

William & Flora Hewlett Foundation/COL Open Education Resources for Open Schools

Final Evaluation: Main Report

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Acronyms and Abbreviations

3G	Third Generation
ADSL	Asymmetric Digital Subscriber Line
BOCODOL	Botswana College of Distance and open Learning
CMC	Country Management Committee
COL	Commonwealth of Learning
LDTC	Lesotho Distance Teaching Centre
NAMCOL	Namibian College of Open Learning
NIED	National Institute for Educational Development
OER	Open Educational Resources
RSS	Real Simple syndication
VOIP	Voice Over Internet Protocol

Executive Summary

Project description

The William and Flora Hewlett Foundation /Commonwealth of Learning-Open Education Resources for Open Schools Project has as its aim to broaden access to secondary education through the development of high quality Open Distance Learning (ODL) or self-study materials. These are to be made available as Open Education Resources (OERs).

The project seeks to produce OERs in 20 selected subjects across six developing countries. The countries are Botswana, Lesotho, Namibia, Seychelles and Trinidad & Tobago. Originally India was part of this project, but withdrew after a while and Zambia came on board instead as the sixth country.

Across these countries, 100 teachers (all intended to have materials development experience) were selected to participate in the programme. Currently, 86 teachers are still involved in the project.

Currently, print based materials for 16 courses have been developed, updated and revised. Five of these courses have multi-media components. Nine out of the 16 have been converted into online courses with the use of the Moodle platform.

Intended outputs/outcomes

The key outcome of this project is to broaden access to secondary education whilst increasing student achievement. This will be accomplished through the development and use of quality self-study materials which are made available freely available as OERs. The two key outputs of this project are:

- The professional development of selected Master Teachers in materials design, using online collaborative methods; and
- The development of high quality self-study teaching and learning resources in selected subjects across six Commonwealth countries.

Monitoring and evaluation purpose

Monitoring typically focuses on examining what is currently being implemented and how this is done. Monitoring focuses on inputs, and processes. In this project, COL was responsible for the monitoring.

Evaluation is the systematic collection and analysis of data for a variety of purposes. This project has been mainly a formative evaluation where information is provided that can be fed back immediately to the project. This final report is a summative evaluation report where the focus is on the extent to which the programme has met its overall objectives/goals.

The project has been developed for a range of stakeholders including the funder, the COL project team, the country consultants and the teachers.

Specifically, for the funder, the report provides an analysis of the project's overall achievement in terms of the main objectives of the study. And for The COL project team, the report provides an analysis of the project activities, achievement of high quality, relevant and effective materials and an analysis of the potential for increased quality of education in countries where OERs are used and where teachers' professional capacity was extended to the use of technology.

Findings and Conclusions

An overview of findings pertaining to the following four main sections of the report follows:

- Evaluation of teacher attitudes, perceptions and confidence levels through a post survey questionnaire where 25 teachers completed post survey questionnaires.
- Evaluation of post project assessment tasks administered to a random sample of teachers where 20 teachers completed post project assessment tasks.;
- Evaluation of twelve selected units from materials developed in five countries
- Evaluation of seven units that have been converted from print form to Moodle, and an overall analysis of the platform used by the teachers to develop the materials

1. Evaluation of teacher attitudes, perceptions and confidence levels from the post-survey questionnaire

- Teachers gained a clearer idea of what would be involved in the project as it unfolded. Specifically, teachers realised that materials design and development is a process that requires sufficient time to design and is also an iterative process.
- Overall teachers spent large amounts of time on the materials design and development task, with some teachers spending between 2 and 4 days per week. Large proportions of this were after hours. Few teachers indicated that the time they had during working hours was sufficient.
- There was insufficient computer access. Just over half of the teachers had access to computers at all times at work and just under half had access at all times at home.
- There was insufficient internet access: Just over half (52%) had sufficient internet access at work, and few (28%) had sufficient internet access at home.
- Teachers felt that the workshops were relevant, particularly for the print based materials, and the ratings were highest for the third workshop which teachers found particularly illuminating. .
- Support from institutions was rated as effective, in terms of provision of resources like laptops and 3G devices and in some countries arrangements were made for teachers to be able to work on materials design and development during working hours.
- There was uneven consultant support. Areas of effectiveness included the provision of constructive feedback and comments. Areas where some consultants

were rated as less effective included insufficiency of feedback and insufficiency of time spent.

- Just under two thirds indicated that they had or would be receiving incentives even though according to COL this should have been included in every teachers' contract.
- Confidence in technology increased over the course of the project but these levels were still relatively low (below 48%) for all aspects of technology analysed.
- Confidence in materials design and development increased markedly during the project. Confidence increased most for embedding the teaching voice, sequencing and scaffolding, constructing a learning pathway and promoting an interactive approach.
- Key lessons learnt included use of the teaching voice, sequencing and scaffolding, learning pathways, assessment techniques and development of interactive materials.

2. Evaluation of post project assessment tasks

- Overall there has been significant improvement in the teacher's ability to identify and critically engage with a range of key instructional design elements that typically constitute good quality self-study course materials.
- Whereas in the *pre* project assessment task, teachers had typically been able to identify and comment on elements pertaining to the more formal and technical aspects of instructional design, the *post* project assessment tasks provide evidence of the teachers being able to identify and engage more robustly with a much larger range of design elements. These include those dealing with the process-oriented aspects of the instructional design, such as,
 - the pedagogical approach that is embedded in the materials,
 - the teaching voice,
 - whether the content is well scaffolded or not
 - whether the materials are in fact suitable for self-study purposes or not.
- The overall finding in the *pre* assessment task was that the teachers were only able to identify and critically comment on between 25% - 50 % of the instructional design elements. In the post assessment tasks, the percentages range is between 57% -90%. The improvement does need to be acknowledged as an important step in the capacity building process towards developing teachers capable of designing and developing quality self-study course material. However the range between 57% and 90% suggests that not all the teachers in this (small) group of 18 are equally clear about what does and does not constitute good quality teaching and material.

3. Evaluation of twelve selected units of material from the five countries

The second iteration of the first set of course materials submitted for the final evaluation have been much improved and enhanced. This provides concrete evidence that COL took note of the Midterm Evaluation recommendations, implemented an additional workshop, and responded accordingly.

- The number of instructional design elements that have been successfully implemented across all units rose from 43% in the first iteration to 63% in the second iteration.
- Overall the content has been assessed to be appropriate, well aligned with the unit outcomes and well sequenced.
- Generally there is a much greater degree of interactivity across the units - in line with the approach of Gagne's Nine events of instruction.
- All the units include a warm and friendly 'teaching voice' that serves to link information and motivate the learners.
- The new-look, clear, uncluttered layout of the units and improved editing has greatly enhanced the unit format and facilitated ease of reading. However, a final edit to check content and copy errors is still necessary.
- Time allocations for readings, activities and assessments need to be provided to support the learners in structuring their learning.
- The 'teaching voice' in the units is mostly social rather than a cognitive teaching presence that helps to mediate the content. Guidance on practical aspects such as on how learners studying on their own can engage in group work activities is also missing.
- Despite greater variation in the range of learning activities and assessment tasks, some units still contain activities and assessment tasks that are rather limited both in form and content. In many instances, formative assessment tasks are self-check lists and few high level skills are practiced or tested.

The second set of course materials (first iteration) also submitted for the final evaluation compares favourably with the first set (second iteration). It suggests that the capacity building workshops and other input and support provided to the writing teams after the Midterm Evaluation have borne fruit.

- The overall percentage of instructional design elements successfully implemented in this set of materials (first iteration) is 59%.
- Both sets of materials provide a sound basis for meeting the standards of high quality ODL materials, but are not there yet. There are however still some areas in all the units that require further attention.
- Separate summary report and checklists are provided for each unit evaluated in the appendix section of this report.

4. Evaluation of seven selected units in Moodle

The materials on display are vastly improved from those seen during the Midterm Evaluation. The systematic use of an instructional design template has ensured that there is a high level of support for learners and a consistent interface.

The levels of quality between the countries and courses, however, are uneven. There are some courses such as the Namibian Entrepreneurship which integrates both the Moodle tools and multimedia objects well and the Seychelles Life skills which uses the Moodle tools more effectively. However **there are many courses that while the content might be relevant don't exploit the platform to enhance the potential for learning.**

Introduction

This report is the third Indicator or Final Evaluation Report on the Commonwealth of Learning (COL) Open Educational Resources (OERs) project implemented in six countries: Botswana, Lesotho, Namibia, Seychelles, Trinidad & Tobago and Zambia¹,. This report however only presents results for five countries – as Zambia joined the project much later and had not yet had completed the materials at the point when this Final Evaluation was conducted.

