EFFECTIVE ASSESSMENT AND EVALUATION STRATEGIES FOR DISTANCE EDUCATION

Prof Martin Dwomoh-Tweneboah

Linfield College, Oregon – USA

mdwomoh@linfield.edu

ABSTRACT

Distance education, or distance learning, is a field of education that focuses on teaching methods and technology with the aim of delivering teaching, often on an individual basis, to students who are not physically present in a traditional educational setting such as a classroom (Wikipedia, 2011).

Most institutions across the globe have embarked on distance education to meet the demands of students who, under normal circumstances, are not able to attend classes in the traditional classroom format because of time constraints, and job and family responsibilities. There is a compelling need to determine success through effective assessment and programme evaluation.

Much has been written about distance education in terms of types and structures, and tools and methods of delivery. However, very little has been written and discussed about the effectiveness of distance learning and effective ways to assess and evaluate distance education programmes and the use of programme evaluation outcomes to improve students' learning, instructional techniques, resources and programme management. This paper discusses the various programme evaluation strategies, and assessment tools and practices. Effective programme assessment and evaluation not only helps to determine what and how students have learned, but also helps to improve programme quality.

Keywords: Distance education; distance learning; programme evaluation; assessment tools; evaluation metrics.

INTRODUCTION

The past decade has seen a rapid growth in distance education programmes all over the world. Many universities and other tertiary educational institutions have embarked on distance education programmes to expand their market reach and/ or bring affordable education to people who might otherwise not have access to higher education due to geographical barriers, employment demands, family demands, and financial constraints. Distance education programmes also seek to involve instructors who would otherwise be unavailable to teach on a regular basis, and link students from different socio-economic and cultural backgrounds.

In the past, the quality of educational programmes has largely been defined by the popularity of the programmes and the size of the institution. The rapid growth of distance education programmes has generated public interest in the quality of these programmes. There are skeptics who think distance learning does not deliver a similar quality of education to the traditional face-to-face setting in a classroom. Several research projects have addressed the parameters and themes that address quality, but there are few discussions on the metrics and strategies of accessing distance learning programmes in Africa (Materu, 2007).

A good assessment and evaluation of distance learning programmes identify the vision, goals, objectives, outcomes and measures. An effective programme evaluation should address the following questions:

- What do you like to do? (*Vision*)
- What steps do you take to get there? (*Goals*)
- What do you have to achieve for each step? (*Objectives and outcomes*)
- How well are you doing it? (*Measures*)
- What and how does a programme contribute to the development and growth of its students?

This paper outlines some of the problems associated with the successful implementation of quality distance education programmes in Africa. It also discusses evaluation strategies that will lead to quality distance learning. Quality evaluation issues related to the institutional mission statement, students' needs and satisfaction, students' learning and course outcomes, instructional technology, and staff needs and support are also discussed.

Categories of distance education programmes

Based on the technology in use and the location of the programme, the method of delivery in a distance education programme may fall under the following categories:

- Print-based courses
- Conferencing courses (video-conferencing)
- Computer-based training (CBT)
- Pre-recorded audio courses (tapes, podcasts)
- Radio broadcast courses
- Television broadcast courses
- Online courses using learning management systems

Problems affecting distance learning implementation in Africa

Despite the perceived promises and obvious advantages of distance education in Africa, several problems are associated with the implementation of distance learning programmes. The problems that need to be addressed in order to improve the quality of distance learning programmes in Africa include the following (Nartker, et al., 2009a:8, 2009b:35–69):

- A lack of clearly defined institutional mission statements
- A lack of a clearly defined programme mission
- A lack of trained and qualified staff
- Dependency on part-time instructors
- Inadequate technological infrastructure
- Inadequate staff training schemes
- Deficiencies in curriculum development
- Inadequate laboratory spaces for medical and science-based courses

In their reports on the use of distance learning to train health care workers in Mozambique and Tanzania , Nartker et al (2009a; 2009b) recommended the development of strategic plans and visions for distance learning programmes, the provision of improved infrastructure and human resources, an increase in the awareness and skills of the use of technology, the decentralisation of coordination functions and learner support, and improved programme coordination.

