

# Quality Assurance in Modules at the Institute of Distance Education, the University of Zambia

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**Abstract:** *Albeit distance education currently focuses attention on the use of Internet and e-learning facilities, these cannot overtake the importance of using the printed modules. It therefore follows that the quality of these printed modules which are by and large used as instructional materials must be of high quality. To the contrary the printed modules that are used at the Institute of Distance Education at the University of Zambia have for a long time never been reviewed to ascertain their quality. In fact these modules are more of batches than they are modules. This study aimed to close this overt gap by assessing the quality of the modules used in all programmes of study having in mind the inevitable need to improve them.*

*Data was collected in 2009/2010 from 1,107 students drawn from all of degree programme courses by way of using a questionnaire designed by the researcher. The data were analysed using Statistical Packages for Social Sciences (SPSS) from which frequency distributions and averages were obtained. It was found out that students were not satisfied with the quality of the modules. They indicated that the modules were less interactive, the language used was not appropriate to the learners, the font sizes and types were not in line with the learning materials being used. The conclusions made were that it is inevitable to improve the modules by ensuring that these were made interactive. Some of the measures that needed to be taken were that of pre-testing of the modules, training of course writers and editors. It would also be useful to encourage teamwork when producing the modules.*

## INTRODUCTION

Distance education (DE) has been a mode of teaching and learning for many years. It is not in any way a new ideology. It has been noted that there is an increase in the adoption and utilization of the distance mode in the recent years by most learners. This could be attributed to the drastic increase in the demand for education, economic down turn and also due to opportunities offered by new technologies (Keegan, 2001; Potashink and Capper, 1998). With the advent of technology which has had a ripple effect on the provision of DE, there has also surfaced the conspicuous change in the quality and quantity of DE provision. This has to a larger extent raised the status and the influence of DE provision.

Peters (2001) reported that DE was learning by reading printed materials in the form of textbooks, manuals, lecture notes and that it was popularly known as correspondence education. As of 2010, DE had started being offered by way of using multi-media like the videoconferencing, Internet, CD/DVDs, and worldwide web to make it easy for the students and the lecturers to communicate with ease regardless of the distance separating them at IDE. This kind of communication can either be in real time normally referred to as synchronous or delayed time referred to as asynchronous. Albeit new technologies abound used in distance learning, the print by far remains the most commonly utilized delivery mode in the developing as well as developed countries (Melton, 2002; Potashnik and Capper, 1998). Printed modules are considered to be affordable and although the total cost of using new technology would be lower than that of using the printed modules, most institutions do not

yet have the necessary infrastructure and technical know-how to support the use of multi media.

In as much as DE is aimed at expanding its horizons and incorporating the use of multimedia, there are a few challenges that have to be addressed in order to redress the situation. It is common knowledge that some DE programmes of study still lack credibility and the students pursuing such programmes normally find it difficult to secure jobs after they have completed their studies (Gulati, 2008; Potashnik and Capper, 1998). There are some schools within the University of Zambia, particularly the schools of Natural Sciences that have actually questioned the quality of the graduates who have gone through DE. They indicate that the period for these DE students should be at least six years since they do not have much time to study (Chifwepa, 2005).

Wood *et al.* (2004) indicated that a key factor for distance learning is to ensure that the courses meet the needs of the consumer by increasing the quality of instructional materials. Mugridge (2006) argues that distance learning courses should provide a rich learning environment for learners by attempting to build into learning materials educational processes that support active learning. It is assumed that the success of teaching and learning depends largely on the interpretation and communication of the modules to the end users who in this case are students.

It is imperative to ensure that where course delivery is concerned, this should be of the highest quality possible, especially as it relates to the distance learning where the students largely depend on the modules that are given to them for studying purposes. These modules are open to the public for scrutiny more than during the conventional face-to-face teaching. (Melton, 2002). The significance of modules has been well articulated by Libroero (2004) who said the following:

“In distance education, where the paradigm must be learner-centred, the instructional materials and modules play a very significant role. You must have high instructional materials if you want to maintain high quality instruction and academic standards. Instructional materials and modules can and are prepared according to strict standards, while the quality of live lectures of different professors can vary considerably”.

