An Exploratory Investigation into the Development of a Distance Education Provision Quality Index

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Abstract

Diminishing education budgets experienced by Sub- Saharan Africa (SAA) as a result of both the global economic slowdown and unabated demand for access to educational opportunities have combined to sustain growing interest in open and distance learning as an important and credible part of education delivery strategies at all levels. However, greater accountability is shifting the spotlight from access to quality of distance education. This paper reports on the results of an exploratory study of the quality of distance education provision of a sub- Saharan African medium size open and distance education institution. The main purpose of the study was to determine whether the major factors that contribute to effective delivery of distance education were in place. The study focussed on the quality of distance education by assessing perceptions of staff in six main quality areas, including course development, learner support, instructional support, teaching/learning experience, staff support, and assessment and evaluation, with a view to creating awareness and promoting commitment to quality at all levels of the institution. Data collected using a 5-point Likert scale questionnaire were analysed and the results used to develop a Distance Education Provision Quality Index (DEPQE) that assists in assessing the quality of distance education provision and determining challenges in the provision of quality distance education. In doing so, the study sought to raise awareness among administrators, academics, and learners of the importance of monitoring the quality of distance education and to motivate the incorporation of quality benchmarks into institutional policies, procedures and practices.

Keywords: ODL quality indicators, quality dimensions, quality index, quality measures, quality assessment

Introduction

Open and distance learning is now commonplace practice in the education sector where it is used in a myriad of contexts by just about everyone involved in education and training, including pre-tertiary education, higher education, governments, military, and corporate world because of its many benefits. Among the benefits that generally account for recent exponential growth in provision of distance learning are unparalleled potential to enhance access to education without necessarily building additional classroom space or bringing learners for on-campus instruction, unmatched capacity to extend educational opportunities to new learners, especially under-served groups and those previously excluded by conventional education systems, and the ability to reach out to learners in different geographic locations across varied jurisdictions and isolated settlements.

For these and other reasons, open and distance learning is used in different settings and for a variety of purposes, such as open schooling, higher education, teacher education and continuing professional education. For example, developing countries often utilised distance and open learning as a strategy to provide in-service training to large numbers of untrained and under-trained teachers. Several SSA countries, including Zimbabwe, South Africa and Botswana have turned to distance and open learning for a variety of reasons. Zimbabwe introduced a distance taught Zimbabwe Integrated National Teacher Education (ZINTEC) programme in 1980 to train large numbers of pre-service and untrained primary school teachers, in order to cope with large numbers of primary school children who flooded schools following the introduction of free and compulsory primary education at Independence. Similarly, South Africa also introduced in 1994 a primary school teacher upgrading National Diploma in Professional Education, following democratic elections that opened unprecedented access to primary education. On the other hand. Botswana introduced in 1999 an in-service open and distance education Diploma in Primary Education (DPE) programme for upgrading certificate holder primary school teachers.

Several governments also use open and distance learning at pre-tertiary level to provide educational opportunities to out-of-school youths and other school dropouts and to enhance the quality of conventional primary

and secondary schooling through TV and interactive radio instruction (IRI). The later model is being used with much success to improve the quality of primary education in several Southern African Development Community (SADC) countries, including Lesotho, South Africa and Botswana. Meanwhile, the success of open and distance learning at the secondary school level, where it is used mainly as a tool for increasing access, has resulted in the establishment of internationally reputable open schools in Botswana and Namibia.

Private sector participation in ODL is largely directed at retooling, multi-skilling, and upgrading workers' skills and also for keeping workers abreast of rapid changes in technology. Many large corporations find open and distance learning a cost-effective strategy for providing continuing professional upgrading programmes for employees, especially when they are geographically scattered across a country, region or globally. In large corporations, open and distance learning does not only bring employees within easy reach of in-house upgrading programmes, it also exposes them to a common curriculum that is consistent w ith company mores and ethics. Finally, at university level ODL increases access to higher education. Among SSA countries the main purpose for open and distance learning appears to be to "increase overall enrolments in tertiary education and to reach students unable to attend on-campus programmes because they live too far away from facilities or their working schedules do not permit them to attend regular classes" (Murphy *et al.,* 2002:11).

Apart from unmatched capacity to increase access to education and training opportunities, distance learning also presents unparalleled scope for transnational provision of education, where learners resident in countries different from the one where the awarding institution or provider is located can readily pursue a programme of study uninhibited by time and space. According to Mehrotra *et al.,* (2001 :ix), distance learning is not a thing of the future, but a current reality that creates opportunities and challenges for higher education institutions, while offering expanded choices to learners of where, when, how, and from whom they learn.

Since ODL instructional delivery relies on print materials and a range of technical media, distance teaching-learning resonates with education provision in contexts where the

instructor and learners are geographically separated. Given that successful learning can take place without the instructor and learners being in each other's physical presence, distance education has the potential to position itself as a 'global education' system in which learners in one country or continent can pursue programmes of study with institutions in foreign countries. However, this type of learning has implications for the need to develop a currency for quality of distance learning, which recognises common quality standards for distance education provision. This context presents legitimate concerns for academic standards, quality of delivery, and learning experiences, and protects the interests of the public, learners, employers and other stakeholders from unscrupulous and fly-by-night providers.

