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Learning assessment in open, distance and flexible education

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Learning assessment is established as a key process in education. Being learning the goal of educational initiatives, its evaluation becomes the means to analyse, guide and promote students’ performance.

Learning assessment in open and distance education is facing new challenges and scenarios, due to current or renewed conceptual and political frames -such as the European Higher Education Area (EHEA) and the European Credit Transfer and Accumulation System (ECTS)- and to the increasing number of developments in the technological and pedagogical fields -such as automatic assessment tools or peer grading in massive open online courses.

Within this context, the current issue of Open Praxis focuses on the assessment of students’ learning in open, distance and flexible education. The call for papers acknowledged aspects such as the following:

- Assessment challenges in open and distance education.
- Innovations in assessment methodologies and tools.
- Technological tools for assessment. Pedagogical possibilities and limits.
- Successful and relevant experiences of use of new methods, techniques and tools.

The expectation was to cover theoretical foundations, concepts, analysis and results of studies regarding learning assessment in open and distance education, referring to aspects such as integration of teaching, learning and assessment processes; limits and possibilities of diverse assessment methodologies and tools for diverse knowledge, skills and competences; challenges that assessment faces in open education; links between learning assessment and other relevant aspects in open and distance education: credentialing, educational quality and improvement; learning analytics, etc. We also expected to provide a description and analysis of concrete experiences of use and implementation of new assessment methods and tools in open and distance education: peer-evaluation, self-evaluation, badges, e-portfolios, prior learning assessment and recognition, etc.

The issue presents five papers covering different aspects regarding learning assessment, from reflections on assessment challenges to the use of rubrics in a course, going through a review of feedback in distance education or aspects to consider during examinations.

In the first paper, Moeketsi Letseka and Victor Pitsoe (Reflections on assessment in Open Distance Learning (ODL): the case of the University of South Africa (UNISA)) describe the implications of assessment when it is focused on quality of teaching and learning. They deepen in the experience of a specific course at UNISA, where they advocate for formative assessment combined with final examination. Among the challenges in ODL, the authors highlight their concern with author-ship of assignments -specially when there are big differences between students’ performance in the assignments and in final exam- a question that remains unsolved.

S. V. S. Chaudhary and Niradhar Dey (Assessment in Open and Distance Learning System (ODL): A Challenge) provide a comprehensive overview of practices and challenges faced by ODL systems. Among the latter, integration between formative and summative assessment is again underlined. Less experimented practices, like open-book examinations or extended use of e-portfolios, are also...
discussed. The authors stand up for a renovation of conventional practices of students’ assessment in ODL, always linking it with learning improvement.

Anthony Odera Unamma (Community members’ interference and conduct of University distance learning examinations In South Eastern Nigeria), under the assumption that communities are interfering in examinations in Nigerian universities with distance learning programmes, highlights through a survey-based study characteristics, consequences and measures to reduce negative interference. A set of recommendations for University administrators is provided, founded on the promotion of university-community collaboration.

Jane Costello and Daph Crane (Technologies for learner centered feedback) go into detail about one of the elements identified by previous authors among formative assessment pillars, i.e. feedback. After describing the importance of feedback for learning and identifying different types of it, they focus on technologies to provide feedback (typed, audio, video, automated, etc.) and their relationship with more or less suitable feedback methods. They broaden the e-feedback landscape to help instructors innovate and increase students’ motivation and learning.

Closing the special section of papers focused on learning assessment in open, distance and flexible education, Ishan Sudeera Abeywardena (Mastery of Course Learning Outcomes in ODL: A Case Study of the Pearson eCollege Learning Outcome Manager) analyses the correlation between continuous and final assessment marks, and mastery of course learning outcomes (measured with rubrics setup on a web based software platform) in a specific course. The process is explained in detail, and leads to practical conclusions and recommendations, both in the methodological and technological domains.

Although some aspects addressed in the call remain unexplored or are not analysed in depth in this issue, papers cover a wide range of topics and case studies in relation with assessment in ODL. In addition to the articles for the special theme, the issue includes two contributions that fall within the sphere of interest of the journal, i.e. research and innovation in open, distance and flexible education.

In the innovative practice articles section of the journal, Samuel Adesola Adeyemo, Gloria Olusola Adedoja and Omobola Adelore (Mobile technology: implications of its application on learning), present a focus group discussions-based study developed at University of Ibadan, following Davis’ Technology Acceptance Model (TAM), which highlights some problems and possibilities in the use of mobile phones for learning from the students’ perspective. Implications of their findings are relevant to institutional and educational providers.

Finally, Mandar L. Bhanushe (theCN.com: An Academic-cum-Social Networking Online Platform), reviews a learning platform that introduces social networking besides traditional platform features, i.e. course content delivery and management. He describes mainly positive aspects of this platform for ODL.

Our wish in Open Praxis is that the topics covered in this issue contribute to reflection, debate and improvement of learning assessment in open and distance education practices, and in ODL in general. We invite readers to revise our volume 5 issue 1 (special issue on openness in higher education), where prior learning assessment and recognition (RPL or PLAR), as a means to credentialing for lifelong learning, was dealt with in three papers.

Special thanks from Open Praxis to the authors and to the reviewers who have collaborated in this issue.
Reflections on assessment in Open Distance Learning (ODL): the case of the University of South Africa (UNISA)

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Abstract
The article explores the challenges of assessment in open distance learning (ODL). The authors argue that ultimately assessment should be about improving the quality of teaching and effective learning. It should be based on making expectations explicit and public, setting appropriate criteria and high standards for learning quality, systematically gathering, analyzing and interpreting evidence to determine how well performance matches expectations and standards, and using the resultant information to document, explain, and improve performance. However, getting all these variables to work in ODL presents mammoth challenges. How can ODL lecturers validate and authenticate students’ written work? How can they tell whether the students’ submitted work sufficiently reflects their knowledge and understanding? South Africa has inherited an unequal, racially skewed and inequitable educational provision from its apartheid past. This poses serious challenges for assessing quality. The article therefore seeks to understand these context-specific challenges of ODL assessment at UNISA.

Keywords: assessment; challenges; learning; open distance learning (ODL); teaching

Introduction
We teach in the Bachelor of Education (BEd undergraduate), Postgraduate Certificate in Education (PGCE) and Honours Bachelor of Education (Honours BEd) programmes at the University of South Africa (UNISA). Running through all these programmes there is a course—Theoretical Frameworks in Education—that introduces and consolidates the students’ grasp of philosophical frameworks and how they shape educational practice. We will come back to this course in more detail later.

UNISA (2012) is the biggest open distance learning (ODL) institution in Africa. Unlike campus-based, full-time contact institutions that cater mainly for young school leavers entering university for the first time, ODL institutions provide access to higher education to mature working students. Such students would not be able to obtain a university qualification were they to have campus-based full-time contact institutions as their only avenue for accessing higher education.

Most ODL institutions market themselves to prospective students as open, accessible, flexible, supportive and affordable. Presumed in this market discourse is the view that adult working students take responsibility for their learning; they learn alone or in small groups; they learn at their own pace and in their own time; they learn from a variety of learning materials, including the use of audio-visual media; they are active rather than passive learners; they need less frequent help from their teachers; they therefore learn from other people besides their teachers, and that they will do a lot of self-assessment (Rowntree, 1996). UNISA (2008, p. 2) commits to adhering to “responsible open admission policy.” Its open learning approach “gives students flexibility and choice over what, when, where, at what pace and how they learn. Open learning is all encompassing and includes distance education, resource-based learning, correspondence learning, flexi-study and self-paced study.” UNISA’s commitment above resonates with access requirements of the Open University (OU) in the United Kingdom (UK), which are based on the principle of “no entry requirements.” Our understanding is that nearly all OUUK courses have no entry requirements.
On the surface these pronouncements sound noble. However, at a deeper level they pose profound challenges with respect to ways of assessing and assuring the quality of ODL teaching and learning. For instance, it might not be easy to validate or authenticate ODL students’ written work and to ascertain whether the work they have submitted is theirs and that it constitutes a true reflection of their level of content knowledge and understanding of the subject matter. While this might be reasonably monitored at campus-based full-time institutions, the challenges are more pronounced in ODL institutions where students are not required to attend classes in person. In this article, which builds on our previous work on the challenges of teaching and learning in ODL (Letseka & Pitsoe, 2012, 2013), we explore the challenges of assessment in ODL, with a focus on UNISA. The article has six sections. First, we sketch various conceptions of assessment with a view to ascertaining how they pertain to the course we offer. Second, we outline formative and summative assessment. Third, we describe the course *Theoretical Frameworks in Education*, its purpose, and exit level learning outcomes. Fourth, we briefly sketch ways in which the course is assessed. Fifth, we reflect on the challenges of assessment with respect to assuring the quality of teaching and learning in ODL. In the final section we provide some concluding remarks. We now turn to conceptions of assessment.

**Conceptions of assessment**

There is agreement among advocates of assessment that effective assessment should be ongoing and focused on improving students’ learning (Angelo, 1991, 1994, 1995, 1999; Bell & Cowie, 2001; Cohen, 2008; Hunsaker, 2004; Shepard, 2000). For instance, Thomas Angelo (1999) is concerned that most assessment efforts have resulted in little learning improvement because they are implemented without a clear vision of what “higher” or “deeper” learning is and without an understanding of how assessment can promote such learning. He attributes this to “piecemeal” attempts that stem partly from a mechanistic, “additive” model of assessment. He suggests that a “transformative” assessment-as-culture-change model should replace this. Angelo (1999) argues that “transformative” assessment-as-culture-change rests on the following four pillars:

- Building shared trust by lowering social and interpersonal barriers to change;
- Building shared motivation by collectively identifying goals worth working toward and problems worth solving, and considering the likely costs and benefits;
- Building a shared language by developing a collective understanding of new concepts (mental models) needed for transformation;
- Building shared guidelines by developing a short list of research-based guidelines for using assessment to promote learning.

It follows that if lecturers were to plan their assessment as if learning matters most—and not just student learning, but theirs as well—the distance between means and ends would be reduced and chances of success increased. Angelo (1995) conceives of assessment as an ongoing process aimed at understanding and improving student learning. He argues that assessment should involve making expectations explicit and public; setting appropriate criteria and high standards for learning quality; systematically gathering, analysing and interpreting evidence to determine how well performance matches expectations and standards; and using the resulting information to document, explain, and improve performance. Angelo’s views above are echoed by Brown and Knight (2004), who argue that assessment techniques work better where learning outcomes have been articulated in advance, shared with the students, and assessment criteria agreed upon. Thus assessment helps create a shared academic culture dedicated to assuring and improving the quality of teaching and learning in higher education.
Taylor (2005) advocates the following nine principles of good practice in assessment. For him, assessment of student learning should begin with educational values; is most effective when it reflects an understanding of learning as multidimensional, integrated, and revealed in performance over time; works best when its programs have clear, explicitly stated purposes; should pay attention to outcomes and equally, to the experiences that lead to those outcomes; works best when it is ongoing, not episodic; should foster wider improvement when representatives from across the educational community are involved; makes a difference when it begins with issues of use and illuminates questions that people really care about; is most likely to lead to improvement when it is part of a larger set of conditions that promote change; should enable educators to meet their responsibilities to students and to the public. That is, it should foster accountability.

Hunsaker (2004) reiterates the view on assessment as an on-going process oriented around curricula change aimed at improving learning. He advocates scholarly assessment, which he defines as a tool for helping the lecturers understand the teaching and learning process, a means by which lecturers can learn what is working, and where they might do well to approach things differently. In this regard assessment should be all about teaching and learning. One of the courses which we teach at UNISA, and which we describe below, targets ODL undergraduate and entry-level postgraduate students. While its goal is to initiate the students in the knowledge of the theories and practice of education, at the heart of its assessment plan is a concern with the best practices that ensure students’ learning is improved regardless of the ODL nature of the institution. As Brown and Knight (2004) note, assessment should be used to shape and direct future learning.

Angelo (1991) highlights this purpose more succinctly in his suggestion that assessment should provide faculty and students with information and insights needed to improve teaching effectiveness and learning quality. The focus should be more on finding out what and how much (or how little) students have learned between points A and Z, that is, to establish accountability and improve efficiency (Angelo, 1994). In support of this view Cohen (2008) argues that assessment must be interactive and proactive. It must be a form of participation. Cohen (2008) regards participation as a way of enhancing learning and a form of feedback on the nature of the learning that is, or is not taking place. The lecturer and the students should collaborate actively to produce the best performance (Yorke, 2003). Cohen (2008) contends that because there is the content that the lecturers want the students to understand, discussing readings in class should be central to teaching in that it gives the lecturers the opportunity to take a closer look at student learning and to assess how well they are learning.

Participation provides an indication of students’ understanding of their readings. How lecturers respond to students’ comments, the feedback they give on various assignments, and the way they use the results from class participation could significantly impact student learning. These views resonate with the South African Qualifications Authority’s (SAQA) (2001) policy position on assessment. SAQA (2001) posits that assessment in education and training should involve gathering evidence of learners’ work so that judgements can be made about their achievements or non-achievements. Thus university students should ideally be more involved in their assessment on the grounds that they are the relevant stakeholders. However, this is easier said than done. Most
forms of assessments are still top-down and largely driven by the educators. Below we briefly explore formative and summative assessment.

**Formative and summative assessment**

**Formative assessment**

Formative assessment is of critical importance to student learning and retention (Yorke, 2001). Its central purpose is to contribute to student learning through the provision of information about performance (Yorke, 2003). Formative assessment has the advantage in that it is dialogic. The students receive regular feedback on their performance from their teachers. The exchange between the teachers and the students is (ideally) mutually hermeneutic in that each is seeking to interpret and understand the communications of the other with the aim that the students will become better equipped to deal with the challenges of future study. Mentkowski (2000) argues that formative assessment should serve as supportive criticism, and an important support for learning and motivation. In this regard feedback procedures should assist students in forming accurate perceptions of their abilities and in establishing internal standards with which to evaluate their own work. For Bell and Cowie (2001), formative assessment must be ongoing, dynamic and progressive, informal, interactive, unplanned as well as planned. It must be reactive as well as proactive, with the class, group, or individual.

Black and William (1998) are persuaded by formative assessment’s effectiveness in promoting student learning across a wide range of educational settings (disciplinary areas, types of outcomes, levels). They argue that an important determinant of the effectiveness of formative assessment is the quality of the feedback received by learners. In framing the feedback to students, lecturers should keep in mind several important and delicate considerations that are neither widely known nor understood. Whether lecturers across the different education sub-disciplines recognise this critical role of quality feedback to students remains to be seen and is an area that still needs further research.

**Summative assessment**

In summative assessment, assessors look for evidence of achievement at exit level. This involves identifying some data as relevant to specified goals and the criteria that derive from them (Knight, 2002). Judgments are made about the match between evidence and criteria. But as Brown and Knight (2004) point out, summative assessment has always been a vexed business. First, because higher education institutions are generally expected to have learning goals that are far more extensive and complex than mastery of subject matter alone, and they are being held to account for student achievement in terms of those goals. Second, a greater range of assessment techniques has come into currency, which has introduced substantial practical and theoretical problems, with the comparability and aggregation of performances judged by different assessment methods. Third, public sector services are nowadays marked by low-trust management systems, when once there would have been a greater readiness to trust that good people engaged in worthwhile activities would learn the sorts of things that were intended. Thus assessment is supposed to supply evidence to bridge the trust gap. Fourth, the eternal concern with value for money has taken a rationalist turn, with the belief that it is prudent to specify objectives, measure inputs, assess performance in terms of those objectives, allocate the next round of resources to efficient providers and apply sanctions to the less efficient. How do these conceptions of assessment play themselves out at UNISA? We
mentioned above that running through the Bachelor of Education (BEd undergraduate), Postgraduate Certificate in Education (PGCE) and Honours Bachelor of Education (Honours BEd) programs is the course, *Theoretical Frameworks in Education*. In the next section we briefly sketch the course, highlighting its internal structure, and the kind of competencies it seeks to develop.

**The course: Theoretical Frameworks in Education**

The above-mentioned course is one of the central components of the Bachelor of Education (BEd undergraduate), Postgraduate Certificate in Education (PGCE) and Honours Bachelor of Education (Honours BEd) programs at UNISA. The course explores different ways of thinking about education and undertaking research in education. It aims to equip pre-service and in-service teachers with the skills to identify, articulate and critically engage with their own underlying assumptions about the nature of education, their work in education, and the ideas of others (Venter, Higgs, Jee-vanatham, Letseka & Mays, 2006). The course encourages the students to "return again and again to the course material, re-examine their assumptions, the questions they are asking, and the answers they are discovering." But by phrasing the challenges of the course as they do, the course designers seem to assume that all the students have been introduced to some prior learning in the elements of philosophic inquiry, which is often not the case.