In the opinion of the general public and some academics, distance learning may not be as effective as face-to-face learning, and they are therefore skeptical about its quality. Rigorous programme evaluations are needed to address this misconception. The standards used in determining the quality of distance education must be based on the philosophy of Chickering and Gamson's principles of good practice (1987), which highlight accountability, effectiveness, impact, organisational context and unanticipated outcomes.

Distance learning can be as effective as traditional face-to-face learning if the following "seven principles of good practice in undergraduate education" (Chickering & Gamson, 1987) are applied to distance learning:

- Contact between students and instructors
- Cooperation among students
- Use of active learning techniques
- Prompt feedback
- Emphasis on time spent on each task
- High expectations
- Respect for diverse talents and ways of learning

Evaluation strategies

Analyses of the problems related to the successful implementation of quality distance learning by Wright et al (2009) and Yusuf (2006) resulted in the need for appropriate strategies to assess and evaluate the quality of these programmes. Standards must be developed over time, and the data collected on a regular basis should be compared with existing standards to determine which changes are necessary to steer the programme in the right direction.

Recent research activities in programme evaluation have led to the adoption of summative and formative evaluation techniques (Lytle & Wolfe, 1989). The data used in the evaluation includes interviews, surveys, documents and records gathered about various programmes, field reports and content analysis. As stated by Worthen et al., "failure to use formative evaluation is myopic, for formative data collected can help rechannel time, money, and all types of human and material resources into more productive directions" (Worthen, et al., 1997:16).

In developing an assessment plan with the objective of improving its academic programmes, the Office of Operational Excellence and Assessment Support (OEAS) at the University of Central Florida adopted evaluation strategies that addressed the following questions (Operational Excellence and Assessment Support, 2008):

1) What are the programme's goals and objectives?

2) How are these goals and objectives met?

3) How (using the answers to 1 and 2) can the programme be improved?

Programme evaluations should be ongoing, not episodic. The cycle for an effective programme evaluation, as shown in Figure 1, begins with identifying the indicators that outline the goals and objectives of the programme in the context of the institution's mission.

The appropriate data collection methods are then defined. Data collection should focus on what and how the programme is contributing to the learning, growth and development of students (Operational Excellence and Assessment Support, 2008). The data normally tends to fall into two categories of information: quantity and quality. Typically, quantitative data comprises numerical descriptions of programme activities and achievements while qualitative data often portrays programme activities and achievements through narrative descriptions (Gajda & Jewiss, 2004).

Any programme evaluation, no matter how well it is conducted, is worthless unless it incorporates a feedback mechanism. Feedback procedures should be established to provide the information needed to define the outcomes that will be used to improve the programme. The outcomes will define and demonstrate what has been learned from the assessment efforts and how it can be used for programme improvement and revision.

Figure 1: Components of evaluation strategies
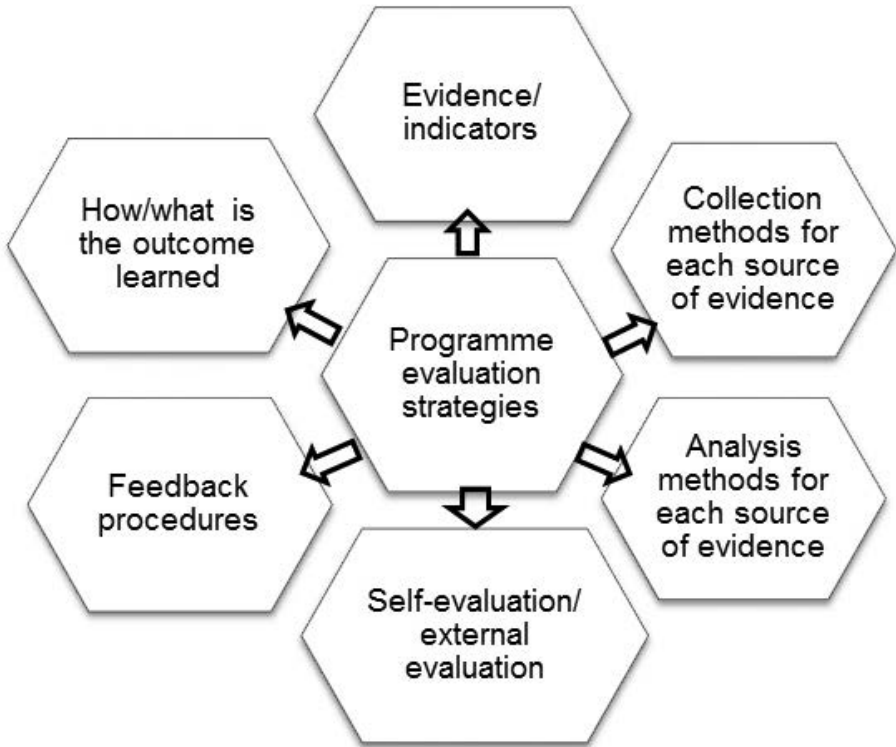
Both self-evaluation and external evaluation should take place. Self-evaluation techniques are used to determine if the objectives of various programmes align with the institutional mission statement. External evaluation will help judge the validity and credibility of the programmes. The external evaluators and assessors should include scholars with specialisations in the related fields and their responsibilities will involve the evaluation of format, curriculum and learning outcomes, student's needs, staff needs and support and the technology used for delivery. Table 1 shows the various evaluation metrics and related activities and evaluation frequencies.