It is very clear then that the modules used for DE purposes should be well designed and utilised as they play a very important aspect in maintaining the quality of instruction at the highest possible level. This in turn assists in maintaining the academic standards. One would want to know whether the quality of the modules at IDE is good enough to justify the continued utilization. This question may not be answered easily as there has never been a research conducted to determine the quality of the modules used by IDE. This study therefore sought to address this pertinent issue by investigating the quality of modules used on the degree programmes offered by DE at IDE, with the intention of improving the modules and ultimately the quality of instruction. The findings of the study indicate that there is urgent need to continuously train and retrain all the lecturing staff that handle the DE students in different courses. Such training must also be extended to editors and support staff of the institutions where DE is offered. This in itself would ensure capacity building and would eventually impact positively on the learners.

Since its inception in 1996 the University of Zambia has been operating a dual mode of delivery in which both the full time and distance education students take the same courses and examinations given by the same academic staff. According to Siaciwena (1989) this model was adopted from the University of New England in Australia. Moore (1972) has defined DE as

... The family of instructional methods in which the teaching behaviours are executed apart from the learning behaviours... so that communication between the learner and the teacher must be facilitated by print, electronic, mechanical, or other devices.

In agreement with the definition above, Keegan (2001) concurs that teaching at a distance is characterised by the separation of the teacher and the learner. It also includes separating the learner from the learning group, with the interpersonal face-to-face communication of conventional education being replaced by a personal mode of communication mediated by technology. He emphasizes that the quality of learning realised is related to the quality of the learning materials that are prepared and utilised by the DE system. He also points out the fact that the attrition rates can be greatly curtailed by ensuring that the quality of instructional modules is of high standard.

It is indispensable for DE institutions to design, produce and deliver high quality instructional modules for all their programmes of study. The only sure way to keep and maintain such high standards is to continuously monitor and improve the modules. An appropriate standard that the South African institute of Distance Education (2003) suggested was that of periodically reviewing the modules in line with current trends and from the feedback obtained from the students. When modules are evaluated, this brings out the strengths and possible weaknesses and thus its relevance in an open and distance learning system.

Many institutions of learning have their own ways of evaluating the quality of their instructional materials to provide the feedback necessary for improvement. The Miami-Dade County public schools, for example, follow general State criteria which cover:

**Content** – looking at areas like alignment with curriculum requirements, level of treatment of content, expertise for content development, accuracy of content, currency of content and authenticity of content.

**Presentations** – covering areas like organization of instructional materials, pacing of content, ease of use of materials, and readability of instructional materials.

**Learning** – covering areas like active participation of students, targeted assessment strategies, motivational strategies, and guidance and support. (Library Media and Instructional Materials Services, 2004).

The Examiners Rating Form for Subject Specialists of Degree Programmes of the Distance Education and Training Council (DETC) Accreditation Handbook (2004) covers criteria for ascertaining quality of distance learning materials, including clearly defined and simply stated objectives, content broken down into manageable parts, presentation of course materials, layout and format and reading levels. Astleitner (2003) used “six principles of good instruction” as standards to evaluate instructional materials. On checking the weaknesses in instructional materials, it is suggested (Commonwealth of Learning, 2004; Freeman, 2004) that the students be asked questions like:

- Is the language clear?
- Is the presentation (typography, layout, diagram) clear?
- Is the level of the content right?
- Are the activities at the right level?
- Are there enough self-assessment exercises?
- Are the progress tests relevant to the material learnt?

This study was therefore structured in a manner that similar information would be solicited from the learners to give an idea of the quality of the course modules used on the degree programmes offered by DE.

The IDE was created by the University of Zambia in 1966 to convert and offer through distance learning programmes that were taught by the University in its conventional face-to-face full time mode. The IDE was tasked to produce course modules to give to the students to study away from campus and also offer some very limited lecturing and tutorial assistance to the learners during residential schools. The distance learning component (covered by the course modules was about 80% of the instruction in each course, and the face-to-face component was to cover about 20%. Furthermore as a way of ensuring equivalences and parity of standards between full-time students and DE students, the course modules were to be prepared and taught by lecturers who also taught the same courses to the full-time students (Institute of Distance Education, 2009/2010). Within its available resources and expertise, IDE set up a scheme (Chart 1 below) used to produce and check for quality assurance of modules.

