

IMPROVING THE QUALITY OF LEARNING MODULES – A CONTINUOUS PROCESS

Halimatolhanin Mohd Khalid; Zoraini Wati Abas; Mazlan Zulkifly
Open University Malaysia, Kuala Lumpur, Malaysia

ABSTRACT

As an open and distance learning provider, Open University Malaysia (OUM) prioritises the quality of its learning modules. These modules are the primary learning material for OUM's self-managed students within and outside Malaysia. One of the crucial processes involved in this continuous improvement of learning modules is instructional design. Being accredited as ISO 9001:2000 compliance, the process of instructional design at the Centre for Instructional Design and Technology (CiDT) has not been without challenges. In fact, it is more difficult indeed for instructional designers to justify that quality has always play a major role during the instructional design process. This paper will report on the continuous efforts done to improve on the quality of OUM's learning materials. What process is considered a success story for one print module may differ from another. Lessons learned and the continuous improvements of the quality of the instructional designers are also discussed in this paper. The findings from this study accentuate further improvement needed for the process. The results of the findings have direct implications on future creation and development of OUM print modules.

INTRODUCTION

As one of the most rapidly growing higher learning institutions in the region, the Open University Malaysia (OUM) is proud of the growth of its student population from 753 in August 2001 to about 45,000 in May 2006. This swift increment in the number of students opting to learn in OUM's open and distance learning environment shows that this new way of learning is attractive, relevant and practical.

OUM takes pride not only in the number of students registering in the various academic programmes. It will have produced more than four thousand graduates, at the Diploma; Bachelor's and Masters degree level by the third convocation in December 2006. These graduates are testimony to the fact that they can cope as ODL learners studying in isolation from other students, and learning at their own time and pace. These graduates are proof that as working adults with full time jobs and families to attend to, they have managed to survive this new kind of learning environment at OUM.

LEARNING AT OUM

To accommodate the variety of preferred learning styles among OUM learners, varied modes of learning should be provided. Thus, the blended learning model has been used. Blended learning at OUM includes self-managed learning, face-to-face (F2F) and online learning. Though blended learning has existed and being used as the model in most higher learning institutions in Malaysia, the combination of the 3 modes of learning at OUM is unique in that it is especially catered to its ODL working adult learners.

At OUM, self-learning materials are provided to its ODL learners. These are print modules, courseware in CDs, web-based learning objects, tutorial presentations using video streaming, content in PDF format and PowerPoint presentation materials.

OUM defines the print module as a self-instructional module (a step-by-step guide) that provides the learner with customised and personalised content. It is the core learning material that drives all other learning activities. (CiDT, 2006)

In every semester, OUM provides F2F tutorial sessions for most of its courses. Though a total of 10 hours of F2F tutorial sessions are planned for each course, learners can opt not to attend these F2F tutorials. All learners are required to go in the online discussion forum for the online tutoring. These forums are located in OUM's learning management system which is the myLMS. Here, they have the opportunity to discuss academic matters among peers and their facilitators who could be their F2F

tutors or other online facilitators. Learners' online discussions are evaluated by the online facilitators. Since it is made compulsory for learners to discuss online in myLMS, 5% of the total marks is reserved for the online discussion. The marks given to learners for their online discussion are based on the assessment of the frequency and quality of the online discussion.

CONTINUOUS QUALITY IMPROVEMENT OF PRINT MODULES

Quality assurance systems are formal procedures on who should do it (pre-input), what is to be done (input), how is it to be done (process) and to what standard it should be done (output) to reach the outcome. In ensuring continuous quality improvement of print modules at OUM, a system based on the model of continuous improvement of quality print module as shown in Figure 1 is being thought out.