Therefore, the main purpose of this current study was not to spotlight the widely acknowledged competitive advantages, attractiveness and benefits of distance learning, such as cost-efficiency, access, flexibility, affordability, global presence, etc., but to investigate and explore the potential for developing a distance education provision quality index that could be used to guide the conceptualisation and implementation of distance learning.

Context of the Study

This study was undertaken within the context of a rapidly growing young distance education institution, out of a concern that exponential enrolment expansion and programme diversification might be achieved at the cost of the quality of programmes and services. The institution was established in 1999, with a mandate to promote and spearhead school equivalency and vocational open and distance learning programmes and deliver quality education and training to out-of-school youths and adults. Within the past five years, the institution has not only expanded the bouquet of offerings to include tertiary programmes, it has positioned itself for transformation into an open university.

The growth in the provision of tertiary programmes and the transformation drive into an open university are driven by several developments, including:

1. registration of the institution with the national tertiary education regulatory authority as a tertiary level ODL provider
2. the promulgation in 2008 of a national Tertiary Education Policy,

which explicitly identifies ODL as a strategic initiative for expanding the provision of tertiary education

3. adoption in 2008 of a 2008-2016 Institutional Roadmap and 2009-2012 Strategic Plan, which prioritise and fast-track the provision of tertiary programmes
4. collaboration with established local and international tertiary institutions for enhanced ODL capacity development towards accelerated provision of tertiary programmes, and, finally
5. comprehensive organisational review of the institution for enhanced capacity development in the provision of tertiary programmes towards transformation into an open university.

In the last few years, the institution has found itself operating in an environment where dynamic changes in population size and structure, emerging complex labour market skills requirements, increasing demand for tertiary education, and extant socio-economic developments have combined to create unrelenting appetite for tertiary level distance learning programmes. For this reason, the investigation sought to assure that institutional response to sustained national demand for tertiary programmes would be addressed without compromising the quality and standards of programmes and academic awards, thereby safeguard the confidence of the public, learners, and other stakeholders in the quality of distance education programmes and qualifications of the institution. In looking at the quality of the programmes and services offered by a distance education institution, consideration should be given to several activities, including content design, development, and delivery and management processes.

Criteria and Conditions for Developing and Implementing Quality Distance Education

The accelerated introduction of tertiary distance learning in Botswana has raised a myriad of questions by the public, learners, government and other stakeholders concerning the quality of courses, programmes and delivery services. To assure the quality of distance education provision, it is important that distance education professionals first seek a deeper understanding of what constitutes the quality of distance learning. However, exactitude in determining indicators of the quality of distance learning depends on a correct conception of the meaning of distance

learning. Without an accurate understanding of what distance education is, instructional designers who design and develop self-instructional materials, distance educators who deliver and monitor distance learning programmes, evaluators of the quality of distance learning programmes, and other stakeholders would find it difficult to operate with a common currency for quality distance education provision.

Definition of Distance Education

Although there is no one precise or universally accepted definition of distance education, there is general agreement among distance education professionals of the major features of this form of non-traditional system of education. At its simplest, distance learning involves the separation of instructional behaviours from learning behaviours, so that learning may take place without the instructor and learners coming into direct physical contact during the teaching-learning process. There is also general consensus that a distance learner may learn in isolation or in a group, using self-instructional materials specially developed and packaged by a remote materials developer in a location (teaching institution) removed from the learner. Therefore, distance learning may occur in different contexts; privately at the level of the individual learner or through formal classes/study groups that are gathered to receive instruction. For example, a learner may receive print materials or a CD-ROM containing a learning task to be undertaken independently at home or they may gather for face-to-face tutorial sessions during weekends.

In distance education there is also general agreement that learning can occur in different environments. It can take place under synchronous settings where instruction is delivered and received in real time. For example, a lecture at one centre could be delivered simultaneously to several remote centres via synchronous interactive videoconferencing. However, learning can also occur asynchronously, when instruction is delivered but accessed at a different time. In this case, the same lecture delivered via videoconference could be recorded and made available asynchronously to learners who missed the original live presentation. In fact, the use of technology has also become synonymous with distance education, as remote tutors routinely use a wide range of media, including simple correspondence (through post, e-mail, sms, etc.), telephone, video, computers, internet, etc. Nevertheless, whichever learning situation or

combination of learning environments is used, each undeniably demonstrates distance learning. Therefore, since the nature and type of distance learning may differ, depending on factors such as resources, technology, etc., it is important to develop some common quality indicators that could be used to improve the quality of distance education provision during planning, monitoring, and evaluation of distance education programmes and systems. However, any attempt to improve distance education without first establishing what quality is and, thereafter, determine quality indicators that could then be used to measure and assess the quality of distance education provision would be problematic. Unless quality is first defined, it would be almost impossible to measure it and determine whether it has been achieved.