**Chart 1: IDE Material Development Process**

1.	Nomination and appointment of writer – Head of Dept. & IDE.
2.	Orientation and Training of writer – IDE.
3.	Writer writes and produces first draft – Writer
4.	First draft reviewed by IDE Instructional Designer – IDE
5.	Reviewed draft revised by writer to produce 2 <sup>nd</sup> Draft- writer
6.	Second draft reviewed by a subject specialist – Reviewer
7.	Reviewed 2 <sup>nd</sup> draft revised by writer to produce 3 <sup>rd</sup> draft – writer
8.	Third draft checked by IDE Instructional Designer – IDE
9.	Checked 3 <sup>rd</sup> draft edited by IDE Copy Editor to produce 4 <sup>th</sup> draft – IDE
10.	Fourth draft proof read & illustrations/graphics added to produce final copy – IDE
11.	Final copy printed – IDE
12.	Binding of final copy – IDE
14.	Dispatch and distribution to students – IDE

Once produced, using the above schema, the modules are given to learners to use without pre-testing. This supports the criticism highlighted by Perraton (2004) who asserted that:

We know, for example, that there are advantages in combining media, such as print, broadcasting and face-to-face support, but we often fall back on just one of them; we know that materials should be pre-tested, but they seldom are; we know that rapid and helpful feedback motivates and helps students, but for practical reasons often fail to provide it (author’s emphasis).

Moreover the IDE instructional materials have never been evaluated to determine their utility for the purpose in terms of quality. This study aims to correct this anomaly by investigating the quality of modules used in the degree programmes. The overall aim of this study was to ascertain the quality of instructional materials prepared and used by IDE at the University of Zambia to teach degree programmes through DE mode. In order to address the above stated aim the research was guided by the following specific objectives:

- To inquire whether the modules produced and used were of good quality in terms of communicating the intended content;
- To determine whether the modules were presented in a clear way with appropriate graphics where applicable;
- To ascertain whether the modules were self-contained and included the essential aspects of instruction in that particular course;
- To determine whether degree programme students in different years of study differed in their observations and encounters with the modules.

This study was confined to the course modules used in the degree programmes offered at IDE by DE mode.

### **METHODOLOGY**

The study was designed to cover all learners who were enrolled in degree programmes in IDE in all the four years in the academic year 2009/2010. The researcher chose these programmes because course modules for degree programmes were being produced at IDE. It was therefore appropriate that prior to these new modules being finished, information on the quality of the initial level ones be made available to help writers learn from them and improve on their writing of new course modules.

The researcher visited classes of all degree programmes being offered under DE mode in November/December 2009 to collect data. A researcher-designed questionnaire was given to all learners found in classes on the particular days in the two months and they were asked to participate in this study on voluntary basis by completing the questionnaires. A questionnaire was used to collect the data because it was considered to be the most appropriate method as the views of each student would be documented. All students found in the classes on the data collection days agreed to participate in the study and filled in the questionnaire.

The questionnaire was pre-tested with 40 selected distance learners on a BA (School of Humanities and Social Sciences) programme and improvements were made on it as highlighted by the respondents. Most questions asked in the questionnaire were derived from a synthesis of the literature and covered the presentation of the content in the modules, the content itself, organization of the material, readability, coverage of the syllabus, self-assessment and match between module coverage and content taught in face-to-face sessions. The completed questionnaire were checked for completeness, coded and entered into the Statistical Packages for Social Sciences (SPSS) by the researcher. When the data had been captured in the computer, it was verified and thereafter the analysis using frequency distributions and average was done. For analysis purposes, the questions asked in the questionnaire were grouped in accordance with the specific objectives of the study. Those that referred to the quality and readability of the modules were grouped as 1, those dealing with the presentation of the modules in group 2 and those dealing with coverage of subject content by the modules were in group 3. The results found were as indicated in the next section.

