

Instructional design challenges within the Polytechnic of Namibia

ABSTRACT

Education in Namibia, since independence (1990), is underpinned by learner-centred and social constructivist learning theories. Within the Polytechnic of Namibia's Centre for Open and Lifelong Learning (COLL) efforts are being made to ensure that instructional material are in line with these learning theory principles. However, for varying reasons educationalists are struggling to implement these principles in practice.

Additionally, in a world where technology is king and e-learning is rapidly becoming the norm in distance education circles, Namibia's status as a developing country is limiting its ability to electronically interact with its students. As a consequence, Namibia is at a beginner stage for e-learning, and print-based materials are still the major medium of instruction.

This paper outlines the need for COLL to rely on appropriately developed print-based instructional materials for learner support. Initial research has focused on investigating COLL's instructional materials alignment with the education principles subscribed to in Namibia and on the perspectives of writers on the support they get as writers of distance education instructional materials. Analysis of the results will help develop strategies to improve print-based instructional materials, through the support of writers.

INTRODUCTION

As is succinctly outlined in numerous academic books, papers and articles, the most effective learning occurs when learning processes are learner-centred and contextualised. This, along with the importance of socially constructing meaning, is something that many educationists agree on. However, the hard part is not so much the 'what' we need to learn but rather the 'how' we contextualise and socially construct learning for, and deliver such learning opportunities to, our open and distance learners. Many writers of instructional materials (IMs) often have the expertise of their subject area but not in the field of education or in writing for open and distance learners. In such cases, writers have difficulty in producing IMs that accurately reflect 'good' open and distance learning (ODL) strategies. This is especially true in Namibia where there is a severe shortage of suitably qualified and experienced writers of ODL IMs.

This paper will outline research undertaken by the Polytechnic of Namibia's Centre for Open and Lifelong Learning (COLL) to determine the alignment of IMs with educational principles and the perspectives of the IM writers on the support given for writing. The aim is to improve the writing of IMs so that they are better aligned with educational principles.

SETTING THE SCENE

Namibia has a population of approximately 1.8 million people spread over an area of 823,680km² (510,682 m²). This equates to just over two people per square kilometre (or 2.8 per square mile). In terms of education, only 54% of the Namibian population have completed primary school. 12% have completed tertiary education (Mendelsohn, Jarvis, Roberts & Robertson 2002). Such statistics show how limited Namibia is in terms of access to suitable qualified and experienced human resources.

Namibia is also restricted in its ability to offer Information and Communication Technology such as through electronic learning. Numerous reasons can be given for this. Again it is a matter of a lack of suitably qualified people to develop, implement and maintain e-learning programmes and platforms. Also, only one Communications company serves the entire Namibia. There is, therefore, a lack of competition and many services enjoyed by countries from developed worlds, such as access, cheap and fast internet connectivity, are not the reality in Namibia. Subsequently, COLL currently relies on print-based material as the main form of instructional material (IM) for distance learning.

COLL offers 10 learning programmes and enrolment represents 18% of the institution's total enrolment of 6 956 students. COLL is hard at work ensuring that its IMs, mainly in the form of study guides and associated support materials, conform to educational principles promoting learner-centred and socially constructed knowledge. This is a struggle given that these educational principles are relatively new to our educational thinking (Namibia gained independence from South Africa in 1990). In turn, these educational principles inform COLL's strategies of instructional design. Instructional

design is 'the art and science of crafting effective learning environments' (Murphy 2000, p. 2) and is a 'critical factor in a successful distance educational environment' (Dooley, Edmundson & Hobaugh 1997, p. 3). To ensure good IMs, emphasis has been placed on the design of IMs.

Consequently, COLL has developed a House Style Manual (HSM) and training workshop to assist writers of ODL IMs in the writing process. The HSM intends to guide the writer in developing IMs and gives writers basic instructional design advice. The HSM is updated annually. The one-day training workshop, held annually at the beginning of each year, guides the writers through the HSM but ideally with more elaboration and discussion on issues that writers bring forth during the workshop.

COLL has also introduced a team approach to the production of IMs. This team approach includes the writer and a specialist instructional designer, content editor, language editor and graphic designer. At all stages of the development process suggestions are made by the specialist team member, which are then sent back to the writer for their action. In this way the writer becomes aware of what sections of their IM need work. They have opportunities to professionally develop through this process.

As a result of the efforts being made with improving IM, research was conducted to investigate the alignment of newly developed IMs with instructional design advice. Another focus was on the writers' perspective of their training and support. The aim of the study was to gather information about the development of IM and to determine how COLL could better support writers, with the main idea of improving the IM.

