horizon Campus also allocates significant amount of funds to improve teaching-learning resources. However, it has been noted that the student performance at Horizon College is very low as compared with the allocation of funds on the above quality parameters. Also, there is no proper mechanism to maintain repository for research papers, scholarly articles and publications of academia on Campus.

As a result we noted the increase in annual operational costs and high failure rates of students (Figures 1 and 2).

Due to the growing number of students, their requirements are also rising. In order to provide quality service to students/undergraduates during their academic process, a considerable amount has to be invested annually for electricity, equipment, salaries, lecture materials, internet & Wi-Fi, etc. According to the finance division of the Horizon Campus, the annual operational cost for providing teaching and learning facilities are illustrated in Figure 3.

Quality Assurance (QA) is an essential element that had gradually gained serious attention amongst the global Higher Educational Institutions (HEI). It must be a continuous and an on-going process.

Stakeholder satisfaction is one of the most important aspects when we consider quality. The important stakeholders include students, academic staff, nonacademic staff, employers, training organizations, graduates, government, professional organizations, parents, funding agencies, other interested parties, administration and society.

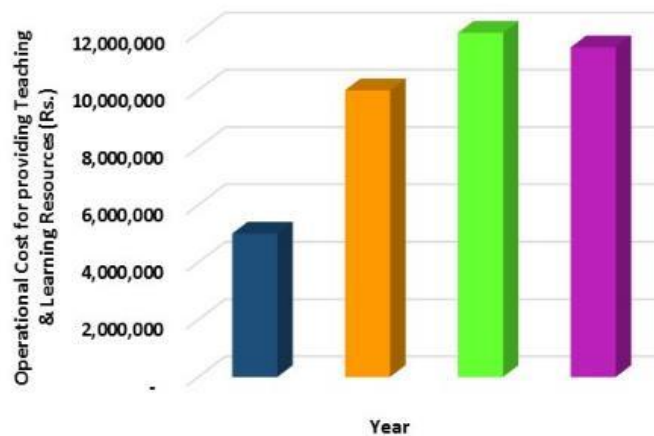


Figure 1 – Annual Operational Cost for providing Teaching and Learning Resources

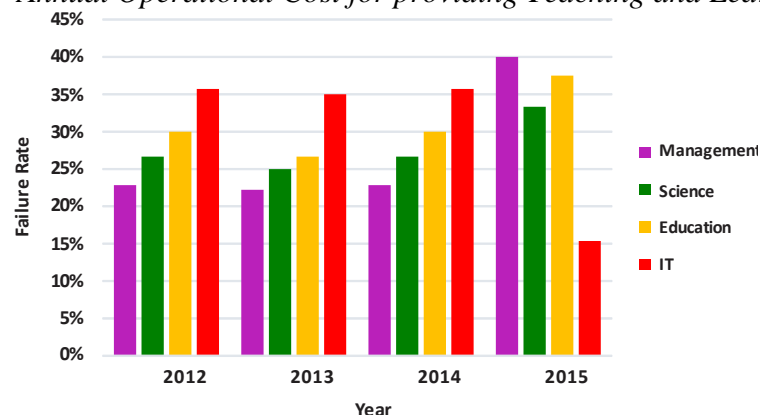


Figure 2 - Failure rate of students in the faculties of Management, Science, Education and IT

Every institute is accountable to its stakeholder in terms of the funds (public/private) spent. The concern for quality will ensure accountability of funds spent and inform the stakeholders about making appropriate decisions. QA is a process of establishing stakeholder confidence that provisions (input, process and outcomes) fulfils expectations or meets the threshold minimum requirements