PRE-INPUTS	INPUTS	PROCESS	OUTPUTS	OUTCOMES
<ul style="list-style-type: none"> Quality Writer Quality Moderator Quality ID 	<ul style="list-style-type: none"> Module Writing Workshop Module Enhancement Workshop Written Materials OUM House Style Module Moderation Moderated Materials 	Faculty Process	<ul style="list-style-type: none"> Quality Content Quality ID Quality Delivery Quality Printing 	
Strategies <ul style="list-style-type: none"> Appropriate Selection Criteria Stringent Selection On-time Appointment 	Strategies <ul style="list-style-type: none"> On-time scheduling of workshops On-time submission of draft modules 	Strategies <ul style="list-style-type: none"> Adheres to cycle time Reduction of internal re-work Efficient processes Teamwork 	Strategies <ul style="list-style-type: none"> On-time printing On-time delivery Order completeness Zero defect as target 	Strategies <ul style="list-style-type: none"> Satisfaction Increase retention
* C o m p r e h e n s i v e P l a n n i n g				

Figure 1 Model for continuous improvement of quality print module

PRE-INPUTS

The pre-inputs for a quality print module are quality writer, quality moderator and quality instructional design.

In ensuring quality of writers, the criterion for the selection of module writers is pertinent. Selection should be based on writer's content expertise, writing ability, teaching experience, and commitment. At present, some of these criteria are not specifically written that capabilities of some writers are questionable. Thus, selection criteria and procedure for selection of writers should be strict.

Quality moderator is another important element in the pre-input. A quality moderator who is not only the content expert but is also competent, dedicated and capable to moderate content within the timeline given should be chosen to ensure quality moderation of content. In cases where modules were poorly rated, the modules could be of better quality if proper moderation were done at the moderation stage. This problem could have been solved if stringent selection of moderators was done during the selection process. On top of that, remuneration of writers and moderators should be competitive, commensurate with experience and inclusive of administrative expenditures for OUM to hearten them to write and moderate the print modules.

Besides the pre-input of quality writer and moderator, a quality print module also depends on the quality of the instructional designer. At OUM, it employs full and part time instructional designers to ensure instructionally sound print modules. Selection criteria of an instructional designer is based on

the instructional design skills and teaching experience which is an advantage. Selection process should be stringent and rigorous to allow only qualified and experienced instructional designers to surface. The same criteria of selection should be applicable when recruiting part-time instructional designers. The employment of part time instructional designers will depend on the needs of the moment.

INPUTS

Training of writers, moderators and instructional designers as well as original and moderated content following OUM house style are the inputs in the continuous improvement of quality print modules at OUM.

In addressing quality of training for writers and moderators, OUM will continue to organise module writing and module enhancement workshops. In ensuring writers and moderators be given quality training, OUM should ensure the module writing and module enhancement workshops' programmes are decided and based on the needs analysis of the module writers and moderators. The objectives and outcomes of the training are also stated at the beginning to ensure quality product at the end of the training. At present, during the module writing and enhancement workshops, the first draft of topic/chapter written or moderated is discussed between the writer/moderator and the instructional designer. Writers and instructional designers will then work together to improve their writings based on feedback received.

It is important that the training materials and guidelines are reviewed after every training session to assess its suitability and necessities. Improvements to the training provided should be made based on feedback given by the participants of the workshops in the workshop evaluation forms.

A workshop to train new instructional designers and re-train senior ones is conducted before the print module development cycle begins. An in-house trainer or an external trainer is usually invited to give presentation or facilitate the training. This way, all instructional designers will get to refresh their instructional design knowledge and skills before starting work for new modules. Besides full time instructional designers, the part-time instructional designers are also invited to the workshop. External training is also provided to instructional designers and includes visits to another ODL Higher Education Institution or organisation within or outside the country.

In addition, for the training and coaching of instructional designers, an in-house training called Knowledge Building Knowledge Sharing (KBKS) sessions has been conducted since 2005. KBKS is based on the concept of collaborative learning among instructional designers. The idea is for an instructional designer to present topic related to instructional design or learning in a KBKS session. S/he will have to prepare the learning materials for the session. In the KBKS session, s/he will share what s/he has found during the preparation of the presentation materials for the subject by imparting and sharing this knowledge and/or skills. Through the KBKS, learning will take place for both the presenter/facilitator as well as the participants of KBKS.