Project context

Intended outputs and outcomes

The main objectives of the project were for COL to broaden access to secondary education while increasing student achievement through:

1. The development of high quality Open Educational Resources (OERs).
2. Professional development of 100 master teachers to increase the effective use of technology in classrooms.

Therefore, the project had as its main aim the training of a 100 master teachers² in the development of high quality, self-instructional, learning materials.

Expected outcomes as outlined in the original COL Terms of Reference (that they submitted to the William and Flora Hewlett Foundation) include:

1. Twenty (20) sets of applicable self-instructional learning materials will be produced in 6 developing countries (Botswana, Lesotho, Namibia, Seychelles, Trinidad & Tobago and Zambia) suited to developing country circumstances. A set of material refers to the complete syllabus for one subject at a Grade 10 or Grade 12 level in each of the 5 countries with the possibility of adapting it to the curriculum of any other country.
2. The material will be suitable for use in both Open and Conventional schools.
3. Existing and new subjects being offered in open schools through print and online teaching.
4. Access to secondary education will be broadened as learning materials will be available in English to countries in dire need of quality education materials in subjects most suited for the country.

¹ Initially India was one of the participating counties, they however withdrew their participation from this project and Zambia was subsequently invited to join the project in their stead.

² The term, 'master teacher', is used broadly and includes a range of participants from practicing high school teachers, through college and university lecturers to staff at open and distance learning (ODL) institutions.

5. One hundred (100) trained and experienced Master Teachers, who can train groups of other teachers in their countries and support online materials development projects, beyond this project.
6. One hundred (100) Master Teachers trained in the use of COL's Instructional Design Template will collaborate online, using online collaboration technologies.
7. A growing international network ("new Diaspora") of educational professionals in developing countries.
8. Increased capacity of Open Schools manifested in increased student success

Activities

Materials to support independent study in twenty selected secondary schooling subjects have been developed and will be made available electronically as OERs. Basecamp software (together with the COL instructional design template) has been used to facilitate a collaborative, online approach to materials development and as a tool for managing the process. It is intended that the materials developed will, with some contextual adaptation, be suitable for use across the six countries thus maximising their usage.

Three training workshops were held per country for all Master Teachers. It appears from the workshop schedules (programme outlines) provided and from the Country Consultant's feedback that the training in the first two workshops focussed predominantly on technical aspects such as use of the COL Template, PowerPoint, identifying and using OER sites, integrating multi-media components, use of Basecamp as well as Moodle training and some training around copyright issues and some editing skills. Some country variations appear in the schedules.

Following the Midterm Evaluation Report, *Saide* discussed the results with the COL project team and the country consultants in two teleconferences, and resources were provided to COL including the checklists that were used for the materials evaluation, a document outlining the use of the teaching voice, a document outlining Bloom's taxonomy, Kolb learning cycle, Gagne's nine events of instruction, and a document entitled 'Learning, the Learning Spiral and Materials Design'.

COL facilitated and enabled a third round of training workshops following the Midterm Evaluation Report and was held in all countries except Zambia which, as noted above, joined late, after India had withdrawn from the project. This is also the reason for Zambia not submitting material for the Midterm Evaluation. It is, none - the- less reported by COL that the findings of the Midterm Evaluation were shared with Zambia, as were the various *Saide* resources, which were used extensively in their own internal follow-up workshops

The workshop included discussions on the results of the report and discussions on various aspects of materials design and development. These included distributing resources on Bloom's taxonomy, and checklists on the teaching voice, resource support, objectives checklist, course preamble checklist and criteria for quality ODL materials checklist. Most of these resources had

been provided to COL by *Saide* following the Midterm Evaluation Report. The workshop also included a review of the materials that the teachers were working on.

In addition to the extensive support offered by COL to the various writing teams across the six countries post the Midterm evaluation, associated institutions in these countries also provided support and resources to the writing teams. These took various forms including, allowing additional time during working hours for the teams to work on preparing the course materials, arranging short internal workshops and offering financial support in the form purchasing data bundles and hiring of proof reader to check the course materials.

Using Moodle for the development of online materials was not part of the original plan – however, for various reasons (see detailed explanation provided in the section dealing with the results of the Platform Evaluation) COL decided to use Moodle.

Moodle training was undertaken online over a period of three weeks. Technical support was provided by a Moodle staff member. There was also a second follow up Moodle training session with team leaders from all six countries.

Twenty subject teams were established across the participating countries. First teams were required to develop a Course Blueprint based on the syllabi which are in use in their respective countries. The Blueprint provided the framework within which the course materials would then be developed. Teams were advised, as far as possible, to make use of existing OERs as the basis of their courseware development. They were expected to adapt, reversion (for own context) and to enhance existing OERs with the purpose of producing relevant, exciting, quality print-based ODL materials that will be made available as OERs.

Any of the participating institutions wanting to use their own existing (copy righted) materials could do so as long as they agree to re-license them and make them available under the Creative Common license agreement.

Collaboration with Ministries of Education & National Open Schools in the participating countries continued through emails and in some cases letters from the office of the President of COL.

Each country consultant retained by COL continued their online support to the master teachers, with complementary online support being provided by COL's full-time Team Leader and the part-time Project Manager (Project Team).

Local challenges in providing the Master Teachers with laptop computers and/or Internet access remained a challenge in some (Zambia, Lesotho and Botswana) countries and have limited the country consultant's ability to provide adequate online support as well as the teams' ability to stay in touch with each other.

Although the situation improved remarkably, it still remained a reason for concern. In order to compensate for more limited use of BaseCamp by participants than had been anticipated and because some issues were better addressed using different media, a series of regular teleconference calls had been introduced regrouping different sets of participants:

- Project Leader/Manager & Consultants

- Consultants, CMCs & Project Leader
- Project Leader/Manager & Team Leaders
- Consultants & CMCs
- Consultants & Team Leaders

The teams also introduced DROPBOX as a Database where they could upload and share files as it seemed more user-friendly. COL has started the process of uploading the second drafts of content on the COL Wiki and this should be regarded as work in progress. Conscious of time constraints, the onus will be on COL to upload the final units post the project's time. COL also initiated a Facebook page to share the experiences and assist Teachers to consolidate their skills

Using a social network such as FB and introducing OpenSchoolingConnect assisted teachers with their computer and communication skills while it broadened their networks.

Currently, 86 teachers are still involved in the project.

Currently, print based materials for 16 courses from the countries have been developed, updated and revised numerous times, edited and submitted to the evaluators for review. Five of these courses have multi-media components. Nine out of the 16 have been converted into online courses with the use of the Moodle platform. Fourteen has been placed onto COLWIKI, one in Braille and one in Daisey.

Partners involved

Key partners in this project are the William and Flora Hewlett Foundation that have as one of their education programme aims to "...equalize educational opportunities in the United States and throughout the world through Open Educational Resources" and the Commonwealth of Learning, with its special "...emphasis on the development and sharing of open learning/distance education knowledge, resources and technologies...", have funded and conceptualized this project. COL is responsible for the project management and monitoring.

For the purpose of successfully executing this project, COL has entered into partnership agreements with the Ministries of Education of the six countries involved in the project (Botswana, Lesotho, Namibia, Seychelles, Trinidad and Tobago and Zambia). These ministries have committed to provide the necessary support for the implementation of the OERs for Open Schools project by identifying suitable project participants (teachers with materials development experience) ensuring they have time in their current jobs descriptions to do the project work (develop the materials), release the teachers for training purposes and ensure that the teachers have access to computer facilities to prepare the materials.

It appears in that in each of these countries the participating institutions are a mix of open (national) and ordinary state schools.

Limitations of the evaluation

Differences in number of teacher respondents

In the final evaluation, smaller samples of teachers were selected by *Saide* to answer the post assessment task (as compared to the pre-assessment task) but a random sampling strategy was used so general trends could be compared

Acknowledgements

The key partners in this project, the William and Flora Hewlett Foundation and the Commonwealth of Learning are acknowledge for the funding, conceptualization, management and monitoring of this project.

In particular, the support of the COL project leader, Frances Ferreira and her support staff needs to be acknowledged, the project Steering Committee (representing all six countries)as well as the cooperation of the five country consultants and all 86 of the teachers that stayed the distance and continued working right up to the end of the project.

Monitoring and evaluation purposes

Monitoring involves examining what is currently being implemented and how this is done. It involves continuous tracking of a wide range of activities. The information gathered, and analysis conducted, is then provided immediately for consideration and possible re-framing, where appropriate. Monitoring typically focuses on inputs, and processes. In this project, COL was responsible for the monitoring.