Meaning of Quality

Quality is one of the most nebulous concepts in educational discourse for which there is no universally agreed definition, because the meaning of quality can easily change for different stakeholders (Fresen, 2002). Although quality defies universally accepted definition, in reality the concept is often associated with attributes of goodness or excellence in a product or service. In addition, quality is high on the agenda of all stakeholders, including educational leaders, policymakers and distance education professionals. This concern is also driven by expectations of consumers and other stakeholders who are increasingly compelling higher education providers to improve the quality of programmes and services.

Cavanaugh (1999) sees quality as having quantitative and qualitative attributes. The former dimension may encompass progression and completion rates and learner evaluations of the learning experience, while the later includes ratings of learning materials, teaching-learning interactions, learning process, pace, and content. The interest and growing discourse in literature on the quality of distance education is reflected in several studies that have been undertaken to investigate and determine quality indicators of distance education, with a view to improving the quality of distance education products and services.

Quality Indicators in Distance Learning

Traditional quality measures that are mainly informed by input and process measures, in which the lecturer plays a key role in assuring quality, are not appropriate for the more learning outcomes-focussed distance education. The issue of quality presents significant challenges and serious concerns in distance education, especially in a context such as that of the Botswana College of Distance and Open Learning (BOCODOL) where tertiary ODL provision is rapidly expanding as a result of unprecedented demand. However, when the provision of distance education is driven by demand, it is easy to get absorbed in initiatives to meet demand pressures at the expense of quality.

Many attempts made to investigate and determine the quality of distance education have yielded better understanding of indicators that are essential to ensure quality in the provision of distance education. Some of the interesting studies on indicators of the quality of distance education that are discussed in this review include those by Benson (2003), Lee and Dziuban (2002), Leh and Jobin (2002), Marks *et al.* (2005), Sloan Consortium (2004), Trentin (2000) and Yeung (2001). However, one should be wary that these important contributions to the provision of quality distance education are not "treated as rules, effectively blocking innovation and change" and also that there is no wholesale acceptance and use of traditional education quality standards and guidelines for distance education (Meyer, 2002:9).

While the process of developing and implementing quality distance education programmes entails a consideration of quality issues, such as curricula, pedagogical methods, learner support, administration, student satisfaction, staff satisfaction and technology, there is still no consensus among distance education providers concerning quality criteria that could be used to evaluate and communicate to stakeholders the quality of distance education provision. Hence, this study had to come up with a set of criteria that is adjudged relevant, given the size of the institution, operations and priorities. Of these quality indicators, however, some are tangible, while others may be less tangible.

Tangible products, such as learning materials, pass rates, number of graduates, etc., are the easiest quality indicators to measure because they

are open to scrutiny by stakeholders. According to the Commonwealth of Learning (1997), the quality of tangible products in distance education, including learning materials, course syllabus and curriculum, are much easier to judge than quality of processes such as pedagogical processes, delivery systems, advising students, coordinating external course and test item writers, networking with regional study centres, managing student information. Additional quality processes under production and delivery systems that are considered difficult to measure include course production, print and multimedia production, coordinating part-time course and test item writers, timetabling, storage of learning materials and delivering materials to learners.

From COL's (1997) list. Moldovan (2006) analysed pedagogical approaches and administrative processes and concluded that quality indicators regarding pedagogical approaches and learning effectiveness are mostly concerned with learner-centeredness, that is, whether the teaching programme promotes independent learning, adapts to individual learning styles and pacing, etc. Regarding administration of distance education programmes, quality issues include pre- and post-registration activities for which prospective learners and registered learners require information. In this regard, distance education must provide learners with accurate and timely information on admission, prior learning requirements, scheduling, tuition, materials and counselling, and other activities that include learner orientation and progression requirements and other pertinent programme expectations. Cavanaugh (2002:178), on the other hand, argues that a pre-requisite for students to be successful is that the administration of quality distance education programmes...

> ...must advise entering students, including screening for students who display success indicators for the program, and consideration of prior learning experiences. Registered students need orientation and counselling so they will be properly placed in the program. Students need assurance that their rights are protected and their records will be confidentially maintained as well as available to other institutions. Student privacy and security in online activities must also be ensured.

Finally, in an online-based research report entitled "Quality on the Line: Benchmarks for Success in Internet-based Distance Education", the Institute for Higher Education Policy (2000) identified 24 benchmarks of quality in distance education, which they classified into 7 major categories comprising course development, teaching/learning, student support, faculty support, institutional support, and evaluation and assessment.

Using the IHEP (2000) classification, *course development benchmarks* for quality distance education include availability of minimum standards used to guide course design and delivery. Another benchmark for course development is the periodic review of instructional materials to ensure their alignment with programme standards. A final course development benchmark identified by the IHEP report is that the design of course materials should promote learner engagement in higher order cognitive skills of analysis, synthesis, and evaluation. However, since the design of instructional materials greatly influences the success of distance learning, it is not only important to spell out clearly the content to be taught, how it would be delivered (i.e. technology) and the learning outcomes, but also align learning experiences to learning styles.