Reviewing and giving feedback of instructional design input of the module done by an instructional designer is important. Besides the reporting manager monitoring the performance of the instructional designer, reviewing and giving feedback will also allows instructional designers to reflect and assess themselves on their instructional design skills. Peer review should also be conducted as part of coaching. One instructional designer will review another instructional designer's work of a topic in a module. The peer reviewer will give feedback and at the same time may be learning from the instructional designer of the instructional strategies injected to the print module. The instructional designer gains at the same time by getting new ideas for his/her own module. Review sessions done should be recorded by both the instructional designer and the reviewer. Training log book for instructional designers has just been introduced in 2006 at CiDT. This will help record all trainings and coaching the instructional designers have gone through.

The original and moderated content following OUM house style is another crucial element in the input of the continuous improvement system. In addressing quality of content, the writers and moderators must be responsible for the quality of content written in the print modules. To ensure quality of

content, scope and depth of content, suitability of content, correct content and up-to-date content must be emphasised. The coverage of content needs to be determined earlier and moderators are specially selected to moderate the coverage of content in the print modules. During moderation, moderators should ensure that content in the modules are based on the course design and TOC provided. Changes or amendments in the course design or TOC need to be approved first by the dean or director of faculty or school.

One content issue which keeps haunting the university is plagiarism. A firm university policy on this matter would be appreciated to deter irresponsible writers. Definitions of plagiarism need to be specified in the letter of appointment to writers. OUM should also introduce penalties for writers who plagiarised. To counter this, OUM has introduced guidelines on plagiarism guidelines to referencing and citation in the module writing and enhancement workshops. Also, an experienced moderator should be able to identify an original work from a plagiarised one. Guidelines on plagiarism should be given to moderators to help them sense plagiarised work.

In the quest for quality print modules, the quality of writing the content is equally important and should not be. OUM has produced guidelines and checklist to assist writers during the writing process. Writers are able to check their own writings to see if everything has been incorporated in their writings. Similar checklists are given to moderators as well as instructional designers. Besides the checklist and guidelines for writers, a sample of quality module is also given to provide examples of what is meant in the checklist. This effort helps assist writers in their writings.

Quality of writing also can be improved using writing template designed to standardise writing following OUM house style. It is given to all writers at the beginning of the writing process i.e. as soon as they are appointed as writers. This template has been designed to include instructional strategies for the writers to incorporate.

In writing content, language is also another issue which needs to be addressed. Language editing is recommended to be done. OUM is employing full and part-time language editors for the language editing. For this purpose, the criteria of selection of language editors need to be looked upon too.

PROCESS

The process elements in the model of continuous improvement of quality print modules are the writing and moderating process as well as the print module development process. Of these two elements, the print module development process conforms to the standards in ISO 9001:2000.

Until recently, the writing and moderating process usually start before the instructional design process. However, based on feedback received from instructional designers in interviews conducted, they found that most raw materials received were of poor quality. Missing items for example source of graphic and references; misalignment of objectives, content, activities and assessment items; poor quality of writing are just some of their grievances. OUM has initiated effort to introduce injecting instructional design strategies at the beginning by having checklists for writers, moderators and instructional designers. Also during the module writing workshops, writers work hand-in-hand with the instructional designer from the beginning of the writing stage. This also allows ease of communication between writers and instructional designers as communication is also key to quality print modules.

The print module development process at the Centre for Instructional Design and Technology (CiDT) emphasised on the instructional design process of a print module. According to Dick and Carey (1990), an instructional strategy describes the general component of a set of instructional materials and the procedures that will be used with those materials to elicit particular learning outcome from students. In a nutshell instructional strategies are ways and means that are used to ensure that learners will fully comprehend and learn the material that are being presented to them. As most of OUM learners are working adults, factors such as their busy schedule, prior experience and knowledge need to be taken into account. Knowles (1990) described various characteristics of adult learners which include adult learners as being self-directed and intrinsically motivated. Instructional strategies during the development of the OUM print modules employ Knowles' adult learning theory to cater to these adult learners. In ensuring the quality of instructional design input in a module, OUM

has materialised the checklist for writer, moderator and instructional designer as well as the sample of a quality module.