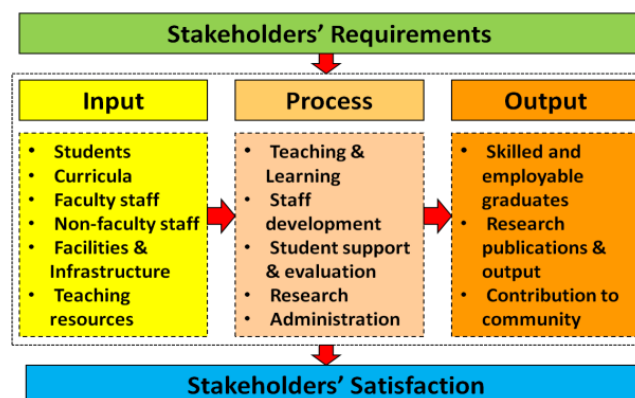


Figure 3 – Relationship between Stakeholders' Requirements and Satisfaction

Students want quality service and facilities which can make them responsible and competitive graduates. Academic staff want better teaching and working environment with appreciation of work quality and benefits. Employers want quality graduates with knowledge, skills and qualifications capable to contribute to their organizational success. The government wants smooth functioning of the universities with the facilities provided by them. The quality assurance system could be implemented in a variety of institutional arrangements. It could be implemented at least in two different ways at the same time, i.e. internally driven and externally driven. Internally driven is the priority way.

Therefore, the study was conducted to observe the positive impact of developing the quality information system and its effectiveness in order to improve the overall quality at Horizon Campus and how feasible QIS attempts to satisfy stakeholders' requirements.

## **2.0 Literature review**

Many concepts of quality management are not only applicable in production and usage of physical products, but also in the context of immaterial ones, including e-learning applications (Sommer). Nevertheless, quality management concepts are hardly used as such today. As a basis for quality management the so-called quality information systems (QIS) can be used. It provides all the quality-relevant information during the whole life cycle of a product to all the stakeholders. In the context of e-learning it means that a QIS should provide all the quality-relevant information to the users of e-learning materials, instructors & tutors, and also to learners.

In this work after a close look some fundamental terms and ideas of quality information systems will be introduced, and it will be pointed out how they can be used in case of e-learning. Particularly, we will describe what kind of information could be quality-relevant and how it should be prepared for the different users. Then, the focus of the work will be made on the implementation of this quality information system. After a detailed analysis of requirements the system design will be presented. Moreover, it will be shown how an information system like this could be integrated into the existing information system infrastructure of e-learning providers. Here the importance of standards for all the types of the data involved, for example, IEEE LOM for the learning objects, will be pointed out.

The results presented in this work have been obtained in the context of the research project "ViKar - Virtual University Group Karlsruhe" (Vikar, 2002). This project is being financed by the state of Baden-Württemberg as a part of the research program "Virtual University of Baden-Württemberg" (Baden, 2002).

## **3.0 Research methodology**

Questionnaires and Interviews are mainly used to collect primary data and secondary data is collected through existing details and LMS log reports.

### **3.1 Collection of Primary Data**

#### **a) Questionnaire**

A questionnaire has been distributed among students of the faculty of IT in order to check whether it was necessary to develop a new Student Management System (SMS), the use of LMS in order to encourage independent learning and the use of LMS in order to increase students' motivation to learn.

Questionnaire is attached in Annex 1, 3, 4 and the information collected is listed under section 4 and 5.

#### **b) Interviews**

A registrar, an accountant, a programme coordinator, a Dean, and a lecturer have been selected to conduct interviews as they are the people who are mainly involved in student registration at present. The combination of formal and informal ways of interview used to gather information for the SMS. The structured format used for conducting the interviews is in Annex 2 and the summary of interview findings is described in section 4 and 5.

Informal interviews have been conducted with the academic staff members to get their views on developing an electronic research repository for their publications.

### **3.2 Collection of Secondary Data**

LMS log/activity reports (details are attached in Annex 4) and students' pass rate after introducing LMS, Operational Cost after introducing the LMS, Position of the Webometric ranking system after implementing DSpace have been taken as the secondary data for the research.

### **3.3 Conceptual Framework**

In conceptualizing the study, the research allowed building relationship between independent and dependent variables. Learning Management System (LMS), Student Management System (SMS) and DSpace (Electronic Research Repository) are the Independent Variables and Improving

Quality is the dependent variable. This would enable the researcher to interpret the findings in a more comprehensive manner.

The conceptual framework used in the research is illustrated in figure 4.

