

Ten dimensional Quality Assurance model for Open and Distance Learning

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Abstract

The purpose of this study was to develop a Quality Assurance (QA) model for Open and Distance Learning (ODL) to improve the higher educational outcomes via distance education (DE) approach in Nepalese context. This study does have two major objectives (1) to investigate the major hurdles of higher educational system and (2) to develop and validate a set of QA dimensions and Standards for ODL to improve the higher education in Nepal. Empirical literature review including previous research, national and international reports regarding higher education of Nepal, had studied to investigate the major hurdles. Quantitative research was performed designing the online survey to develop and validate a set of QA dimensions and standards. Descriptive and Inferential statistical data's were analyzed using SPSS. The study suggested a ten- dimensional QA model with 66 standards.

Keywords: Open and Distance Learning; Higher Education; Quality Assurance; QA dimensions and standards; Quantitative research.

Introduction

Background of the Study

The increased demand for higher education level in Nepal indicates the need for addressing the quality higher educational institutions (Trihhuwan University, 2013). Nepalese society is very much conscious about the quality of higher education. But, the insufficient education budgets from government and difficulties with geographical structure like high mountains are major problems (Asian Development Outlook, 2013). That's why an alternative approach should be applied to enhance the higher education of Nepal. In this case, ODL could be an alternative approach. Even though Nepal does have few ODL institutions, but there it still lacking trust in ODL in higher education community. Hence, a formal QA model including appropriate QA standards need to be studied and prepared before its wider implementation.

Indeed, the quality of programs and degrees awarded by ODL institutions is indicated as one of the controversial issues. However, evidences show that these quality issues can be reduced by providing and implanting the set of QA standards for ODL through accredited QA agencies or professional ODL associations. One example can be found in the case of The Open University of UK (OUUK), one of the best known universities in UK for the quality of teaching. OUUK applies the asset of rigorous QA standards offered by "The UK Quality Code for Higher Education."

Purpose of the Study and Research Questions

The purpose of this paper is to investigate the major hurdles of higher education and to develop & validate a set of QA dimensions and standards to develop solid QA model for ODL, to enhance the higher education in Nepal.

Following research questions were examined.

1. What are the major hurdles of higher education in Nepal?
2. What are the important QA dimensions and standards for ODL?

Literature review

Higher Education

Higher education began with the establishment of the first institution named, Tri Chandra College in 1919 which was first affiliated with Calcutta University, then with the Patna University of India (Tribhuvan University, 2012). Tribhuvan University (TU) was established in 1959, which is still, the main contributor covering 86.1 % (382927 in numbers) of the students enrolled in the country (UGC, 2013). In 2011/2012, altogether 444994 students were enrolled in higher education at various levels (Bachelors to doctorate level) of different universities of Nepal (UGC, 2013).

According to the annual report published by the University Grants Commission (UGC) in 2013, country comprises of six Universities, and three institutions of medical education (of

university level) as seen in Figure 1. Recently three new universities have been proposed which are not accredited yet (UGC, 2013). So today Nepal has nine fully accredited universities in total.

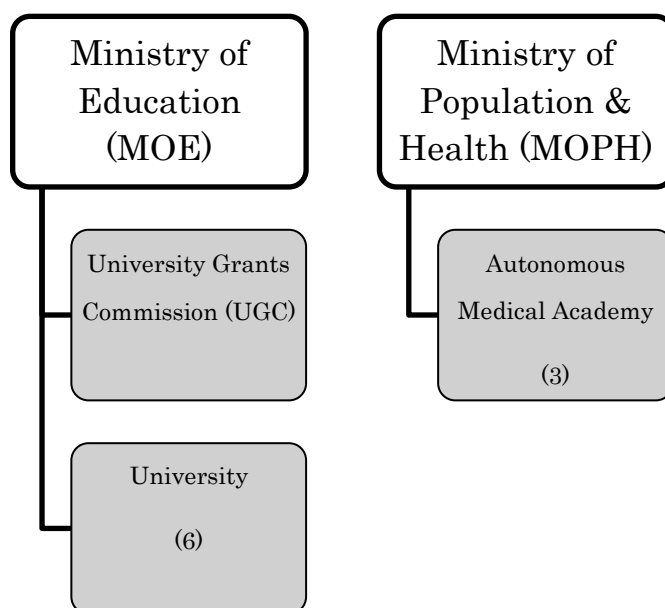


Figure 1. Organizational structure of higher Education of Nepal

Source: Report on Higher Education 2009/10, UGC 2012.

As seen in Figure 2, more than 800 campuses affiliated to those universities were existing in Nepal, providing conventional education. Additionally, there are over 20 medical colleges and hundreds of engineering colleges, most of which are all private. Compared with tuition fees at the public universities, these private colleges are very expensive, which makes it difficult for people from low- level social-economic class to enter.