In addressing quality process of development of print modules, ensuring quality of graphics and illustrations is also crucial. Graphics and illustrations should be clearly drawn or captured. The writers, instructional designers and graphic designers all are responsible for correct graphics and illustrations. Sometimes, for example in an engineering drawing subject, even a missing line can be misleading. Good communication among writer, instructional designer and graphic designers are important too for effective visualising of graphics. Proposed guidelines on good illustrations should be given to writers and instructional designers. The guidelines on good illustrations should also be given in the *Guidelines for Instructional Design* and checklist for writers.

Another important element in the process of development of print modules is the quality of layout and design of print modules. In a recent survey conducted for the January 2006 Semester modules, it is found that 69.2% of the 10,800 respondents (comprising of OUM learners and tutors) rated the overall design of the print modules above 5 (ratings of 1 to 7). OUM is striving to improve further on the quality layout and design of the print modules by continuously seeking feedback from its learners.

Language editing process to ensure quality of the language in the module is also another process that needs to be emphasised in the print module development process. At OUM, the quest for language editing is prevalent in feedback received from both OUM learners as well as tutors. Some of these comments and feedback pointed on spelling errors, missing sentences and no flow in writing.

Reviewing of the print modules is another essential practice in the development of print module process. This reviewing process requires reviewer who is sharp, meticulous and gives attention to details. In ensuring quality, all print modules should be reviewed before the dean or director signs-off for mass printing of the print modules.

During the last January 2006 cycle of developing print modules, field testing was conducted for two print modules. Field testing is another alternative of getting direct feedback from learners and tutors of the print modules. Though some additional expenses are expected to be incurred, it is worth to consider having all print modules field tested.

In addressing the quality of feedback system, OUM started to receive feedback for its modules since 2002. Comments and suggestions given by students, tutors, deans and other stakeholders have been taken positively. Various initiatives have been done to improve further on the quality of the print modules. Some of the initiatives include module evaluation feedback from OUM learners and tutors. Satisfaction of OUM learners are then evaluated through these surveys which are being conducted at the end of every semester. The module evaluation survey forms are attached at the end of every OUM print module. OUM learners and tutors evaluate the print modules using the module evaluation forms. They then pass their forms back to CiDT via their learning centres' administrators. This process of getting feedback was started in September 2005 Semester and is being continued for January 2006 Semester. Feedback was analysed and reported to the academic committee. Further improvements are expected to be done by all parties. This continuous improvement process is one effort OUM is doing to ensure satisfaction of its learners.

It is important that the process of quality feedback system is well managed. A quality feedback system emphasises that corrections and amendments should be made as soon as feedback is received. Corrective actions by the appropriate person/s are required for the print modules to be of quality.

OUTPUTS

The outputs of the continuous improvement model for development of print modules are the quality module itself. For the quality module to be realised, not only the quality of content and quality of instructional design are required, the quality of printing and delivery count as well.

Quality of printing and delivery need also be addressed before the print modules reach OUM learners. Quality printing of print modules is important to learners as with this, they can be fully satisfied with their print modules and this has a positive effect on their learning. OUM should continuously look at its process to ensure error free printing. In addressing quality delivery, CiDT and learning centres' administrators share the responsibilities to ensure that print modules reach students by registration time. Learning centres' administrators should also take the responsibility to ensure that only complete modules in good conditions are to be given to students.

Module development meetings are being conducted to monitor the progress of the development of print modules for a particular semester from the earliest writing stage to the final delivery of the print modules to OUM learners. Discussion in this meeting is focused on the development status and progresses of the print modules are continuously being held to improve the process further.

In addition to that, to ensure efficient project managing, OUM has taken initiative to develop a system which is called the Module Management System (MMS). This system is useful in that it provides transparencies to all parties including the top management to be able to see the progress of each print module. Problems can be easily spotted and identified so strategies to overcome these problems can be implemented early.

In the survey conducted for the January 2006 Semester modules, 71.3% of the 10,800 respondents rated 136 OUM print modules as 6 and above (score of 1 to 10). Though this may be a proven achievement now, OUM still needs to continue improving the print modules to reach beyond expectations of its learners and stakeholders.