*Theoretical Frameworks in Education* is conceptual, philosophical, and contemplative. It is structured around nine (9) theoretical frameworks or meta-theories in philosophy of education, namely, logical empiricism, hermeneutics, systems theory, feminism, phenomenology, critical theory, African philosophy, critical rationalism, and post-modernism. The structure of the course is consistent with the broader aim of the Honours BEd programme, which is the development of applied competence. In this regard, applied competence is understood to involve the integration of the following four other kinds of competences:

- Ability to conduct independent inquiry in a specialised field of education, training or development, and to report findings in academically appropriate ways;
- Demonstrate acquisition of a sound knowledge base and critical understanding of education in general and of the chosen area of specialisation in particular;
- Ability to critically analyse and evaluate knowledge in the chosen area of specialisation, and to contribute to systematic and disciplined thinking about educational matters and issues;
- Exhibit the potential to act as academic leader and expert in the field of education, training and development.

Thus understood applied competence can be briefly summed up as involving the integration of foundational competence, that is, the ability to demonstrate understanding of key concepts and issues; practical competence, that is, the ability to use what has been learned in some practical way; and reflexive competence, that is, the ability to evaluate one’s work and that of others in order to identify areas that need to be improved (UNISA, 2010).

The course’s reading material comprises a *study guide*, about which the students are informed “works like a teacher.” It will “structure your learning, explain concepts and direct you to other parts of the module at appropriate times. It will facilitate your learning through the development of a dialogue involving guided activities and feedback” (Venter et al., 2006, p. vi). Then there is the prescribed textbook, which “is like a resource person to whom you go for advice. The textbook explores some of the main schools of thought influencing education decision making and research.” Third are *Tutorial Letters*. These are a series of communiqués that provide students with useful
Information on the course: “tutorial letters are the means by which we [lecturers] maintain an ongoing relationship with you [the student],” the study guide declares. Tutorial Letters provide information on the purpose, nature, structure and learning outcomes of the course. Finally, the students are encouraged to keep a workbook or file or computer folder. This is a record of the students’ thinking and development throughout the programme. The students are encouraged to use a workbook, file or computer folder to record their responses to activities, write notes and summaries, and generally record their ideas as they work through the programme. “Thoughts are a bit like fish,” the students are warned. “They can easily slip away,” which is why it is important to make a habit of writing ideas down as they occur, and to revisit and reflect on them.

The students are encouraged to read through the prescribed book; develop a broad overview of the theoretical frameworks, be able to compare the main ideas of the various theoreticians, and to contrast similarities and distinguishing characteristics. In the end, they should be able to draw on one or more theoretical frameworks to resolve issues pertaining to specific educational practices. For instance, the students might be required to draw on a particular theoretical framework to identify curricular subjects in the teaching/learning context, and to develop appropriate instructional strategies to critically reflect on their practice as teachers. We now turn to the course’s assessment.

**How Theoretical Frameworks in Education is assessed**

So far we have argued that assessment should be an ongoing process and a means for lecturers to ascertain what is working, and what needs to be done to improve student learning. We have established that the main purpose of assessment is to provide lecturers and students with information and insights in order to improve teaching effectiveness and learning quality. Moreover, we have highlighted that assessment should be a collaborative endeavour between the lecturers and the students. It follows from the above exposition that assessment is a powerful tool for use by lecturers to make timely and effective curricular interventions that will ensure effective students’ learning.

We now briefly outline the assessment plan of the course, *Theoretical Frameworks in Education*. We should mention that the planning and preparation of assessment should involve four critical aspects: first, why is assessment being conducted? Second, what competences should be assessed? Third, who should be involved in assessment (Teachers, lecturers, students)? And fourth, how assessment should be carried out (methods, instruments, resources and procedures)?

It should be clear by now that *Theoretical Frameworks in Education* is not about rote learning and/or regurgitation of memorised information. Instead the course requires students to critically engage with what they have learned, and to “try things out and evaluate the outcomes” (UNISA, 2010). The course is assessed through a combination of essay assignments and an examination. The students are required to submit three to six essay-type conceptual, philosophical, and contemplative assignments and obtain an aggregate of at least 50% towards their continuous, formative aspect of the assessment of the programme. The students are cautioned that the following verbs will be used in the assignment and examination questions: “analyse,” “compare,” “define,” “describe,” “discuss,” “evaluate,” “explain,” “illustrate,” “interpret,” “juxtapose,” “outline,” “synthesise,” and “tabulate,” to mention a few. This caution is intended to alert the students to the conceptual, philosophical, and contemplative nature of the course. How lecturers are able to instil among ODL students these conceptual, philosophical, and contemplative inclinations is a challenge to which we now turn and reflect upon.

**The challenges of assessment in ODL**

We mentioned above that ODL institutions market themselves as open, accessible, flexible, supportive and affordable. Indeed most ODL institutions operate “no entry requirements” and/or other
use-friendly alternative admission criteria such as the Senate Discretionary Admission (SDA) requirements and/or recognition of prior learning (RPL). The reason for this is that most ODL institutions provide access to higher education to mature working students who would otherwise not be able to obtain a higher education qualification were they to have campus-based contact higher education institutions as their only option for accessing higher education. And yet noble as this provision of access might seem, in the end the principle of “no entry requirements” raises a number of red flags with regard to assuring the quality of teaching and learning in distance learning.

What we want to do in this penultimate section is to highlight some of the contestations around the notion of “quality” in education with a view to showing how such contestations have implications not only on how we assess, but also on how we assure the quality of academic work submitted by students in ODL. The notion of quality in education has always been a contested terrain (Ball, 1985; Frazer, 1994; Green, 1994; Massy, 2003). For instance, in the mid-1980s when Christopher Ball (1985) asked: “What the hell is quality?” he was grappling with the muddle that surrounds the meaning of the term. In her book—What is Quality in Higher Education—Diana Green (1994, pp. 12–13) argues that quality, like “freedom” or “justice,” is an elusive concept. In the same vein Malcolm Frazer (1994, p. 103), one of the contributing authors in Diana Green’s book above, acknowledges that quality in higher education is a complex idea about which there is no agreement either between, or within countries about what is meant by quality. But Frazer offers what seems to us a useful understanding of the notion of quality. He suggests that quality should be about what students have learned—what they know, what they can do, and what their attitudes are, as a result of their interactions with their teachers, department and university.

There is agreement among commentators on quality that quality is a measurement of some kind. For instance, while Frazer (1994) suggests that quality should be about what students have learned, Green (1994, p. 5) contends that institutions should not only be more efficient, but should also be more responsive to the needs of their students and accountable to the taxpayer. To come back to Chris Ball (1985), he eventually conceded that “quality in education” is a subject extraordinarily difficult to come to grips with, and full of pitfalls.

The above analysis of quality is pertinent to our conception of assessment and how we go about assuring the quality of our students’ written work. It is our view that the challenges of assessment are more pronounced in ODL institutions than in campus-based, full-time contact institutions. Elsewhere we have argued that

“the concept of open and distance learning suggests an educational approach designed to reach learners in their homes/offices/shops etc, provide learning resources for them to qualify without attending formal classes in person, or create opportunities for lifelong learning, no matter where or when they want to study” (Letseka & Pitsoe, 2012, p. 222).

It seems such a challenge to sufficiently ascertain what students really know, what they can do, and what attitudes they might have acquired as a result of interacting with the learning material in an ODL environment. The reason for this is not hard to find. Even in a full-time contact education institution it is not easy to ascertain whether the students actually interact with the learning material in the first place, or whether they make time to interact with the learning material at all. The challenge becomes more profound in the learning environment where the students are not required to attend “formal classes in person.”

We may, on the surface be misconstrued as ODL sceptics. Our scepticism, if there is any, is borne out of the practical challenges at UNISA where students submit well-written, well-argued and coherent assignments, but perform dismally in the examination. On numerous occasions we have been left wondering whether a relative or a close friend, who has probably graduated from the programme,
could have assisted one of our students in writing the assignments given that during the examination some of the students perform poorly in the conceptual, philosophic and contemplative questions. Given the very nature of the ODL environment, and regardless of having watertight assessment rubrics and criteria, there is evidence of conspicuous inconsistencies in performance among our students between assignments and the examination. There are other challenges too, especially with respect to the majority of students who live in the rural areas and previously disadvantaged parts of South Africa where basic services such as the postal, electricity, Internet and online connectivity continue to be elusive. If there should be any doubt at all about students' interaction with their learning material, our view is that there is no way of knowing whether we are indeed assessing what we should be assessing in the first place. We do not regard ourselves as prophets of ODL doom. And while we recognise that there are pockets of excellence among some of our ODL students, we also acknowledge that there are pockets of our ODL students whose responses to assignment and examination questions leave much to be desired and suggest that their attitudes might not be changing as a result of enrolling in ODL programmes. On the positive side though, and consistent with the above exposition of the principles of quality and assessment, we are systematically gathering, analysing and interpreting the evidence; and using the resulting information to document, explain, and improve the performance of our students.

**Conclusion**

In this article we have sketched various conceptions of assessment. We have acknowledged that there is general consensus among advocates of assessment that the purpose of assessment should be mainly to improve the quality of teaching and learning. And given that teaching and learning involve both lecturers and students, we suggested that assessment should be a collaborative endeavour between lecturers and students in order to produce the best performance in teaching and learning. We argued that assessment should involve making lecturers and students’ expectations explicit and public; it should lead to a common understanding on appropriate criteria and standards by which quality learning will be assessed; it should lead to gathering, analysis and interpretation of evidence to determine how well performance matches expectations and standards. In this regard assessors should draw on the information to document, explain, and improve teaching and learning performance. We raised concerns about the challenges of assessment in the ODL sector. We argued that while ODL is ideally suited for breaking the barriers of distance by providing access to higher education to students without the actual physical contact with their lecturers, there is the unintended consequence that quality assessment might be compromised. We argued often that lecturers have no way of knowing whether the assignments that the students submit are their own authored work or a product of assisted collaboration. This suspicion gains credence especially when students perform poorly in the final examination, which is their summative assessment.

**Note**

1 The notion of “Education as initiation” was made prominent by British philosopher of education Richard Stanley Peters in his inaugural lecture which he delivered at the Institute of Education, University of London, 9 December 1963.

**References**


Assessment in Open and Distance Learning System (ODL): A Challenge

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Abstract

Assessment is an integral part of the learning process. The traditional practice of assessment has changed to meet the need of the contemporary society. In this paper assessment strategies used in Open and Distance Education are discussed and constructive suggestions are given to meet the challenges of assessment. Recently we experience a paradigm shift in assessment both in face-to-face and ODL system. Content-based testing has shifted to performance-based assessment. Assessment is no longer used for grading and certification, rather it has linked with learning and skill development of the students. Instead of a single paper pencil test, a variety of techniques and methods are being increasingly conducted. In this context assessment in the ODL system has adopted a new shape to provide better assessment judgments to its students and at the same time helping teachers and administrators. Coping with the changing scenario in ODL we face challenges addressed extensively in this article.

Keywords: formative assessment; open and distance learning; open-book examination; personal contact programme; summative assessment; term-end examination

Introduction

Let us start the discussion of the issues raised in this paper by analysing three cases related to assessment of students' performance in the ODL system.

Case I: Sudhir - A student of a Bachelor Degree Programme in Arts

Sudhir is a student of a Bachelor Degree Programme in an Open University. Recently he completed his three years Bachelor Degree Programme in Arts. He was dissatisfied with the grades awarded to him by the University. He completed the programme with a lower grade in few courses. He was dissatisfied with the assessment system in the Open University, in the sense that he experienced confusing results in some courses. Interestingly, he managed to get a higher grade in the course in which he had not done well, and on the contrary he was awarded a lower grade in the course in which he really did well.

The experience of Sudhir left many questions in the mind of teachers, academics, and administrators.

- Why did this happen with Sudhir?
- Can we say it is an unexpected event, which occurred only with Sudhir, or has it been happening with many students like him?
- Is the system of assessment in ODL capable enough to do justice to the student like Sudhir?
- What measures do we need to take to overcome such practices?

In the next part of this article we will come forward with some remedies to arrest such difficulties of the students.
Case II: Gurpreet never gets timely information about course transaction

Gurpreet is a student of a Master Degree Programme in Management in an Open University. She is motivated to participate in all the academic activities and hopeful to do well in her programme although practicing a part-time job in a corporate organisation. She felt it difficult to understand all the courses (self-learning material) supplied to her during her studentship in the programme. She was expecting certain types of academic deliberations relating to her courses either face-to-face or by using other modes of course transaction, such as teleconferencing, interactive radio counselling, etc. After completion of first year of her programme, when she talked with her friends and the academic counsellors, she came to know that this type of course transaction is often practiced by the University. But she was not informed about the schedule of the academic activities. In the second year, she became more conscious and managed to get all the information about the academic activities, participated and tried to clear all her learning difficulties. Ultimately she did well in second term-end examination in comparison to first term-end examination.

The above experience of Gurpreet again left many questions about the management of course delivery in the ODL system.
- Did we inform the students about the nature of course transaction well in advance?
- Whose responsibility is it?
- Do you think the experience of Gurpreet is well connected with assessment and her performance in the programme?

What measures can we take to avoid such difficulties of the students, like Gurpreet?

Case III: Rehman—A student of a Bachelor Degree Programme in Education

Rehman has been teaching in a secondary school for the last five years and has just completed his bachelor’s degree in Education from an Open University. He was a regular and committed student during his studentship period and actively participated in all the school-based activities, workshop-based practice, teaching practice, assignments, and preparation for term-end examinations. Though he completed the programme with a high grade, still he was dissatisfied for some reasons. He observed that students who were not regular in carrying out course activities managed to earn a higher grade than him.

The experience of Rehman also makes us think about assessment strategies and puts forth various questions before us like:
- How can one irregular student manage to get a similar or higher grade in practical courses in comparison to a regular student?
- Whose fault is it?
- Do you justify a student gets higher grade without actively participating in practical courses?

We have to reflect on how assessment measures can liberate students from de-motivation to inspiration.

The above three cases can force us to discuss the assessment practices conducted in the ODL system. Sometime we fail to achieve our assessment goal. As we know, the most important function of any university, open or conventional, is to work for the students and to satisfy their expectations. Students expect better teaching-learning environments, pedagogic dialogue, practice research and extension activities, and a suitable system of assessment. The latter is linked with the quality of education imparted in an Open University. In other words, a sound assessment system can motivate students to achieve their learning objectives effectively.
Considering the above three cases related to teaching-learning and assessment in ODL, the present paper aims to achieve the following objectives:

- To discuss the importance of assessment in the ODL system;
- To elaborate present assessment practices conducted in the ODL institutes;
- To discuss challenges relating to students’ assessment in the ODL system;
- To deliberate an innovative practice of students’ assessment;
- To examine the use of ICT tools in assessment practices of the ODL system; and
- To suggest good assessment practices in the ODL system.

**Importance of Assessment in Open and Distance Learning**

The three cases analysed in the introduction section of this article give us enough input to think and renovate our assessment practices in the ODL system. As discussed earlier, assessment occupies a vital position in the process of teaching—learning, certification and acquiring knowledge and skills, whether in a conventional system, or an ODL system. Assessment is a sub-system of the total ODL system. A vast mechanism works for managing students’ assessment.

As teachers, we hope that our students understand the concepts of deliberation and use knowledge gained in their life. Teaching cannot be effective without stating its purpose and framing specific objectives. A conscious teacher always tries to form the specific objectives before starting teaching and achieve that objectives at the end of his/her discussion in the classroom. So we can say that continuous assessment practices in the teaching-learning process in terms of formative and summative evaluation should be practiced. If we closely analyse the main purpose of assessment, we find that its role is not only to simply rank or grade students, which is secondary in the process of assessment, but to increase student’s learning and development. Effective assessment strategies help the students to understand their difficulties and to improve further accordingly. It helps the learners to gain mastery over the task and widen one’s horizon of knowledge. Assessment is key in helping students to achieve the real purpose of learning.

In India, reform of the examination system was connected to the National Curriculum Framework (NCERT, 2005) which suggests a paradigm shift of content-based testing to problem-solving and competency-based assessment, examination of shorter duration, flexible time limit, open book examination; self-assessment, peer assessment and feedback, maintaining a daily diary, emphasis on continuous evaluation and use of ICT. NCERT (2005) also suggests various assessment tools such as observation, assignments, projects, portfolio, e-portfolio, checklist, rating scale, anecdotal records, etc. The suggestions of NCERT (2005) and the tools described above are being used for assessing students’ performance.