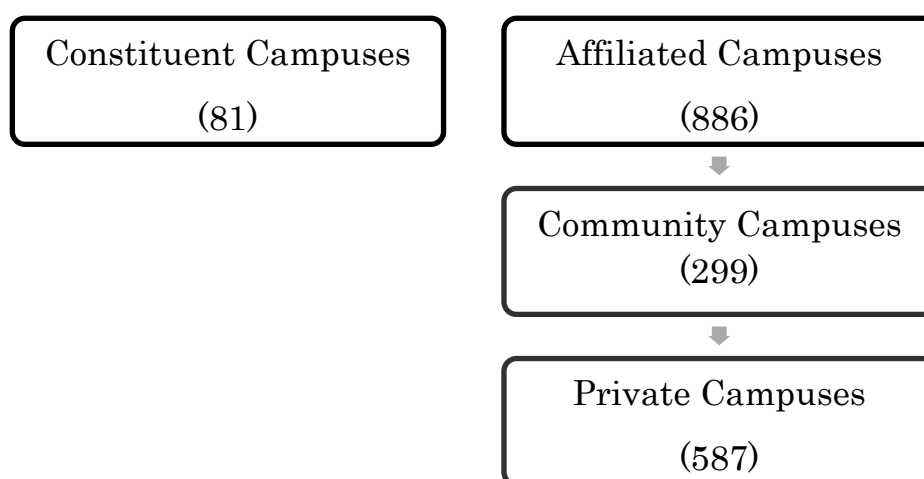


Figure 2. Numbers of campuses in Nepal

Source: Report on Higher Education 2009/10, UGC 2012.

Increased need for higher education in Nepal

According to UNESCO, “Gross Enrollment Ratio (GER)” is the total enrollment rate within a country specific level of education, regardless of age, expressed as a percentage of the population in the official age group corresponding to this level of education.

Although there is rapid growth in the number of available places in higher education, access is still very limited. According to the UGC (2012) only about 13.1% of the population enter higher education in Nepal (see Table 1), which is behind its neighboring country India, that has GER of around 19%. The proportion of Nepalese entering higher education is also seriously below the world average (24%) (Mok et al. 2013).

Table 1

Level-wise Higher Education Gross Enrollment Ratio (GER), 2009/10

Level	Bachelor	Master	Higher Education
GER (%)	17.7	5.9	13.1
Enrollment	310,277	65,632	375,859
Age Group Population	1,750,023	1,113,798	2,863,821
Age Group (Yrs.')	17-19	20-21	17-21

Source: Report on Higher Education 2009/10, UGC 2012.

Figure 3 shows that, enrollment rate among the three major regions of Nepal varies. Hills and Terai regions have enrollment rate as 62.2% and 34.9% respectively, whereas mountain regions have 2.9% due to its geographical structure.

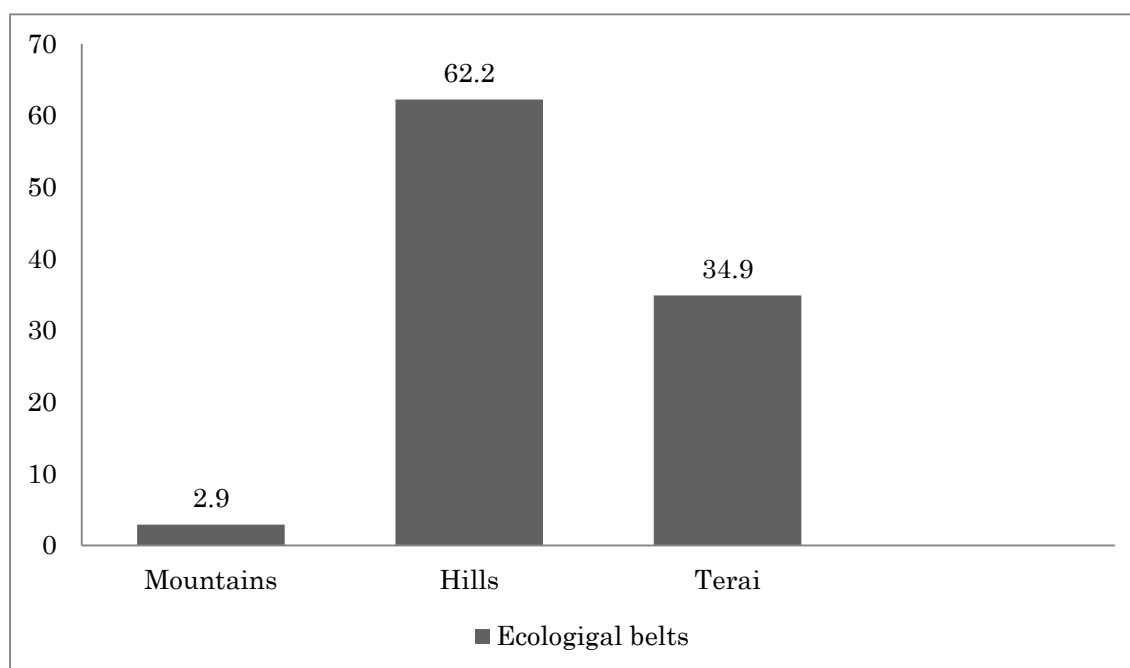


Figure 3. Distribution of total student enrollment in higher education across ecological belts

Source: Report on Higher Education 2009/10, UGC 2012.

Higher education in Nepal is far behind especially in terms of the number of institutions and enrollments compared with the neighboring countries like India and China which have been achieving significant developments over the past few decades. The 2011 annual report

published by UGC mentioned that, the countries do have 410,000 students enrolled at various levels (certificates to the doctoral degree) of study at all the universities and medical institutions at Nepal (UGC, 2012).