Table 1: Assessment metric, related activities and frequencies

Assessment activities	Frequency of assessment
Institutional mission statement Accreditation Summary of departmental programme assessment Budget review	Site visits as scheduled by accreditation teams Annually as defined by the institution's annual report
Student needs and satisfaction assessment Distance education orientations Student profile study Student satisfaction survey Student evaluation of effectiveness of distance education	At the beginning of a programme or course Ongoing
Student learning and course assessment techniques Review of learning resources Course evaluations Classroom inventory Course development review	Both at the beginning and end of a programme or course
Instructional technology assessment Technology evaluation	Ongoing in some cases and at the beginning of a programme or course
Staff needs and support assessment Faculty satisfaction survey Review of academic credentials for new hires Needs analyses for training	Annually

Institutional mission statements

Assessing and evaluating the success of a distance learning programme begins at institutional level. The institution's mission statement should specify its educational philosophy and objectives. Distance learning needs must be in line with the institution's mission and be considered as providing education to distance learners using instructional methods that serve the needs of the learners. For effective distance programme implementation in Africa, there should be some cooperation with the government, businesses, private organisations, churches and communities.

The mission of the departments in charge of the various distance learning programmes or courses should also identify the missions, goals and objectives of each programme or course and align them to the institutional mission. Institutional missions, in most cases, are identified in self-study reports. Aligning the department's mission statement to the institution's mission statement helps to produce an outcome that will be used in the planning, administration and institutional support of the distance learning programmes. In its report, the Association to Advance Collegiate Schools of Business (2007:5) recommends that institutional objects should "specify the educational objectives of each degree, identify the student population to be served, explain how distance learning contributes to the mission, goals and objectives of the institution, and how the institution's distance learning differs from offerings of other providers". Upon assessing student learning outcomes, these will be aligned to the individual programme learning outcomes.

Institutional mission assessment and evaluation should address the following questions:

• Does the distance learning programme fit into the institution's mission?
• Is the institution equipped to offer distance learning?
• Does the institution have adequate resources to offer distance learning?

The various academic departments involved in the institution's distance education programme should conduct programme evaluation at the following times:

• Upon graduation
• At the end of a specific semester
• At the completion of a required set of courses
• Upon the completion of a certain number of credits
• Upon programme completion
• Upon employment
• A number of years after graduation

The outcome of the institutional mission and departmental programme evaluation will help shape institutional decision-making, planning and resource allocation.

Student needs and satisfaction evaluation

An important question to ask when it comes to student needs and satisfaction is: "Does the institution have adequate student support services and apparatus to support off-campus students in terms of learning, advising and career development?" Distance learners have diverse needs, which include family needs, business activities, and health issues. Their learning activities can be interrupted by births, illness, loss of job, career changes, relocations, death in the family and needed vacations. In some cases, there may also be communication problems due the unreliable nature of the communication infrastructure in Africa. The majority of students enrolled in distance learning programmes are working adults. As stated by Pallof and Pratt (2001:109): "Most of our students today are older, are working, and need more flexible schedules."