Evaluation is the systematic collection and analysis of data for a variety of purposes. These purposes can include:

- A *formative evaluation* provides information that can be fed back immediately to the project, and is closely linked to monitoring; and
- A *summative evaluation* examines the programme at pre-determined points in time. The evaluation will typically focus on the extent to which the programme has met its overall objectives/goals.

This project has been mainly a formative evaluation but this final report is a summative evaluation report.

An evaluation plan was developed in consultation with the COL project team to ensure that the evaluation was aligned with the needs of the COL project team, and to ensure that the findings and results would be useful for them. The project has been developed for a range of stakeholders:

- For the funder, to provide an analysis of the project's overall achievement in terms of the main objectives of the study;
- For the COL project team, to provide:
 - An analysis of the project activities ;
 - An analysis of the achievement of high quality, relevant and effective materials, with some materials including multi-media features;
 - An analysis of the achievement of high quality and accessible and online materials; and
 - An analysis of the potential for increased quality of education in countries where OERs are used and where teachers' professional capacity was extended to the use of technology.
- For the country consultants, to provide an analysis of the work completed in their countries, and provide concrete suggestions for improving the quality of the materials; and
- For the teachers, where detailed feedback on each unit evaluated is provided in a formative and summative manner, and guidelines for the refinement and improvement of the materials are highlighted.

Monitoring and evaluation design and implementation

Indicator development and evaluation

The indicators were developed and refined using a basic version of the *logical framework* approach, which centres around the following results chain (in an evaluation plan):

Inputs → Processes → Outputs → Outcomes → Impact

The indicators were divided into types as follows:

- **Input indicators** measure any input into the programme, such as resources, finances, personnel resources etc. *For example, the 100 master trainers would be an input into the programme.*
- **Process indicators** measure the ways in which the programme was executed/delivered. *For example, this would involve the actual project activities, such as the processes involved in developing the materials.*
- **Output indicators** measure the quantity of goods and services produced and the quality thereof (i.e., number of students graduated). *This would be the products of the project, for example the 20 sets of learning materials.*
- **Outcome indicators** measure the broader results achieved through the programme³. *For example, OERs will contribute largely to improving learner support in open schools.*

Formative evaluation of project inputs and processes took place, with the Input Indicator Report and the Midterm Evaluation Report respectively.

This Final Evaluation Report of the project assesses the main output indicators of the project:

This report provides an evaluation of the following output indicators:

- **Confident and knowledgeable teachers** who are able to develop high quality OERs without support.
- **Platform** used by teachers to develop materials collaboratively. This aspect of the evaluation focussed on the use of both the BaseCamp and Moodle platforms:
 - To ascertain the extent to which they were effectively deployed and supported the process of materials development, the following criteria were used:
 - Simplicity of use
 - Clear navigation
 - Minimal technical problems
 - Adequate technical support
 - Useful, easy instructions for use
 - Intuitive platform

³ Indicators: Definition and Use in a Results-Based Accountability System By Karen Horsch, Harvard Family Research Project <http://www.gse.harvard.edu/hfrp/pubs/onlinepubs/rrb/indicators.html>

- Efficient search facility and version tracking

In addition to these user experience criteria the evaluator also looked at how administration and materials development were influenced by the functionality of the platforms.

- Twelve selected sets of self-instructional **learning materials** produced across five participating countries.

To meet the criteria, *materials meet the requirements of the syllabi for the five different countries*, a two phased process was followed:

- A scan was undertaken to check for congruence between the national syllabi and the Blueprints; and
- A detailed assessment of the match between the Course Blueprint and the corresponding unit of material submitted for evaluation.

Then an evaluation of the ODL course material was undertaken. The criteria used were those set out in the Final Evaluation Plan. They are:

- *There are clearly laid down aims and learning outcomes for each learning area/unit/topic.*
- *The content and teaching approach support learners in achieving the learning outcomes and there is an explicit learning approach/cycle.*
- *Materials have learner-friendly introductions, linking and summarizing passages that motivate learners and that provide coherence of materials – the ‘teaching voice’ is made explicit in the materials.*
- *Materials have content that is presented in logical/sequential form and there are building blocks to the acquisition of key concepts that are well scaffolded.*
- *The content of the course is accurate, up-to-date, and relevant to aims and outcomes.*
- *The language level is appropriate for the targeted learners.*
- *In designing the materials, care is taken in understanding the context in which learners live and work (context is taken into consideration in the materials).*
- *Materials promote active learning approaches and cater for individual differences (including gender).*

Also embedded in the evaluation plan is the additional dimension of, *editing and layout*, which has also been included in the evaluation. Although of a more technical nature, this dimension is necessarily embedded in all materials development processes and includes the COL requirement, namely that the materials development teams use the COL template provided

Data collection strategies

There are four components to this Final Evaluation:

1. A post survey, implemented to evaluate teacher perceptions and attitudes at the end of the project;

2. A post project assessment task implemented to assess teacher knowledge and skills in reviewing materials;
3. An evaluation of selected units from a sample of materials from the five countries; and
4. An evaluation of the courses mounted in Moodle and of the BaseCamp platform used by the teachers to develop materials.

Evaluation of teacher attitudes, perceptions and confidence levels through a post survey questionnaire

Saide developed questions to assess teacher perceptions, attitudes and confidence levels, and submitted these to COL for review. COL updated and refined the questions, and placed these on the Survey Monkey website, where teachers could complete the questionnaire. A total of 25 teachers were sent questionnaires by COL and 25 teachers completed questionnaires and submitted them electronically through the Survey Monkey website.

The post survey covered a range of areas relating to teacher attitudes, perceptions and confidence levels including:

- Teachers' understanding of roles and expectations for design and development of the self-study materials before the project began, and how this changed during the project;
- Teachers' perceptions of support
 - The sufficiency of dedicated time to spend on the task;
 - The sufficiency and reliability of access to computers and internet;
 - The relevance and usefulness of the workshops;
 - The sufficiency of support provided by consultants and institutions; and
 - The sufficiency of incentives provided by the institutions for the task.
- Perceptions of technical knowledge before and after the project;
- Perceptions of materials design and development skills before and after the project; and
- Perceptions of strengths and challenges in the project, and lessons learnt.

Evaluation of post project assessment tasks

The submissions for the *post* project assessment were made by five teachers each from Namibia, Seychelles and Trinidad & Tobago, three from Botswana and two from Lesotho. Thus a total of 20 teachers submitted post project assessment tasks.

For the *post* project assessment task teachers critically reviewed a unit of course material. Three texts, comprising one each from English Language, Physical Science and Business Studies course material were provided. Each teacher was required to select only one text for review purposes and to prepare a written review commenting on the strengths and weaknesses of the selected unit. Brief guidelines, including a set of 12 key assessment criteria, were provided to frame the assessment task.

Evaluation of twelve selected units from materials developed in five countries

The materials are evaluated in terms of their fit with the syllabi requirements as set out in the subject Blueprints, as well as from a course design perspective (by examining the course purpose, exit level outcomes and proposed assessment structure) and from a teaching and learning perspective.

Of the 16 paper-based courses that have been completed, *Saide* have selected one unit from each of 12 subjects across five countries for the summative evaluation – sampling 75% of the materials development output. In addition to the six units selected for the Midterm Evaluation, six ‘new’ units have also been selected by *Saide* for the summative evaluation.

Of the 12 units selected two include multi-media components.

The criteria were clustered into four dimensions, namely;

- Context and Content
- Approach to teaching and learning materials
- Activities, assignments and assessments
- Editing and layout

Each of the four dimensions was then unpacked into a number of indicators which are included on the evaluation instrument in the form of questions..

Evaluation of the platform used by the teachers to develop materials

Nine courses (out of 16) were converted into online courses using the Moodle platform. *Saide* evaluated one unit each of seven courses – thus 78% of the Moodle courses were sampled for evaluation.

The seven courses were scanned to get an overall idea of the whole course and then the following criteria were used in the assessment:.

- Was there a logical structure to the course and how was the platform set up to provide students with a navigation guide through the course structure?
- Were there sufficient activities, where they appropriate in addressing the outcomes and was the array of Moodle activity tools exploited to optimize learning?
- Were the courses contextualized through the use of real world examples and to what extent does the multimedia capability of the platform been used to support this?
- Were there sufficient tools in the online course to offer student’s support with both the course methodology but also any technical hurdles?
- Did the course encourage discussion around the topic and to what extent were the Moodle communication tools used to support this?
- Was the course’s use of technology supportive or alienating to the user? Would a user feel they are part of an automated process or do they feel there is human support?