Even though there are increasing the number of universities and affiliated colleges, not all the high school graduates who wish to advance to higher education can enter a university or college. A number of reasons can be found for this problem where, lack of enough educational institutions (universities and campuses) around the country, limited capacity for admissions at public institutions and the geographical barrier. Also the highly expensive tuition fees at private institutions could be a major issue. Here we can say that, Nepal still needs more universities and colleges in the rural area.

Table 2 shows the budget allocation for higher education in Nepal. The data from 2005/06 to 2010/11 reflects that, budget allocation for higher education has decreased from 9.1% (2005/06) to 8.1% (2010/11). This scenario shows that, it will be very difficult to establish physical universities and colleges with those limited budgets. Hence ODL can play an important role to expand access to higher education and to gain the objectives of higher education published by government of Nepal.

Table: 2

Higher Education Budget as Percentage of National and Education Budget (%),

2005/06-2010/11

Year	As % of National Budget	As% of Education Budget
2005/06	1.5	9.1
2006/07	1.4	8.9
2007/08	1.4	8.1
2008/09	1.3	7.9
2009/10	1.3	7.9
2010/11	1.5	8.1

Source: UGC, Report on Higher Education 2010/11 (NEPAL).

Even though Nepal has been receiving significant amount of financial support from international organizations such as: World Bank (WB), Asian Development Bank (ADB), Japan International Cooperation Agency (JICA), United Nations (UN) and others for development of primary, secondary and higher education, this trend of budget decrease in the higher education sector is not likely to change in the near future. This implies that Nepal needs to consider seriously meeting increased demand for higher education via approaches from traditional ways. Open and distance learning (ODL) is one of those approaches.

Open and Distance Learning

ODL is often defined as an alternative way of education for those who were physically and/or geographically unfit to have a conventional or face-to-face education. The use of printed materials and electronic media like: radio, computers etc. enable students to pursue

their education without attending any face-to-face class.

According to the COL (2000) ODL do have some characteristics such as, “separation of teacher and learner,” “institutional accreditation,” “use of mix-media courseware,” “two-way communication,” “possibility of face to face meetings for tutorials” and “use of industrialized process” (p.2).

These days it includes e-learning. Clark and Mayer (2008) define “e-learning as instruction delivered on a computer by way of CD-ROM, Internet, or intranet” (p.10) with the features like; including contents relevant to the learning objectives, using different instructional strategies to help learners, using appropriate materials containing both word and pictures/graphics, designing asynchronous learning materials, building new knowledge and skills as per demand of learners. ODL is also referred as to as Internet-based distance learning, computer based training (CBT), web-based instruction (WBI), or online learning.

ODL in Nepal

ODL had been using for more than 55 years in Nepal. There are different plans and policies implemented by MOE for ODL to provide certified programs and degrees to school level and higher education too. The government of Nepal has few national organizations which have been discussed below:

National Center for Educational Development (NCED) was established in 1993 along with

the nine teacher training centers (TTCs) in various part of the country. NCED has a "Distance education and Open Learning Division" consisting of three sub-sections as Open Learning Training section, Program Production & Broadcasting section and Material development Section. The main objective of those sections is to provide "management training" and "teacher training" through ODL.

The history of Non-formal Education (NFE) was started in 1951 with the establishment of "Adult Education Section" under MOE. Later on, in 1999 this center came into existence with the expanded concept of NFE for the overall development and implementation of the programs. NFE has many programs like Flexible Schooling program (FSP), Income generating program (IGP), Open Schooling Program for Grade 6-8 etc. Few of these programs adopt an ODL approach.

"Open Schooling Program for grade 6-8" is an alternative mode of education for lower secondary school up to grade 8 targeting adults from 15 years and above.

According to the Ghimire (2006), ODL started in Nepal via radio program. Since 1973, radio program based curriculum and study materials were also developed and broadcasted from radio to train primary school teachers.

Quality assurance in ODL

QA is the systematic review of educational programs to ensure the acceptable standards of

education, scholarship and infrastructure are being maintained (UNESCO, 2012). In general, QA is a process to maintain and evaluate the quality of education provided by institutions. QA process for each and every university and ODL institutions is differing, depending upon their rules and regulation. That's why QA can be defined as the process oriented. QA is the set of activities that ODL institutions undertake to ensure that standards are specified and reached consistently for a service. QA involves proactive measures taken to remove faults while quality control (QC) involves reactive measures taken to remove faults and assessment of quality management – internal and external will be a combined mechanism of quality assurance, quality control and continuous monitoring and evaluation (Menon, 2004).

Ehlers (2013) states that, in order for ODL to prove that quality of education exists teaching standards have to be at least equivalent to that of face-to-face teaching. Hence a comprehensive QA system can help accomplish this.

ODL adopts different approaches to QA according to the government structures, cultural contexts, educational policies and other circumstances. Jung et al. (2011) found that, Asian ODL (including open universities) adopts three approaches to QA as:

- 1) ODL is considering as the integral part of higher education and thus apply same QA procedures and criteria for both conventional and ODL institutions. Countries like: Indonesia, Philippines, Sri Lanka, Malaysia, Hong Kong and Singapore were following this approach.

- 2) ODL is considering as a distinctive feature and thus applies different QA procedures and criteria. Countries like: China, India and Korea following this approach.
- 3) QA procedures and criteria have yet to determine and in the process of developing. Countries like: Japan and Mongolia following this approach.