Students' needs can be identified by getting to know them as soon as possible through the use of profiles and introductory activities that will provide the instructor or facilitator an insight into who the learner is, not only academically, but also professionally and personally. If possible, their learning activities must be planned around their schedules, activities and learning styles to create a positive learning experience. Conrad and Donaldson (2004:19) state: "One common mistake distance education instructors make is by not giving enough time for activities."

Students' satisfaction can be measured by the way in which instructors and facilitators interact with the learners. Interactivity with students is, therefore, essential to the success of any distance learning programme. Limited technological infrastructure in most parts of Africa can hinder the effective implementation of distance education. In their report on the use of distance learning to train health care professionals in Mozambique and Tanzania, Nartker et al (2009a, 2009b) indicate that a lack of technology may hinder the effective implementation of the programme. An effective way of interacting with students is through setting up district meeting centres where instructors and facilitators periodically meet with students. Advances in mobile phone technology and the rapid expansion of fiber-optic technology in Africa will soon provide an effective medium to communicate and interact with students.

The following factors play a critical role in determining the students' needs: age, cultural and socio-economic backgrounds, interests and experiences, educational levels, familiarity with distance methods and delivery systems. Students' needs

can be assessed by analysing existing data sources, conducting regular surveys, studying student profiles, and interviewing community members and focus groups.

Student learning and course evaluation techniques

One of the major components of instructional design is course evaluation. Course evaluation standards should aim at achieving learning outcomes comparable to traditional face-to-face programmes. The timing and type of evaluation is highly essential in bringing out the learning outcomes needed to strengthen the integrity of the programme. Both summative and formative evaluation policies should be adopted.

In general, course evaluations are intended to measure what students are learning about the content they are taught. In some cases, teachers aspire to more than simply teaching students information about the subject matter. They hope to use the subject matter to teach students to think, in order to develop higher-level cognitive skills such as solving problems, analysing arguments, synthesising information from different sources and applying what they are learning to new and unfamiliar contexts (Angelo & Cross, 1993).

Effective course evaluation should help institutions determine whether the distance learning curriculum fits into the existing traditional programme of the institution and whether the institution has the appropriate guidelines for course development, review of instructional material, and revision of pedagogy, curricula and course sequencing. Figure 2 illustrates the core areas of course evaluation and the expected outcomes.

Figure 2: Course evaluation metrics and expected outcomes
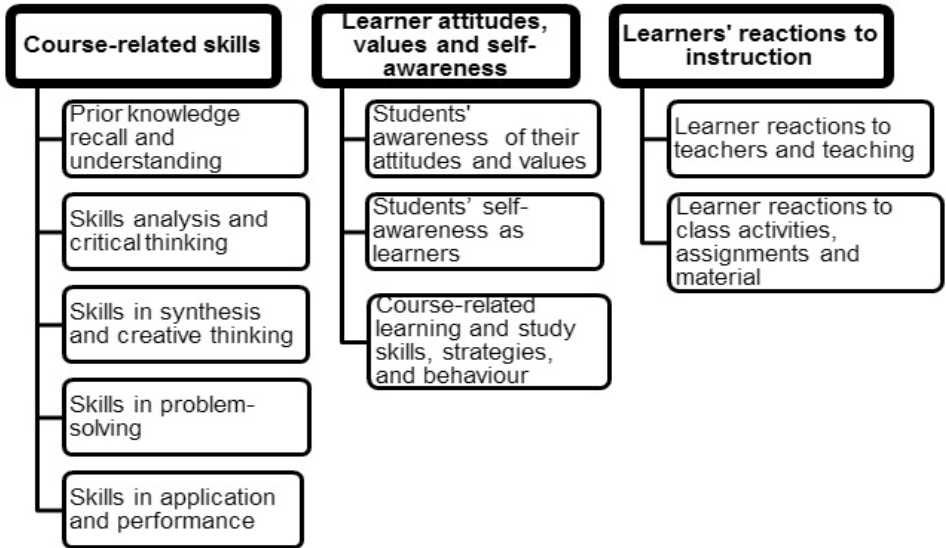
Adapted from Angelo and Cross (1993:62–63).