The IHEP report identified four *course structure benchmarks,* which include provision of supplementary course information outlining course objectives, key concepts and ideas and clearly stated learning outcomes. Another attribute of the course structure benchmark is the importance of determining at the beginning of the course if learners have the motivation to learn at a distance. A third course structure benchmark for quality distance learning is to ensure that learners have access to a wide range of library resources and to 'virtual library' and also determine whether learners have access to the technology required on the course. Alongside this, is the need to ensure, at the commencement of a distance learning course, that learners and instructors agree on assignment submission schedule and turnaround time for instructor's response.

Learner support benchmarks for quality distance education include pre- and post-registration activities and information required by and made available to learners. Such information may include admission requirements, tuition and fees, course and supplementary materials, assessment requirements and other support services. Another important benchmark for learner support is the provision of hands-on training to

learners on how to access and reference information from various sources, including electronic databases, interlibrary loans, archives and other sources. Support provided to learners also includes technical support on how to access and manage delivery technology and the provision of a structured customer complaints handling system. It is also vital to provide learners with a toll free number or comparable mechanism that gives learners access to academic and administrative support at scheduled times. From a *staff support* perspective, staff support is probably as important for the provision high quality distance learning programmes and success of distance learners as staff qualifications, experience and commitment. This support may come in various forms, including helping staff adjust to a distance learning environment and training and support in the use of technology, especially in the delivery of instruction. Distance education staff should also assist learners on the use of technology; hence, they require both training and written resources to assist learners (IHEP, 2000).

Teaching/learning benchmarks in distance learning should promote quality interactions facilitated through a variety of delivery technologies, including sms, voice-mail, MP3 and/or e-mail. Pedagogic comments on assignments are important to promote quality distance teaching/learning. Unlike conventional learning, distance learning puts considerable responsibility on learners to manage their own learning; hence, pedagogical methods should be learner-centred and seek to promote independent learning. The Association of Advanced Collegiate of Schools of Business (2007) recommends the use of a mix of interactions that may include face-to-face tutorials and residential sessions and technology-mediated interactive sessions using video/satellite conferences, Internet, email, etc.

Evaluation and assessment benchmarks include evaluation of the effectiveness of the educational and teaching/learning processes based on specific standards and using several methods. The IHEP (2000) report also recommends the use of data on enrolment, technology use and cost to evaluate effectiveness of distance education programmes. Finally, there should be regular review of learning outcomes to ensure currency, relevance, clarity and utility.

Institutional support benchmarks include a documented technology plan and more technical support that ensures electronic security measures (e.g.,

password protection, encryption, and off-site back-up systems) are operational to safeguard quality standards and integrity and validity of information. In addition, the reliability of the technology delivery system should be as failsafe as possible, to ensure that learners receive and access instruction, related learning materials, and information on time.

However, from an analysis of several quality indicators presented in the literature, this exploratory study used six indicators comprising course development, teaching/learning, institutional support, learner support, staff support and evaluation and assessment. These quality indicators were considered most appropriate to investigate the quality of distance education provision, given the size of the institution, experience, resource availability and planning priorities.

The Study

The quantitative research paradigm was the preferred approach for this study, which used a descriptive survey design to reach widely spread respondents drawn from a wide geographical area comprising a national distance education campus and five regional centres distributed across a large country. Using staff perceptions, the study was designed to offer exploratory insights into quality indicators that could be used to yield indices for use in measuring the quality of distance education provision and in order to plan for a more structured and robust further study.

The target population for the study comprised 60 full time staff that is intimately associated with delivery of distance education programmes. The population consisted of all full time academics and full time staff from core academic support departments and centres, including instructional technology, research and innovation, multimedia, quality assurance and counselling. Given the size of the target population, it was determined to collect information from the entire target population; hence a census was undertaken and the questionnaire was administered to all 60 full time academic and core academic support staff from the main campus and five regional centres.

Data for this study was collected using a 46-item Likert scale questionnaire. The 46 quality indicator items on the questionnaire were classified into 6 major categories of Course Development (10 items),

Assessment and Evaluation (10 items), Learner Support (8 items), Institutional Support (6 items), Teaching/learning (6 items) and Staff Support (6 items). All 46 questionnaire items were calibrated as follows: l=strongly disagree, 2=disagree, 3=undecided, 4=agree, 5=strongly agree, so that a quality indicator with a high mean score indicated relatively high perceived quality and vice versa.

Out of the 60 respondents who received the questionnaire, 26 usable questionnaires were returned, representing a rate of return of 43%. This percentage is considered adequate for an exploratory study, since the main purpose is not generalisability of the findings, but to explore the possibility of developing a distance education quality index using perceptions of staff and, as a result, plan further for a more structured and comprehensive research. Electronic copies of the questionnaires were sent to all five regional centres, where they were downloaded, printed and delivered to regional respondents.