Methodology

This study does have two major research questions to achieve the objectives. To answer the Research question 1, relevant literature review including previous research journals from online database, government Flash report published by Ministry of Education, EMIS report from UGC, articles published by United Nations were studied. Similarly, to answer the Research question 2, online survey had been conducted with the three major stakeholders (learners, instructors and management staff of ODL/ QAA committees of UGC). Descriptive analysis was used to calculate mean, and standard deviation value and t-test, ANOVA and post-Hoc tests were used to compare the importance of QA dimensions and standards among different groups as “full-time worker vs. Part-time worker,” “males vs. Females,” “age groups.” To develop a QA model, this paper first developed a set of QA dimensions and standards that were carried out following three stages (see figure 4).

Development stage

A number of QA dimensions and standards were developed based on the review of relevant

literature, QA frameworks of international QA agencies and QA standards of Asian Association of Open Universities (AAOU). These initial dimensions and standards were reviewed by expert, and developed as an online survey. In the online survey, some more items asking demographic information and experience of the subjects were added to the QA dimensions and standards. Then all the survey items were pilot tested with a small number of selected colleagues of Nepal and Japan. The final survey was reviewed and approved by the “Research Ethics Committee” of International Christian University (ICU) to ensure ethical treatments of the survey participants.

Verification stage

To verify the initial set of QA dimensions and standards, the online survey was conducted with three groups of key stakeholders in ODL in Nepal. Three groups included learners, instructors at ODL institutions (ICA and KUSOED) and management staff at the ODL institutions (ICA and KUSOED) and the QAA committee of UGC.

Elaboration stage

Based upon the results obtained from the survey and the interviews, the QA dimensions and standards were refined and elaborated.

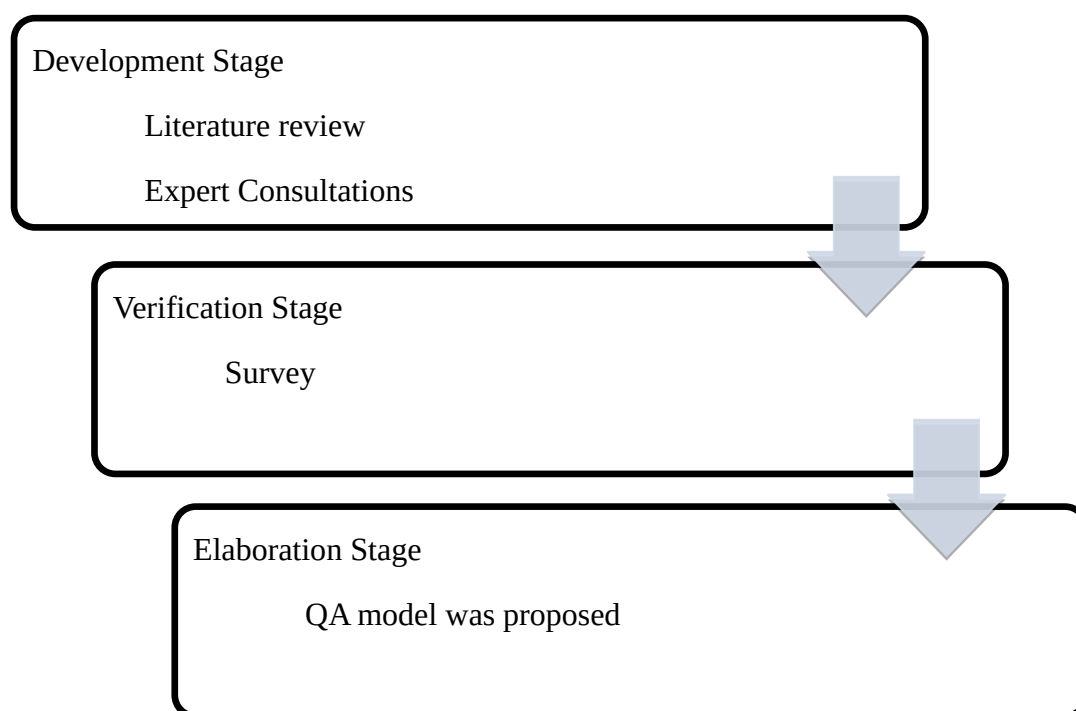


Figure 4. Various stages to develop QA dimensions and standards

Survey Development

The online survey questionnaire had two parts: Part I consisting of two open and nine closed-ended questions to understand demographic characteristics of participants and their background; and Part II consisting of 73 like scale items asking for the importance of QA standards, and two open questions asking additional comments.

Participants

All the participants were from ICA, KUSOED and UGC. Both ICA and KUSOED were reputed ODL institution in Nepal which is authorized by Ministry of Education, Nepal and affiliated by Indira Gandhi National Open University(IGNOU)and Kathmandu University

(KU) respectively. In fact, this study had included learners and instructors from ICA and KUSOED whereas QA committees were from Quality Assurance and Accreditation (QAA) department of UGC.

In total, 129 participants completed the online survey. The majority of participants were males (61%). Most of the participants are between the ages of 31-40 (49%), followed by those in 21-30 age ranges (23%), 41-50 years (21%) and 51-60 years (7%). In terms of religion, most of the participants were Hindu (67%), followed by Buddhist (29%) Christian (2%) and Islam (2%). Similarly, most of the participants were full-time worker (64%), followed by both study& work (19%), part-time worker (9%) and full-time student (8%). Among 129 participants. 98% were Nepalese and 2% were Indian.