RESEARCH METHODOLOGY

The research was based on a desktop analysis of the IMs, and two questionnaires administered to the IM writers. The study employed a combination of qualitative and quantitative data collection methods.

The desktop analysis, which looked at 50 IMs, was carried out to determine how closely the IMs followed the nation's adopted educational principles and the instructional design advice given both through the training workshop and through the HSM. In short, the desktop analysis looked at the questions of whether the IM:

- contained measurable objectives
- contained objectives that ranged across cognitive, affective and psycho-motor domains
- contained introductions and summaries
- contained interactive, conversational and student friendly language
- contained detailed and contextualised examples or case studies
- had in-text-questions and activities, whether they were found throughout the unit, the number of these and if they were relevant and contextualised
- had appropriate feedback to in-text questions and activities
- showed correct referencing and referencing style

The respondents of the research questionnaires were initially 33 COLL IM writers of 2005/6. In the past two years, these writers have written more than 40 study guides between them, with some writers writing two or more.

The first questionnaire was administered after the writer training workshop held in March 2006 and before writers began their writing of IM process. The training workshop consisted of eight sessions, and each of these, apart from writing the first tutorial letter and assignments, correlated to sections in the HSM:

1. The nature of open and distance learning
- 4-2. The instructional materials writing process
- 4-3. Planning a course outline
- 4-4. Developing an appropriate writing style
- 4-5. Copyright issues
- 4-6. Writing introductions, objectives, in-text questions, activities and summaries
- 4-7. The first tutorial letter and writing assignments
- 4-8. The House Style Manual.

The questionnaire asked writers to rate each workshop session as poor, average, above average, good or excellent. The following questions were asked as a reference when rating each session:

1. Is the information helpful and clearly related to the topic?

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2. Does the content have some educational value?
3. Is the content appropriate in terms of writing for open and distance learning?
4. Is the content sufficient to cover the topic adequately?
5. Is the content unique, fresh, or new? Is the information something not easily found elsewhere?

Additionally, the writers were asked to rate the workshop overall in terms of:

1. The workshop organisation
- 1-2. Compilation of the programme
- 1-3. Length of the workshop
- 1-4. Time allowed for discussion
- 1-5. Length of various sessions

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Finally, they were asked to give any other comments and suggestions.

The second questionnaire was administered in June, after the 2006 second semester IMs were finalised, and during the writing process for the 2007 first and second semester materials. This questionnaire contained both closed and open-ended questions. The closed –ended questions were used to illicit ranking of the writers' agreement or disagreement to a statement, or to gain a direct yes or no answer. The open-ended questions were given to allow respondents to air their views on a specific topic.

Unfortunately, not all writers attended the training workshop and/or responded to the second questionnaire. The numbers who submitted the questionnaires or attended the workshop are outlined in the results.

All three collections of data were synthesised and analysed in relation to the main research aim, i.e. to determine what within the IMs needed improving and how writers could be better supported to achieve this improvement.

RESULTS

(Note: Due to limited scope of this paper, a consolidated and summarised account is given.)

The desktop analysis of IMs

Encouragingly, many IMs contained objectives that were, for the most part, measurable. All materials also had introductions for each module. However, it was found that:

- Most (86%) IM did not have a combination of affective, cognitive and psychomotor objectives.
- Additionally, 88% did not contain objectives that ranged from knowledge through comprehension, application, analysis, synthesis and evaluation levels.
- Most (88%) IMs did not have activities that covered at least three of these levels and did so with at least three different strategies, for example activities asking for written feedback to test knowledge and/or comprehension, practical activities for developing skills, synthesis activities requesting learners to create new ideas from old ideas, analysis skills through project work and evaluation skills through work on case studies.
- Nearly half of the IMs contained only one to three activities per module. However, 75% of these were contextualised and relevant.
- IMs, for the most part, also did not contain many detailed contextualised examples or case studies. Only 40% did so and these were subjects within the Accounting programmes.
- 64% of IM had no in-text questions. Another 32% had only one to three in-text questions per module and approximately half of these were not contextualised or relevant.
- In terms of appropriate language use, 66% of the IMs showed language which was only sometimes student friendly by being conversational in style.

The writers' training workshop questionnaire

Thirteen of the seventeen original writers who attended the workshop returned their questionnaire. This represents a 76% return rate. Those who did not complete the questionnaire also did not attend the entire workshop, in particular the afternoon session when the questionnaire was handed out. Some writers did not complete all questions of the questionnaire. However, the majority of questions were completed correctly, with the least respondents being 10 of the 13 possible responses being correctly recorded within a question. One writer did not fill in the questionnaire correctly, with only the

final question regarding the rating of the overall workshop being completed as asked, and having given a final comment.