Results from the post survey questionnaire

Introduction

A post survey was conducted in July 2011:

- To assess teacher perceptions and attitudes of their experiences in the project; and,
- To assess teacher confidence levels in technology use and materials design and development.

A total of 25 teachers completed the post survey questionnaire:

- Botswana: Seven out of a possible 11 submitted questionnaires;
- Lesotho: Seven out of a possible 12 submitted questionnaires;
- Trinidad and Tobago: Three out of a possible 17 submitted questionnaires;
- Seychelles: Four out of a possible seven submitted questionnaires; and
- Namibia: Four out of a possible 24 submitted questionnaires.

As the response rates are quite low, analysis is conducted at an overall level. Differences between countries are not included as the number of respondents per country is too low.

Comparisons are made with the results from the Midterm Evaluation Report. However, there is a limitation with this analysis in that the sample sizes differ.

The post survey covered a range of areas relating to teacher attitudes and perceptions including:

- Teachers' understanding of roles and expectations for design and development of the self-study materials before the project began, and how this changed during the project;
- Teachers' perceptions of support
 - The sufficiency of dedicated time to spend on the task;
 - The sufficiency and reliability of access to computers and internet;
 - The relevance and usefulness of the workshops;
 - The sufficiency of support provided by consultants and institutions; and
 - The sufficiency of incentives provided by the institutions for the task.
- Perceptions of technical knowledge before and after the project;
- Perceptions of materials design and development skills before and after the project; and
- Perceptions of strengths and challenges in the project, and lessons learnt.

The results are discussed in the sections that follow.

Role and expectations

Teachers were asked to describe their initial understanding of the task of designing and developing the self-study materials, and then how their understanding changed (if at all) as the project proceeded.

Teachers' initial understanding of the task of designing and developing the self-study materials

Initially, teachers understood the task to focus on designing and developing materials that were self-study or distance education materials and open education resources but there were differing perceptions as to what this would actually entail. The main responses included:

- Developing open education resources (20% of teachers)

My understanding was that we were developing free online materials for learners to use on their own (Botswana)

Converting my institutions material into print-based and online OER material (Namibia)

- Developing distance education materials (20% of teachers)

Writing materials for learners who do not have direct teacher contact. The material has to be suitable to help the learner meet the objectives of the course (Seychelles)

My understanding was that as an institution we were to look at our course material (study packs) and review it to make it more up to date guided by our national curriculum and also following the principles of ODL (Botswana)

- Developing self-study materials (12% of teachers)

Writing notes for students to read (Lesotho)

A simple type of self-study material (Trinidad and Tobago)

- Developing online materials (8% of teachers)
- Developing interactive materials (8% of teachers)

Some teachers mentioned that they understood that they would be required to write materials in the COL template, with the support of COL.

- Aligning materials with the COL template (8% of teachers)

To review BOCODOL instructional materials by aligning to the COL instructional design template (Botswana)

- Developing materials with support from COL (8% of teachers)

A task of developing materials for distance education learners with the support of COL and counterpart contribution of the countries involved (Lesotho)

My initial understanding was that we would be supported while being equipped to develop such materials. (Namibia)

One teacher mentioned that he understood the task to include the acquisition of skills that could be transferred to others.

To engage Master Teachers in developing OERs so that they acquire skills which they would later transfer to others in their respective countries (Botswana)

How did the teachers' understanding of the task change?

Teachers perceptions of what the task of designing and developing the materials actually entailed became clearer and deeper.

The aspects of materials design and development that became clearer to teachers during the project are indicated below:

- Teachers' understanding of what good quality materials would look like was enhanced (12% of teachers)

The material has to be written in an active way providing for the learner to have ownership of the ideas/content studied, through active physical/mental participation/involvement in the creation of the new learning material. The learning material has to be properly sequenced with proper scaffolding of ideas. The way the material is written should be in the form of an invisible teacher speaking to the learner (Seychelles)

As the project proceeded I came to understand that time is the essence to deliver quality materials and overcoming the challenges using the COL instructional design template. After several moderation the material should be developed having a teaching voice, having conceptual scaffolding, the learning outcomes stated should match the content and lastly the assessment and assignment task should match the target group (Namibia)

- Teachers understood that the use of the teaching voice in self-study materials was important (24% of teachers)

The writer must anticipate problems and difficulties learners are likely to anticipate and provide solutions to such problems. They must also be interactive otherwise learners will be bored and hence lose interest (Lesotho)

A more thorough engaging type self-study material (Trinidad and Tobago)

- Teachers realised that the task would involve more time and planning than initially anticipated (16% of teachers)

The processes of development are the ones that changed resulting in a lot of back and forth. Its like different consultants had varying writing styles. Some changes were caused by COL's research (Botswana)

As the project unfolded it turned out to be more of overhauling of instructional materials, particularly at the planning stage (Botswana)

As the project progressed, we realised that, the project needed a lot of time in order for us to learn more from it. This was more apparent when even our tutor had to consult someone outside the country (Namibia)

That the institutions material should only have been used as resource material only and not just been copied as into the OER template (Namibia)

- One teachers mentioned that he understood that the materials were also intended for use in other countries:

As we proceeded the project then brought in elements of taking into consideration curriculum from other countries to try and make the products more relevant to other countries as the materials were to be OERs. This was very difficult to implement as different countries use different systems of examination and the curriculum also had a lot of variations (Botswana)

Support

The section on support in the post survey focused on the key areas that were needed for the teachers to be successful – sufficient time on task, sufficient access to computers and internet, effective and useful training workshops, effective support from consultants and institutions, and rewarding incentives.

Time on task

Were teachers given dedicated time to design and develop the self- study materials?

The COL/Ministry contracts stipulate that the teachers selected for this project should *“have time in their current job description to carry out this work;”* and that they *“are prepared to participate in this project during holidays and afterhours over the next 14-16 months”*

In the Midterm Evaluation Report, the consultants reported that the teachers (other than those working at NAMCOL, NIED, BOCODOL and LDTC, were not allocated any time for materials development during normal working hours

The results from the post survey are consistent with the findings from the Midterm Evaluation Report, where only 32% of the teachers indicated that they had been provided with dedicated time to work on the materials design and development task.

How many hours per week on average did teachers spend?

Teachers were asked how many hours per week on average they spent on the task of designing and developing the materials overall (i.e. at home and at work.

- 20% indicated they spent between five and 15 hours (around 2 days)per week on average;
- 4% indicated they spent around 20 hours (around 3 days) per week on average;
- 16% indicated they spent between 30 and 35 hours (around 4 days) per week on average;
- 8% indicated that the amount of time spent varied, and depended on what needed to be done and demands of other work during the week,

These figures are slightly higher than those obtained in the Midterm Evaluation Report, where the average number of hours per week ranged from nine to 15.

Did this change over the course of the project?

Teachers were asked if the number of hours they spent of the task changed over time, and 36% indicated that it did not.

The remainder of the teachers indicated that the number of hours increased over time. Sixteen per cent of the teachers indicated that they spent more time after hours, and 24% indicated that they were allocated more time during working hours.

Was the amount of time that teachers had for the task sufficient?

Only 28% of the teachers indicated that the amount of time they had available for the task was sufficient.

Teachers were asked to indicate the number of extra hours they spent at home (note that these are a subset of the figures mentioned above).

For those who did spend additional hours outside of work, 24% indicated they spent between three and ten hours (about 1.5 days) on average per week additional time at home, 16% indicated they spent between ten and 20 hours (about 2.5 days) on average per week at home and 8% mentioned spending time over weekends on the task.

Access to computer

Teachers were requested to indicate whether they had sufficient access to a computer to design and develop the self-study materials. Results are presented in the table below.

Table 1: Access to a computer at work and at home

Type	At all times	At restricted times
At work	56%	20%
At home	48%	12%

These results show that about half of the teachers did not have sufficient access at home, and 44% did not have sufficient access at work. This is concerning and would have hampered and constrained the materials design and development process.

These results show that teachers had more access to computers at work than at home. This is slightly different to the results from the Midterm Evaluation Report, where 45 out of 52 teachers (87%) had access at home, and 40 out of 52 (77%) had access at work.

If teachers only had access at restricted times, please explain

Teachers were asked to indicate the reasons why they had restricted access, either at work or at home.

- One teacher indicated that although there was access at work, work demands meant little time could actually be allocated during working hours

Access to internet

Teachers were requested to indicate whether they had sufficient access to the internet to complete their task. In response, 52% indicated that they had sufficient access at work and 28% indicated that they had sufficient access at home.

These results are similar to those obtained in the Midterm Evaluation Report, where just under half had access at work, and fewer had access at home.