Findings

Hurdles of Higher Education in Nepal

Although, Nepal has an increasing number of schools and colleges (mainly within urban areas), it is still suffering from a lack of physical schools and colleges in rural and mountainous regions. Following reasons can explain this situation: lack of governmental budget, unique landscape of the country, and low level of awareness of the value of education.

Another barrier is excessive summer rainfall, floods, landslides, strong winds as indicated by

the United Nations Field Coordination Office (UNFCO) as the major issues that cause great problems for conducting physical schools and colleges in local areas.

Yet another important factor hindering the development of education is the high rate of conflict among political parties including strikes, involving students into those strikes (Aryal, 2013) and lack of general awareness toward education (Valente, 2013).

Important Quality Assurance Dimensions

The key QA dimensions for ODL were initially developed at the “Development stage”. For verification of those QA dimensions, online survey was done with three key stakeholders (learners, instructors and management staff of ODL/QAA committee of UGC). To determine the important QA dimensions, the mean values of those ten dimensions were calculated and compared.

Table 3 shows all the mean values of ten dimensions, among which dimension (q3: “Design of self-learning materials”) do have the highest mean value (4.27) followed by dimension 4 (q5: “Infrastructure, Media and Learning resources” = 4.18) and dimension 4 (q4: “Student support” = 4.17). Since, the mean value of the entire dimension, which was all above 4, indicates that, all the dimensions seem to be important in the context of Nepal.

Table: 3

Mean of 10 QA Dimensions (1 being least important; 5 being most important)

	d1.me an	d2.me an	d3.me an	d4.me an	d5.me an	d6.me an	d7.me an	d8.me an	d9.me an	d10.me an
Valid N	129	129	129	129	129	129	129	129	129	129
Missing	0	0	0	0	0	0	0	0	0	0
Mean	4.02	4.03	4.27	4.17	4.18	4.12	4.12	4.05	4.07	4.07
Std. Deviation	.433	.448	.494	.448	.381	.369	.416	.425	.455	.449

(d1: Mission, policy and plans, d2: Planning and the development of academic programs/courses, d3: Design of self-learning materials, d4: Student Support, d5: Infrastructure, Media and Learning resources, d6: Assessment and Evaluation, d7: Admission and Information, d8: Research and community services, d9: Faculty and staff, d10: Management and Administration)

Key QA Dimensions for ODL

This study shows that, the ten QA dimensions which were developed at the “Development stage” are important. Since the mean values of all the dimensions were above 4 (N=129), all ten dimensions can be considered as key QA dimensions for ODL in the context of Nepal.

Among the ten QA dimensions, “Design of Self-learning Materials,” “Infrastructure, Media and Learning Resources”, and “Student Support” appear to be the most important areas to

measure the quality of ODL. These findings also concur with Jung and Latchem (2012) whereby the author found that “Student support” and “Infrastructure” are two major dimensions (among ten) to provide quality of education via ODL. Similarly Wang (2006) and Tait (2000) also found that “Student Support” allows the learner to have a quality of education and Melton (2002) suggests that “Design of self-learning materials” and “Student Support” are important.

In particular, unlike other studies conducted in Western contexts, this study revealed that in Nepal “self-learning materials” are considered more important than interactivity in ODL. This finding is closely related to Nepalese concept of quality learning because most of the ODL learners were full-time employees and they prefer self-learning materials. Rowntree (1994) had also concluded that “self-learning materials could carry out all the functions a teacher would carry out in a conventional situation like: guiding, motivating, expounding, explaining, provoking, reminding, asking questions, discussions alternative answers, appraising each learners progress and so on.

Presently, Nepal does have increasing number of internet users as 11.1% and mobile users as 65.65% (THE, 2014). The QA dimension named “Infrastructure, Media and Learning Resources” is directly proportional to an internet and mobile phone usages in Nepal. This implies that, advanced technology has been implementing in Nepal.

QA Standards for ODL

This study developed 73 QA standards that seem to be important in measuring the quality of ODL in the context of Nepal. The results of an online survey show that the mean value score of most of the QA standards were above four except two standards (“Policies to realize visions and missions” and “Defining goals and objectives which are realistic and measurable”). This result can be explained by the fact that Nepal already has ODL policies, agendas and strategies. Respondents seem to have felt that these two QA standards are less important in Nepal compared with other QA standards.

The three most important QA standards were “Self-learning materials could be in the form of print, audio, video, CD/DVD, web-based, or computer-based”, “Teaching Tutor assistant system”, and “Website, reliable technology & back-up system”. This result is similar with Melton (2002) and Wang (2006) whereby they found that study materials and student support is important for ODL. Siriginidi (2006) strongly suggests that “digital library support” needs to be developed for quality education. But the QA standard, “Teaching Tutor assistant system” is found to be unique in the context of Nepal. This can be explained by learning culture in Nepal where even ODL learners want to have teaching tutor assistants to receive immediate feedback for any kind of assignments or questions.

In addition, “SMS alert system” appears to be very important in assuring the quality of ODL in Nepal. This can be explained by the fact that Nepal has an increasing number of mobile

users who wish to get useful messages via their mobile.