The ten (10) items on the quality indicator 'course development' addressed quality issues, which include use of course design, development, and review guidelines, clarity of learning outcomes and pilot-testing of instructional materials. The six (6) 'teaching/learning' quality indicator items focussed on learner evaluation of tutors, learning experience and course content, formal self-help study groups and learner-tutor interactions, while 'institutional support' items included server management, technology infrastructure maintenance and upgrading, library resources, reference materials, interlibrary loan facilities and calendar stability.

On the other hand, the indicators for assessing the quality of learner support recognised the importance of communication systems in improving learner success on distance education programmes. Some of these included provision of self-contained information packages, learner access to course information and technology, training in the use of technology, library, and electronic databases and access to guidance and counselling support. On the other hand, quality indicators for staff support include training provided to course development staff, training of staff in e-learning and integration of technology in course development, staff induction and orientation, etc. Finally, indicators for assessment and evaluation included clarity of communication to learners on all forms and

methods of assessment and expectations, provision of assessment feedback, turnaround time, accuracy and security of assessment records.

The Statistical Packages for the Social Sciences (SPSS) version 19 was used to analyse data. Descriptive statistics generated from data were used in this study. Typical statistics used in this exploratory study include mean, sum, standard deviation and percentages. Table 1 below shows rank-ordered staff rating scores for all 46 quality indicator items. The highest rated item has a mean score of 4.65 and 2.04 for the least rated item (Table 1).

The results in Table 1 further show that, with a mean rating score of 4.65 (sd = 1.413), "Assessment information (exams, tests, assignments, etc.) is given at start of course" was the highest rated quality indicator item, while the least rated quality indicator item, "Learners receive hands-on training on use of library and related learning resources", received a mean rating score of 2.04 (sd = 0.824).

According to Table 1, six (60%) of the ten top rated items were drawn from the Assessment and Evaluation (AE) quality indicator, while of the remaining four, two were from Teaching/Learning (TL) and one each from Staff Support (SS) and Course Development (CD). The predominance of Assessment and Evaluation quality indicator items among the top rated items is also reflected among the top five rated items where 4 (80%) items were from Assessment and Evaluation (AE).

Table 1: **Rank-ordered Staff Rating Scores for various Quality Indicators (N=26)**

Quality Indicator (QI) Items	QI	Mean
Assessment information (exams, assignments, etc.) is given at start of course	AE	4.65
All assignments due dates are given to learners at the start of course	AE	4.54
Learners are required to form self-study groups	TL	4.35
Academic honesty measures are effected through proctored/invigilated tests. exams	AE	4.31
Multiple assessment methods (assignments, tests, class participation, etc.) are used	AE	4.27
Induction workshops are held for all new staff to prepare them for DE environment	SS	4.27
Assessment feedback standards, turnaround time, grade posting, etc., are explained	AE	4.23
Learners receive study materials at the start of the course	CD	4.19
Learners receive clear instructions to retain copies of all their assignments	AE	4.15
Learners always provided the opportunity to evaluate the tutors	TL	4.15
Course development teams are used in course development	CD	4.00
New teaching staff receive training in tutoring and marking DE assignments	SS	3.92
Learners receive self-contained information packs	LS	3.88
Assignments, tests, exam results are released within period specified in the calendar	AE	3.85
Tutors encourage regular interactions	TL	3.85
Learners always receive constructive feedback on all assignments	AE	3.81
Plans for maintaining and upgrading technology infrastructure are in place	IS	3.73

Tutors always direct learners to resources & services that promote learning	TL	3.69
Learners get information on relevant policies, e.g. academic integrity, assessment, etc.	LS	3.69
Courses engage students' higher thinking skills (analysis, synthesis, etc.)	CD	3.65
They use standardised course/programme evaluation tools	AE	3.65
Learners have access to all available course information	LS	3.65
On-going technical assistance is available to teaching staff	SS	3.62
Tutorial staff performance evaluation feedback is used to develop further training	SS	3.58
Academic counselling and advising is readily available to all learners	LS	3.54
Reliable server management documentation, including back-up system, is in place	IS	3.50
Course design and development use guidelines	CD	3.46
Intended outcomes for all courses are always clear	CD	3.46
Technology used facilitates attainment of learning	TL	3.46
Multiple sources used to review materials	CD	3.23
Formal guidelines are used in review of instructional materials	CD	3.23
Learning outcomes are used to determine technology for delivery	CD	3.23
Provision for technical assistance and support made for learners	IS	3.15
Learners are provided access to technology needed on courses of study	LS	3.15
Staff involved in course development always receive training in the area	SS	3.15
Learners evaluate the course and contribute to its improvement	TL	3.12
Documented technology plan in place (password protection, encryption, etc.)	IS	3.09
Academic staff receives training in e-learning and integration of technology	SS	3.08
Dates for major activities appearing in the calendar rarely change	IS	3.00

End-of-semester exams results released within the period specified in the calendar	AE	2.85
Learners are trained to use technology required to complete a course	LS	2.77
Instructional materials are piloted before used by learners	CD	2.73
Learners have access to interlibrary loan facilities	LS	2.65
Learners are provided with library resources, including electronic databases	LS	2.50
Regular reviews are conducted on course content	CD	2.46
Learners receive hands-on training on use of library and related learning resources	LS	2.04
Overall Mean Score		**3.51**