In all, all workshop sessions were rated as being average or above, with most ratings of sessions being depicted as 'good' (see Figure 1). Figure 2 shows the overall rating of the workshop.

Figure 1: Rating of writers' training workshop sessions

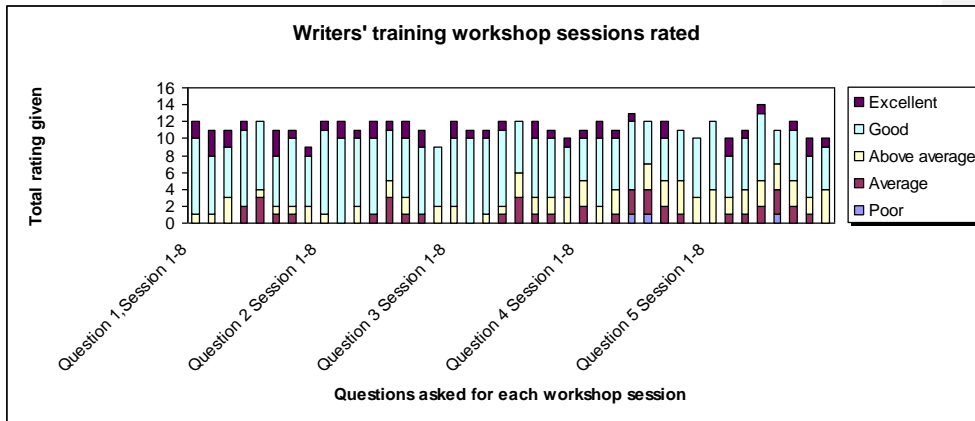
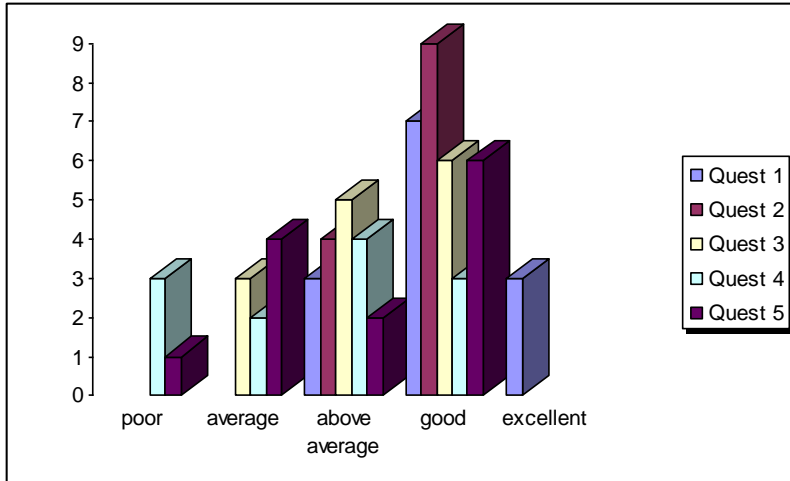


Figure 2: Rating of writers' training workshop (as compared to the second set of questions asked)



Nine of the fourteen participants made additional comments. The main suggestions were as follows:

- Five suggested more time be allocated for the workshop due to the rushed nature of sessions.
- Three people asked for more examples related to workshop sessions.

The second questionnaire administered to writers

Out of the 33 questionnaires distributed, 22 were returned. This represents a 67% return rate.

Of the questionnaires that were returned, the following was noted:

- Most (67%) of the writers have written one to two IMs.
- 59% attended the writers training workshop, whilst the remaining 41% did not. (Popular explanations given for not attending the workshop included: other commitments (seven responses) and, because of being new writers and hence only attending the one workshop (two responses)).
- 81% said that they read the annually revised HSM.
- Most participants agreed (71%) or strongly agreed (29%) that the HSM contains most of the information they needed to structure and write their IM.
- 67% agreed or strongly agreed (14%) with the advice offered by the HSM, and 82% said they followed all advice offered by the HSM.
- 43% said that they disagreed with some parts of the HSM. A common response of those who commented revolved around feedback to activities, with five writers saying that this aspect should be revised as having feedback after an activity does not encourage students to think for themselves.
- 86% found the instructional designer's comments and suggestions helpful.
- Most writers rated their IM 'good' in terms of student friendliness, and quality of content, quality and number of learning support strategies (in-text questions and activities), and the final design and layout.
- Popular comments given included:
 - Five writers mentioning that the remuneration for writing should be revised.
 - Four writers asked that they be allowed to comment on the last IM draft, after it has been desktop published.
 - Another four writers mentioning that more time should be given to writers to complete their IMs.
 - Three writers stated that a particular subject should dictate the style of their IMs and thought that not all IMs needed to follow the same house style.