Teachers were asked to indicate the type of internet access that they had. The results showed a variety of types of access, ranging from dial up to 3G to ADSL to wireless.

Table 2: Types of internet access

Type	At work	At home
Dial up	20%	4%
3G	4%	20%
ADSL	24%	8%
Wireless	8%	12%

However, according to the Midterm Evaluation Report, in two countries all teachers had access to 3G devices, and in another two countries all teachers had partial access to the internet. The low response to the 3G access in the post survey may be more an indication of the sufficiency of access, where teachers may not have had sufficient airtime for the required internet activities in Basecamp, including uploading and downloading large files.

Only 36% of teachers indicated that the internet was reliable between 76% and 100% of the time, which means that 64% of the teachers did not have sufficiently reliable internet connectivity during the project.

Table 3: Reliability of internet connectivity

None of the time	
Less than 25% of the time	4%
Between 26% and 50% of the time	20%
Between 51% and 75% of the time	16%
Between 76% and 100% of the time	36%

Workshops

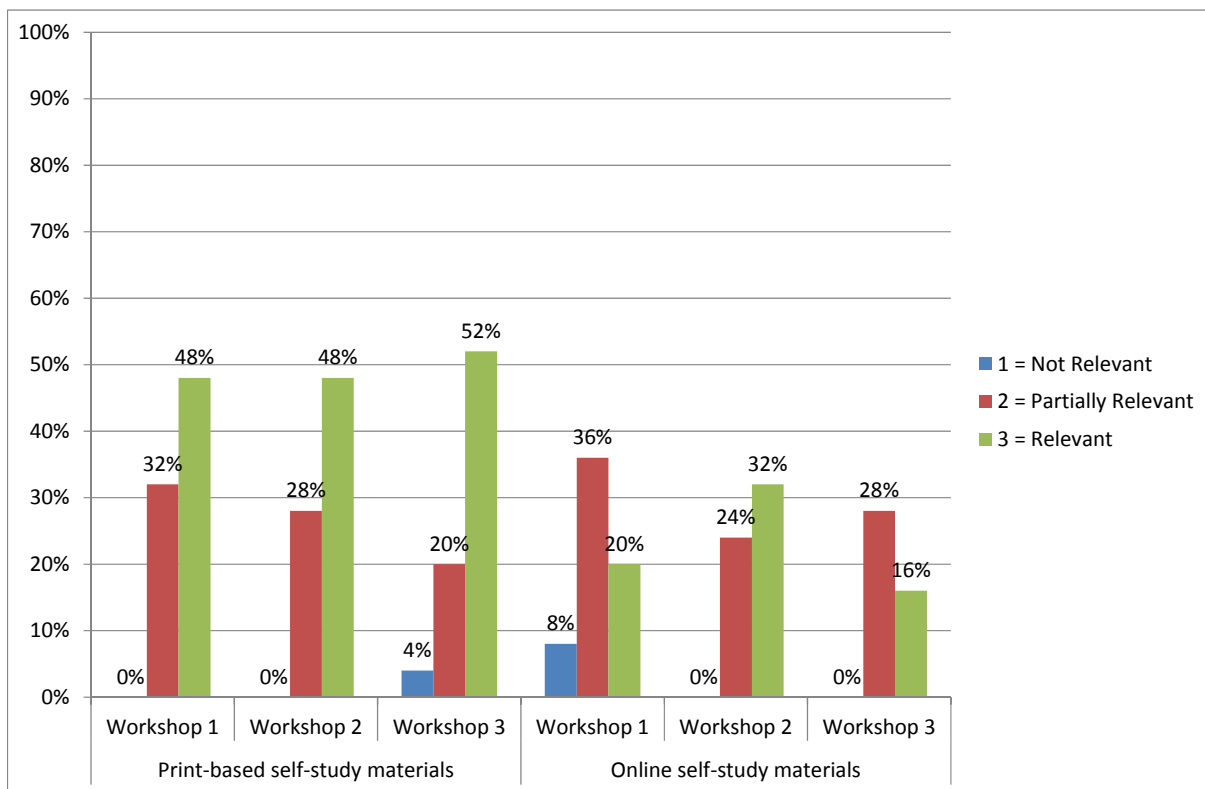
There were three training workshops during the project:

- The first workshop provided an introduction to Basecamp, teachers worked on their course blueprints and teachers were introduced to the COL instructional design template.

- The second workshop focused on the use of technology and different multimedia options and issues such as editing and copyright.
 - There was also an online Moodle training session.
- The third workshop focused on reviewing the materials and discussing the results of the Midterm Evaluation Report including presentations on aspects of materials design such as the teaching voice or teacher presence embedded in the materials.

Teachers were asked to rate the relevance of the capacity building workshops that they attended. The results are presented in the figure below.

Figure 1: Relevance of workshops for print-based and online self-study materials



Teachers felt that the workshops were more relevant for the print-based materials than the online materials, and this makes sense given that Moodle training was covered in separate sessions.

If one combines the partially relevant and relevant percentages, then there are relatively high percentages of teachers indicating that the workshops were partially relevant or relevant. For example, 72% of teachers indicating that the third workshop (after the Midterm Evaluation had been completed) was relevant.

Institutional support

Teachers were requested to rate and comment on the support they received from the institutions that commissioned them to do the work. Most respondents (76%) indicated that the support was *somewhat effective* or *effective*.

In the Midterm Evaluation Report, the consultants were the ones that commented on institutional support, and they also indicated that the support received was *somewhat effective*.

Table 4: Institutional Support

Not effective	0%
Somewhat effective	56%
Effective	20%
Very effective	4%

Comments that were provided to support the ratings included:

- Some teachers indicated that the main form of support was the provision of laptop/desktop computers (12% of teachers)

LDTC borrowed me a desk top computer instead of a lap top, that meant I could only work when at home (Lesotho)
- Some teachers indicated that the main form of support was the provision of internet, either 3G cards (16% of teachers) or wireless internet (4% of teachers).

I also needed internet connectivity as a support system, but it was a problem to get airtime, at times I even bought myself some airtime seeing that I will not finish (Lesotho)

Not all members of the team had access to internet and this rendered certain aspects of the project, such as communication through basecamp, ineffective/difficult (Seychelles)
- Teachers acknowledged that some institutions had made arrangements for them to be able to work on the materials design and development task during working hours (20% of teachers)

But not everybody: We were not relieved from other duties and so we still had to perform our normal day to day work together with the project (Botswana) two respondents
- Teachers indicated that some direction was provided by the institutions, but there was insufficient direct involvement for the institutions to fully understand what was happening on the ground (12% of teachers)

I believe the leadership was not in touch with the task. They mostly just depended on reports from Country Coordinators who could not make any decisions anyway (Botswana)

Apart from some attention from the Ministry at the onset of the project, we were left on our own to find time to do the work (Seychelles)

Country consultant support

Support teachers received for designing and developing the self-study materials from the country consultant

Teachers were requested to rate and comment on the support they received from the country consultants. A large proportion of teachers (56%) indicated that the support was *somewhat effective* or *effective* and 20% rated the support as *very effective*.

Table 5: Country consultant support

Not effective	4%
Somewhat effective	32%
Effective	24%
Very effective	20%

Comments that were provided to support the ratings included:

- Some teachers indicated that the support provided by consultants was effective as they provided constructive feedback on the development materials (36% of teachers)

The feedback he gave was very informative and empowering (Lesotho)

Patience in guiding and editing development process (Botswana)

He would explain every single step of the process as well as accommodating recommendations and suggestions from writers (Lesotho)

- However, 16% of the teachers who responded to the questionnaire indicated that the feedback provided was not sufficient, either not providing sufficient guidance or being somewhat confusing.

Feedback on the self-study materials was not given in a timely manner. Very little guidelines were given on how to improve self-study materials (Trinidad and Tobago)

She was in frequent contact with me on the improvements to do on the materials, but comments on the subject content was lacking (Seychelles)

The support given was at times more confusing than anything else. There was no common understanding of the task and therefore the support was ineffective. Many a times we were called back to bring in changes to our materials as things kept changing from time to time which was very frustrating (Namibia)

- Some teachers indicated that the consultant dedicated insufficient time for support (16% of teachers)

She was so overwhelmed by consultancy work from other countries hence little attention on us (Botswana)

He mostly worked with team leaders and not the rest of us (Namibia)

The consultant was responsible for a number of countries and so had divided attention. There were times the consultant was not available to work with because they were attending to other countries (Botswana)

- One teachers reported that some of the training that had been provided was not relevant:

A lot of things we spent lots of time on and either never used or we actually knew how to use the application, e.g. PowerPoint (Namibia)

Incentives

In terms of the contractual agreements made by COL with the various Ministries, monetary incentives for teachers participating in this projected were budgeted for by COL.