Answers to the following four questions will throw light on assessment in the ODL system (The Commonwealth of Learning, 1999, pp. 78–79):

1. **Why assessment?**
   - We conduct assessment in the ODL system mainly: to provide feedback to learners starting from assignments to the term-end examination; to get an idea about what they are really doing and what they are supposed to do to complete the programme; and to generate a spirit of consciousness to connect the concept of written materials with the varieties of practices carried out by the learner.
   - To reach at summative evaluation based on formative assessment, which helps learners to examine their performance at every stage of their study and progress successfully to attain the course objectives.
Assessment in ODL is not only meant for students to earn a grade, it is equally helpful for monitoring the effectiveness of academic programmes and adopting appropriate strategies to accomplish institutional objectives. The practice of assessment in ODL is not only for certifying students, it also impacts their learning improvement and helps learners to develop a positive attitude towards the institutional system.

2. Assessment is for whom?
Assessment in ODL is NOT to satisfy a single stakeholder; rather it is for the multiple users working in the system such as: students, teachers, institutions, and community. Let us discuss how assessment benefits the stakeholders:

• Assessment helps students to be aware of progress in their studies, to achieve mastery of the concept, to find out the causes of the difficulties and to get the remediation to overcome the learning difficulties. It also helps learners to improve their learning in the positive direction if they fail to achieve the required standard. Further assessment satisfies the purpose of certification and award of degree.

• It helps teachers to assess the effectiveness of the instructional strategies, communication, and involvement of the students. In case teachers fail to achieve specific instructional objectives, they can modify their teaching-learning strategies. It also helps teachers to judge the suitability and effectiveness of self-learning material supplied to the students. It helps teachers to modify learning behaviour of the students and make teaching-learning process effective and outcome oriented.

• As in the case of learners and teachers, assessment satisfies the institution. Assessment of the students in terms of level of attainment helps the academic administrators and programme/course coordinators to make certain decisions in revising the programme. The institution can decide whether the very objectives of the programme have fulfilled their vision.

• Assessment also satisfies the need of society at large - satisfying the broad and long term need of the society, providing appropriate job opportunities for the students, maintaining social cohesiveness and brotherhood, and satisfying the need of economic development of society.

3. Who assesses?
• Assessment in the ODL system is a multitask activity unlike in the face-to-face system.

• Unique practices are managed to assess students’ performance such as: self-assessment (students assess themselves by evaluating their performance when they read SLM), peer assessment (mutual assessment can be practiced), academic tutors to assess assignment (formative evaluation), external examiner for project and practical assessment (part of summative evaluation) in term-end examination.

4. How to assess?
• Several assessment techniques are used in the ODL system, such as essay type examination, short answer type and objective tests, oral assessment in tutorials, practical examination, field-based practice and assessment in some specific programmes, project and dissertation, observation of performance in extended contact programme and personal contact programme, etc.

**Assessment Practices in some existing ODL System**

To have an idea of assessment practices being conducted in Open Universities worldwide, the main features of assessment in five universities are presented in Table 1.
Analysing the assessment practices of the above Open Universities, we find common components of students’ assessment. All universities have a two-tier system of assessment: formative and summative. More weighing has been given to summative assessment to certify the students’ performance. In formative assessment, most universities use assignment and in-text questions and activities for self-assessment. In summative assessment, most universities prefer term-end evaluation.

Table 1: Assessment practices in Open Universities

<table>
<thead>
<tr>
<th>Open Universities</th>
<th>Assessment Practices</th>
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<tbody>
<tr>
<td>Indira Gandhi National Open University (IGNOU), New Delhi, India <a href="http://www.ignou.ac.in">www.ignou.ac.in</a></td>
<td>IGNOU conducts a three-tier system of evaluation: self-assessment exercises, continuous evaluation through assignments (tutor-marked and computer-marked), and term-end examinations. Assignments and term-end examination constitute 30% and 70% respectively of the total weighing. Formative assessment comprises assignments, the personal contact programme and workshop related activities such as practicals, micro teaching, community participation, field experience, school-based activities, hands on activities, seminars, group discussion, etc. Summative assessment comprises term-end examination, project and dissertation/thesis evaluation.</td>
</tr>
<tr>
<td>The Open University (OU-UK), Milton Keynes, United Kingdom <a href="http://www.open.ac.uk">www.open.ac.uk</a></td>
<td>It conducts both formative and summative evaluation with a greater weighing to summative assessment and lesser weighing to formative assessment. Assignment in each course, term-end examination, projects, dissertation, seminar, group discussion, observation records, practical assignments; field work, contact sessions, hands on activities are the common components of students assessment.</td>
</tr>
<tr>
<td>Bangladesh Open University (BOU), Gazipur, Bangladesh <a href="http://www.bou.edu.bd">www.bou.edu.bd</a></td>
<td>There are two types of evaluation at BOU such as continuous evaluation through tutor marked/practical assignments and the projects, and semester-end evaluation through semester-end examination.</td>
</tr>
<tr>
<td>Allama Iqbal Open University (AIOU), Islamabad, Pakistan <a href="http://www.aiou.edu.pk">www.aiou.edu.pk</a></td>
<td>Assessment of students in distance education system in AIOU is done in two ways: continuous assessment and term-final examination. In continuous assessment students are required to do two assignments for each half-credit course and four assignments for each full credit course. The marks obtained in the assignments contribute to the final course result. Term-final examination is another component of overall assessment system of a course. Term-final examination helps the students to review their studies and see the course as a whole. At the end of each semester the University arranges a final three-hour written examination in each course.</td>
</tr>
<tr>
<td>The Open University of China (OUC), Beijing, China <a href="http://en.crtvu.edu.cn">http://en.crtvu.edu.cn</a></td>
<td>Every learner has his/her own individual learning space and enjoys personalised support services. Learning progress can be evaluated constantly, and formative and summative evaluation are used together to ensure the learning process and quality of learning. The OUC operates a credit bank with the functions of credit accreditation, transfer, deposit and withdrawal. The bank helps learners establish lifelong learning portfolios and accredit or receive certificates for various learning achievements. The bank carries out accreditation and transfer of credits between degree and non-degree continuing education, and bridges and connects different types of learning achievements.</td>
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examinations at the end of a session. It has been observed that the existing system of assessment in ODL fails to satisfy students’ expectations and their development in learning. In the following section we discuss specific issues and challenges needed to carry out effective students’ assessment practices.

**Students’ Assessment in ODL: Issues and Challenges**

Credibility and reliability of assessment procedures is a question of serious debate in the ODL system. There are three types of assessment qualities, which are essential for effective assessment. They are validity, reliability and fairness (Makamane, 2011). For an assessment system to be valid, care should be taken to verify whether the purpose of assessment has been achieved or not. Reliability entails the extent to which assessment is free from errors of measurement. An error free assessment system is treated as a reliable system. Fairness in assessment speaks about the objectivity of assessment and making assessment free of subjective judgment (UNESCO, 2006).

Let us discuss some of the major challenges faced by the ODL system in making assessment valid and reliable.

**Observation of students’ activities in personal contact programmes and practice of performance based assessment**

Careful observation of all aspects of students’ assessment can help to organise it constructively. If there is the provision of compulsory attendance in certain assessment related activities, it should be done meticulously and with full of gravity. Provision of certain grades/credits should be there for attendance in the programme. There is also the need to compare students in a particular component of assessment criteria. The academic counsellors and the tutors need to be associated wholeheartedly with the assessment system and should fulfil their assessment responsibilities without any bias and pre-mind set up.

Performance based assessment in the personal contact programme needs to be strengthened. Performance assessments are viewed as providing more valid inferences concerning learning than the traditional pencil and paper test, because they focus on the types of performance tasks that are being taught (Gronlund, 2003). This concept needs to be practiced in students’ performance assessment in the personal contact programme in an ODL system. On the contrary, Nitko and Brookhart (2007), propose that there be a balance between the traditional and new system of assessment.

**Open-book examination system**

Realising the changing scenario of the ODL system, open book examination may be seriously considered. The philosophy of ODL encourages students to develop their comprehension and analytical skills. For example, the Central Board of Secondary Education (CBSE, 2013) in India is going to add open book examination on experimental basis in annual examination of secondary school students (Thakkar, 2013). In the ODL system students may also be provided with study materials and other reference books within a specified period. Fully open book examination may also be executed in a distance education system in which students may be allowed to enter the examination hall with their notes and books. They may be allowed to answer the questions by referring to the material they have brought with them. If the institutes adopt an open book examination system, they have to be more careful in constructing questions for term-end examination, mostly analytical and synthesis type. But it remains a question whether the ODL system is able to manage it properly or not (NCERT, 2012).
Conducting formative evaluation in ODL

All the distance education institutes practice Unit or Course wise assignments. It has often been observed that the tutors assess the assignments and grade them without putting any remarks. In this case, the purpose of formative evaluation remains unfulfilled, if we fail to link assessment with students learning development. It has also been observed that without going thorough the details of the assignment, tutors award a grade. Quite frequently, tutors assign the same grade to all/most students just to satisfy them. It has also been observed that the copies of assignments are evaluated not by the real appointed tutors but by a person who is not specialised in that field or is unauthorised to do that. All the above cases left room for the system to be blamed. A careful monitoring is needed to check such type of evaluation lacunas in ODL systems (Shidong, 2011).

Term-end examination (summative evaluation)

Almost all the ODL institutes give a higher weighing to the final or term-end examination, which is conducted annually. Many a time, students respond to the subject matter with a very low standard but manage to get a higher grade, and sometimes a good writing gets a lower grade. It is difficult to find out the real cause of this as it is a matter of subjective evaluation. Expert to expert scoring may vary, but we can try to attain objectivity by adopting certain important steps such as carefully phrasing the essay items, make the response restricted in words/time/pages, by preparing standard answers of the questions and comparing them with students’ writing, by asking various types of questions in the form of essay, short answer, and objective questions, by moderating the checked answers (randomly/fully) by the experts, by supplying reasonable copies to the examiners, etc.

Integrating formative and summative evaluation

Integration of formative and summative evaluation components is also another important issue in ODL systems. Most ODL institutes follow the integration approach of formative and summative evaluation by providing definite weighing for the final certification of the students. But this is not the sense of true integration. Integration in true sense is to give equal weighing to both formative and summative evaluation i.e. 50% to each type. Formative evaluation can also bifurcate to assignments and open book examination and the like. Students may be asked to read related information and materials collected from various sources through outside research and carry out a project of substantial size and quality in a given particular time period for obtaining a score/grade for the course. This may soften the learning and examination load of the students and involve students in learning (Renkun, Tingting & Lina, 2011).

Linking assessment with learning

Assessment of learning plays an important part in the measuring of the quality in education (Makamane, 2011). Students’ performance assessment cannot be separated from learning. As we know, ODL institutions follow diversified approaches to assessing performance of the students. The components of assessment in ODL systems should never be separated from students’ learning experiences. For example, strategies of student’s self-evaluation, peer evaluation, instructors/tutors evaluation, and external evaluation may well be linked with the learning strategies of the students. The detailed assessment process in the ODL system should be informed to the students well in advance. As we know, most distance students initially come from the conventional system, having experienced certain types of face-to-face activities. They are used to the practice of learning styles in the face-to-face system. But in the ODL system, assessment is conducted differently according to the learning strategies of ODL systems. Keeping these things in mind, a careful detailed...
orientation is needed for the distance learners—on how to develop their study habits, read the self learning materials, and do the self assessment, peer assessment and preparation for term-end examination. Open learning models, while providing a variety of content, routes for accessibility, interaction and instruction, have not yet reckoned with the question of assessment and its corollary challenges of probability and recognition (Conrad, 2013).

Using ICT as an assessment tool

It is the age of Information and Communication Technology. ICT plays a very important role in transacting curriculum and students’ assessment in ODL systems. Many open universities, including IGNOU, have started online programmes and practicing online assessment by using ICT. But it has been realised that the use of ICT in students’ assessment is very limited. It is confined to few academic programmes. Nowadays, time demands to use more and more ICT tools in students’ assessment. Students need a very innovative and friendly assessment system in ODL, which can be fulfilled by using ICT assessment tools in a large scale. Students’ portfolio and e-portfolio can be better used as an assessment tool in various programmes of ODL system. Few Open Universities have started to motivate the learners by maintaining an e-portfolio and using it as an evaluation tool, especially in the online academic programmes. Today there is the need to use it on a wide scale in all Open Universities. Though ICT has been used as an assessment tool for programmes with small groups of students, its use can be broadened by carefully grouping students and assigning them an academic counsellor/tutor/manager. Open universities should think it over and implement it on a large scale.

Renovation of Conventional Practices of Students’ Assessment

The above points might have given enough input to consider renovating conventional practices of students’ assessment in ODL. The existing system in ODL cannot be called a failure, rather there is the need for renovation in the existing practices. Assessment mechanisms in ODL require a more cautious and vigilant approach to discharge their duties. We sometime fail to bring quality in assessment given a large number of students. In ODL systems, there is no bar of limitations; it is widely spread in terms of geographical region, entry qualification of the students, experiences, age, sex, and recruitment of students. It is not as if 20–30 students are coming to class every day like in a face-to-face system and accordingly we prepare a suitable assessment strategy for that group. Things are purely different in ODL systems. As an example, in IGNOU more than 0.6 millions students enrol in a year, i.e. in both the January and July session. It is simply difficult to cater to them in terms of developing learning attitudes, curriculum practices and developing comprehension in the ODL system, and assess their learning constructively. To ensure quality in a said quantity, we need to renovate the practices. Let us discuss some of the important points to renovate assessment in ODL.

- Justified bifurcation in assessment is needed in ODL programmes; that is to say, equal contribution of formative and summative evaluation to the final certification of the students.
- Integration of formative and summative evaluation components needs to be done carefully. The above two evaluation strategies cannot be separated fully, rather each type of evaluation, in-house or external, needs to be depended upon each other. Students should feel that every action and activity which has been practiced in the system of assessment has a definite contribution to the final certification, whether formative or summative, or both.
- ODL Institutes should consider including partially or fully open book examination systems in their assessment components. A careful system needs to be developed in this regard.
Assessment in Open and Distance Learning System (ODL): A Challenge

- A team of supervisors needs to be appointed to observe, supervise, vet, and compare the answer prepared by the students and evaluated by the tutors or instructors.
- Questions in term-end examination need to be more analytical-type, so that the real objective of assessment may be fulfilled in ODL system.
- No distance education institution should neglect regularity of the students in various assessment activities. There should be the provision of a grade and credit to students’ attendance rate in the personal contact programme and practical sessions contributing to final certification.
- Assignment questions should be carefully prepared and timely distributed to the students. Again, the authorised tutors specialised in the field should assess them. Suggestions for improvement need to be mentioned in each question of the assignment. More over one moderator should supervise and moderate the checked answers of the students’ assignments. The process of peer assessment of assignments could also be introduced.
- Accordingly, an external and an internal expert needs to be appointed to moderate and supervise the assessed copies of term-end examination either full or randomly. In case any irregularities are found, it should be communicated to the concerned evaluator and necessary action should be taken.
- For students from overseas countries, online assessment facilities should be practiced. There should be a special assessment cell in each Open University for this purpose.
- Suitable question banks of each course and programme for the term-end examination may also be developed to reduce examination tension of the students. A limited percentage of questions for term-end examination could be drawn randomly from question banks.
- Academic counsellors and tutors should be trained not only to tackle the academic matters but also to link in-house and external examination with the learning experiences of the students.
- ICT may be effectively used as an assessment tool in various academic programmes in the ODL system in the form of portfolio, e-portfolio, student’s journal and online examination.
- Students’ development and involvement in studies and other activities throughout the programme could be recorded by the students themselves through an e-portfolio, which should be evaluated on a terminal basis and certain credit should be assigned to it. 5–10 percent of total credits of the entire programme could be kept for this purpose. Open Universities need to develop a definitive format of e-portfolio and ICT proficient teachers should be engaged in evaluating it.
- Open-book examination (partial/fully) could be introduced in ODL systems after carefully observing and monitoring the system. Before implementing it, there is the need to explore whether open book examination is needed for that programme or not. Such facilities could be provided to that programme where the nature of examination is purely subjective and analytical but not objective.