Key: AE = Assessment & Evaluation; CD = Course Development; TL = Teaching/Learning; IS = Institutional Support; LS = Learner Support; SS = Staff Support

On the other hand, Table 1 further shows that items under Institutional Support (IS) and Learner Support (LS) quality indicators that did not appear among the ten top rated quality items predominate the ten least rated quality indicator items, where their combined presence accounts for 60% of the ten least rated quality indicator items. Of the ten least rated quality indicator items, 4 belonged to Learner Support (LS), two each to Institutional Support (IS) and Course Development (CD), while the remaining two were for Staff Support (SS) and Assessment and Evaluation (AE). However, there is no quality indicator item from Teaching/Learning (TL) that featured among the ten least rated items.

The respondents' perceptions depicted in Table 1 show that, of all six quality indicators, the greatest quality performance was in the area of Assessment and Evaluation (AE). This means that the quality of distance education provision in the institution was best in the Assessment and Evaluation quality dimension than in all the other five quality indicator areas. At the same time, Learner Support (LS) emerged as the quality indicator where respondents felt that institutional quality performance was the least.

Sound assessment and evaluation practices contribute to the provision of quality distance education programmes. According to Cavanaugh (2002), the use of varied assessment methods, as reported in this study, is essential in developing valid, accurate, and credible learner assessment instruments, including examinations, self-assessments, assignments, and tests that produce a precise picture of learners' abilities, acquisition, and application of knowledge. Kearsley (2000) also suggests that the quality of distance learning is enhanced through the use of multiple assessment and evaluation sources, including, tests, assignments, examinations, etc. that could be offered throughout the course and delivered electronically via the Internet, computer, or at a proctored site. Some assessment activities may also be time-bound or not, while others may be made available in hard copies or electronically. When made electronically, these assessments can be made available at pre-specified times, which allow learners to take a test simultaneously, or monitored through videoconferencing.

Although assessment and evaluation activities emerged as showing the highest quality over the other five quality indicators, it did not mean that these are more important than others in contributing to the provision of quality distance education programmes. In fact, it could be argued that Learner Support (LS) quality indicator, which predominated the ten least rated quality indicator items, has relatively greater contribution to the overall quality of distance education. Institutional Support (IS) quality indicator, identified by IHEP (2000) as including documented technology plan, reliability of technology delivery system, and centralised distance learning system, is also critical to quality provision because of the centrality of technology in the provision of distance learning. The fact that in this study both Learner Support and Institutional Support items were not among the ten top rated quality items, but predominated the ten least rated quality items, may have negative implications for the overall quality of distance education provision at the Botswana College of Distance and Open Learning.

Meanwhile, rank-ordered results of the six quality indicators (Table 2) show that, with a mean score of 4.03, Assessment and Evaluation (AE) is the highest rated quality indicator, then Teaching/Learning (x = 3.77), Staff Support (x = 3.60), Course Development (x = 3.36), Institutional Support (x = 3.19) and, finally, Learner Support came last with a mean score of 3.14 out of a possible maximum score of 5.

Table 2: Staff Assessment of Distance Education Provision Quality Indicators (N=26)

Index Description	Sum	Mean	Quality Index	
Course Development		3.36		**0.67**
Learners receive study materials at the start of the course	109	4.19	0.83	
Course development teams are used in course development	104	4.00	0.80	
Courses engage students' higher thinking skills (analysis, synthesis, etc.)	95	3.65	0.73	
Course design and development use guidelines	90	3.46	0.69	
Intended outcomes for all courses are always clear	90	3.46	0.69	
Multiple sources used to review- materials	84	3.23	0.65	
Formal guidelines are used in review of instructional materials	84	3.23	0.65	
Learning outcomes are used to determine technology for delivery	84	3.23	0.65	
Instructional materials are piloted before used by learners	71	2.73	0.55	
Regular reviews are conducted on course content	64	2.46	0.49	
Teaching/Learning		3.77		**0.75**
Learners are required to form self-study groups	113	4.35	0.87	
Learners always provided the opportunity to evaluate the tutors	108	4.15	0.83	
Tutors encourage regular interactions	100	3.85	0.77	
Tutors always direct learners to resources & services that promote learning	96	3.69	0.74	
Technology use facilitates attainment of learning	90	3.46	0.69	
Learners evaluate the course and contribute to its improvement	81	3.12	0.62	