The analyses of open responses reveal that to assure the quality of ODL, it is important to minimize mistakes in learning materials and regularly update them. For example, one participant said:

“Most of the ODL’s study materials are lower in quality with many printing mistakes, low-quality paper, unnecessary use of many language and words, unattractive pictures, graphs, figures.”

Another participant also expressed: *“Indeed, most of the ODL learners were busy. Hence, materials should be fair, nice, attractive, and easy to understand by language, photos, figures, charts and so forth including typical examples and case studies with interesting language like novel.”*

Yet another participant argued that if good learning materials were provided,

“Learners could learn fast without unnecessary extra effort.”

Based on the above responses, most of the participants want to have an updated “self-instructed learning material” which is easy to understand, guiding, motivating with attractive pictures and interesting case studies. It includes learning objectives, tests of prior knowledge, advance organizers, activities, feedback to activities, examples, self-tests, summaries and list of key points, study tips and others.

Ten dimensional QA model

As shown in figure 5, the QA model has been designed based on the statistical findings, comparisons among different groups (age groups, gender, and full-time worker vs. part time worker) and discussions. Those ten dimensions are the same as proposed in the development stage. However, the ten-dimensional QA model divides the QA standards into two categories: “Key standards” and “Advanced standards” (see table 4). The main purpose of this categorization is to help ODL institutions or ODL providers to select appropriate depending on the nature and scale of their ODL services.

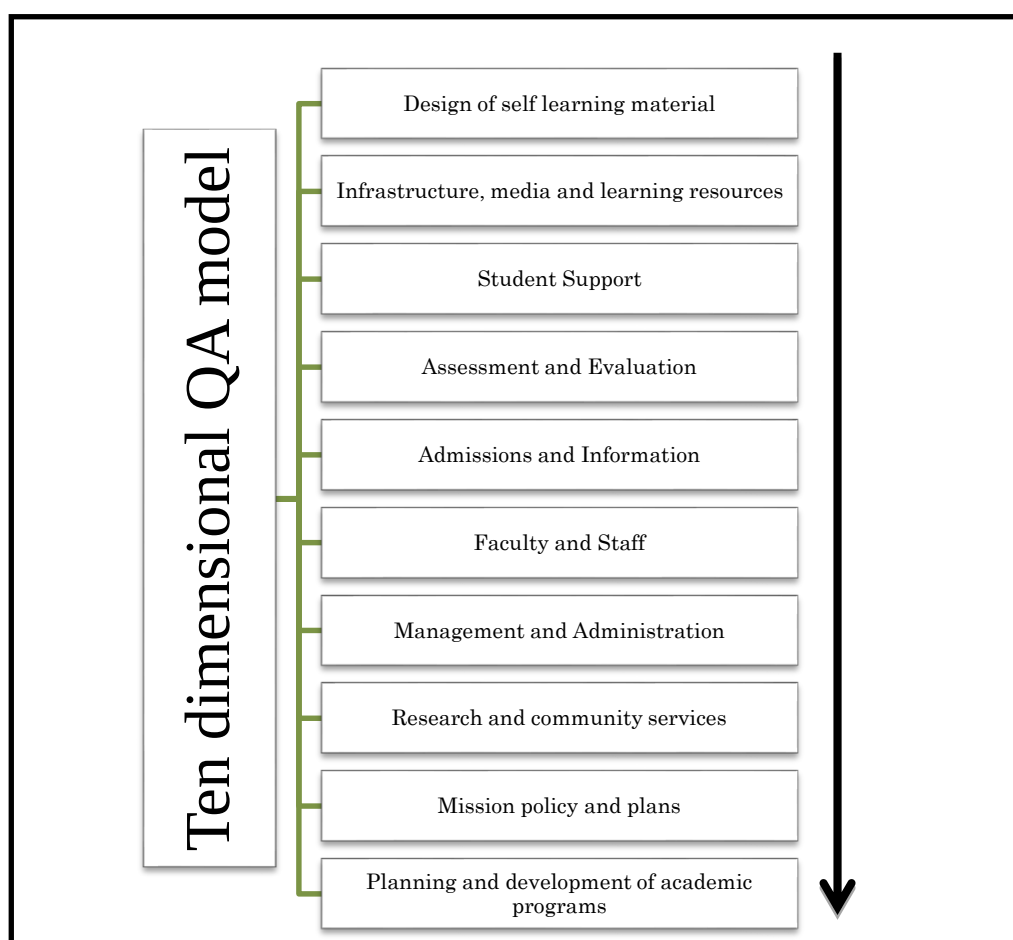


Figure 5. Ten dimensional QA model

Based on the aforementioned findings and discussions, this section lists a set of elaborated 66 QA standards across the ten QA dimensions. The initial ten QA dimensions are kept in this list as all dimensions appear to be more or less important for QA in ODL. However, from the initial 73 QA standards, “Well-defined policies to realize visions and missions” and “Well defined goal and objectives which are realistic and measurable” were deleted from the dimension 9 (Mission, policy and plans) because both of the QA standards had a mean value less than 4. QA standard “details schedules for counseling services need to be provided” is deleted from dimension 1 (Design of self-learning materials) but combined with “counseling service system” of dimension 3 (student support).

The QA dimensions and standards are listed in order of importance as shown in Table 4.