These monies were handed over to the Ministries for them to award payment to the teachers. In the three examples of Memoranda of Agreement established between the Open Schools in Namibia, Botswana and Trinidad and Tobago and the teachers engaged to work on this project, financial remuneration for their participation was clearly stated.

Sixty per cent (60%) of the teachers indicated that they had received incentives or compensation, or would be receiving this. As some of the teachers were only to receive compensation at the end of the completed tasks, this may be why some teachers answered no to this question.

The types of compensation that teachers indicated they received that were incentivising were honorariums (56%), allowances for workshops (20%), laptops (12%) and airtime (16%).

Just over half (52%) of the teachers indicated that the incentives they were provided with were insufficient:

By the time we began the project, \$400 was equivalent to M4000, but now that the payments are being processed we were told that the Ministry will use the current rate of exchange between a dollar and maloti. So I feel this is not enough when I look at the amount of effort I have put on this project. I know this is for a good will but the compensation should be worth the effort (Lesotho)

No, although we were told that there is very little monetary gain from this, I got to realise that there is quite a lot of work. One can not eat praise as we were told that we will enjoy the fruits of being amongst those that developed the materials. Its niece yes, but monetary incentives need be increased (Botswana)

No, as I have been using internet at home every weekend and some evenings for the project. Since most of the work is done at home during my spare time, it is worth some

incentives for family members to feel that the time sacrificed to the project is compensated (Seychelles).

Technology –knowledge, skills and abilities

In this section, teacher confidence in technology was assessed.

Teachers were asked to provide a rating of their technology skills before they began working on the project compared to now as the project ends. This graph depicts the perceptions of this group of teachers of the knowledge and skills they gained during the project.

Teachers rated a list of technology related skills from 1 =poor to 5=good. Results are depicted in the graphs that follow. The ratings have been grouped into three categories – Rating 1 or 2, Rating 3, and Rating 4 or 5.

Figure 2: Confidence with technology: Before and after (1)

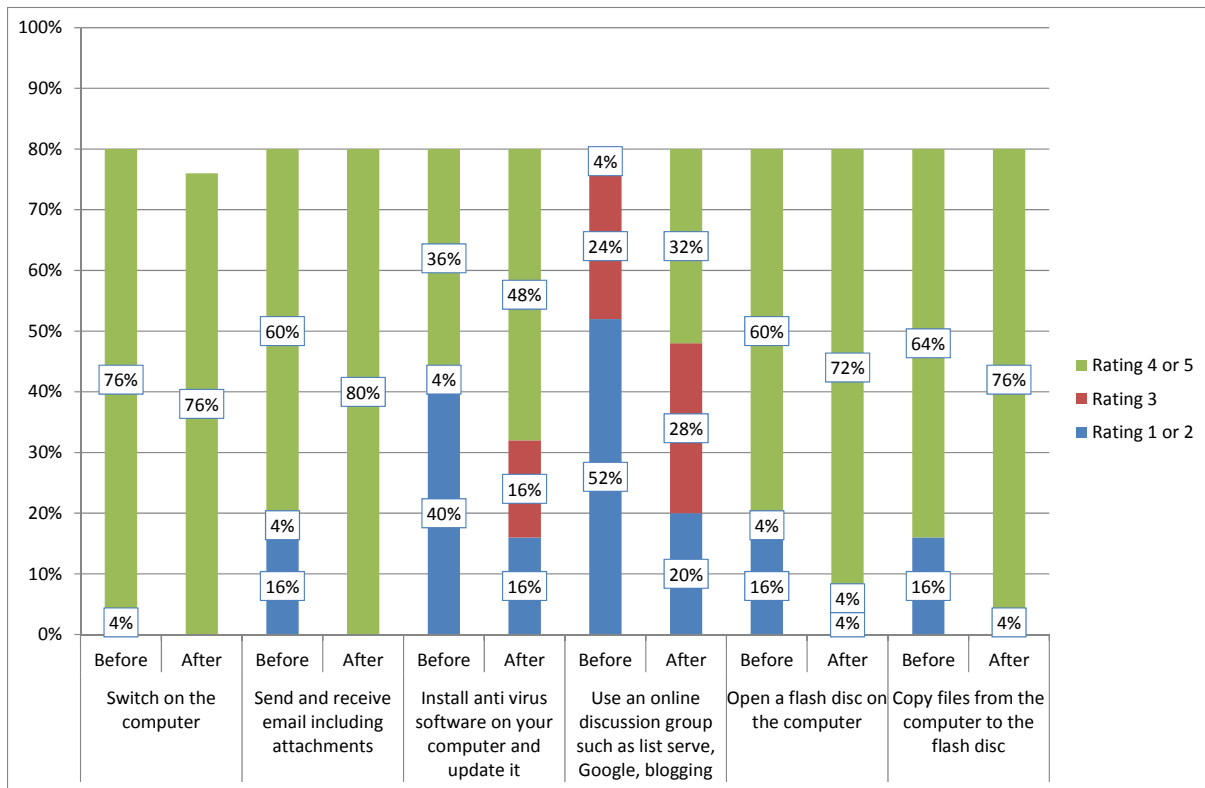


Figure 3: Confidence with technology: Before and after (2)

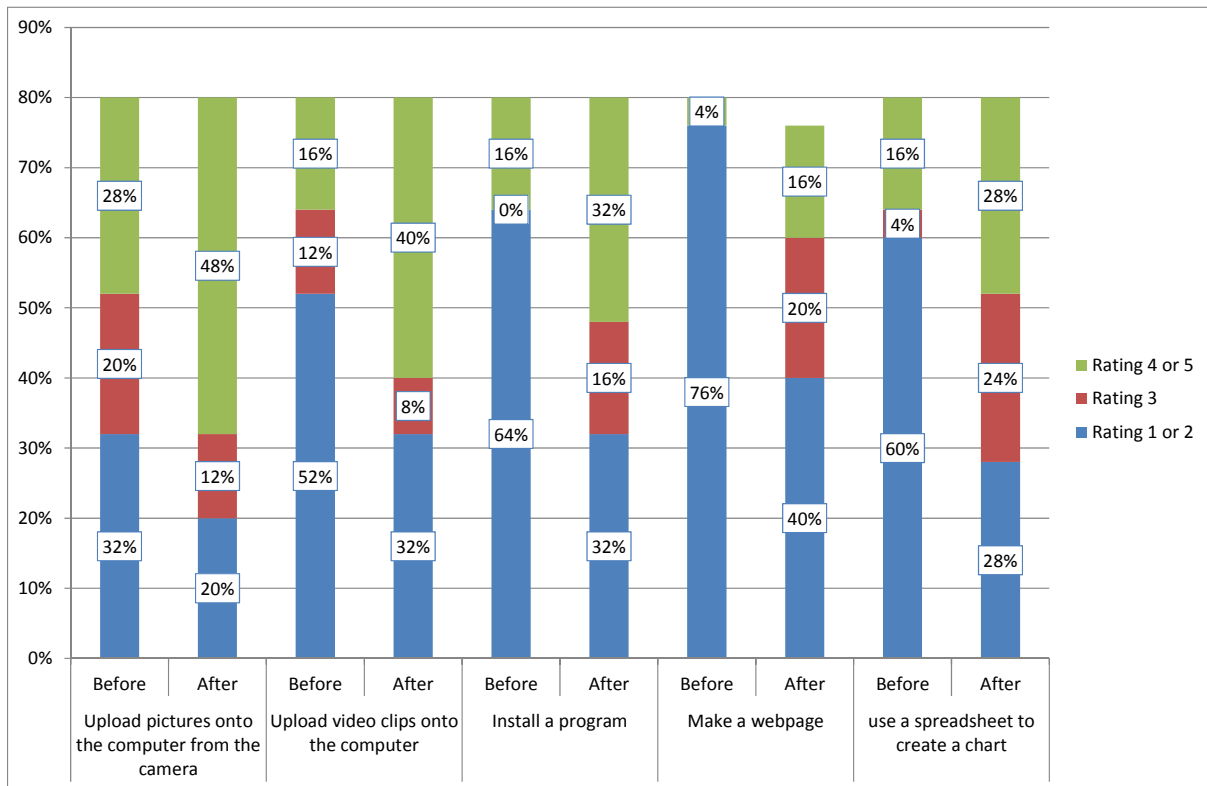
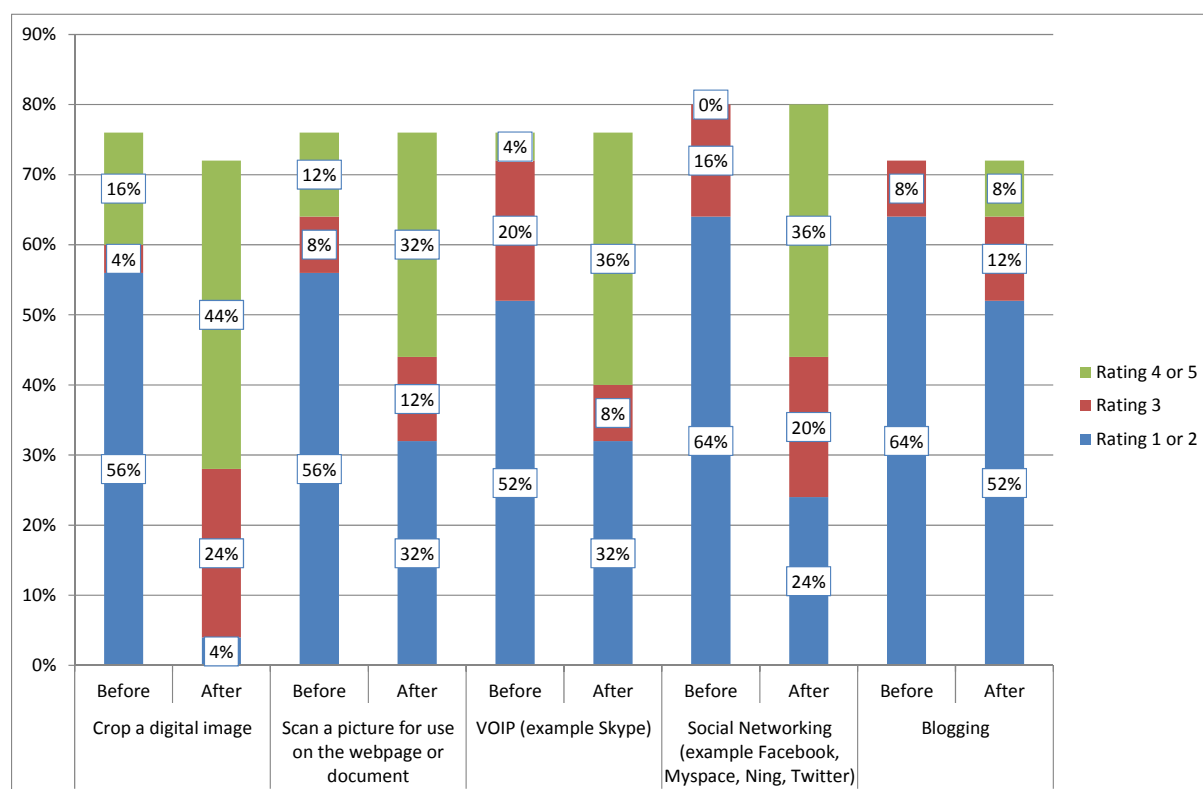