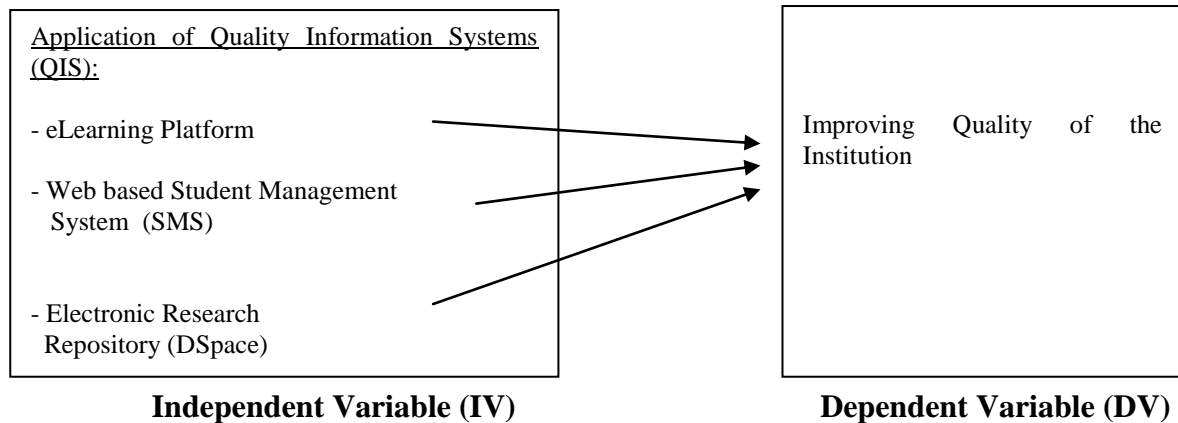


Figure 4 – Conceptual Framework for the proposed research

#### 4.0 Data presentation

Interviewer used a specific set of questions to ask different interviewees and completed the form during the interview. Noted information transformed into Excel sheet for analyzing and was listed in Table 8.

Table 1 – Gathered information at the Interview on developing SMS

| Question  | Accountant   | Coordinator   | Dean   | lecturer  | Registrar's Office  |
|---|--|---|--|---|---|
| What are the issues/problems facing in current system | Sharing information among Financeoivision, Coordinators and Registrar's Office is less on payments matters | Difficult to track the Student Attendance Percentage  | individual Student tracking is less  | Difficult to monitor student attendance in course wise              | No proper communication among Registrar's Office, Coordinators, Finance Division and Deans Office             |
|   | Delays occurs in verifying Visiting Lecturers Payment  | There 15no mechsmtto send reminders to Students on Outstanding Payments                                   | There is no common template available among faculties                        | There isno proper mechanism to view Time Tableand Academic Calendar | No proper mechanism to Send notificationsto Students regarding outstanding payments. Results and other events |
|   | Incomplete information   | Difficult to locate past Students Marks/Grades to issue Transcript  | Difficult to locate past records   | Duplication of data in multiple locations                           | Difficult to locate students past records   |
|   | No backup system   | Difficult to track eligibility requirements of students to sit for the exam before issuing Admission      | No records for students achievements, awards and extra curricular activities | Data Inconsistency  |   |
|   | There isno mechsmtto send reminders to Students on Outstanding Payments                                    | There is no link among Finance Division, Library, Registrar's Office and Coordinators on common functions | Duplication of data in multiple locations                                    |   |   |
| How long that you are working with this manual system | 3 Years'   | 5 Years   | 3 Years  | 2 Years   | 5 Years   |