Suggestions and Implications

Assessment is an integral part of any system of education. It is closely linked with learning experience of students (Black et al. 2003). Assessment in the ODL system is a complex process. It is a challenge to assess and manage quality in a widely spread system of education. To sustain quality in ever expanding quantity can be possible if the system functions in order. ODL systems should ensure that students earn marks/grades according to their competency. More so, it should not make them feel neglected and de-motivated by earning a lower grade, in spite of performing better.
A valid system of assessment, which can ensure fulfilment of the course objectives, needs to be practiced. Information communication technology based assessment tools, like the portfolio and e-portfolio should be used in a large scale for establishing a student friendly and innovative practice of assessment in ODL system. To accomplish reliability of the total system of assessment, it should be managed with lesser error and objectivity in scoring.

To develop confidence in the distance learners, the assessment system should be transparent and as fair as possible so that students like Sudhir, Gurupreet and Rehman, presented in the introduction, never feel frustrated towards the assessment process. At the end of the assessment there is a need to discuss the results with all the stakeholders such as programme coordinator, course coordinators, tutors, academic counsellors, students, observers, supervisors, etc. Based on feedback, further necessary improvements in the assessment system should be made. By doing so, a valid and reliable assessment system can be developed and implemented in ODL, and the confidence of the students like Sudhir, Gurpreet, and Rehman can be gained.

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Technologies for Learner-Centered Feedback

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Abstract

As the number, type, and use of technologies to support learning increases, so do the opportunities for using these technologies for feedback. Learner-centered feedback is a core to the teaching-learning process. It is related to assessment in describing how learners perform in their learning, their gain in knowledge, skills, and attitudes. Feedback, types of feedback, guidelines for effective learner-centered feedback, and feedback’s relationship to assessment are presented. Methods of providing feedback, for example, automated, audio scribe pens, digital audio, etc., and the related technologies are described. Technologies that allow instructors to make informed decisions about the use of various methods for feedback are discussed.

**Keywords:** assessment; feedback; ICTs; learner-centered; technology

Introduction

*Nothing that we do to, or for, our students is more important than our assessment of their work and the feedback we give them on it. The results of our assessment influence our students for the rest of their lives and careers—fine if we get it right, but unthinkable if we get it wrong* (Race, Brown & Smith, 2005, p. xi).

Feedback is essential in learning. Learners need to know what they do well, where and how they can improve, and be aware of any misconceptions they may have. Feedback is provided to learners through comments or grades on formal assessments, as well as through body language, facial expressions, tone, and comments made during the learning process. Effective feedback aids learners to “progress with confidence and skill as lifelong learners” (HEFCE, 2010, p. 8), while enhancing motivation and self-esteem (Mohr, 2010). Learner-centered feedback is an essential component of quality assessment, which is part of the learning process. Feedback and assessment go hand-in-hand. The use of technologies for learner-centered feedback on assessment is the focus in this paper. It is a starting point when considering the choice of technology for the risk-free environment of electronic learning assessment and feedback.

If Boud (1988) is correct in that “assessment methods and requirements probably have a greater influence on how and what students learn than any other single factor” (p. 35) and higher education is moving steadily toward an increasingly technology-enriched environment, then it behooves educators to understand how these technologies may be used for providing feedback. Assessment “powerfully frames how students learn and what students achieve” (Boud & Associates, 2010, p. 1). This impacts students’ quality of learning. Kellough and Kellough (1999) identified seven purposes of assessment: (a) improve learner learning; (b) identify learners’ strengths and weaknesses; (c) review, assess, and improve the effectiveness of different teaching strategies; (d) review, assess, and improve the effectiveness of curricular programs; (e) improve teaching effectiveness; (f) provide useful administrative data that may expedite decision making; and (g) to communicate with stakeholders. This is true of feedback as well. Technology for feedback may collapse space and time (Farmer, 2005); learners and instructors perceive that they are closer. Immediate feedback...
is a strong motivator for learners and an important part of the learning process as it helps focus learners’ efforts.

Learner-centered feedback provides learners with guidance in evaluating their learning while supporting their learning commitments (Schmitt, Hu & Bachrach, 2008). In a learner-centered course the instructors’ philosophy will incorporate a strong focus on learner input and needs. Instructors mediate learning experiences by coaching learners to help them improve and by facilitating learner autonomy of learning and assessment (Schmitt et al., 2008) while demonstrating content knowledge and respect for the learner (Mohr, 2010). The learning experiences are relevant and motivating to learners and inspiring for instructors. Once an instructor is comfortable with providing feedback electronically, the marking time is reduced thereby speeding up the turnaround time. This enables misconceptions students may have to be addressed before they become more serious issues.

When we consider feedback, we traditionally think of written comments on paper. With the use of technology, and thinking outside the box, we can provide meaningful electronic feedback in innovative ways. As new technologies emerge, the affordances relating to assessment and feedback are realized. Understanding how emerging technologies may be used in feedback combats this refined thinking and opens assessment possibilities. Feedback technologies are context dependent and not discipline specific.

Feedback

Like any form of communication, feedback requires interaction between a sender and a receiver. Cantor (2008) advises that the learner and instructor may take on both roles at different times. Providing feedback benefits the instructor by affording the opportunity for growth of personal, professional, and communication skills. Providing this progress for learners contributes to satisfaction for the instructor (Mohr, 2010).

Connor (1993) notes that feedback should encourage students to reflect, think critically, state a clear argument, and improve communication skills. To be effective, quality feedback, in the form of valuable information, comments, and suggestions given to learners, must be provided on a regular basis (Simonson, Smaldino, Albright & Zvacek, 2006) as it is essential for learner growth (Mohr, 2010).

Electronic feedback (e-feedback) encompasses the process of using technologies and tools such as typed comments, stylus scribing, audio, video, automated or computer-generated comments, and discussion forums. It expedites learner-instructor communication (Denton, Madden, Roberts & Rowe, 2008). Information and communications technology (ICT) and e-learning strategies facilitate effective learning assessment employing alternative, authentic, and traditional methods (Bennett, 2002).

Types of feedback

Types of feedback include: summative, formative, formal, informal, intrinsic, extrinsic, internal, instructional, corrective, and appreciative. Feedback may involve activities and strategies such as: participation, interaction in discussion, reflection, collaboration, group, or individual work (Costello & Crane, 2009). Table 1 outlines some types of feedback that could be used in higher education at various stages of learning. A course may incorporate one or multiple types of feedback.

Guidelines for providing feedback

It is important to take sufficient time to plan and execute assessment and quality, meaningful feedback. Instructors should inform learners how feedback will be provided in advance. Detailed
comments will let learners know how their learning is progressing. Critical thinking can be promoted by asking questions that encourage learners to take their work to the next level. This can enable the learners to reflect on their work, understand what was great about it, and see how it could have been improved (Costello & Crane, 2009). Learners need opportunities to demonstrate their proficiency as well as to understand the criteria and standards by which they are being assessed. Tuzi (2001) recommends peer feedback as it increases students’ participation and critical thinking skills.

Nichol (2007) outlines seven principles of good feedback practice: (a) helps clarify what good performance is (goals, criteria, standards); (b) facilitates the development of self-assessment and reflection in learning; (c) delivers high-quality information to learners about their learning; (d) encourages teacher and peer dialog around learning; (e) encourages positive motivational beliefs and self-esteem; (f) provides opportunities to close the gap between current and desired performance; and (g) provides information to teachers that may be used to help shape teaching. Another approach is outlined by Fink (2003) who promotes FIDeLity feedback, which is “Frequent, Immediate, and Discriminating (bases on clear criteria and standards), and delivered Lovingly” (p. 83).

### Table 1: Feedback Types

<table>
<thead>
<tr>
<th>Feedback Type</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Formative</td>
<td>Used early in the course to provide learners with an opportunity to adjust their work and increase their potential for success (Nichol, 2007). Providing feedback to assist the learning process (Sclater, Conole, Warburton, &amp; Harvey, 2007).</td>
</tr>
<tr>
<td>Summative</td>
<td>Takes place later in a course as learners need time to experiment with the course content in a safe manner (Nichol, 2007).</td>
</tr>
<tr>
<td>Formal</td>
<td>Requested or expected feedback provided to improve future work. It is usually associated with submitted assignments and formal online discussions, as well as course and program evaluations (Bull &amp; McKenna, 2004; Nichol, 2007).</td>
</tr>
<tr>
<td>Informal</td>
<td>Provided through informal discussions, body language, tone, choice of words, etc. (Bull &amp; McKenna, 2004; Nichol, 2007).</td>
</tr>
<tr>
<td>Intrinsic</td>
<td>“Feedback is that which is given as a natural consequence of the action” (Lourillard, 2007, p. 55).</td>
</tr>
<tr>
<td>Extrinsic</td>
<td>“Does not occur within the situation but as an external comment on it: right or wrong, approval or disapproval” (Lourillard, 2007, p. 56). It should mimic intrinsic feedback.</td>
</tr>
<tr>
<td>Internal</td>
<td>Learners monitor their own work through reflecting and self-assessment (Nichol, 2007).</td>
</tr>
<tr>
<td>Instructional</td>
<td>Guides the learner on how to improve their work, understand why their work is exceptional, or discover how to take it further. This may be considered part of formative feedback (Mohr, 2010).</td>
</tr>
<tr>
<td>Corrective</td>
<td>Gives information to the learner on what they have done wrong and why is it incorrect (Mohr, 2010).</td>
</tr>
<tr>
<td>Appreciative</td>
<td>Is the “good point” or “thanks for sharing” that is important for the learner to hear or read. The learner needs to know that what they do is important and valuable (Mohr, 2010).</td>
</tr>
</tbody>
</table>
Feedback should be worded so that the learner does not interpret it as personal criticism, but as a critique of their work (Mohr, 2010). It is important not to overwhelm a learner with feedback but to focus on the most important areas for improvement. It is not an opportunity for instructors to show all they know (Costello & Crane, 2009). Lizzio and Wilson (2008) tell us that learners appreciated feedback that was: developmentally focused, especially with comments related to the course goals; encouraged learners’ engagement, for example, when a learner felt that the tutor or instructor had taken time to read and reflect on what was submitted; provided encouragement through acknowledging achievements and effort; used a “considerate tone”; and when comments were fair. It is important to be careful of tone as being too brief may be perceived as brusque or rude (Ko, 2009).

Methods of providing feedback in the digital era

Traditionally, feedback has been provided through oral, meta-verbal, or written communication. Now, with advances in ICTs, there are many suitable technologies that may be used in providing feedback. Bates (2008, p. 222) comments that “the appropriateness of a particular technology will depend on the context in which it is to be used.” Many methods are suitable for feedback in multiple contexts: (a) automated tutors; (b) peer feedback; (c) auto-scoring of assignments; (d) reflective networks; (e) written comments; (f) oral comments; (g) meta-verbal; (h) emoticons; (i) self-checks; and (j) ePortfolio (Anderson, 2008; Costello, 2009; Costello & Crane, 2009; Crane, 2010).

Automated tutors are computer-generated comments based on background coding. Peer feedback involves learners critically thinking about their work and the work of others in order to make suggestions on ways to improve. Auto-scoring of assignments is often used in educational games, or computer marked tests. This format also requires background programming. Reflective networks are ways in which learners share their learning with others or oneself in order to gain deeper understanding. Written comments are text-based comments placed on student’s work that tells the learner what is good about their work as well as how the work may be improved. Oral comments are spoken words, such as those used in group discussions. These may be synchronous or asynchronous comments. Meta-verbal feedback is provided using body language, tone, etc., that provide more information that words alone. Emoticons are word stamps, thumbs up, smiley faces or frowns that are quick and let the learner know what the grader feels about a component of the work. Self-checks involve the learner reviewing the objectives to ensure they know what they are expected to know. Self-checks may also be self-quizzes such as the ones found at the end of a chapter. These self-quizzes help the learner gage their level of understanding. Finally, ePortfolio involves learners providing examples of their work to demonstrate their knowledge, abilities, or attitudes. Evidence of work and accomplishments may include: pictures of three-dimensional work such as a sculpture; a paper written in a course or program; and a first-aid or computer certificate.

Denton et al., (2008) reported that emailing feedback expedites its return. They also suggest the use of pre-written comments that would be common across multiple assignments to aid in providing feedback. Buzzetto-More and Alade (2006) noted that learners perceived that the electronic feedback was: clearer, easier to read and understand, fairer, and had more relevance to the learners’ work. Technologies not only augment the teaching and learning process but also provide data and/or artifacts that may help to satisfy assessment objectives. Other researchers, such as Steinweg, Williams, and Warren (2006) reported that learners’ preferences for e-feedback ranked from typed in document, handwritten digital file, handwritten mailed, phone feedback, annotated rubrics, to face-to-face. Their study did not take into account more recent feedback methods such as audio and video, these areas requiring further investigation.

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Electronic feedback technologies

There are several technologies that may aid in providing quality, electronic feedback: (a) word processors; (b) pen technology (tablet); (c) audio scribe pen; (d) digital audio; (e) digital video; (f) automated; and (g) personal response systems (clickers). These methods and example uses are discussed below.

(a) Word processing, or typed feedback, provides the learner with information on their work, clarifies the marking scheme, while being easier to read than handwritten comments. It also reduces marking time and expedites its return (Denton et al., 2008). Typing comments on a document is a quick and convenient means of seeing feedback relating to specific parts of the assignment. This can be achieved by using track changes, comment bubbles, notes and text boxes or by placing document contents in tables and placing feedback in adjoining columns. Annotated files could be converted to a portable document format (pdf) before returning to learners for security purposes (Costello, 2009; Costello & Crane, 2009).

Related to word processing is the use of tools in Adobe pdf files. Users may avail of tools such as the typewriter, highlighter, call out box, sticky, free style pen, or text boxes to record feedback. Both audio and video files may be embedded in the pdf files: though this often dramatically increases the document's file size.

(b) Pen technology (tablet), or pen top computing (stylus), allows instructors to review, comment, or add to learners’ work, by writing their comments on the learner’s paper on screen and save these comments to the file. The script may also be converted to typed text with some applications. This provides flexibility in terms of being able to jot notes in the paper’s column, as was typically done with paper-based assignments. The instructor is not daunted with having to type feedback but simply “write” it (Costello, 2009; Costello & Crane, 2009).

Steinweg, Williams, and Warren (2006) reported that tablet computer feedback allows “efficient, specific, and detailed feedback on assignments” (p. 11). Numerous benefits noted include: (a) instructors may more effectively respond to assignments; (b) less instructor time required; (c) employ a variety of visual effect using coloured ink, highlighter, or line width; (d) ease comment correction and erasure; and (e) personalized interactions between instructor and learners. The “written” text can be saved to the learner’s assignment, having been automatically converted to electronic text font. Using a tablet computer to provide feedback may increase efficiency and details in feedback. Instructors are able to make comments in the margins using a stylus and return the work to learners. Learners appreciate seeing exactly where the improvements can be made and see this as a “personal touch.”

(c) Audio scribe pens are a combination of pen and audio technologies. They allow the user to write notes on paper and record audio at the same time. These files are imported into the computer and synchronized so that the audio is aligned with the text.

(d) Recording digital audio feedback provides a means for instructors to “say” what they would like regarding the assignment. The audio file is either attached to the electronic assignment or returned to the learner as an audio feedback file (Costello, 2009; Costello & Crane, 2009). Audio feedback’s portability and ease requires minimal training for users. It allows for quick creation, downloading, and playing of files in multiple formats on numerous devices, which maybe listened to at the learner’s convenience. Reportedly, being able to attune to instructors' nuances in messages also has a positive impact on learners’ cognition and engagement (Oomen-Early, Bold, Wiginton, Gallien & Anderson, 2008). Audio feedback reportedly is preferred to text-based feedback as it facilitates conveyance of nuances while enabling retention and application of content. This method also helps depict instructors as positive influences for learners who felt more engaged, often replaying the audio, and felt that the instructor cared about them as individuals. They noted that learners
claimed to retain the information obtained in the audio feedback more than information received via text. Instructors reported shorter marking time while increasing the number of comments or suggestions provided; creating a win-win situation (Ice, Curtis, Phillips, & Wells, 2007). Brown Wessling (2013) reports that personalized audio feedback affords the grader to “speak writer to writer, reader to reader, and thinker to thinker” (n.p.).

(e) Digital video feedback affords multiple communication benefits not otherwise possible (Denton et al., 2008) such as body language, facial expressions, objects, demonstrations, etc. Increasing the teaching presence through video feedback was shown to have a positive impact on the learners (Parton, Crain-Dorough, & Hancock, 2010). A one-minute video may take upwards of 1MG of storage space, making video less portable than audio.

Digital video/audio lecture capturing that is synchronized with tablet computer presentations and activities provide an archived record of teaching effectiveness for assessment demonstration (Costello, 2009). According to the HEFCE 2010 report, learners believe that video or audio feedback is a more personal approach and provides more helpful detail than written feedback.