Figure 4: Confidence with technology: Before and after (3)



There is an increase in teachers' confidence in their technology skills as the project is ending compared to before the project began. Increase in confidence was most marked for:

- Teachers were more confident about *using email* towards the end of the project (from 60% providing a rating of 4 or 5 before the project began to 80% as the project is ending).
- Teachers were more confident about *using an online discussion group such as list serve, Google, blogging* (from 4% providing a rating of 4 or 5 before the project began to 32% as the project is ending)
- Teachers were more confident about *uploading pictures onto the computer from the camera*(from 28% providing a rating of 4 or 5 before the project began to 48% as the project is ending)
- Teachers were more confident about *uploading video clips onto the computer* (from 16% providing a rating of 4 or 5 before the project began to 40% as the project is ending)
- Teachers were more confident about *cropping a digital image* (from 16% providing a rating of 4 or 5 before the project began to 44% as the project is ending)
- Teachers were more confident about *scanning a picture for use on the webpage or document* (from 12% providing a rating of 4 or 5 before the project began to 32% as the project is ending)
- Teachers were more confident about *using VOIP* (example Skype) (from 4% providing a rating of 4 or 5 before the project began to 36% as the project is ending)

- Teachers were more confident about *using social networking* (example Facebook, Myspace, Twitter) (from 0% providing a rating of 4 or 5 before the project began to 36% as the project is ending)

Some of the skills such as *online discussions, uploading pictures and video clips, cropping digital images and scanning pictures for use on documents* could have been areas that were directly enhanced as a result of involvement in the project.

However, some skills such as *email, Skype and social networking* improved as COL facilitated teachers to access facebook and OpenSchoolingConnet. .

However, whilst confidence in technology increased, the levels were still relatively for all aspects of technology included here except use of email and flash disks. So levels of technical competence are still low, and this may mean that some teachers are not yet in the position to be ‘master teachers’ where they are able to train others. The OpenSchoolingConnet Project facilitated by COL was initiated to improve this.

Teachers were asked which applications they were familiar with, and if this was before or after the project:

Table 6: Applications teachers are familiar with

Application	Before	After
VOIP (example Skype)	24%	24%
WIKIs (example WikiEducator)	32%	24%
Social Networking (example Facebook, Myspace)	32%	24%
Start Pages (example Netvibes)	4%	16%
Bookmarking (example Delicious)	4%	20%
RSS Feeds/RSS News Aggregators (example Google Reader)	20%	12%

Instructional design – knowledge, skills and abilities

In this section, teacher confidence in instructional design areas was assessed.

Teachers were asked to provide a rating of their instructional design skills before they began working on the project compared to now as the project ends. Teachers rated a list of instructional design skills from 1 =poor to 5=good. Results are depicted in the graphs that follow.

Figure 5: Confidence in instructional design: Before and after (1)