Learning evaluation strategies

A. Direct indicators of learning

- Capstone course evaluation
- Course-embedded assessment
- Tests and examinations (locally/faculty-designed and commercially produced standardised tests)
- Portfolio evaluation
- Pre-test/post-test evaluation
- Thesis evaluation
- Videotape and audiotape evaluation of performance

B. Indirect indicators of learning

- External reviewers
- Student surveying and exit interviewing
- Alumni surveying
- Employer surveying
- Curriculum and syllabus analysis

(Adapted from http://www.provost.wisc.edu/assessment/
manual/manual2.html.)

Student learning outcomes can be used to do the following:

- Provide the necessary feedback to determine ways of improving student learning activities.
- Design new courses and revise existing ones.
- Clearly communicate expectations to students.
- Help departments align their respective *programme* objectives with the institutional mission statement.
- Increase learning awareness among students.
- Help departments, instructors, and facilitators devise effective advice strategies.
- Design and develop course materials that suit new technology.

Instructional technology evaluation

The Bates ACTIONS model of quality – "Access and flexibility, Costs, Teaching and learning, Interactivity and user-friendliness, Organisational issues, Novelty and Speed" – can be used as an effective tool to select instructional technologies (Bates, 2000). Instructional technologies should not be limited to just one methodology, but rather a blend, depending on the geographical location, nature of the course and accessibility to technology. The cost factor is also a crucial element to consider, since it impacts on students, instructors, facilitators and institutions.

Staff needs and support assessment

The majority of the instructors in distance education are part-time instructors. Issues related to workload, efforts put into developing teaching material, work being considered as part for promotion/tenure decision-making and consultation time

should all be considered when assessing staff needs and support. If staffing issues are not addressed before the implementation of a distance learning programme, they may lead to programme failure.

In their paper on needs assessments, Stewart and Cuffman detail some important questions that must be explored when assessing needs (Stewart & Cuffman, 2011):

(1) What is a needs assessment?

(2) How are needs assessments related to successful distance education?

(3) Where have needs assessments been used in distance education?

(4) Which approach to needs assessment should one choose?

(5) What sources and methods might one use for collecting data?

(6) What factors influence the use of needs assessment results?

(7) What criteria can be used to evaluate a needs assessment?

Needs assessments must focus on some fundamental metrics that enable the staff to function effectively as distance education instructors. The process of needs assessment begins with feasibility studies to identify the tangible and intangible benefits to the programme and the institution as a whole. This is followed by the needs assessment plan, which identifies the goals and objectives of the needs assessment. Finally, conduct the needs assessment by using a combination of techniques such as interviews, job performance, observations, questionnaires, student evaluations and consultation with administrators. Conducting a needs assessment on the environment, incentives, motivation, knowledge, skills and proficiency necessary to integrate technology in instruction and mode of delivery, and the ability to evaluate student achievements at distant sites identifies the strengths and weaknesses of the programme.

CONCLUSION

Distance learning is only one strategy to deliver educational programmes. A particular assessment method and strategy cannot be applied to all programmes. The assessment and evaluation methods and data collected may vary in each environment. Whatever the situation is, the data collected and outcomes are useful for charting the course of distance learning in an institution.

By effectively accessing distance education programmes with regard to the institutional mission statement, students' needs and satisfaction, students' learning and course outcomes, instructional technology and staff needs, the integrity of distance learning can be assured and can be seen as comparable to traditional face-to-face programmes.

In the past decade, higher education institutions have incorporated distance learning programmes into their existing ones. The number of students enrolling in distance education programmes is increasing, so are the programmes. Quality assurance is critical to the overall acceptance and integrity of distance learning.

In most countries in Africa, quality assurance and accountability in education are addressed by the governmental agencies. To foster quality assurance, there should be accreditation bodies solely responsible for distance learning. For internationalisation and cross-border acceptance, regional accreditation bodies must be set up in the various economic blocs in sub-Saharan Africa to oversee the administration and programme development of distance education programmes.

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