Similar comments to this last statement were repeated in the section asking for comments of the parts of the HSM they liked least and in the section on suggestions for improving the HSM.

DISCUSSION OF RESULTS

Several discrepancies have arisen between what is stated by the writers in questionnaires and what was found in the desktop analysis.

Firstly, although most writers said that they agreed with and followed the HSM instructions for writing IMs, many IMs did not contain a number of important elements. For example, the HSM suggests that objectives be measurable and contain a selection across the cognitive, affective and psycho-motor domains. In comparison, many IMs did not have appropriate measurable objectives that spanned the three domains. The HSM gives clear but brief advice and examples for developing such objectives. So too can be said for developing in-text questions. The purpose of setting relevant in-text questions is outlined briefly in the HSM, and advice of setting them to break up text into 10-15 minute sections is noted. The desktop audit however, shows that IMs, for the most part, had very few in-text questions.

Moreover, most writers rated their IMs as good in terms of the quality and number of in-text questions and activities. However the desktop audit showed that only half of the in-text questions were relevant and contextualised. Activities in IMs were also found to be lacking in variety. Many IM activities did not allow for the testing of a number of different domains. Mainly, activities were based upon testing the cognitive domain. The HSM again briefly suggests that activities should show a variety of being able to tell, show, ask and do. The variety of activities is quite important in distance education IMs as it is they that allow learners to test their understanding of major objectives, reinforce learning, apply concepts introduced, prepare them for assignments and exams and provide learners with feedback for self-assessment (COLL 2006). Murphy (2000, p.2) also agrees that activities are important as they help learners interact with content. In an article by Simonson & Schlosser (2004, p.31) they note that IMs employ good design when they 'are based on a variety of teaching and learning methods'. In-text questions also encourage learners to apply theory in practice, reinforce ideas whilst they are still fresh in their minds, relate theory to personal contexts and helps learners to generate their own explanations and solutions (to name just a few) (COLL 2006). Simonson & Schlosser (ibid), support this by saying that 'successful distance learning programs are interactive and allow frequent opportunities for participants to engage in a dialogue with subject matter experts and other learners'. As such, the development of appropriate in-text questions and activities should be given emphasis in the HSM and training workshops. As was suggested by a number of writers, both within their first and second questionnaire, more examples should be given within the HSM and during training and these can be used as models of good practice. Murphy (ibid.) supports this by suggesting that examples of ways of learning, such as through case studies, problem-based learning, experiential learning and the like, can help convince writers to develop better activities and structure the content around these and the learning outcomes.

The main comment made by writers regarding the training workshop is that it was too rushed. It seems that one day is not enough time for writers to delve into the issues of learning through distance education, for example, the need of interactive text, adequate feedback and numerous varied activities and in-text questions. Comments made in the second questionnaire also indicated that other ideas, such as variety of instructional style, the value of writing IMs also require discussion.

Taking these results into consideration, the main strategy for 2007 will be to extend the training workshop by one day. Time will be allocated to discuss topics related to learning by distance education. The extra time will also allow for models of best practise, such as providing good IMs, to be examined and discussed. It should also allow the writers to participate in activities related to writing IMs rather than solely hearing the theory. In this way we can practice what we preach. Writers will also be strongly encouraged to attend, and given plenty of time in advance to ensure they plan to do so. The HSM manual will also be revised to include a number of examples of good practice. These, plus the activities conducted during the training workshop may help writers to develop better writing practices, particularly in light of Namibian educational principles.

CONCLUSION

For writers to do their job well, they need sufficient professional development support. Writers who are confident in the house style, and support the learning process that the house style is based upon, will make more effort to follow the model. It is acknowledged that it is very important to allow time for

writers to discuss and debate the issues that arise from writing distance education IMs. In Namibia, where the educational principles are still relatively new to educationists, this is particularly true. Educationists need to grapple with the concepts of social constructivism, learner-centredness and contextualised learning before they can apply them with confidence. This is where the COLL can assist. By allowing more time for discussion and practice within our initial training periods, and by including more examples within the HSM, writers can begin to understand the need for strategies that support distance learning within text-based material. Hopefully, such understanding will result in better aligned IMs and hence more successful learners.

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