|  |  |   |  |  |  |
|--|--|---|--|--|--|
| Do you need a new system   | Yes.   | Yes.  | Yes  | Yes  | Yes  |
| What are the features/functionalities expecting through the new System     | Integration among Finance, Marketing, Registrar's Office, Coordinators and Faculties | View Outstanding Payments Details   | To view and maintain Student Attendance  | To view Student Attendance Course Wise                       | View Students Personal Details                                       |
|  | Generate Customised Report   | To track Attendance of Students in monthly, course, semester wise   | To view and maintain Student Results, Awards and Achievements, Extra Curricular Activities | To view Students Results and Special Achievements            | To view Students Results and Special Achievements                    |
|  | Generate reports on comparison between income and expenditure of each faculty        | integration among Finance Division, Registrar's Office, Library and Coordinators for common operational activities                              | To view pass rates and failure rates in batch wise, semester wise and course wise          | To view student pass rate of particular course in batch wise | To view Lecture Time Tables, Academic Calendars and Exam Time Tables |
|  | Automatic notification on outstanding payments                                       | Send notifications to Students regarding outstanding payments. Results, Assignment Reminders and other events via email or SMS through a system | To view Student Details  | To view Student Details                                      | To view Lecturers Workload   |
|  |  |   | To maintain Student Workload Details   |  |  |
| What are the performance do you think are necessary to equip in the system | Level of access for confidential information   | Efficient and Effectively access information  | User Friendliness  | User Friendliness  | User Friendliness  |
|  | Accuracy of Information  | Generate reports  | Accuracy   | Accuracy   | Accuracy   |
|  | Reliability  | Accuracy of Information   | Availability   | Availability   | Availability   |
|  | Easy access  | User Friendliness   | Access of information efficiently  | Accessibility  | Access of information efficiently                                    |

*\* Using a less featured automated accounting system*

Table 2 – Gathered information from the Questionnaire Survey

| Faculty    | 1. Have you ever used a Student Management System before? | 2. Do you think It Is necessary to implement a Student Management System for Horizon Campus? | 3. Select which functionality you are expecting through the Student Management System?   | 4. Write any of your suggestions   |
|------------|---|--|--|--|
| Management | NO  | Yes  | View Student Personal Details, View Course Details, View Current Semester Time Table, View Academic Calendar, View Student Attendance, View Exam time table. View Student Profile (Grades & GPA, Awards & Achievements, Extra-Curricular Activities] | Like to get Reminders and Notifications                                      |
|            | Yes   | Yes  | View Student Personal Details, View Current Semester time table. View Academic Calendar, View Student Attendance, View Exam Time Table, View Student Profile (Grades & GPA, Awards & Achievements, Extra-Curricular Activities)                      | if you can send reminders on next installment day, to collect admission etc. |
|            | No  | Yes  | View Student Personal Details, View Course Details, View Current Semester Time Table, View Academic Calendar. View Student Attendance, View Exam Time Table, View  | Need Reminders or Notifications option                                       |