(f) Automated feedback is provided by the computer. When a learner completes a task, such as a drag and drop exercise or a multiple-choice question, the learner can be provided with immediate feedback. This may require some programming, but if carefully done, the program or code may be reused for other activities. Another advantage of these programmed exercises is that learners may repeat them multiple times. It is important when designing the automated feedback to allow learners a way to advance to the next stage.

According to Flatla et al. (2011), games that provide instant feedback with pleasant sounds, scores, quests, levels, etc. are motivational. For example, Sporcle’s “Can you name the elements of the periodic table?” game, (http://www.sporcle.com/games/g/elements) where players are asked to list all the elements in 20 minutes motivates players to beat their best score. There are educational, motivational, and entertaining games for many topics which employ some form of automated or computer-generated feedback.

Another form of automated feedback is implicit feedback, or feedback provided as the result of an individual’s action. For example, in a branching story or scenario, learners are presented with a mini case dilemma and options from which to choose to resolve the dilemma. Based on their response, they are provided with more information and options (Riedl & Young, 2006). This enables learners to see consequences for their choices.

(g) Personal response systems, or integrated student response keypads, (clickers) allow for real time whole class questioning and data collection and analysis (Costello & Crane, 2009). Clickers can be provided to learners with course packs, or in many cases, learners may use their handheld devices (smart phones or itouch) to submit responses. Immediate feedback enables learners to see both the correct response to instructor’s questions and compare their own responses to that of the rest of the class. This gives learners a good indication of their own learning and an indication to the instructor of how the class is progressing.

The above technologies are suitable for different feedback methods. Some technologies are more suitable for certain methods. Table 2 outlines a summary of these relationships that allow instructors to make informed decisions about the use of various methods for feedback. As instructors better recognize technologies’ affordances, they may be able to employ them in more innovative ways.

**Conclusion**

Learner-centered feedback is an important component of the learning process. Therefore, anything that instructors can do to increase the impact of feedback in a positive, efficient manner is worth doing. Technology and planning may reduce the time and energy required. Initially, some methods...
may require additional time, but once an instructor is comfortable, time may be saved. Friesen (2009) suggests “learning something about these technologies, about their educational contextualization” (p. 39) so as to employ them best.

Feedback and assessment are intricately related. The feedback discussed here has been in response to assessment and is not discipline dependent. Feedback is not just the comments on a written assignment, or the grade on a test, but also includes the class discussions, questions, and many of the interactions within the class group. Many strategies and technologies may be used in creating and disseminating this feedback. E-feedback increases teaching presence while decreasing social distance. Technology can mediate human relationships, affording a sense of presence, cognizance, and connection (Oomen-Early et al., 2008). Russell said: “[g]ood assessment is the right of all our students” (HEFCE, 2010, p. 7); taking this a step further: quality feedback is the right of all learners.

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Community members’ interference and conduct of University distance learning examinations in South Eastern Nigeria

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Abstract
This research work was aimed at determining the degree of community members’ interference in the conduct of university distance learning examination in South Eastern Nigeria. It was also aimed at finding out the factors responsible for the community members’ interference, the ways by which interference is effected, the consequences and the strategies to improve the conduct of the examination. A survey descriptive research design was adopted. Information obtained was analyzed by using the Z-test statistical technique. Findings include community members reluctance to provide their infrastructural facilities at cheap rate; use of some spaces for religious worships when examinations are taking place; harassment and bribing of invigilators or examiners; conspiracy with some community members to throw paper balls containing answers into halls, etc. The study recommends preventive measures for minimizing interference during the examinations.

Keywords: assessment; community; distance learning; examinations; Nigeria

Introduction
The value of examinations in any idealized picture of society cannot be overemphasized. This is because examinations, according to Aggarwal (2008), are good servants as they help to evaluate the achievements of students toward having a better society. They are great touchstones for measuring the amount of knowledge required or the degree of skill achieved by the students for use in the development of Nigerian society. It is quite disheartening that, as stated by Okonkwo (2011), the use of Marple TA software to conduct end of semester e-examination, which is aimed at enhancing the National Open University of Nigeria examination efficiency, still has its own challenges. This is why it is now acknowledged all over the world that, for quality education to be assured through the examination system, continued efforts of the government and the community are required. It further explains why some experts, like Motala (2001), asserted that quality education takes place in environments that are healthy, safe, protective, gender sensitive and provide adequate resources and facilities. Eze (2008), on his own part and on the same issue, reported that when schools and families work together to support learning and the examination system, it benefits everybody in double fold. It is unfortunate that in most parts of Africa and particularly Nigeria, the culture, religion and some individual differences tend to isolate school activities from the communities. The schools’ activities and the communities’ seem to be carried out in most areas along separate courses of developments. There exists in such a situation a rare point of collaboration, except when the students are met in the classroom for teaching and examination. The effect of this ugly development is that students in various programmes continue to be increasingly alienated from their communities. The students will also be insufficiently prepared to play any useful role in the Nigerian society.

The educational venture in Nigeria is no longer a conventional issue alone. It has become a venture in which the spirit of the public to benefit is awakened by introducing university distance
learning programmes. The recognition of community members as owners of the school programmes and thus their responsibility in protecting them has become a valuable asset to education and its professional development. Ordinary people in the community must be properly informed of the important role they will have to play and must surely play in the development of a school programme. Community members must be made to understand that school programmes and examinations given to their wards are their precious entitlement.

They are therefore required to accept them as their inheritances, which must be patronized and maintained at all cost. The benefit of the school programme and examinations conducted is such that when they are positively harnessed, accepted and organized, they could serve as catalysts for an effective teaching and learning. The school programme and examinations conducted must identify properly with the communities. They are to recognize the philosophy of life in each community, the life and attributes of the community members, the needs of the community members and perform other roles beneficial to all members of the communities. This was why Adeniyi, in Anukam and Anukam (2006) stated that school programmes and the examinations must be tailored toward qualitatively educating the members of the communities. The school programmes and the examination apart from culture are to be organized in a way they will make the community known within and to the outside world. They are to conserve the culture of the people of a particular language and promote adult literacy programmes. This will be accomplished when the school programmes, examinations and facilities provided are allowed to be in good conditions.

As a reciprocal gesture, the community members in turn will be expected to generate or raise funds for the maintenance and development of the school programmes and examinations. The community members are to protect and ensure conduct of the school programmes’ examinations in conducive environments. They assist examinations to stand in the midst of competition in using the halls for all sorts of purposes. Rather than witnessing positive school programme examinations and community relations, community members interfere with the conduct of university distance learning examinations in various forms. Community members’ interference involves the activities arising from the examinations venue of the school programme, which is a cog in the wheel of its success. When this is happening, the University governing council members appear not to be interested or are not capable of doing something to salvage the situation.

This explains why Bantock (1968, cited in Aggarwal, 2008) observed that learner central examination seems to be an ideal approach in the context of internal examination of the educational institutions, but how to achieve the objective is a hard nut to crack because of community interference and other reasons. Many studies have placed a strong emphasis on the gains of a positive school-community relationship, whereas not many studies seem to have been carried out on the negative impact of community interference on the conduct of school programmes’ examinations.

This study has therefore set out to determine the various ways and degree in which community interference affects the conduct of university distance learning examination in Nigeria. It went out further to examine the consequences of this interference and to suggest strategies to overcome such problems. University distance learning is referred to as a non-conventional system that offers opportunities to more learners seeking higher education and training. Adewale, Ajadi and Inegbedion (2011) state that, as reflected in the National Policy on Education, it is one of the maximum efforts that will be made to enable those who can benefit from higher education, to be given access to it.

**Literature review**

The conduct of university distance learning examination in the communities where the programme is permitted to exist is handled by organizations known as Institutes, Centres or consultancy services.
units. According to Parson (1960, cited in Ogunu, 2000) social system theory as an organization refers to a social system that is in structural and functional relationship with the larger social system, which is the host society. Most often, all social systems according to sociologists are confronted by four basic system problems. Parson outlined them as adaptation, goal-attainment, integration and pattern maintenance or latency. It implies that a school is a social system and the relationship between the programmes like examinations and the host community must be directed by the social system theory. Moore (1965, cited in Jayieoob, 1994) did observe that it is not realistic to assume that all social system elements have the same degree of interdependence in different environments. What a social system theory does is to give an insight into components’ parts of an organization, relationship among the parts or their function and ways the parts adapt to the influences of environment. Jayieoob and Atanda (2003) have been of the opinion that the old idea entailing that the school and its activities should first be regarded as an academic island existing apart from the community can no longer be sustained. Their work also recognized that the community and the school exert the greatest and permanent influence on the total development of the learner. Thus, the school community relationship must involve the members of the community surrounding the school and its activities such as examinations. This is very crucial since the community has remained as the primary agent of socialization on the part of learner.

Before the advent of school programmes, ancestors were using various methods to screen candidates for admission into some profession/occupations for training. Screening tests, entrance/grading tests, continuous assessment, terminal examination and external checks were the methods commonly adopted. Through the establishment of University of Ibadan by Oxford University, many students were admitted based on the conduct of an entrance admission/examination. This was used to regulate the number of candidates to be admitted and resulted into 2 or 3 students out of the aspirant/prospective students getting admission.

With the establishment of other Universities in Nigeria, whether public, federal, state or private universities, the Joint Admission and Matriculation (JAMB) board examination emerged, conducted by University experts. In terms of semester examinations for the students, the National Universities Commission recommended that the examinations should be conducted by the individual universities and not by JAMB. As written examinations made their appearance in Cambridge and Oxford Universities in the 1770’s, so did written examination make its appearance in distance learning universities in Nigeria as of 1948. Today, examinations that are conducted by Universities offering distance-learning programmes are done in over 400 locations and communities. Many criticisms are being directed at the ways the examinations are conducted. As examination had disturbed the examiners from the day it was constituted, so it has disturbed the community members. Mandernach (2003) is of the view that assessment is the means of guiding both instructors and students by providing insight on student learning and the effectiveness of institutional activities. Okonkwo (2011) referred to assessment as that which focuses on the individual learner, the learning community, the institution or the educational system as a whole.

For this reason the community members are seriously interfering with the conduct of the examination in various ways. In fact, the defect of examination has contributed to the negative attitude of community members toward distance learning examinations being conducted in Nigeria. The defects encompass developing frustration in the examinees, causing large incidence of failure, certificate inflation and disappearance of the genuine process of education. As a result of these defects or challenges, Okonkwo and Ikpe (2008) called for re-engineering of examination and evaluation process in National Open University of Nigeria (NOUN) via “On Demand Examination Initiative.”

It is in an attempt to overcome the defects of examination that community members who are concerned resolve to engage themselves in some frivolous interference moves. The interference
activities include the adverse behaviour of some very low performing students who want to pass the university distance education examination at all costs. In this situation, safety for other high performing students and facilitators conducting the examinations are not guaranteed for the examination goals to be achieved successfully. This could explain why Parret and Budge (2009) observed that too many educators continue to believe that people who live in poverty lack sharing a common set of beliefs, values, attitudes and behaviours. They exhibit poor bell curve mentality of failing work ethics, dwell in the use of alcohol drug abuse or dangerous instruments and show apathy toward university/school programmes like examination.

There is the urge by many schools/universities to enhance their internally generated revenue. This has made the community elders and managers of some Universities in which their facilities are being used to conduct university distance education examinations, to leave open the use of the facilities to whoever can afford to pay as demanded. This has made the religious organizations seeking space for worship centres to compete with the university distance education managers seeking space to conduct examinations. That is to say, most times noise from religious worships and other ceremonies by community members such as matriculation, convocation, elections or weddings tend to interfere with the examinations. Hatch (2009) complained about this development when he asserted in one of his articles that for universities to succeed on a wider scale, school based improvement initiatives (such as the conduct of examinations) have to be accompanied by concerted efforts to create more favourable economic, social, religious and political conditions. The conditions will give all the University programmes a better chance to manage the external environmental influences.

There is a role which community members and universities ought to play in providing incentive structures such as making available enough seats, materials and equipment for practices during examination. Unfortunately, the dirty nature of some environments and losses produced has immensely affected the conduct of the University distance education examinations in some centres. This was why Schleicher (2009) in his research work on the Programme for International Student Assessment (PISA) sponsored by the Organization for Economic Cooperation and Development (OECD) could track the performance of education systems in 23 industrialized countries of the world. In that research work, it was observed that physical injury of students, theft by community members and the possession of alcohol or drugs were among other problems frequently cited as obstacles to learning and conduct of examinations. The above observations all point to the fact that there is a need to examine the conduct of Nigeria’s University distance education examinations and the most pressing community interferences affecting the administration of the examinations in both the science and arts courses. This work will enable the researcher to determine and suggest strategies or an action plan which if implemented would enable Nigeria to reach the goals of the University distance education programmes.

**Purpose of the study and research questions**

Generally, the study intends to find out negative community members’ interference, which hinders to a great extent the successful standard conduct of university distance education examinations in South Eastern Nigeria. Specifically, the study was aimed at articulating measures that could be put in place to improve the conduct of the examination in South Eastern Nigeria and the relationship between the community members and the administrators of university distance education programmes. University distance learning examinations, even though fraught with problems, are done in Nigeria in a number of forms such as pen and paper semester examination type, electronics or Website examination and long Vacation or come into resident examination. This study is not
interested in distinguishing one type of examination from the other but to see how to handle the influence of learning community on the various examinations.

The research questions formulated to guide the investigation are as indicated below:

1. Which are the various forms of community members’ interference in the conduct of university distance education examinations in Nigeria?
2. What are the consequences of community members’ interference in the conduct of University distance education examinations in Nigeria?
3. Which are the operational steps to follow to minimize community members’ interference in the conduct of university distance education examinations in Nigeria?

Research design and procedure

Descriptive and analytical survey research designs were used for this research work. 28 universities that are offering distance education programmes in Nigeria and from different parts of the country were considered for the work. The population of the work comprised 480 facilitators out of which 48 were sampled purposively and randomly for this work. The self made instrument which comprised 15 items was used to enable the researcher to obtain data for each of the research questions. The responses of the facilitators were ordered in a four-point likert scale. The instrument was face and content validated and coefficient of reliability determined as 0.88. Z-test statistical technique was adopted in the analysis of the data collected. Any mean score between 1–1.4 is accepted as strongly disagree, then between 1.5–3.4 is accepted as disagree, 2.5–3.4 is accepted as agree and 3.5–4.0 is accepted as strongly agree.

Data analysis and results

Forms of community members’ interference in examinations

Table 1 shows that the following forms of community members’ interference in the conduct of university distance education examinations in Nigeria were identified by respondents. They include occasional entering of halls by cult members with weapons of intimidation on invigilators; stealing and damaging of some examination materials and pews and dirtying examination venues with wastes, papers and excreta. Other interferences include examination space encroachment for religious worships and other local ceremonies and reluctance to release land and some facilities for examination when the community is not favoured in one way or the other.

All the same, the respondents did not agree that the community members interfere in the conduct of University distance education examination by going for the procurement of question in advance and giving answers to them.

Consequences of community members’ interference in examinations

Table 2 shows that the respondents agreed that the various form of community members’ interference in the conduct of University distance education examination in Nigeria has had some consequences. The influences are that it has made the basic level of academic achievement/competences targeted for students to fall low and that students are discouraged by their parents to participate in the University distance education examination in such communities.