Institutional Support		**3.19**		**0.64**
Plans for maintaining and upgrading technology infrastructure are in place	97	3.73	0.75	
Reliable server management documentation, e.g. back-up system, is in place	91	3.50	0.70	
Provision for technical assistance and support made for learners	82	3.15	0.63	
Documented technology plan in place (includes password protection, etc.)	80	3.08	0.62	
Dates for major activities appearing in the calendar rarely change	78	3.00	0.60	
Interlibrary loan facilities are available	69	2.65	0.53	
Learner Support		3.14		**0.63**
Learners receive self-contained information packs	101	3.88	0.78	
Learners get information on relevant policies, e.g. academic integrity, assessment	96	3.69	0.74	
Learners have access to all available course information	95	3.65	0.73	
Academic counselling and advising is readily available to all learners	92	3.54	0.71	
Learners are provided access to technology needed on courses of study	82	3.15	0.63	
Learners are trained to use technology required to complete a course	72	2.77	0.55	
Learners are provided with library resources, including electronic databases	65	2.50	0.50	
Learners receive hands-on training on use of library and learning resources	53	2.04	0.41	

Staff Support		3.60		**0.72**
Induction workshops are held to prepare new staff for DE environment	111	4.27	0.85	
New teaching staff receive training in DE tutoring and assignment marking	102	3.92	0.78	
On-going technical assistance is available to teaching staff	94	3.62	0.72	
Tutorial staff performance evaluation feedback is used for further training	93	3.58	0.72	
Staff involved in course development always receive training in the area	82	3.15	0.63	
Academic staff receives training in e-learning and integration of technology	80	3.08	0.62	
Assessment & Evaluation		4.03		**0.81**
Assessment information (exams, assignments, etc.) given at start of course	121	4.65	0.93	
Assignments due dates are given to learners at the start of course	118	4.54	0.91	
Academic honesty promoted through proctored/invigilated tests, exams	112	4.31	0.86	
Multiple learner assessment methods include tests, class participation, etc.	111	4.27	0.85	
Assessment feedback standards are explained e.g. turnaround time	110	4.23	0.85	
Learners receive clear instructions to retain copies of all their assignments	108	4.15	0.83	
Assignments, tests, exam results are accurate and reliable	100	3.85	0.77	
Learners always receive constructive feedback on all assignments	99	3.81	0.76	
They use standardised course/programme evaluation tools	95	3.65	0.73	
End-of-semester exam results are released as per calendar dates	74	2.85	0.57	
Overall Distance Education Provision Quality Index		3.51		**0.70**

Course development in ODL is a complex process that often requires the use of teams for quality enhancement by involvement of several course development specialists, including content specialists, graphic designers, pedagogical specialists, desktop publishers, librarians, etc. The use of teams and assembly-line nature of course development entail sound management practices to guarantee that nothing goes wrong in the production process. Since course development occurs at the early stages of the learning process, any slippages in course development and production processes have the potential to affect subsequent stages, including scheduling, delivery, assessment, and completion rates. According to Belawati and Zuhairi (2007:4), such slippages adversely affect "production, printing, dispatching, and even in whether or not students receive their learning materials on time. In extreme cases, students' examination schedules can be postponed, simply because they did not receive their learning materials in time."

Therefore, although Table 2 shows that the delivery of learning materials at the start of a course and the use of course development teams were highly rated, it appears that the corresponding low rating scores concerning "Dates for major calendar activities rarely change" ($x = 3.00$) shows a significant measure of scheduling instability due to changes to the calendar. This instability is likely to result from the domino effect of delays in the course development process on subsequent activities, such as changes in tutorial and examination schedules and release of results. This might, therefore, mean that although learning materials might be delivered at the beginning of the course, delays in meeting production deadlines could have resulted in changes in commencement dates and subsequent activities on the calendar. Follow up interviews that could not be undertaken in this exploratory study are, therefore, necessary to establish the real reasons for these observations. However, the finding that "Regular reviews of course content" ($x = 2.46$) received the least rating of all course development quality indicators corroborates earlier findings where tutors expressed concern over perceived lack of review of study materials (Otukile, 2011).

Library related quality indicators received the lowest rating scores of all quality indicators in spite of the importance of libraries in promoting the quality of distance learning (Table 2). For example, the lowest rating score was for 'learners receive hands-on training on use of library resources'

(x = 2.04), followed by 'learners are provided with library resources, including electronic databases' (x = 2.50), while availability of interlibrary loan facilities was rated equally low (x = 2.65). These findings undermine the quality of provision of distance learning, given that the application of modem ICTs, including electronic technologies and databases and access to Internet-based 'virtual library' promote the quality of distance education provision (Saint, 2000). Similarly, the IHEP (2000) also reported that the provision of hands-on training and information to learners on how to access learning materials through electronic databases, interlibrary loans and other library resources are important benchmarks for quality distance learning.

Meanwhile, the results of this exploratory study show that Learner Support and Institutional Support did not only feature as the least rated of the six quality indicators (x = 3.14 and x = 3.19, respectively), Table 2 also shows that all quality items under these two quality indicators had mean scores below 4.00 (x =< 4.00). Within the context of both institutional and learner support, the separation of the learner and tutor, in time and place, has important implications for the quality of distance teaching and learning experience, yet the research sample found these two quality indicators the weakest in terms of quality provision. Research has also shown that the use of technology in promoting meaningful learning cuts across the two quality indicators of institutional and learner support, because the effective use of technology affects the quality of instructional design, content, delivery and other learner support provisions (Bates, 2000). In addition, the quality of several items under institutional and learner support quality indicators, such as instructional technology, instructional design, content, delivery technology, etc. also affect the quality of the distance learning experience.