|         |     |     |  |  |
|---------|-----|-----|--|--|
|         |     |     | Student Profile (Grades 8 GPA. Awards 8 Achievements, Extra Curricular Activities)   |  |
|         | No  | Yes | View Student Personal Details, View Current Semester Time Table, View Academic Calendar. View Student Attendance, View Exam Time Table, View Student Profile (Grades & GPA. Awards 8 Achievements, Extra Curricular Activities)                      |  |
|         | No  | Yes | View Student Personal Details, View Course Details, View Current Semester Time Table, View Academic Calendar, View Student Attendance, View Exam Time Table. View Student Profile (Grades 8 GPA. Awards 8 Achievements. Extra-Curricular Activities) |  |
| IT      | NO  | Yes | View Student Personal Details. View Course Details. View Current Semester Time Table, View Academic Calendar, View Student Attendance, View Exam Time Table, View Student Profile (Grades R GPA. Awards R Achievements, Extra-Curricular Activities) | Need to get Notifications  |
|         | res | Yes | View Current Semester Time Table, View Academic Calendar, View Student Attendance. View Exam Time Table, View Student Profile (Grades R GPA. Awards R Achievements, Extra-Curricular Activities)   | if you can Integrate MIS and LMS would be great                      |
|         | No  | Yes | View Student Personal Details, View Current Semester Time Table. View Academic Calendar, View Student Attendance, View Exam Time Table, View Student Profile (Grades 8 GPA. Awards 8 Achievements, Extra-Curricular Activities)                      |  |
|         | Yes | Yes | View Course Details. View Current Semester Time Table, View Academic Calendar. View Student Attendance. View Exam Time Table. View Student Profile (Grades 8 GPA. Awards 8 Achievements, Extra Curricular Activities)                                | Like to receive reminders on assignment submission and exam dates    |
|         | No  | No  | View Course Details. View Current Semester Time Table, View Academic Calendar. View Student Attendance, View Exam Time Table. View Student Profile (Grades R GPA. Awards R Achievements. Extra Curricular Activities)                                | Do not give access to our parents                                    |
| Science | No  | Yes | View Student Personal Details, View Course Details, View Current Semester Time Table. View Academic Calendar, View Student Attendance, View Exam Time Table, View Student Profile (Grades & GPA, Awards & Achievements, Extra-Curricular Activities) | like to view special event details                                   |
|         | Yes | Yes | View Student Personal Details, View Current Semester Time Table. View Academic Calendar, View Student Attendance, View Exam Time Table, View Student Profile (Grades & GPA, Awards & Achievements, Extra-Curricular Activities)                      |  |
|         | No  | Yes | View Current Semester Time Table, View Academic Calendar, View Student Attendance, View Exam Time Table, View Student Profile (Grades & GPA, Awards & Achievements, Extra-Curricular Activities)   | If you can add another feature to get reminders would be appreciated |
|         |     | Yes | View Current Semester Time Table, View Academic Calendar, View Student Attendance, View Exam Time Table, View Student Profile (Grades & GPA, Awards & Achievements, Extra-Curricular Activities)   |  |
|         | Yes | Yes | View Student Personal Details, View Course Details, View Current Semester Time Table, View Academic Calendar, View Student Attendance, View Exam Time Table, View Student Profile (Grades & GPA. Awards & Achievements, Extra Curricular Activities) | Need Reminder/Notification feature                                   |
|         | No  | Yet | View Student Personal Details, View Course Details. View Current Semester Time Table. View Academic Calendar. View Student Attendance. View Exam Time Table. View Student Profile (Grades 8 GPA. Awards 8 Achievements. Extra-Curricular Activities) |  |
|         | Yet | Yet | View Student Personal Details. View Course Details. View   | Can you link LMS.  |

|           |    |     |  |  |
|-----------|----|-----|--|--|
| Education |    |     | Current Semester Time Table. View Academic Calendar. View Student Attendance. View Exam Time Table. View/ Student Profile (Grades & GPA. Awards & Achievements. Extra-Curricular Activities)   | MIS and Library Management System  |
|           | No | Yes | View Course Details. View Current Semester Time Table. View Academic Calendar. View Student Attendance. View Exam Time Table. View Student Profile (Grades & GPA. Awards & Achievements. Extra-Curricular Activities)                                    |  |
|           | No | Yes | View Student Personal Details, View Course Details, view Current Semester Time Table. View/ Academic Calendar. View/ Student Attendance. View/ Exam Time Table. View/ Student Profile (Grades & GPA. Awards & Achievements. Extra-Curricular Activities) | Reminders about payments and Exam Dates & Assignment Dates                                 |
|           | No | Yes | View Course Details. View Current Semester Time Table. View Academic Calendar. View Student Attendance. View Exam Time Table. View Student Profile (Grades & GPA. Awards & Achievements, Extra-Curricular Activity)                                      | Can you connect IMS and Mi\$ both and we like to get notifications on assignment deadlines |

### 5.0 Finding of the survey

The objective of the findings analysis is to summarise and interpret the survey outcomes in a way that relates to the the research objectives.

#### 5.1 Findings of the Questionnaire

##### a) Students' responses concerning SMS development

The results of the survey are shown in Figures 5 - 7.