Other effects identified are that the administrators of University distance education examinations lose focus and sponsorship, partnership obstacle and opposition challenge by National Universities commission prevails and the valuing of the students taking the examination, the host community and the examination outcome reduces.
Table 1: Forms of community members’ interference in the conduct of University distance education examinations in Nigeria

<table>
<thead>
<tr>
<th>Item</th>
<th>Form of Interferences</th>
<th>Number of Respondents</th>
<th>Total score</th>
<th>Weighted Average score</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Occasional entering of halls with weapons of intimidation on invigilators during emergency</td>
<td>48</td>
<td>192</td>
<td>4.00</td>
<td>Strongly agree (4)</td>
</tr>
<tr>
<td>2</td>
<td>Stealing and damaging of some examination materials and pews</td>
<td>48</td>
<td>192</td>
<td>4.00</td>
<td>Strongly Agree (4)</td>
</tr>
<tr>
<td>3</td>
<td>Dirtying of examination venues with wastes, papers and excreta</td>
<td>48</td>
<td>172</td>
<td>3.58</td>
<td>Strongly Agree (4)</td>
</tr>
<tr>
<td>4</td>
<td>Examination space encroachment for religious worships and other local ceremonies</td>
<td>48</td>
<td>166</td>
<td>3.46</td>
<td>Strongly Agree (4)</td>
</tr>
<tr>
<td>5</td>
<td>Reluctance to release land and same facilities for examinations where the community is not favoured in one way or the other</td>
<td>48</td>
<td>131</td>
<td>2.73</td>
<td>Agree (3)</td>
</tr>
<tr>
<td>6</td>
<td>Procurement of questions in advance and giving answers to them</td>
<td>48</td>
<td>83</td>
<td>1.73</td>
<td>Disagree (2)</td>
</tr>
</tbody>
</table>

Table 2: Consequences of Community interference in conduct of University Distance Education Examination in Nigeria

<table>
<thead>
<tr>
<th>Item</th>
<th>Consequences</th>
<th>Number of Respondents</th>
<th>Total score</th>
<th>Weighted Average score</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Basic level of Academic achievement/competences targeted for students fall low</td>
<td>48</td>
<td>168</td>
<td>3.50</td>
<td>Strongly agree (4)</td>
</tr>
<tr>
<td>2</td>
<td>Discouragement of students by parents to participate in the University distance education examinations</td>
<td>48</td>
<td>120</td>
<td>2.50</td>
<td>Agree (3)</td>
</tr>
<tr>
<td>3</td>
<td>Administrators of University distance education examination will lose focus and then confidence of their sponsors</td>
<td>48</td>
<td>132</td>
<td>2.75</td>
<td>Agree (3)</td>
</tr>
<tr>
<td>4</td>
<td>Partnership obstacle and opposition challenges prevail</td>
<td>48</td>
<td>164</td>
<td>3.42</td>
<td>Agree (3)</td>
</tr>
<tr>
<td>5</td>
<td>Valuing of students, the host community and examination outcome reduces</td>
<td>48</td>
<td>151</td>
<td>3.15</td>
<td>Agree (3)</td>
</tr>
</tbody>
</table>
Table 3: Operational steps to follow to minimize community members interference

<table>
<thead>
<tr>
<th>Item</th>
<th>Operational Steps</th>
<th>Number of Respondents</th>
<th>Total score</th>
<th>Weighted Average score</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Creating proper climate to arouse social conscience against community interference during examinations</td>
<td>48</td>
<td>192</td>
<td>4.00</td>
<td>Strongly agree (4)</td>
</tr>
<tr>
<td>2</td>
<td>Rekindling students’ natural curiosity and enthusiasm for real learning and examination by nurturing well their personal and spiritual development</td>
<td>48</td>
<td>192</td>
<td>4.00</td>
<td>Strongly Agree (4)</td>
</tr>
<tr>
<td>3</td>
<td>Setting up community based honour society programmes and parades to collaboratively motivate achieving students and celebrate hard work</td>
<td>48</td>
<td>192</td>
<td>4.00</td>
<td>Strongly Agree (4)</td>
</tr>
<tr>
<td>4</td>
<td>Ensuring equity and successfully examining every student, no matter the influences of poverty on the students learning and access to writing examination</td>
<td>48</td>
<td>192</td>
<td>4.00</td>
<td>Strongly Agree (4)</td>
</tr>
</tbody>
</table>

Operational steps to minimize community members’ interference in examinations

Table 3 shows that the respondents strongly agreed that there are a number of measures which could be put in place to minimize community members interference in the conduct of university distance education examinations in Nigeria. They include creating proper climate to arouse social conscience against community interferences, and rekindling students’ natural curiosity and enthusiasm to participate in real learning and examination by nurturing well their personal and spiritual development.

The other steps accepted by the respondents include setting up community-based honour society programmes and parades to collaboratively motivate achieving students and celebrate hard work; as well as ensuring equity and successfully examining every student, no matter the effect of poverty on the students learning and access to writing examination.

Discussion of findings

The results of the analysis of the information collected from the respondents and displayed in tables 1, 2 and 3 revealed a series of community members’ interference in the conduct of university distance education examinations in Nigeria, the consequences and steps to follow to minimize the effect in the future. Drawing our attention to the positions of the respondents in table 1, it was realized that cult students occasionally enter the examination halls with weapons to intimidate the invigilators. This is in line with Aggarwal’s (2008) observation in his works: that students threaten the life of invigilators during examination and even go to the extent of preparing to carry knives, shot guns, daggers and chilli powder in their pockets or in their shoes with an intent to use them in case of emergency.

The study further revealed stealing and damaging of examination materials and pews by some community members as one of the interferences. This was followed by the finding that community
members interfere by dirtying the examination venues with wastes, papers and excreta as a way of expressing their grievances and opposition to the conduct of the examination.

This is supported by Aggarwal (2008), who stated in his work that some community members are seen during examinations preparing the answers for anticipated questions on additional examination materials/scripts stealthily secured from the examination centres. Covey (2009), in a research work where he asked some parents and local business leaders what they wanted from some school programmes, asserted that they wanted programmes which will teach all members to be responsible and observing good hygiene no matter the environment. Motala (2001) even reiterated this by stating that quality education takes place only in an environment that is healthy, safe, protective, gender sensitive and provides adequate resources and facilities.

Encroachment of community members into some examination spaces for religious worship or local ceremonies and the hesitation of community members to release land and some facilities for examination purposes except when it favours them directly or financially, were identified as other interferences by respondents. This was why Price (2008), in line with the above finding, stated that when community groups want to pitch in, we must articulate strategies which will best capitalize on their assets to the schools so that their involvement produces better outcomes for the students as opposed to busy work, distractions and tension for school personnel. He further went on to ask what educators can do to first galvanize and then direct community groups’ energy and approval in ways that will complement what is going on in any classroom, which could be in form of University distance education examination.

After reviewing table 2 items, the respondents also identified a number of consequences as a result of community members’ interference in the conduct of University distance education examinations. The effects included basic level of academic achievement/competences of the students falling low, and discouragement of students from participating in the examinations by parents or guardians. In support of these findings, Balfanz and Legters (2006) branded such Universities dropout factories. They reported that typically some of the students concerned stop focusing on class lectures and examinations, attend infrequently, fail too many courses to be promoted to the next level of study, try again with no better results, and ultimately drop out.

Some other consequences identified by the respondents included examination administrators losing focus and confidence of sponsors, facing partnership opposition and reducing the examination outcome and host community values. According to MC Wilson as stated by Price (2008) the finding tallies with his observation that in working with community parents, it is important to speak and act in positive forces. That badgering them by the administrators will simply turn them off to the message. And according to AED (2005) as collaborations move into the operational phase, insufficient consultation among partners can cause some organization to lose interest and value. It implies that, when partners are kept out of the loop, the partnership may suffer in various capacities. There must be a spelled out sense of the respective roles of the partners. Problems can arise when the various parties are unclear as to what their roles ought to be to the success of an examination.

In table 3, the respondents outlined creating proper climate to arouse social conscience against community interference during examinations; rekindling students’ natural curiosity and enthusiasm for real learning and examination; setting up community-based honour society programmes to motivate and celebrate achieving students; and ensuring equity and successful examination of every student no matter the influence of poverty as steps to take to minimize community interference. This was why Aggarwal (2008) advised the boards of education to create a proper climate against the social evil known as community interference and malpractices in examinations, which has almost
completely vitiated the educational process. De Neal (1998) acknowledged McKnight Achievers society and Urban League in Gary, honouring every youngster who earned a 3.0 GPA and thereby building in the students’ self-esteem and motivating all students to want to work harder in their studies. Parrett and Budge (2009) also suggested the provision of protective factors by removing any economic barriers to students participation in various classroom activities and restructuring schools into small learning communities and advisory programmes.

Conclusions and recommendations

Now that it has been established that community members interfere with the conduct of University distance education examination in Nigeria, the administrators of the examination must learn to rebuild and maximize the creation of more favourable relationship between them and the communities. It is by rebuilding the relationship, that the university administration can tackle the difficult tasks faced in conducting the Universities distance education examination.

Administrators of University distance education examinations have enormous responsibility in trying to conduct, motivate and teach their students to learn to collaborate with community groups, which may not be part of their job schedules. But due to the fact that there have been some problems and break ups between the university and their communities in times past, working with the community members is essential if the examinations must achieve the desired objectives.

This work hereby recommends as follows:

1. The universities offering distance education examinations in some communities must develop traditions and sustain them, which will intentionally build relationship between the institutions and community members. Covey (2009) suggested holding events such as leadership honouring day, silver-tray luncheons where students are taught basic manners and other etiquettes, inaugural ball in-house sports, telling of stories and holding of protection services in the community.

2. The University administrations, instead of dominating the action, should supervise and allow community members who are qualified to be key players in conducting the examinations and getting paid the necessary honorarium.

3. The University administrators must initiate certain strategies to attract community funders in helping high performing students who are influenced by poverty. The key to succeeding in these ventures is based on the seriousness of the Universities in partnering with the community groups, the thoughtfulness of the action plan, the potential impact of the action plan, the capacity to execute the action plan, the clearheaded grasp of the plans’ execution challenges and the ability to assess impact of the plans’ execution on the attitudes and achievement of all the students in the programme.

4. Deployment of enough law enforcement officers to ward off infiltrators during the conduct of examinations. Sanctions should be appropriately given where any community members are interfering in the conduct of examination to discourage other communities from taking similar action

5. University administrators must spend part of the examination budget on thoughtful improvements to examination halls in the communities, libraries, toilet facilities, or other aspects of the physical environment, which conserve both the university neighbourhood and community members.

All efforts by the University administrators to improve conduct of distance education examinations in the communities without regard to maximizing the relationship and opportunities with the
community members are likely to continue to fail. This study is therefore advocating that while our target is to successfully conduct University distance education examinations in Nigeria, concerted efforts ought to be put in place to create more favourable religious, ethnic, economic, social and political conditions in our communities which will enable the examinations to achieve the desired goals.

References


Mastery of Course Learning Outcomes in ODL
A Case Study of the Pearson eCollege Learning Outcome Manager

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Abstract

The constant emphasis on maintaining a high level of quality in the Open Distance Learning (ODL) self-directed courses delivered at Wawasan Open University (WOU) demands the accurate assessment of course learning outcomes (CLO). The summative and formative assessment components of each course module are, in theory, designed to effectively measure the mastery of a set of CLO by an adult learner. However, in reality, there is no real scrutiny of the assessments at WOU to ascertain whether a learner has achieved the expected mastery of a CLO. The general assumption is that the assessment marks are an indication of the mastery of a particular set of CLO measured in a specific assessment component. With the aim of identifying whether assessment marks are indeed reflective of the mastery of a set of CLO, a study was conducted to implement the “Person eCollege Learning Outcome Manager” software application. This paper discusses the methodology and findings of this study and provides several suggestions for the smooth implementation of the Learning Outcome Manager.

Keywords: Assessment; Course Learning Outcomes; Learning Outcome Manager; Open Distance Learning; Outcome Based Education; Pearson eCollege

Introduction

Being an Open Distance Learning (ODL) institution, Wawasan Open University (WOU) adopts a blended method for course delivery to its adult learners. At the undergraduate level, the learners undertake courses of five credit hours in self-directed mode using purpose designed course materials supplemented by brief face to face tutorial sessions and an online learning management system. Due to the lifelong learning aspect of the business where the focus on learning outcomes is considered crucial (Hussey & Smith, 2003), WOU invests heavily in the development and continuous quality improvement of the self-directed course materials which undergo a comprehensive instructional design process (Abeywardena, 2013). This, in turn, makes the materials suitable for learner centric Outcome Based Education (OBE) (McNeir, 1993). Each course is specifically designed to promote mastery of a particular set of course learning outcomes (CLO) by a learner. The CLO are further subdivided into unit learning outcomes (ULO), which allow learners to self-assess their mastery using formative assessment components. The combination of CLO and ULO contribute holistically to the achievement of the program learning outcomes. Despite the insights provided by the formative assessment component into the learners' mastery of CLO (Black & Wiliam, 1998) the lack of class room based activities in ODL makes the summative assessment component critical in assessing the mastery of CLO.

The summative assessment at WOU is twofold: (i) continuous assessment in the form of Tutor Marked Assignments (TMA); and (ii) final proctored exam. However, this summative assessment component is not scrutinised in detail to assess the mastery of the CLO by the learners. In this regard, the general assumption being made is that the assessment marks are reflective of the
learners’ mastery of the CLO; which implies that the higher the marks the better the mastery of the CLO. Even though there have been studies conducted such as the one by Gijbels et al. (2005) which identifies a correlation between the mastery of CLO and the Grade Point Average (GPA), no such study has been conducted to identify the validity of this assumption in the context of the ODL environment at WOU. For the purpose of gaining an understanding of the correlation between the marks and the mastery of the CLO by WOU students, a study was conducted using the Pearson eCollege Learning Outcome Manager—which will be referred to as the Learning Outcome Manager for the remainder of this paper.

The learning outcome manager is a web based software platform that allows academics to monitor the mastery of CLO by their students in both formative and summative assessments. The experiment was conducted as a retrospective study by superimposing the mastery of CLO on the assessment marks. The major contribution of this paper is the insight it provides into the correlation between summative assessment marks and the mastery of CLO by adult ODL learners. The rest of the paper is organised into four parts, which consist of methodology, results, discussion and conclusion.

**Methodology**

This particular study was conducted over a six-month period in the beginning of 2011. An independent academy was created for WOU on the Learning Outcome Manager that allowed the detailed tracking of students’ progress for a particular ODL course. *TCC123/05 Visual Programming*, a five credit hour lower level technical course, equivalent to a first year course of a conventional university, specialising in Visual Basic.Net (VB.Net) was used as the test case for the study. This course was purposely chosen as the test case taking into account the total of 71 learners who had completed the course in the July semester of 2010. These learners were geographically distributed among four learning centers located across Malaysia.

In theory, upon successful completion of the course the learners would have mastered five CLO as shown in Table 1. The summative assessment for this particular course comprised of (i) three TMA, which are a combination of theory and laboratory exercises contributing 50% to the final score; and (ii) one proctored examination contributing the remaining 50% to the final course score. The learners were required to obtain a minimum mark of 40% for both components to pass the course. In an attempt to ensure that the use of the Learning Outcome Manager would not interfere with the assessment and feedback provided to the students, the study was conducted retrospectively. As such, the Learning Outcome Manager was setup to superimpose the mastery of CLO on top of the assessment marks that had already been awarded through an independent exercise conducted prior to the study.

**Table 1: Course Learning Outcomes (CLO) for TCC123/05 Visual Programming**

<table>
<thead>
<tr>
<th>Course Learning Outcome (CLO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Discuss the principles of object oriented programming</td>
</tr>
<tr>
<td>2. Write the basic elements of subroutines and functions in Visual Basic programs</td>
</tr>
<tr>
<td>3. Create graphical user interface for Windows applications</td>
</tr>
<tr>
<td>4. Develop web database applications</td>
</tr>
<tr>
<td>5. Construct effective data structures and implement advanced object oriented programming approach</td>
</tr>
</tbody>
</table>
Four classes were created on the Learning Outcome Manager representing each of the four learning centers. Additionally, student accounts were created for each student enrolled in a particular class. In a real-world scenario, the students would have been able to track their progress through the Learning Outcome Manager throughout the duration of their study. However, this feature was disabled for the purposes of the study as it was conducted retrospectively. Only the Student ID was used to identify the student in the system to ensure anonymity and unbiased evaluation.

For the effective measurement of the mastery of CLO (i) each CLO was granulated into smaller ULO; (ii) a rubric comprising of a three point Likert scale was identified which measured the mastery of ULO in terms of needs improvement, meets the requirement or exceeds the requirement; and (iii) learning statements were identified which measured the mastery of a ULO against the rubric. Following this exercise, the rubric (Appendix A) was setup on the Learning Outcome Manager. Subsequently, the corresponding CLO in the rubric were mapped against the summative assessments as shown in Table 2. An assumption was made from the outset that the average of the mastery of each ULO would determine the overall mastery of the corresponding CLO. i.e. an average mastery of 2/3 would be deemed as meeting the requirement with respect to the mastery of the CLO.

Upon setup of the system, the academic in charge of the course did the data entry of the assessment marks. Following it, the TMA and answer scripts of the exam were re-evaluated to determine the mastery of the ULO by the learners. This re-evaluation was conducted against the rubric already setup on the Learning Outcome Manager. The numerical marks plus the letter grades were recorded in the Learning Outcome Manager for further analysis. Once the re-evaluation was complete, detailed reports were generated using the system in MS Excel format. The Pearson product-moment correlation coefficient (r) was used to determine the correlation between the assessment marks and the mastery of CLO. The statistical analysis was conducted using the MS Excel software application.