**Table 1: Number of questionnaires completed by students and year of study**

<b>Year of study</b>	<b>No. of students registered</b>	<b>No. of students filling in form</b>	<b>Response rate%</b>
1	1021	355	34.77%
2	716	413	57.68%
3	636	516	81.13%
4	621	423	68.11%
<b>Total</b>	<b>2994</b>	<b>1707</b>	<b>57.01%</b>

### **RESULTS AND DISCUSSION**

Out of 2,994 learners enrolled in the degree programmes, 1,707 (57%) learners completed the questionnaires. Table 1 gives an indication of the number of students who filled in the questionnaire across the various years of study.

Table 1 reveals that most of the learners in the 3<sup>rd</sup> year (516 or 81.13%), 4<sup>th</sup> year (423 or 68.11%) and 2<sup>nd</sup> year (413 or 57.68%) responded to the survey, while less than half of the 1<sup>st</sup> year (355 or 34.77%) students responded to the survey. The overall response rate of 57.01% is good for a research study, although needless to say that if all the students had been in attendance in classes, the response rate would have been higher. The level of absenteeism from classes seen in this study is not surprising as the phenomenon is rife in IDE. Sukati *et al.* (2002) provide the following reasons why learners absent themselves.

Identified variables dealing with the aspects of quality, readability and how well the module imparted information were variables 10: overviews and introductions helping the learner; 11: self evaluation activities helping learners, 12: matching self evaluation activities with content of the unit, 13: inclusion of additional self evaluation activities, 16: modules with spelling and grammatical errors, 17: clarity of language in and 18: no repetitions in module content. Items of module presentation and illustrations (tables, charts, etc.) included: 6: overall presentation of module, 7: icons and headings for locating information, 8: excessive use of icons and headings that confuse the learner and 15: and not easy to follow and understand tables, charts and diagrams. Finally, items on content coverage included 9: matching unit objectives with unit content, 14: appropriateness of unit summaries, 19: module information overload, 20: module covers 70% course content and 21: module content matches lecture materials. Learners' responses to these items appear in Table 2.

**Table 2: Students' responses to questions asked**

Variable	Strongly agree	Agree	Disagree	Strongly disagree	Not answered
. Overviews and introductions helped to prepare learner	255	802	301	150	199
. Self evaluation activities helped learner learn the material	199	920	255	152	181
. Self-evaluation activities matched content of module/unit	199	782	283	83	360
. There should be more self evaluation activities included	450	500	347	83	347
. Modules contained too many spelling & grammatical errors	321	444	465	96	381
. Modules written in very clear manner & easily understood	267	520	337	270	313
. There were no repetitions in the content of the modules	267	731	323	86	300
The overall presentation of module was good	267	603	367	89	381
icons and headings helped to locate information	273	783	364	131	126
Too many icons and headings and they confused learner	561	762	222	95	67
: Clear, easy to follow & understand tables, charts & diagram	198	692	524	179	114

Objectives of each unit matched information taught in unit	332	680	265	209	221
: Summary appropriateness in reviewing unit/module content	322	661	305	159	260
: Module covers too much information	72	372	643	477	143
: Over 80% of course content covered in module	259	533	337	243	335
: Module content matches material covered in lecture	169	371	613	404	150

When the responses for strongly agreed and agreed are combined, the highest agreement was variable 8, variable 11, variable 10, variable 9 and variable 18. This meant that learners agreed with the statements that too many icons and heading confused the learner (var. 8), self evaluation activities helped learner learn the material (var. 11), overviews and introductions helped to prepare learners (var. 10), objectives of each unit matched information taught in unit (var. 9) and there were no repetitions in the content of the modules (var. 18).

The learners disagreed with the statement that each module covered too much information (var. 19), module content matches material covered in lecture (var. 21), too many icons and headings confused learner (var. 8), modules written in very clear manner and easily understood (var. 17) and the modules contained too many spelling and grammatical errors (var. 6)

To confirm the above findings, Table 3 was prepared to show the average of each of the variables, giving strongly agree dummy variable 1, agree dummy variable 4, (excluding the column of those who did not respond). Table 3 shows that learners strongly agreed with variables with low total mean scores and strongly disagreed with variables with high mean scores.