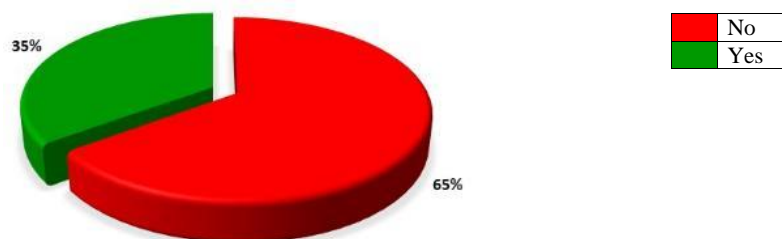


Figure 5 - Responses to Question 1: Have you ever used a Student Management System

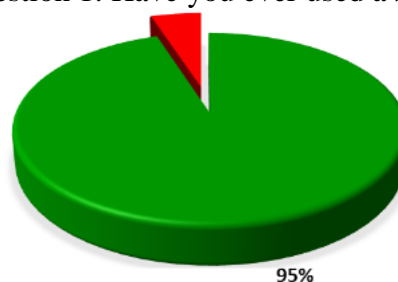


Figure 6 - Responses to Question 2: Do you think it is necessary to implement a Student Management System?

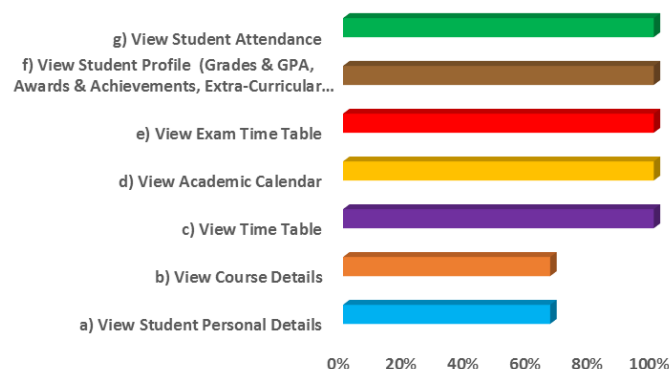
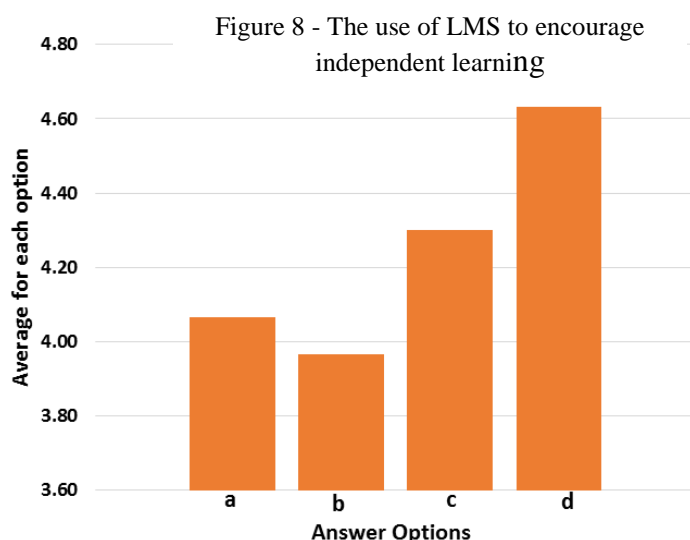


Figure 7 - Responses to Question 3: Select which functionality you are expecting through the Student Management System

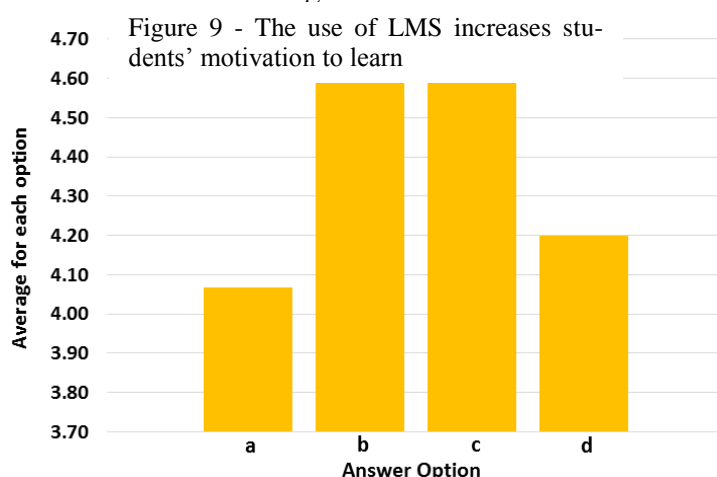


Most of students expected the following features/functions (other than the ones mentioned in the questionnaire) from the new SMS:

- to receive Reminders and Notifications via SMS or email about special notices and events related to their academic matters (examination dates, assignment deadlines, etc.)
- to integrate Student Management System (SMS), Learning Management System (LMS) and Library Management System.