(From higher mean scores to lower mean scores)

Table: 4

Ten dimensional QA model with QA Dimensions and Standards

1) Dimension: Design of self-learning material	
<i>Key Standards</i>	<i>Advanced Standards</i>
1) Quality Self-learning materials (print, audio, video, CD/DVD, web-based, computer-based).	1) Low-cost story book.
2) Providing important guidelines including how to study, assignments and exams.	
2) Dimension: Infrastructure, Media and Learning resources.	
<i>Key Standards</i>	<i>Advanced Standards</i>
1) Institutions/OU should have its own website.	1) Well documented
2) Reliable technology infrastructure.	security measures like:

- | | |
|---|---|
| 3) Availability of past question paper. | password protection.
Back-up system. |
| | 2) SMS alert system for instant. |

3) Dimension: Student Support

Key Standards

- 1) Online database support
- 2) Interacting teaching and learning strategies.
- 3) Emergency support system.
- 4) Online counseling service system.
- 5) Independent digital library support
- 6) Questionnaires support

Advanced Standards

- 1) Tutor/Teaching assistant support system
- 2) Student's complaints procedure
- 3) Merit-based/Need-based scholarship support system.
- 4) Policies and guidelines for funding.
- 5) Technical training for students to use Learning management system.
- 6) 365/24/7 support system

4) Dimension: Assessment and Evaluation.

Key Standards

- 1) Use of data on enrollment, costs, and successful/ innovative uses of technology in course/ program development/ evaluation.
- 2) Periodic student evaluation of teaching and learning.
- 3) Fair management of assignments.
- 4) Appropriateness of learning and guidance and facilitation.
- 5) Evaluation of graduates and employers satisfaction levels.
- 6) Formative as well as summative assessment of student's achievements.

Advanced Standards

- 1) Quality class management.
- 2) Fair management of attendance.
- 3) Review of opinions from external stakeholders such as alumni, government, parents and employers.
- 4) Periodic institutional review of lecturers/ tutors performance.

5) Dimension: Admission and Information.

Key Standards

- 1) Transparency admission policies.

Advanced Standards

- 1) Transparency

- | | |
|---|------------------------------------|
| 2) Transparency information about course materials and exam patterns.
3) Transparency information about national and international accreditation.
4) Policies for national and international. | information about credit transfer. |
|---|------------------------------------|

6) Dimension: Faculty and Staff

Key Standards

- 1) Periodic and on-demand training for faculty/tutors/staff.
- 2) Clearly defined performance standards for the various jobs.
- 3) Policy and procedures for faculty/tutor/staff selection.

Advanced Standards

- 1) Continuous assistance for faculty/ tutors/staff in course development, delivery and management.
- 2) Provide career development training.
- 3) Reward system for academic as well as non-academic staff.

7) Dimension: Management and Administration.

Key Standards

- 1) Efficient management of various committees.
- 2) Clear decision-making process.
- 3) Strong leadership of the president and top managers.
- 4) Adequate strategic plan.
- 5) Periodic evaluation of progress of organizational development.
- 6) Clear accounting system.

Advanced Standards

8) Dimension: Research and community services.

Key Standards

- 1) Providing necessary time and financial resources.
- 2) Encourage qualified staff members on researching ODL methodologies and technologies.
- 3) Contribute for the social welfare of the nation.
- 4) Participation in national and international conference.

Advanced Standards

- 1) Clearly defined policies and guidelines for research activities.
- 2) Research units with qualified researchers.
- 3) Encourage for using

research result into practical use.

- 4) Rewards system for qualified researcher.

9) Dimension: Mission, policy and plans.

Key Standards

- 1) Well-designed monitoring and evaluation system for the implementation of policies and plans.
- 2) Operational plans to conduct all the programs.
- 3) Well-defined visions and missions of Open and distance learning institutions/Open University.
- 4) Well-defined strategic plans for specific objectives and goals.
- 5) Explicit statement of commitment to the provision of service of its students.

Advanced Standards

10) Dimension: Planning and the development of academic programs/courses.

Key Standards

- 1) Clear guidelines for curriculum development.
- 2) Consult with the educationalist for development of course.
- 3) Evaluates its curriculum regularly.
- 4) Based on assessments of learners specific needs.

Advanced Standards

- 1) Meets all the standards and criteria of professional councils.
 - 2) Consideration of capable students for the development of course.
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Conclusion

Quality education via ODL can be provided by adopting a set of appropriate QA model.

ODL institutions need to adopt an appropriate QA dimensions and standards in accordance with the nature and necessity of their courses and demands, available resources and characteristics of learners.

The ten-dimensional QA model with 66 standards proposed in this study could be significant for the development of higher education in Nepal via ODL.

Practical contribution

This study offers several implications for ODL learners, instructors, management staff of ODL, and policy makers.

First, the concerned policy maker agency can use the developed QA model while developing a QA framework for ODL in Nepal. The study could contribute to an increased awareness towards the importance of QA standards for ODL across different groups of participants including developing countries like Nepal.

Second, the QA standards suggested in this paper would be profitable for national and international ODL institute conducting ODL courses in Nepal.

Third, a set of QA standards across ten dimensions would be profitable for the Open University of Nepal to provide a quality education by establishing a QA framework for OUN.