On the other hand. Table 2 shows that the most highly rated quality indicators were under 'assessment and evaluation', which is also the only quality indicator with an overall mean score above 4.00. At the same time, six of the ten quality items under this indicator had mean rating scores above 4.00. The two top rated quality items were 'Assessment information (exams, tests, assignments, etc.) is given at course commencement' (x = 4.65) and 'Assignments due dates are given to learners at the start of the course' (x = 4.54).

Quality indices were computed for each quality indicator and for all quality items under each indicator. These were obtained by dividing the mean scores with the maximum possible score. According to the scale used in this study, the maximum score that indicates the highest possible quality attainment for any indicator is 5. Therefore, the arithmetic mean score computed for each quality indicator was divided by 5 to determine its corresponding quality index. The possible range for quality indices was 0.00 to 1.00, where 1.00 indicates the highest possible quality attainment for a given quality indicator and 0.00 representing absence of quality.

According to Table 2, the overall distance education quality index for this study was 0.7, indicating that the institution's perceived level of quality in the provision of distance education products and services was adjudged by the sample to be at the level of 70%. On the other hand, a quality indicator by quality indicator analysis shows that three of the six quality indicators had quality indices below the overall quality index of 0.7, while the other three had indices above the overall distance education provision quality index. Learner Support had the lowest quality index (0.63), followed by Institutional Support (0.64) and then course development (0.67), while Evaluation and Assessment had the highest quality index (0.81), then Teaching/learning (0.75) and, finally, Staff Support (0.72).

Friedman Ranking and Kendall's W Test were used to determine if the differences between the means of the ranked indices are statistically significant or not. The following results were obtained:

Friedman Test

Test Statistics[3]

N	2
Chi-Square	5.000
Df	5
Asymp. Sig.	.416

a. Friedman Test

Kendall's W Test

Test Statistics

N	2
Kendall's W[a]	.500
Chi-Square	5.000
Df	5
Asymp. Sig.	.416

a. Kendall's Coefficient of Concordance

Both Friedman's test and Kendall's Coefficient of Concordance above show statistically significant differences between the means of the variables. Tests show that all the asymptotic significant levels (0.416 in the both) are greater than 0.05. The researcher therefore concluded that there are statistically significant differences between the ranked means of the indices. These findings buttress the earlier mean ranking of the indices above.

That institutional support had the second lowest quality index is not surprising since there had minimal use of technology in the institution which, until recently, concentrated in open schooling where learners had very limited or no access to modem ICTs. However, the introduction of tertiary programmes in the last five years has witnessed an upsurge in the use of technology, including e-learning through the Moodle platform and other internet-based communication tools. The results of this study also suggest that a lot more needs to be done to improve the quality of provision of Institutional Support services, especially since previous research has shown that staff satisfaction with the quality of institutional support is "enhanced when the institution supports faculty members with a robust and well-maintained technical infrastructure, training in online instructional skills, and on-going technical and administrative assistance" (Sloan Consortium, 2009, paragraph 5). This is especially pertinent for this study, given that the research sample, comprising full time staff, was generally unhappy with access to and reliability of technology and absence of documented technology plan.

However, what is worrisome and surprising for the institution is the emergence of Learner Support as the least rated quality indicator, especially given that the international award for excellence in ODL provision awarded five years ago was mainly on account of a robust learner support system. This finding is supported by Otukile (2011) who concluded that effective implementation and rollout of the learner support system was required because the current system had failed to effectively close gaps and address challenges of studying at a distance. However, the solution may lie beyond Otukile's conclusion, since the perceived decline in the quality of learner support reported in this study also corresponds with the period of rapid growth in tertiary provision. This might, therefore, call for institutional introspection to determine whether the previously celebrated learner support system that was initially developed for open schooling programmes is still fit for purpose, given recent developments in tertiary provision.

Conclusion

From the findings of this exploratory study, it is evident that learner support and institutional support are the two main quality indicator areas of immediate concern for the institution. While the history of the institution and the recent introduction of technology in the provision of distance learning may explain its relative underdevelopment and why staff is concerned with the quality of institutional support, the same could not be said of learner support. As indicated earlier, the Botswana College of Distance and Open Learning has for a long time had a very successful learner support infrastructure and system that was synonymous with the provision of quality support to learners. This finding suggests the need to review the system to determine its relevance and whether it is still robust enough, as well as its efficacy. It is very possible that little attention could have been given to learner support and its appropriateness for tertiary programmes, and that the focus could also have shifted to other quality indicators, such as assessment and evaluation.

Finally, since the findings of this study are only indicative, due to the exploratory nature of the study, there is urgent need to undertake a more methodical and thorough investigation. Such a study should also use a larger sample, including learners. The perceptions of learners were not included in the current exploratory study. At the same time, the findings of

the current study call for a review of several quality indicators, especially those associated with access and availability of technology and library' resources.

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