#### b) Students' responses concerning the use of LMS

The students of IT faculty were surveyed on whether the 'use of Moodle encouraged independent learning' and the 'use of LMS increased students' motivation to learn'. The survey outcomes are illustrated in figures 8 -9 as follows.



According to the survey outcomes, the average of 4.63 indicated that the use of LMS encouraged them to talk to other students about the work. The average of 4.07 and 3.97 respectively indicated that they had an opportunity to learn using LMS at the time, place and pace to suit and encourage them to learn independently and in the way in which subjects/courses are set up to encourage students to learn independently. The average of 4.30 agreed LMS are mainly for information purpose and generally for their subject resources.

purpose and generally for their subject resources.

Figure 9 depicts the survey outcome of the use of LMS in terms of the increase of students' motivation to learn. The opportunity to be in control of student's learning via Moodle and learn at the time, place and pace individually adjusted, increased students' motivation to learn and amounted to the average of 4.07. The most of the students' motivation to learn is the variety of course tools including resources, PowerPoints, quizzes, hyperlinks, news feeds, and forums, available on LMS as the average of 4.63. The average of 4.60 indicated the variety of formats available on LMS, for example, text, images, audio clips, podcasts used in the educational process increased students' learning motivation. Feedback obtained as a result of activities. For example, LMS-based assignments and quizzes increased students' motivation to learn and amounted to the average of 4.20.

## 5.2 Findings of the interviews

### a) Staff responses concerning SMS introduction

According to the findings, the identified issues/problems of the current/manual system are listed as follows:

- There is no or little information and communication sharing among the Finance Division, the Registrar's Office and the Academic Coordinators of the Faculty;
- It is difficult to maintain students' Data (exam results, personal details, payment details)
- It is difficult to monitor student attendance;
- There is no proper mechanism to send notifications to students regarding the delayed payments, academic results and other issues.



Most stakeholders of the current system expect the following features/functions from a new SMS.

- to integrate finance and marketing divisions, a registrar's office, coordinators and faculties;
- to send notifications to students regarding delayed payments, academic results, assignment reminders and other issues sent using email or SMS within a system;
- to monitor student attendance in a course, in a group, in a semester, on a daily, monthly or annual basis;
- to monitor student academic results, awards and achievements and extra-curricular activities;
- to view lecture timetables, academic calendars and exam timetables;
- to compile a customized report

#### **b) Staff responses on DSpace (Electronic repository for Research Publications)**

The academic staff of the Horizon Campus are very much interested in doing research, and the college administration is always encouraging them to do research as it is helpful to gain new knowledge in the course they teach. Many research articles, research papers, conference proceedings are published by the academic staff. It was important to make these publications available from one location.

Therefore, DSpace (an open source software of choice for academic, non-profit, and commercial organizations building open digital repositories) has been introduced.

### **6.0 Data analysis**

#### **6.1 Analysis of Secondary Data**

##### **a) LMS log/activity reports**

Horizon Campus introduced LMS in September 2014. The teaching staff and students of IT faculty extensively use LMS in the teaching and learning process. The graph below illustrates the use of LMS at the faculty of IT from 2014 to 2016.

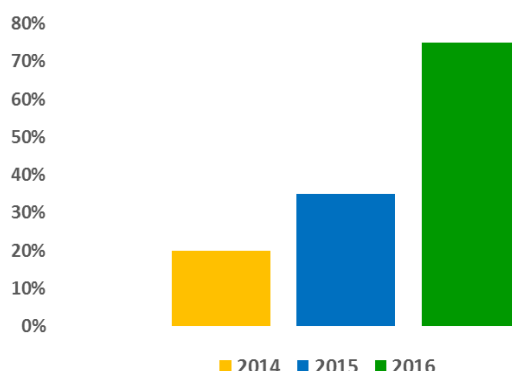


Figure 10 - Log/Activity report summary of using LMS at the faculty of IT

##### **b) Student Performance**

Students' pass rate at the faculty of IT has significantly increased from 2014 to 2016 (Figure 11).