Limitations and further research

While the study holds promising prospects and offers useful implications for the key stakeholders (learners, instructors and management staff of ODL/QAA committees of UGC) for ODL in Nepal as discussed above, its findings need to be interpreted with caution and still

requires further studies to authenticate as its application varies considerably and with different educational goals due to some limitations below.

First, this study included only a limited number of the QA frameworks developed by QA agencies in different regions. Thus, further studies which include other important QA documents, especially developed in those countries similar to Nepal such as key performance indicator for ODL are needed. Additionally, further research should be performed to investigate the effectiveness of the different QA framework followed by different ODL institutions/OU, which could be used in Nepal after modifying that framework.

Second, even though there are a number of ODL learners, instructors and management staff of ODL/QAA committees of UGC, this study was only able to have a limited number of participants (N=129). Hence, there is a need for future studies with more participants, especially instructors and management staff. Even though, there is an increasing number of internet and mobile users but most of them were either in the infant stage or limited to certain professions/groups. Therefore, paper-pencil based survey need to be considered with “online survey” for data collection source for the context of Nepal.

Fourth, the developed QA standards were focused on higher education. Even though there are few governmental and international (project based) ODL programs offering for primary and lower secondary levels, the suggested QA standards need to be reformed before its implementation.

Fifth, the development of “designing of self-learning materials” seems to be at infant stages, so research need to be done in “Open Educational resources” in Nepalese context.

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References

ADB (2013). Asian Development Outlook, 2013

Aryal, M. (2013, Jul 09). NEPAL: SCORING LOW ON QUALITY EDUCATION. *Global Information Network*. Retrieved from <http://search.proquest.com/docview/1399169143?accountid=10105>

Clark, R. C., & Mayer, R. E. (2008). E-learning and the science of instruction: Proven guidelines for.

COL (2000). An Introduction to Open and Distance Learning. Retrieved from <http://www.col.org/SiteCollectionDocuments/ODLIntro.pdf>. P.2

Ehlers, U. D. (2013). Open and Community-Based Learning Ecologies: Peers and Networks. In *Open Learning Cultures* (pp. 103-121). Springer Berlin Heidelberg.

Ghimire, P. (2006, Aug). Open and Distance Learning Education/ Training. Paper presented on the Third ministerial Conference on Space Technology for Sustainable Development in Asia and Pacific, Bangkok. Retrieved from http://www.unescap.org/idd/events/2006_Eminent_Experts/Presentations/Ghimire-Nepalese%20perspective%20on%20open%20and%20distance%20learning%20education%20and%20training.pdf

Jung, I., Wong, T. M., Li, C., Baigaltugs, S., & Belawati, T. (2011). Quality assurance in Asian distance education: Diverse approaches and common culture. *The International Review of Research in open and distance learning*, 12(6), 63-83.

Jung, I., & Latchem, C. (2012). Quality assurance and accreditation in distance education and e-learning: Models, policies and research.

Menon M.B. (2004) Networking for Quality Assurance in Teacher Education by Open Distance Learning in Rama K. and Menon, M.B. *Innovations and Best practices in Quality Assurance for Teacher Education*, NAAC-COL, Bangalore.

Melton, R. F. (2002). *Planning and developing open and distance learning: A quality assurance approach. radiological studies in distance education* Radiological, 11 New Fetter Lane, London EC4P 4EE. Retrieved from <http://search.proquest.com/docview/62148644?accountid=10105>

- Mok, K. H., Yu, K. M., & Wu, A. M. (2013). 8 The internationalization of higher education in Malaysia and South Korea. *Internationalization of Higher Education in East Asia: Trends of Student Mobility and Impact on Education Governance*, 138.
- Rowntree, D. (1998). Assessing the quality of materials - based teaching and learning. *Open Learning*, 13(2), 12-22.
- Siriginidi, S. R. (2006). Distance education and the role of IT in india. *The Electronic Library*, 24(2), 225-236. doi:<http://dx.doi.org/10.1108/02640470610660396>
- Tait, A. (2000). Planning student support for open and distance learning. *Open learning*, 15(3), 287-299.
- THE, H. T. (2014). "We want to have a global presence in the mobile and internet technology and we see nepal as the prominent market for mobile phones". *Himalayan Times*
Retrieved from <http://search.proquest.com/docview/1553725596?accountid=10105>
- TU (2012). TU Today Annual Publication. Kathmandu: The Author.
- TU (2013). TU Today Annual Publication. Kathmandu: The Author.
- UGC (2012). *Education Management Information System: Report on Higher Education 2010/2011*. Sanathimi, Bhaktapur: The Author.
- UGC (2013). *Education Management Information System: Report on Higher Education 2011/2012*. Sanathimi, Bhaktapur: The Author.
- UNESCO.(2012). *Quality Assurance*. Retrieved from <http://www.unesco.org/new/en/education/themes/strengthening-education-systems/higher-education/quality-assurance/>
- UNESCO. (2003). what is Open and Distance Learning (ODL)? Retrieved from http://portal.unesco.org/education/en/ev.php-URL_ID=22329&URL_DO=DO_TOPIC&URL_SECTION=201.html
- Valente, C. (2013). Education and civil conflict in Nepal. *The World Bank Economic Review*.

Wang, Q. (2006). Quality assurance - best practices for assessing online programs. *International Journal on E Learning*, 5(2), 265-274. Retrieved from <http://search.proquest.com/docview/210338562?accountid=10105>