The results show that:

- The statement that most learners strongly agreed with, at mean 22.90, was variable number 19 which indicates that there should be more self-evaluation activities included in each unit of the course modules.
- The next statements that the learners disagreed that each module covered too much information at mean 22.80 was variable 21 which indicated that module content matches materials covered in lecture.
- The statement that most students disagreed with, at mean 22.71, was variable 7 which indicate that too many icons and headings confused the learner.
- Another statement that the learners disagreed with, at mean 22.34 was variable 12 which said that self evaluation activities matched content of module or unit.

**Table 3: Dummy means of the various variables**

Variable	Year 1	Year 2	Year 3	Year 4	Mean
10: overviews and introductions helped to prepare learner	14.94	46.98	17.63	8.78	22.08
11: self evaluation activities helped learner learn the material	11.65	53.89	14.94	8.90	22.34
12: self evaluation activities matched content of module or unit	11.65	45.81	16.57	4.86	19.72
13: there should be more self evaluation activities included	26.36	28.11	30.32	4.86	19.91
16: modules contained too many spelling and grammatical errors	18.80	26.01	27.24	5.62	19.41
17: modules written in very clear manner & easily understood	15.64	30.46	19.74	15.81	20.41
18: there were repetitions in the content of the modules	15.64	35.32	21.49	5.21	19.41
Average	16.38	38.08	19.70	7.72	20.46
6: the overall presentation of module was good	15.64	40.53	21.49	5.21	20.71
7: icons and headings helped to locate information	15.99	45.86	21.32	7.67	22.71
8: too many icons and headings confused learner	32.86	44.63	13.00	5.56	24.01
15: clear, easy to follow & understand tables, charts & diagrams	11.59	40.53	30.69	10.48	23.39
Average	27.20	42.88	27.62	7.32	22.70
9: objectives of each unit matched information taught in unit	19.44	39.83	15.52	12.24	18.69
14: summary appropriateness in reviewing unit/module content	18.86	38.72	17.86	9.31	21.18
19: each module covered too much information	4.21	21.79	37.66	27.94	22.90
20: over 80% of course content covered in module	15.17	31.22	19.74	14.23	22.09
21: Module content matches materials covered in lecture	9.90	21.73	35.91	23.66	22.80
Overall Average	13.51	30.65	25.33	17.47	21.53

- The next statement that most students disagreed with, at mean 22.08, was variable 12 which indicated that module content matches materials covered in lectures.
- The final statement that the learners disagreed with, at mean 21.18, was variable 14 which indicated the summary appropriateness in reviewing unit/module content.

Table 3 further indicates that in almost all the categories or variables of interest, year 4 students always have the smallest mean score. This means that year 4 learners often agree with the statements (implying that the quality of the course modules was good) more than the students in years 1, 2, and 3. Looking at the overall means, it appears that learners in year 1,



2, and 3 were most critical of the modules and disagree most with the statements, showing that they were less happy with the quality of the modules.

The analysis of the open-ended questions that were part of the questionnaire revealed results that showed specific course modules that had problems such as having too many icons and headings that confused the learners, objectives that did not match the written content, and self evaluation activities that did not match the content. Another important finding was that none of the modules in the degree programmes was said to cover too much information or content. In fact, most of the students said that many of the course modules were too shallow.

The finding of this study showed that learners found self-evaluation activities, overview, and introduction sections on the units very helpful and wanted more of these included. This confirmed the findings of the study done by Mokocho (2001) who found that 98% of teacher trainees in Malawi showed that the self-evaluations assisted them to learn the module. It was also found that the inclusion of icons and headings was also very helpful in enabling the learners locate information and that more of these should be put in place. This accounts for the disagreement that there should be too many icons and headings on the modules and that these tended to confuse students. These devices are important as they help give direction and make the document more accessible and interactive (Waller, 1982). This again is similar to the findings of Mokocho (2001), who discovered that over 95% of the teacher learners in Malawi found the icons helpful in locating information.