CHALLENGES, INITIATIVES AND RECOMMENDATIONS

One of the most challenging components in the continuous improvement of the print modules is the time factor. The development of any one module requires at least 4½ months to be developed. Though the development time given is considered enough, more often than not, the actual development time is reduced because of unforeseen circumstances.

Due to OUM's rapid progress, more new programmes have been added by faculties and school. In coping with this expansion and the demand for more print modules, OUM needs to find the right balance of workload and time allocated for the development of print module. OUM needs to improve on its development process by being efficient, neat and intact. All parties involved in the production of the print modules are responsible for ensuring timeliness at all time. A proposed development cycle of print module is shown in Figure 3.

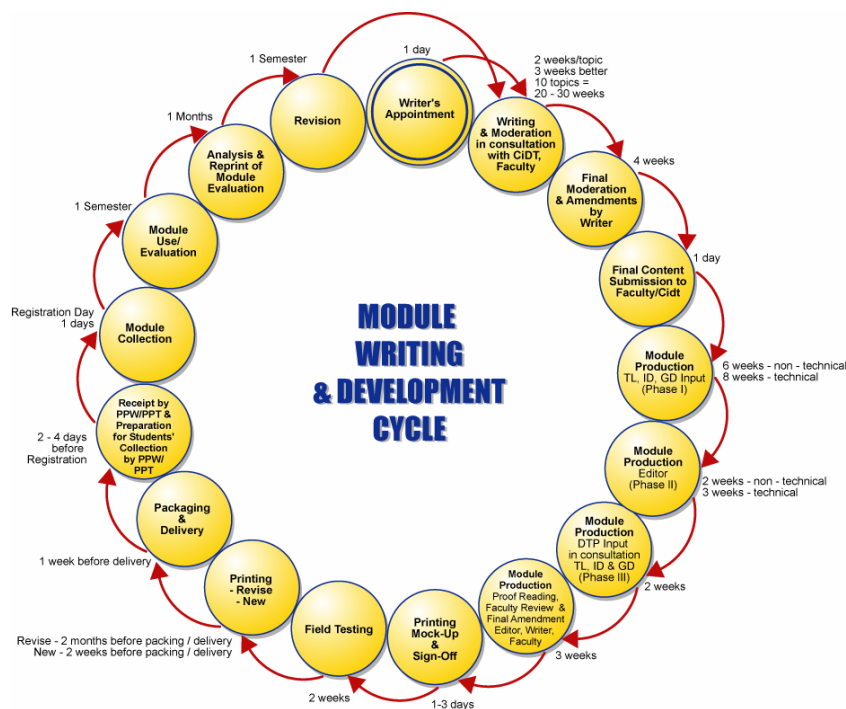


Figure 3 A proposed development cycle for print module

It is important to remember that quality is everyone's responsibilities. The process owners must be equally responsible towards achieving the university's mission of producing quality learning materials for its learners.

All above can be achieved if everyone conforms to a high level of professionalism in all tasks. Professionalism involves not only doing things right, ethical but also professional in open communication. OUM must continue building better development team and competent team members through stringent selection of team members and continuous training to the team members. OUM should examine the feedback received from development team and management and use this feedback to continuously improve the quality of its learning modules.

REFERENCES

- Dick, W. & Cary, L. (1990). *The Systematic Design of Instruction*, Third Edition, Harper Collins
- Knowles, Malcolm (1990). *The Adult Learner: A Neglected Species*. 4th Edition Houston, Texas: Gulf Publishing
- Johari, H., Abas, ZW, and Ramli, AZ., *Quality Assurance in the Development of Open Distance Learning Materials at Open University Malaysia*, SEAIR 2005 Conference Proceedings. Indonesia. Widyatama University
- Race, P., *Interesting Ways to Write Open Learning Materials*. Worcester, Billings & Sons Ltd.
- Creating Learning Materials for Open and Distance Learning: A Handbook for Authors and Instructional Designers*. Vancouver, Canada. The Commonwealth of Learning,
- Towards Quality Module*. A report to the Academic Board, July 2006. Centre for Instructional Design and Technology (CiDT)