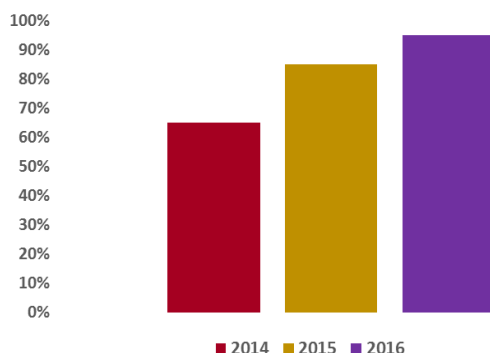


Figure 11 – Students' pass rate at the faculty of IT

##### **c) Operational Cost for providing teaching and learning resources**

Due to implementation of LMS, the operational cost of teaching and learning resources has been considerably decreased. The following figure illustrates a significant decline of annual operational costs for providing teaching and learning resources.

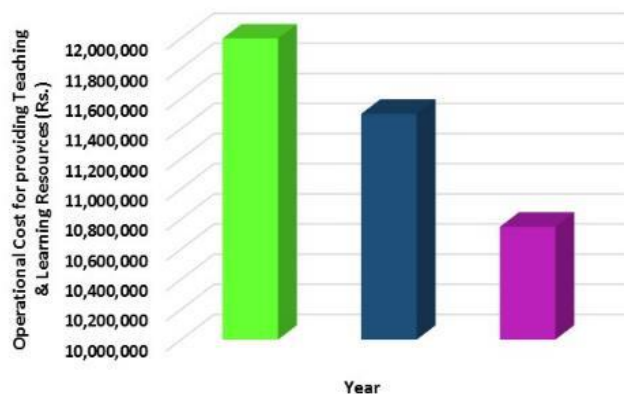


Figure 12 – Operational Cost for providing Teaching and Learning Resources after implementing LMS

#### **d) Repository of Research Publications**

The Webometrics Ranking of World Universities, also known as Ranking Web of Universities, is a ranking system for the world's universities based on a composite indicator that takes into account both the volume of the Web contents (number of web pages and files) and the visibility and impact of these web publications.

At present, DSpace of Horizon Campus contains a large number of research papers, conference papers, research articles and etc. DSpace was introduced at the Horizon Campus at the end of 2015. As a result Horizon Campus was ranked in 41<sup>st</sup> position of Sri Lankan Universities according to the latest result of Webometrics (<http://www.webometrics.info/en/Asia/Sri%20Lanka>).

#### **7.0 Conclusion**

It is clear that there is a relationship between eLearning Platform (LMS) and Improving Quality of the Institution. When comparing figures 10 and 11, it is evident that the pass rate of students increased after introducing LMS. Working efficiency and effectiveness is one of the key indicators of the measuring quality. eLearning platforms, considerable facilitate the educational process as it is an student-friendly and efficient mechanism for implementing learner centered teaching and learning. By analyzing the information listed in section 5, we assumed that there is a positive impact of QIS in relation to eLearning application (LMS), web based Student Management System (SMS) and Electronic repository for research publications (DSpace) and the quality of the institute.

Cloud-based system provides uninterrupted e-learning facilities to students simultaneously hosting all other IT related services such as DSpace, SMS, library management, etc. Cloud based implementation installed and configured with an open source operating system and the application software, proves cost efficiency of approximately USD 170 per month. By comparing figures 1 and 2, it is clear that as a result of LMS implementation there is a significant reduction of operational costs related to educational resources.

Horizon Campus has implemented LMS, DSpace and SMS (still to be implemented). Students and teachers use the website links. Hence, QIS provides effective and efficient services to the stakeholders via the common platform.

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