Further findings were that the learners disagreed with the statement that each of the modules covered too much information. This could imply that, according to the learners, the modules either covered adequate information or less information than what they expected or possibly needed for that course. To some extent, this was to be expected in IDE course modules as by design they were not meant to cover everything, but at least 80% of the content. The learners disagreed with the statement that the tables, charts, and diagrams were clear and easy to follow and understand. Their disagreement meant that these graphical aids were not presented in a clear manner, and hence were not easy to follow and understand. Although these aids were important as they compressed information and eliminated redundancy by allowing the reader to understand the information presented (Holmberg, 2005; Macdonald-Ross, 1977), in this study, however, it appears that they failed to do this. This finding conforms to findings of other researchers. Mokocho (200) for example concluded that “while this usefulness is there, we realise that of all module elements discussed, these elements have registered lowest readability”.

The results showed that the learners further disagreed with the statement that the information that the material covered on lectures was the same as that presented on the modules. This was a serious matter to be addressed (if this information that is covered on the module is 80% of the course content) as the few face-to-face classes are supposed to cover information that is covered by the module and is in the course syllabi. If the lecturer, in class, covers different material from that written in the module, it either meant that the module was not self contained and incomplete, (and this would be in violation of the IDE quality standards) or that the lecturers were not happy with the material presented in the module and thus had to bring in new material, or just that the lecturers taught what they wanted and did not necessarily follow the course syllabus as prescribed by the University (Librero, 2004).

The trend found was that all the overall year means are less than expected, which means that the students agreed with some of the statements. This implies that overall, the modules

required improvements although the students were generally happy. Lastly, there was no one learner who showed that a module or more had too much information or content. To the contrary, a number of learners pointed out that many modules were too shallow. This needed serious consideration by IDE as it was a clear indication that IDE covered course content in a superficial manner and did not give adequate coverage of the content. This was a minus on the quality of the modules produced as they could not qualify as self-contained and completely self-instructional modules. It would be ideal to ensure closer scrutiny on the preparation of the modules and on review to ensure that there is adequate coverage of the content for each module.

## **CONCLUSION AND RECOMMENDATIONS**

This study found that the course modules produced and used by the IDE in the degree programmes were of a fair quality in terms of readability and usefulness in imparting the content of each course. The 4<sup>th</sup> year students seemed to have expressed such a view more than the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> year students. 2<sup>nd</sup> year students gave a critical but yet an objective stance about the modules that the 1<sup>st</sup>, 3<sup>rd</sup> and 4<sup>th</sup> year students were using. The presentation of the tables, the charts and the diagrams was not properly done.

The aspect of the modules being self-contained and covering at least 80% of the instruction in that particular course was not quite answered in this study. The fact that the students suggested that the content in the course modules was of low caliber was not appropriate enough as the material was missing, could be the 20% which was covered on the face-to-face learner support. As it was important that the course modules be self-contained and hence improvements were inevitable.

The recommendations arising from the findings of this study were as follows:

- (a) There was inevitable need to ensure that pre-testing of the modules was done soon after being produced. There ought to be a sustained continuous monitoring and evaluation process to curb any possible deviations. There was need to strengthen the monitoring and evaluation unit which in this case is the department of Programmes Development and Production to maximise the quality of instructional modules. This will in turn assure the maintenance of high academic standards even in DE.
- (b) The training of academic members that are involved in writing modules and editors who review them need to be enhanced. This will assist in producing of high quality with interactive features inbuilt in them. In addition, IDE needs to adopt the “Course Production Team” approach to the production of its modules to increase the expertise available for the writing of all the modules. Additionally, staff members who perform the checks and balances in the production of the modules, as shown in Chart 1, need to be careful in doing their work, and modules should not be used until they have been quality assured.
- (c) All the modules that are of low quality needed to be reviewed urgently in order to bring them to the acceptable level. Additionally, the presentation of charts, tables, diagrams and other graphical information must be strengthened by using DE expert practitioners accordingly.

One would assume that once the above recommendations were implemented this would ultimately improve the performance of the learners.

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