Results

The mastery of the CLO was mapped against the assessment marks for the exam and the three TMA in a scatter plot as shown in Figure 1. The Pearson product-moment correlation coefficient (r) between mastery of CLO and assessment marks was calculated for each assessment as shown in Table 3.

Discussion

According to the results of the statistical test (Table 3), there is a strong positive correlation (r ≈ 1) between the mastery of the CLO and the assessment marks. This provides some indication that

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Course Learning Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CLO1</td>
</tr>
<tr>
<td>Proctored Exam</td>
<td>√</td>
</tr>
<tr>
<td>TMA1</td>
<td></td>
</tr>
<tr>
<td>TMA2</td>
<td>√</td>
</tr>
<tr>
<td>TMA3</td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Mapping of CLO to assessment

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the marks of an assessment can be used to ascertain the mastery of the CLO. However, the correlation does not indicate which range of marks would be representative of meeting the requirement with respect to the mastery of CLO. To identify the possible correspondence between the assessment marks and the mastery of the CLO in relation to the rubric, the summative assessment marks were plotted against the mastery of the CLO in a scatter plot (Figure 1). By analysing the scatter plot, it was identified that the marks ranging from 60% to 80% are approximately indicative of the

**Table 3: Pearson product-moment correlation coefficient (r) between mastery of CLO and assessment marks**

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Number of Learners</th>
<th>(r)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam</td>
<td>48</td>
<td>0.903748</td>
</tr>
<tr>
<td>TMA1</td>
<td>66</td>
<td>0.768821343</td>
</tr>
<tr>
<td>TMA2</td>
<td>61</td>
<td>0.843116626</td>
</tr>
<tr>
<td>TMA3</td>
<td>54</td>
<td>0.816461787</td>
</tr>
</tbody>
</table>

*Figure 1: Mastery of CLOs Vs. Assessment Marks*
learner’s mastery of the CLO. It is further approximated from Figure 1 that marks less than 40% are indicative of the need for improvement. This bears a resemblance to the passing mark of the summative assessments at WOU, which is set at 40%. Assessment marks beyond 80% are approximately indicative of the learner exceeding the requirement as far as the mastery of CLO is concerned. Referring to Table 4, it can be seen that the overall grade obtained by WOU learners in their summative assessment has an approximate correspondence to the level of mastery of CLO.

Despite the fact that the statistical analysis is indicative of a correlation between the summative assessment marks and the mastery of CLO, it must be noted that the correspondence between the rubric and the assessment marks is only an approximation. This is mainly due to the breadth of the three point Likert scale used in the rubric to measure the mastery of the CLO. In the context of the Visual Programming course, given the technical nature of its content, mastery of certain ULO can only be measured as either meeting or not meeting the requirement. This skews the measurement to 1/2 instead of 2/3. In contrast, the achievement of certain ULO requires a scale larger than three points to identify the mastery in between meeting the requirement and exceeding the requirement. Therefore, it can be concluded that a more granular CLO assessment rubric is needed for effectively identifying a potential correspondence between the assessment marks and the mastery of CLO. This argument is further strengthened by the conclusions of the parallel study that used the three credit hour lower level foundation course Advanced Writing Skills for University Studies, which deals with content in the social science domain. In her paper detailing this study, Emmanuel (2011, p. 6) states

“...when the three point Likert scale had to be created, it led the course coordinator (academic) to examine in detail the criteria for each category to a great extent...to be able to show clear lines of delineation among the categories. This involves the ability to write good rubrics.”

Emmanuel (2011, p. 6) further states: “...for course coordinators who come from industrial backgrounds, workshops need to be organised in this area otherwise the LOM (Learning Outcome Manager) efforts will be hampered.”

As such, it can be noted that the accurate creation of the rubric for measuring the mastery of the CLO is a critical factor in the success of the whole Learning Outcome Manager implementation process. However, it must also be noted that while the increased granularity of the rubric contributes to the increased accuracy of the measurement, it also contributes to the fatigue of the assessor. Thus, the key is to find the correct balance between the two.

### Conclusion

A study was initiated at Wawasan Open University (WOU) in collaboration with Pearson eCollege to identify a possible correlation between assessment marks and the mastery of course learning outcomes (CLO) in a self directed adult Open Distance Learning (ODL) environment. During the course of the study, it was realised that the implementation of the Learning Outcome Manager software application needs to be done holistically from inception to conclusion of an ODL course in
order to maximise the return on investment. As such, the implementation plan needs to take into consideration the design, development, delivery, assessment, feedback and revision stages of the course development lifecycle.

The study further exposed the strengths and weaknesses of the present assessment strategies at WOU especially with respect to measuring the mastery of CLO. From the results, it can be seen that the summative assessments implicitly take this aspect into consideration. However, the need for an explicit attempt at measuring the mastery of the CLO needs to be seriously considered in the spirit of Outcome Based Education (OBE). Furthermore, the effectiveness of using a detailed rubric for measuring the mastery of CLO was also brought to the attention of the stakeholders. Another point that was brought to view was that certain CLO were being assessed multiple times in the summative assessment. In this regard, the study urged the academics to seriously re-evaluate their assessments taking into consideration the concepts in OBE.

Overall, the Learning Outcome Manager was found to be a more comprehensive and effective method of assessing the mastery of CLO. The ability of the system to track the mastery of the smaller ULO in addition to the larger CLO provides all stakeholders a real-time view of the progress made by the students and the class as a whole. This, in turn, acts as a continuous quality improvement mechanism whereby the key stakeholders are provided with the ability to tailor learning activities and assessments to ensure the mastery of most CLO by the learners. Furthermore, the Learning Outcome Manager provides a usable yardstick for the accurate assessment of OBE in ODL environments which doubles as a valuable enabler especially in accreditation exercises.

Acknowledgments

The author acknowledges the support provided by Pearson eCollege with respect to free access to the eCollege Learning Outcome Manager (LOM) software platform and user training.

A preliminary version of this paper was presented during the 25th Asian Association of Open Universities Annual Conference, Penang, Malaysia, 2011 (Abeywardena, 2011).

References


### Appendix A

**Rubric for measuring the mastery of Unit Learning Outcomes (ULO) for a particular Course Learning Outcome (CLO).**

<table>
<thead>
<tr>
<th>CLO1: Discuss the principles of object oriented programming</th>
<th>Exceeds the Requirement</th>
<th>Meets the Requirement</th>
<th>Needs Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>ULO1.1 Identify the differences between procedural and object-oriented programming.</td>
<td>Being able to differentiate between procedural and object-oriented programming.</td>
<td>Not being able to differentiate between procedural and object-oriented programming.</td>
<td></td>
</tr>
<tr>
<td>ULO1.2 Describe the Handlers Design pattern.</td>
<td>Being able to explain the role of events.</td>
<td>Not being able to explain the role of events.</td>
<td></td>
</tr>
<tr>
<td>ULO1.3 Recall the basic concepts of object-oriented technology.</td>
<td>Being able to explain information hiding, inheritance and polymorphism.</td>
<td>Being able to explain information hiding and inheritance.</td>
<td>Not being able to explain information hiding and inheritance.</td>
</tr>
<tr>
<td>ULO1.4 Explore the Visual Basic 2008 Integrated Development Environment (IDE).</td>
<td>Being able to create a project in the IDE.</td>
<td>Not being able to create a project in the IDE.</td>
<td></td>
</tr>
<tr>
<td>ULO1.5 Develop a simple GUI event-driven program using Visual Basic.</td>
<td>Being able to create a button click event.</td>
<td>Not being able to create a button click event.</td>
<td></td>
</tr>
<tr>
<td>ULO1.6 Apply the Visual Basic program to create a simple application.</td>
<td>Being able to create a simple program to display a word when a button click event happens.</td>
<td>Not being able to create a simple program to display a word when a button click event happens.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CLO2: Write the basic elements of subroutines and functions in Visual Basic programs.</th>
<th>Exceeds the Requirement</th>
<th>Meets the Requirement</th>
<th>Needs Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>ULO2.1 Write a simple program using Visual Basic.</td>
<td>Being able to create a console application to output a string.</td>
<td>Not being able to create a console application to output a string.</td>
<td></td>
</tr>
<tr>
<td>ULO2.2 Explain and apply primitive data types including integers, strings, and dates.</td>
<td>Being able to use integer, string and date in a console application.</td>
<td>Not being able to use integer, string and date in a console application.</td>
<td></td>
</tr>
</tbody>
</table>
## CLO2: Write the basic elements of subroutines and functions in Visual Basic programs.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Exceeds the Requirement</th>
<th>Meets the Requirement</th>
<th>Needs Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>ULO2.3</td>
<td>Use arithmetic and logical operators to perform calculations.</td>
<td>Being able to use AND, OR, NOT, +, -, *, /, MOD in a console application for calculations.</td>
<td>Not being able to use AND, OR, NOT, +, -, *, /, MOD in a console application for calculations.</td>
</tr>
<tr>
<td>ULO2.4</td>
<td>Apply code selection and repetition statement.</td>
<td>Being able to use IF... Else, Select... Case, For, While loops for code selection and repetition in a console application.</td>
<td>Not being able to use IF...Else, Select... Case, For, While loops for code selection and repetition in a console application.</td>
</tr>
<tr>
<td>ULO2.5</td>
<td>Create and apply methods to a program.</td>
<td>Being able to create a method, pass parameters to the method, call the method from within the main method and return values to the calling method.</td>
<td>Not being able to create a method and call the method from within the main method.</td>
</tr>
</tbody>
</table>

## CLO3: Create graphical user interface for Windows applications

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Exceeds the Requirement</th>
<th>Meets the Requirement</th>
<th>Needs Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>ULO3.1</td>
<td>Design and build a graphical Windows application using GUI controls.</td>
<td>Being able to add GUI controls to a form following industry standards for GUI development.</td>
<td>Not being able to add GUI controls to a form.</td>
</tr>
<tr>
<td>ULO3.2</td>
<td>Create and manipulate GUI controls.</td>
<td>Being able to modify the properties of a control to suit the requirement while adhering to industry standards for GUI controls.</td>
<td>Not being able to modify the properties of a control to suit the requirement.</td>
</tr>
<tr>
<td>ULO3.3</td>
<td>Use the Windows Presentation Foundation (WPF) to draw simple shapes.</td>
<td>Being able to create a WPF project and draw complex geometrical shapes according to the specifications.</td>
<td>Not being able to create a WPF project and draw a simple geometrical shape according to the specifications.</td>
</tr>
<tr>
<td>ULO3.4</td>
<td>Apply simple SQL queries.</td>
<td>Being able to manipulate data in a database using the SELECT, INSERT, UPDATE, DELETE queries.</td>
<td>Being able to get data from a database using the SELECT query.</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------</td>
</tr>
<tr>
<td>ULO3.5</td>
<td>Generate database connections and create LINQ to SQL objects.</td>
<td>Being able to create a database connection, create a LINQ to SQL object and use the LINQ to SQL object in an application.</td>
<td>Being able to create a database connection and create a LINQ to SQL object.</td>
</tr>
</tbody>
</table>

**ULO4: Develop web database applications**

<table>
<thead>
<tr>
<th>CLO4: Develop web database applications</th>
<th>Exceeds the Requirement</th>
<th>Meets the Requirement</th>
<th>Needs Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ULO4.1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop a Web application using ASP.NET.</td>
<td>Being able to start an ASP.Net project and create multiple pages.</td>
<td>Being able to start an ASP.Net project and create a default page.</td>
<td>Being able to start and ASP.Net project but not being able to create a default page.</td>
</tr>
<tr>
<td><strong>ULO4.2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create Web Forms.</td>
<td>Being able to insert a form into a page with form controls for gathering information and adding the code behind to submit the information to the server.</td>
<td>Being able to insert a form into a page with form controls for gathering information.</td>
<td>Not being able to insert a form into a page with form controls for gathering information.</td>
</tr>
<tr>
<td><strong>ULO4.3</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implement data validation controls.</td>
<td>Being able to bind the data validation controls to the form and output informative information to the user.</td>
<td>Being able to bind the data validation controls to the form.</td>
<td>Not being able to bind the data validation controls to the form.</td>
</tr>
<tr>
<td><strong>ULO4.4</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use cookies to obtain information about users.</td>
<td>Being able to create, deploy, update, retrieve and delete cookies and use the cookie information in the application.</td>
<td>Being able to create, deploy, update, retrieve and delete cookies.</td>
<td>Not being able to create, deploy, update, retrieve and delete cookies.</td>
</tr>
<tr>
<td><strong>ULO4.5</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connect to a database in ASP.NET.</td>
<td>Being able to add a LINQ to SQL object into an ASP.Net application and use the data from the database in the application.</td>
<td>Being able to add a LINQ to SQL object into an ASP.Net application.</td>
<td>Not being able to add a LINQ to SQL object into an ASP.Net application.</td>
</tr>
</tbody>
</table>
### CLO5: Construct effective data structures and implement advanced object oriented programming approach.

<table>
<thead>
<tr>
<th></th>
<th>Exceeds the Requirement</th>
<th>Meets the Requirement</th>
<th>Needs Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ULO5.1</strong>&lt;br&gt;Create object-oriented programs.</td>
<td>Being able to create classes, objects and use objects to interact with the class in an application.</td>
<td>Being able to create classes and objects.</td>
<td>Not being able to create classes and objects.</td>
</tr>
<tr>
<td><strong>ULO5.2</strong>&lt;br&gt;Demonstrate data structure programming methods in Visual Basic.</td>
<td>Being able to program the logic behind stack, queue and list using arrays.</td>
<td>Being able to implement stack, queue, list and arrays in applications.</td>
<td>Not being able to implement stack, queue, list and arrays in applications.</td>
</tr>
<tr>
<td><strong>ULO5.3</strong>&lt;br&gt;Use generic and collection methods as a new tool in Visual Basic.</td>
<td>Being able to use generic methods and collections to complete tasks in applications.</td>
<td>Being able to implement generic methods and collections in applications.</td>
<td>Not being able to implement generic methods and collections in applications.</td>
</tr>
<tr>
<td><strong>ULO5.4</strong>&lt;br&gt;Create and manipulate static and dynamic data structures.</td>
<td>Being able to create and use arrays, stacks, queues and linked lists to complete tasks in applications.</td>
<td>Being able to create and use arrays, stacks, queues and linked lists.</td>
<td>Not being able to create and use arrays, stacks, queues and linked lists.</td>
</tr>
</tbody>
</table>

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Mobile Technology: Implications of its Application on Learning

Samuel Adesola Adeyemo, Gloria Olusola Adedoja & Omobola Adelore

*University of Ibadan (Nigeria)*

**Abstract**

Learning in Nigeria is considered to have taken a new dimension as the Distance Learning Centre (DLC) of the University of Ibadan has created wider access to learning through the application of mobile technology to learning with particular reference to mobile phones use for the teaching and learning process. By this, the Centre seeks to achieve one of the major objectives of the Nigerian National Policy on Education, which is the provision of equal educational opportunities to all citizens at different levels of education. The paper therefore presents the attendant challenges of introducing such an innovative idea to learning at the University of Ibadan using a sampled population of 201 in a Focus Group Discussion (FGD) held among learners under the Distance Learning platform to establish the benefits and problems of using mobile phones for learning in the University of Ibadan.

**Keywords:** distance education; distance learning; mobile phones; mobile technology

**Introduction**

There are estimated to be 1.5 billion mobile phones in the world today and presently, Nigeria alone has over 107.4 million mobile phone subscribers (Prensky, 2004; NCC, 2012). In fact, roughly half of the world’s population already has some type of mobile phone, making it the most wide spread technology and most common electronic device in the world. This implies that mobile phones are more than three times the number of personal computers (PCs) and most of today’s phones have the processing power of an average PC. These facts and the range of computer-like functionality offered by mobile phones and PDAs, are leading some observers to speculate that many people in the not so distant future will start to see the mobile phone as an alternative to a PC. It is to this background that mobile phones have been seen to become relevant in the world of learning.

It is interesting to note that mobile devices such as phones and PDAs are much more reasonably priced than the PCs and therefore represent a less expensive method of communicating in the learning environment. Many claims about the potential and benefits of M-learning to make learning possible anywhere, anytime, in anyway and anyhow have been reported (Salmon, 2000; Young, 2002; Adedoja & Oyekola, 2008; Adedoja, Omotunde & Adelore, 2010).

The need to explore this new trend in pedagogical/andragogical shift is therefore crucial if progress in terms of ICT use is to be made. As noted by Green (2002); Campbell (2004; 2006); Hooper, Fitzpatric and Weal (2008), the use of ICT and newer technologies in the form of PDAs and mobile phones can indeed help to increase communication and interaction and enhance the quality of learning, particularly in distance education. Hooper *et al.* (2008) argue that mobile technologies are increasingly being used to create innovative mobile learning experiences for learners; and a key benefit has been in learners’ collaboration around the use of the PDAs and mobile phones.

The objectives of the study on the use of mobile phones at the Distance Learning Center (DLC) of the University of Ibadan are to:

a) Determine the benefits of using mobile phones for learning;

b) Reveal the attendant challenges of using mobile phones for learning among University students;
The Distance Learning Centre, University of Ibadan

The Distance Learning Center (DLC) of the University of Ibadan was established in 2002 to cater for the needs of distance learners. The Center also seeks to achieve one of the major objectives of the Nigerian National Policy on Education, the provision of equal educational opportunities to all citizens at different levels of education- widening participation.

National Universities Commission’s policy guidelines for open and distance learning in Nigerian universities (NUC, 2009) encourage the use of technology in deploying distance education programs. In this regard, content delivery should be based on resource-based pedagogies and marking of assignments should be automated.

A number of Educational Technology Initiatives (ETIs) are currently being pursued. Amongst others, some key reasons for investing in educational technology at the University of Ibadan are to:

- Implement discipline-specific pedagogical strategies that require students’ active engagement and develop problem-solving and problem-posing skills in the context of technology-assisted learning environment;
- Create interactive learning that is technology driven;
- Achieve learner-centered teaching and learning, using ICT tools that enable open and distance learning; and
- Develop teachers who can, through a technology driven environment, make learning relevant, exciting and effective, at the same time achieving efficiencies that will give them time to embark on other activities expected of them, like research and community service.

In line with the National Universities Commission (NUC) (2009) policy guidelines, the current project explored the use of radio broadcasting and the mobile phone in supporting distance education students, although the report on radio instructional delivery is still underway. Data on this is still being collected; therefore this report is based on acceptance of mobile phones for tutorial delivery in distance education. Pedagogical underpinning for the integration of mobile phones in education emanates from 3 very strong reasons. First, distance learners are in diverse geographical locations and are thereby learning in isolation. In order for them to maintain connections with institution and other learners, mobile phone affords both academic and administrative support. Second, on-the-go- learners have the ability to carry the device with them wherever they go. Third, mobile phone penetration in Africa is high and is relatively cheaper for users than the PC.

Against this backdrop, visionary educators, designers and developers within the University are beginning to consider the implications of using mobile devices for the modern teaching and learning environment. In such an environment, contents and services can be relayed to a university student by personal wireless mobile devices. This will add another layer to the personal computer-based model of teaching and learning. This also means e-learning will take place in conditions that will be radically different from those educators and learners are familiar with. Providing university students with services, content instruction and information outside the traditional learning space is becoming more acceptable among education providers who predicate their services on the routine use of advanced information and communication technologies.

This paper therefore presents the result of the study carried out showing the perceived benefits and perceived problems of using mobile technologies for learning as presented by the sampled students of the Distance Learning Centre, University of Ibadan.

Theoretical Framework

The study’s framework was based on Davis (1986) Technology Acceptance Model (TAM), which made use of the Theory of Reasoned Action (TRA). TRA postulates that an individual’s attitude...
Towards behaviour is influenced by his/her belief. Notably, the model deals with the acceptability of an information system/tool, how it can be used to predict acceptability of the system/tool, and modifications to be made for acceptability.

The model assumes that acceptability is majorly determined by two factors:

(a) Perceived Usefulness (PU); and
(b) Perceived Ease of Use (PEU)

PU can be described as the degree to which an individual believes that the use of a system/tool will improve his/her performance while PEU refers to the degree to which an individual believes the use of a tool/system will be effortless or require minimum effort. The model postulates that the use of a system/tool is determined by behavioural intention, individual's attitude to its use and the perception of its utility (figure 1). Davis (1986) posits that the attitude of an individual is not the only factor that determines his/her use, but the impact the tool or system will have on his/her performance is also a significant factor.

Many studies have been carried out using Davis' (1986) TAM. Most conclude that the model is incomplete because it fails to account for social influence in the acceptance, adoption and utilization of a new tool/system. It is important to take this into account because human beings are influenced by their social environment. However many studies have used the construct of PU, PEU and subjective norms to explain technology acceptance and usage for a variety of instructional systems including online learning.

Mun and Yujong (2003) exposed students to Microsoft applications for a period of eight weeks. After a two-week trial period it was found that learners' self-efficacy, enjoyment and learning goal-orientation determined the actual use and acceptance of the system. Shen, Laffey, Lin and Luang (2006) explored the extent to which subjective norms (influence of instructors, mentors and peer) influence and shape the perception of learners towards the use of course delivery modes. Results of the study show that instructors' influence had significant contribution to students' PU while mentors' influence is significant to PEU of the learning system. This shows the importance of instructors' role in shaping impressions of the value of using course delivery system. Miller, Rainer and Corley (2003) find that PEU and PU have a significant positive relationship with the amount of time students spend on a course. They also note that both are significant factors for predicting intention to use. Sumak, Hericko, Pusnik and Polancic (2011) show that the use of MOODLE by learners depends on behavioural intentions and attitude. PU is found to be the strongest and most important predictor of attitude.

![Figure 1: TAM Model Showing the Relationship between Perceived Usefulness, Perceived Ease of Use and Actual Use (Davis, 1986)](image-url)
Research Methodology

Basically, for this study, the responses of the respondents were measured along the line of their perceived usefulness, perceived ease of use, perceived benefits and perceived problems of mobile technology for learning which they were exposed to. The Focus Group Discussions (FGD) questions were channeled towards gathering information to determine the perceived use, perceived ease of use, perceived benefits and perceived problems of using the identified mobile technology—mobile phone, for learning.

The study adopted a qualitative research method. An outline of questions was developed for the Focus Group Discussions to measure the perceived benefits and problems of using mobile phones for learning instruction among distance learners of University of Ibadan. The population of this study comprises students of Distance Learning Centre of University of Ibadan. A sample of 201 students was drawn from the faculties of Arts and Education. The sample was further stratified into 25 groups with the groups having a minimum of 5 and maximum of 10 members; all in the third year of the distance-learning program.

Two sessions of the FGD were held for the 25 groups within the space of two weeks in the Faculties of Arts and Education among students who receive the courses: Production of Speech (LIN 241), Primer Writing (ADE 205) and Introduction to Instructional Technology (TEE 353). Due to the peculiarity of the distance learning students, students were informed of the FGD through bulk SMS service informing them of the date, time and venue of the discussion. After an informal welcoming and a quick overview of the FGD by the facilitator, each group was then asked to choose a group leader and a recorder.

Questions used during the FGD sessions were the following:

1. What are the benefits of using mobile phones for learning?
2. What are the problems you are likely to encounter when using mobile phones for learning?
3. Can you imagine learning on mobile phones?
4. What forms of education do you consider feasible for mobile phone use?
5. Have you ever tried using your mobile phone for an assignment?

Results and discussion

The analysis of students’ responses to the above questions as asked during the FGD sessions reveals the following:

1. In response to question 1 about benefits of using mobile phones for learning, most students who have used this technology responded that mobile phones have actually reduced their learning stress and greatly eased up their learning activity. They equally agreed that mobile phone use for learning has made learning more interesting and attractive.
2. Respondents, in response to question 2 about problems likely to encounter when using mobile phones for learning, submit that network failure and poor supply of electricity greatly affected their participation in using these devices. Poor supply of electricity—which usually leads to low cell phone batteries and network failure—could make instant messaging and accessing content a serious setback to using mobile phones. Sometimes electricity supply is unavailable for several days at a go, thereby making charging of batteries impossible. This usually is taken care of by the use of generators that are used in many homes and institutions, irrespective of geographical locations. They also concluded that small screen sizes would lead to small text size, which can make the viewing of information from the mobile platform a tiring experience. This, they claim, may cause fatigue especially if they stared at the screen for too long.
3. About imagining learning in mobile phones, some 90% of the students in each group see mobile learning as a welcome innovation into their course and advancement in their learning process.

4. Regarding the question about forms of education feasible for mobile phone use, three out of the nine different focus groups agreed that quiz would be the most feasible form of activity on the mobile platform. Four groups agreed that reading short texts and lecture notes would be the most feasible form of activity. One group agreed that all reading texts and lecture notes, taking quiz and tests are all feasible forms of activities on the mobile platform. One group however did not respond to the question.

5. In response to question 5, five groups indicated that they had never used their mobile devices for assignments. Although, it was noted that a few of the students in these groups had attempted the use of their mobile device for assignment (searching for information in the web). Four other groups indicated that they have at one time or the other used their mobile phones for assignments.

Besides, in the course of the project, the following challenges were encountered with respect to students using the mobile platform:

- Login difficulties: Some students found it difficult to log in, as some names for login were not correctly written - e.g student’s name: Joshua, registered name: Josua-; these login problems made students become confused and frustrated.
- Network problems: Some students complained about loss of Internet connectivity, e.g. a student complained of not being able to log in because of rain. This is usually the case with MTN Mobile network infrastructure anytime it rains; connectivity is lost.
- Special needs: Students with physical challenges were not catered for in the project as they were not able to interact with content, which is wholly text-based. Some of these students complained and requested that their physical challenge should be factored into the design and implementation of the mobile learning project.
- Computer skills: During quizzes, some students complained about not being able to initiate the quiz (this complaint was made about TEE - Introduction to Instructional Technology course quiz,) or to submit the quiz questions after answering them, due to low computer skills.
- Mobile platform: Students also complained about the way and manner in which the mobile platform works and their inability to navigate it. This also boils down to the problem of poor or low Internet skill. This complaint, among others, instructs that at the student orientation programme there is the need to intimate students with the way the mobile platform works.

Conclusions

The paper has considered the great benefits and the possible challenges of using mobile phones for learning. The study, among other things, has shown that the application of mobile technology—particularly mobile phone—into learning has made learning become easier and more interesting. It has been able to bridge the divide of time and space that is the peculiarity of the erstwhile formal mode of learning. These benefits notwithstanding, mobile phone use for learning has its peculiar challenges or problems as experienced by learners in the Distance Learning Programme of the University of Ibadan. While some learners had issues with adequacy of IT skills, others had problem of power supply to sustain their phone batteries for use, among other raised issues.

In spite of the attendant challenges, the good that mobile phone use for learning has got to offer, as shown by the study, is of greater value. So, it is important to note that a study of this magnitude is of great importance to our educational system, particularly at such a time when the world is
craving for equal access to qualitative education. Institutions and educational providers should work with every sense of purpose to reduce the challenges raised by this study and further studies should be encouraged in the area of application of mobile technology to the teaching and learning situation towards the attainment of mutual access to qualitative education by all and sundry.

References


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*Open Praxis*, vol. 5 issue 3, July–September 2013, pp. 249–254
theCN.com: An Academic-cum-Social Networking Online Platform

CourseNetworking (theCN.com or CN)
URL: http://www.thecn.com
Developed by Prof. Ali Jafari, IUPUI: Indiana University-Purdue University Indianapolis (USA) in 2011

Reviewed by: Bhanushe Mandar L.
Institute of Distance and Open Learning, University of Mumbai (India)

Introduction

In July 2011, Professor Ali Jafari launched Course Networking, LLC (CN) with the objective of changing the way world learns. CN is more than a learning management system, as it not only focuses on course content delivery and management, but takes it a step further by introducing the networking of courses and their content. It has been funded and developed by educators, for educators. CN offers cloud based learning tools and services for online courses. CN mobile applications are available for android and iOS platforms. It is a social networking environment for academic services, which leads to an interesting and encouraging feeling for learners. There is a paradigm shift in the way people across the globe communicate or interact socially using networking media like Facebook, Twitter, Youtube, Google Plus, etc. The current generation of learners who include these inseparable components in their daily routines are more comfortable in this environment than they are in the conventional learning environments. CN allows the linking of similar courses offered by different schools/institutions, which create an open, free and collaborative learning environment. Membership and course creation in the CN site is free for all. Prominent educational institutions like Indiana University, Virginia Tech and others are funding this project.

Structure

The current CN version 3 (known as Rumi v3) is fully functional and includes MOOC program on it. The CN offers its services free of cost, but it plans to generate revenue through customized services for schools/institutions. These include services such as creating mass numbers of user accounts and courses, providing MOOC access, administrative privileges, data analytics on participant activity, learning management and learner information integrations and more. Currently, CN is being used in 65 countries across the globe.

Features

The various features available on CN for instructors and learners are described below:

- **Anar:** This is the most motivating feature for learners on CN. Anar is the Persian name for the pomegranate fruit. It is used as a rewarding tool, much like points/badges. The learner is expected to accumulate a fixed number of Anar seeds every week by participating in various social learning activities in their CN course. This tool helps to monitor the level of learners' activity on a weekly basis thereby facilitating continuous assessment of the learners.
**Post:** This feature is available to both, instructors and learners. Post allows users to share their thoughts through simple text, through images, videos, or by attaching files in various formats. There are options to “Like,” “Reflect” (comment), and/or “Remember it” for every post and every reflection can again be liked and/or reflected upon by classmates (image 1). This method of threaded discussion leads to the unfolding of a topic to all learners involved in the discussion.

**Polls and Quizzes:** The Instructor and learners may use the “Poll” feature to conduct surveys with one or more questions. The users can ask classmates’ opinions with Yes/No, multiple choice, or scale-based questions. In addition to creating and submitting polls, members can “Like” and “Reflect” on Polls, too. Quizzes can be created by instructors, and learners can attempt to complete the quiz within a specified period of availability. Quiz results can be shared with learners with feedback. The Quiz feature has the functionality to provide a time limit, attempt limit, shuffling of questions, viewing the submissions and grading the submissions. Both Poll and Quizzes can have text/multimedia files, or images as attachments.

**Task:** Instructors can use the Task tool to structure the entire flow of a course on a weekly or modular basis (image 2). Tasks can be organised to define a sequence of course-based
learning activities the learners are expected to compete within that particular week/module. Tasks can be rearranged on the tool bar or copied from an existing course. A highlighting tool is available for instructors to prompt learners to complete specific activities like creating a post or uploading an assignment, which can be graded and added to the grade book on CN.

- **Grade book, Dropbox and Course Roster**: The submissions of gradable tasks by learners can be seen in the “Dropbox” on the course page. Submissions can be graded by instructors in this area and viewed by learners in their grade books later. The course roster contains the data regarding the participation of learners in Posts, Likes and Reflections along with the number of Anar Seeds a learner has accumulated within a course. Instructors can view the activities of each learner individually in the Course Roster (image 3).

- **Chat and Email**: Users can interact with each other one-to-one or in groups through the chat option in CN. Using the Email feature, users can send emails by either using email addresses or the unique CN number (which every CN user gets at the time of registration).

- **Networking features**: Users can create followers and Colleagues to strengthen their academic network. A discussion group called Conexus—which has tools that support communication, collaboration, exchange of ideas and sharing of resources—is available for users.

- **Classcast**: In addition to all these asynchronous networking features, CN also has Classcast (i.e. live video streaming for use by the instructor) feature.

**Relevance to the field of distance education and e-learning and overall impact**

The R&D team of CN continues to develop and work new features. There is some room for change. For example the home page currently includes all posts from all users a member is connected with, just like the Facebook homepage. The homepage needs to be based on posts related to the course(s) for which a user is enrolled. One more important suggestion is to organize the posts
in a course chronologically or on the basis of tasks or weeks, so as to assist the users for quick revision or reference.

That said, in comparison with existing LMS’s, -which are housed in closed walls with limited access to learners and instructors within institutions- used to merely manage courses online, CN is an open, free, academic and social networking framework scalable to massive numbers of learners from any place in the world within a single environment. CN does not operate within walls. Learning here becomes extremely entertaining and engaging activity. Amongst the learning theories, Constructivism has been identified as the most suitable one for online learning environments. CN has all the tools that carry learners from a Behaviorist learning environment to a Constructivist one. Engaging learners, exploring the ideas, sharing, peer learning, problem solving, self-assessment, continuous evaluation/feedback, periodic Anar Seeds, and a very robust environment to learn, has made CN stand unique amongst its competitors. Distance education institutes (DEI) and its learners will be the largest beneficiaries of this environment. DEI’s can encourage collaboration within and connect their courses to give learners a rich experience to gain knowledge from instructors, and also from their classmates across the world.

CN, as an LMS, is surely one of very useful and helpful virtual learning technology tool available to distance learners and institutions to make learning entertaining and fruitful in achieving its learning objectives.