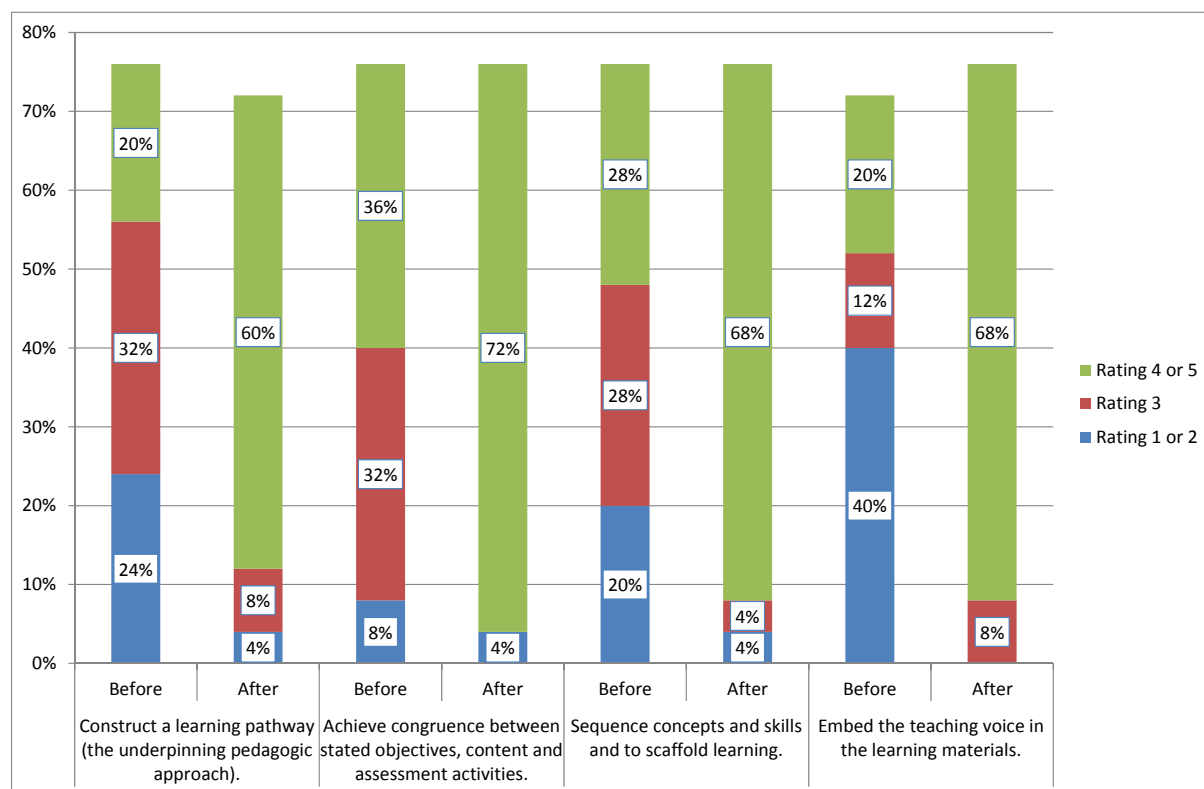
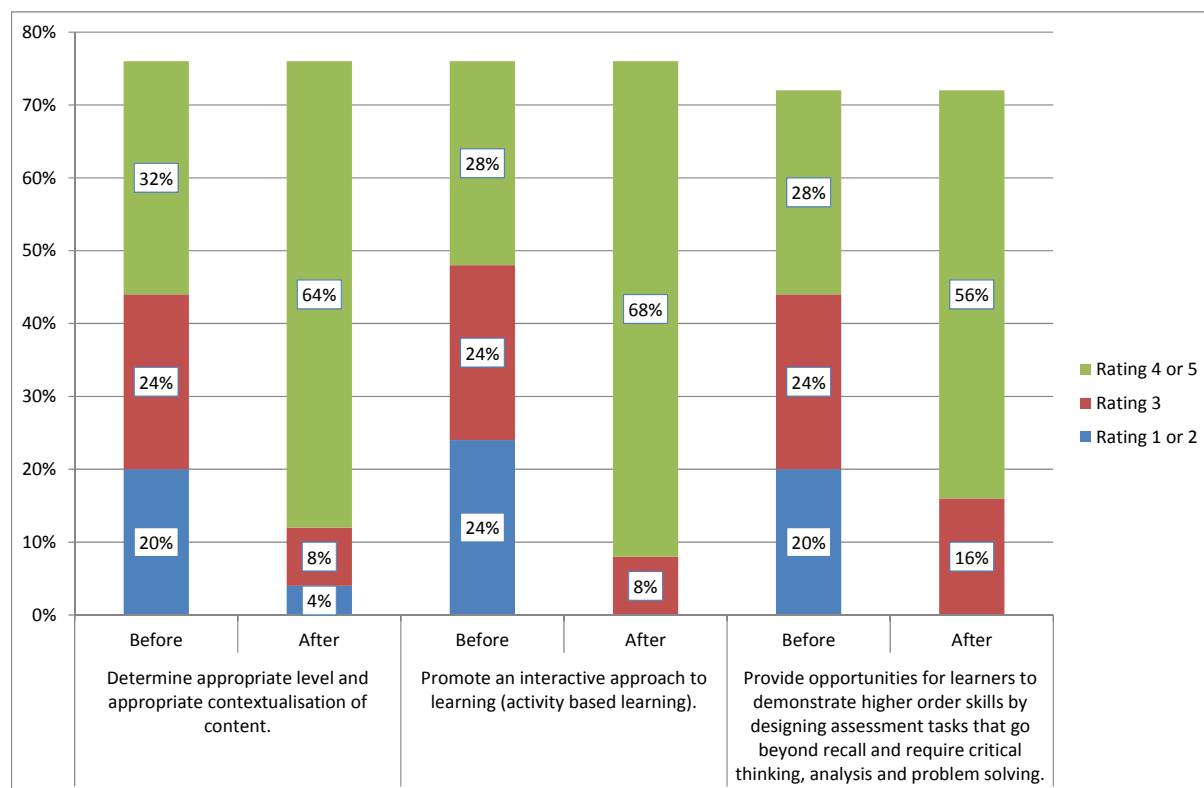


Figure 6: Confidence in instructional design: Before and after (2)



The ratings have been grouped into three categories – Rating 1 or 2, Rating 3, and Rating 4 or 5.

As with confidence in technology, confidence in materials design and development increased across all seven items listed after the teachers completed the project, as compared to before the project started.

The increases in ratings of 4 or 5 from before to after the project are all quite marked, and are listed below:

- 48% increase for *embed the teaching voice in the learning materials*.
- 40% increase for *sequence concepts and skills and to scaffold learning*.
- 40% increase for *construct a learning pathway (the underpinning pedagogic approach)*
- 40% increase for *promote an interactive approach to learning (activity based learning)*.
- 36% increase for *achieve congruence between stated objectives, content and assessment activities*.
- 32% increase for *determine appropriate level and appropriate contextualisation of content*.
- 28% increase for *provide opportunities for learners to demonstrate higher order skills by designing assessment tasks that go beyond recall and require critical thinking, analysis and problem solving*.

The elements that teachers increased most in confidence were embedding the teaching voice, sequencing and scaffolding, constructing a learning pathway and promoting an interactive approach. These results are in line with the responses to the open ended questions (see General section below) where these areas have been listed by many teachers as key lessons learnt.

The levels of confidence range from 56% to 72% as the project is ending. This indicates that whilst there has been improvement there is still room for growth and further development of materials design and development skills.

General

The last section in the questionnaire included open ended questions focusing on

- The strengths and challenges of the project;
- Recommendations for future projects;
- Challenges that teachers experienced;
- Key lessons learnt; and
- Perceptions of the value of the project to the individual institutions/ministries.

Strengths and challenges

There are two key questions in this section

Question to Teachers: What, in your view, were the positive elements (strengths) of the project that contributed towards building your capacity as a master developer of self-study materials?

The positive elements/strengths of the project as indicated by the teachers included:

- Collaboration/team work (28% of teachers)

The collaborative working and using team mates as a sound board to develop ideas better (Namibia)
- Use of technology and multi-media (28% of teachers)
- Increasing and enhancing materials development skills (20% of teachers)

Learning to use the integrated approach (Lesotho)

Writing more than one units caused me to see a wider view of what it meant to develop self-study materials. It also assisted me to become more creative (Trinidad and Tobago)

Ability to develop materials of high quality, as regards teaching voice, interactive for self-study, etc. (Lesotho)
- Constructive feedback and comments from consultants (20% of teachers)
- Training workshops which included teaching a variety of skills (16% of teachers)
- Provision of learning materials and resources (such as Bloom's taxonomy provided by the evaluators) (4% of teachers)

The main strengths in the project were therefore identified as increasing materials design and development skills, increasing use of technology, support from the consultants and collaboration and team work.

Question to Teachers: What challenges did you experience in your role as a materials developer in this project?

The key challenges that teachers indicated included:

- Insufficient time to work on the materials (40% of teachers)

Time, it was difficult doing it parttime. I think if people were seconded for maybe 6 months or so to do the project (Botswana)

Time constraints - which came as a result of learning new things as we progressed (Botswana)
- Delayed feedback from consultant (4% of teachers)

Certain guidelines (docs) came in a bit to late (Seychelles)
- Varying feedback from consultants (8% of teachers)

Not agreeing with the consultant on the subject matter and also on the questions that go beyond just recall (Lesotho)

Understanding of the task changing from time to time and the use of the instructional design template (Namibia)
- Limited support from team members (8% of teachers)
- Working with unfamiliar technology (8% of teachers)

- Insufficient internet access (12% of teachers)
Internet connectivity being VERY slow, (Namibia)
- Insufficient training (8% of teachers)
Uncertainty in the development of online material - not sufficient training received (Namibia)
- Problems with the instructional design template (12% of teachers)
Certain design problems with the template (e.g. when using the activity icon, the text did not flow properly/auto flow onto the next page: Some text appears to be lost).
- Making materials accessible to all learners (8% of teachers)
Making the materials accessible to all learners. Designing activities such that they engage learners of different learning abilities (Lesotho)
Meeting the needs of the target audience, and developing interactive learning materials (Lesotho)

Challenges cited by teachers included insufficient time for the task, insufficient resources especially computers and technology, and insufficient or confusing directions from the consultants.

Recommendations for future projects

There are two questions in this section.

Question to Teachers: Is there anything you now realise you could/should have done differently? If yes, what?

- Some teachers indicated aspects of the materials design and development process they would do differently, including the use of the teaching voice and the approach to inclusion of pictures and diagrams (16% of teachers)
The teacher's voice and "bridging" between different sections/chapters. (Namibia)
- I would write the text, and skipped the pictures/diagram, then I would come back to them. It was like starting all over again! (Lesotho)
- Some teachers indicated that they should have had more frequent, and in some cases, more coherent support from consultants, and more frequent discussions between team members (20% of teachers)
The support and guidance should have been clearer (Botswana)
More frequent consultations/discussions with the team members, take the various reports more seriously and take quality time to read them (Seychelles)
Ensure that the team meet more frequently to go through materials being developed (Seychelles)

From my side I would say that the country consultant should have guided and supported us in a logical order, as for me taking in consideration the teaching voice and scaffolding the material from the beginning (Namibia)

Question to Teachers: If you were asked to provide advice for a new, similar type of materials development project, what are the key elements of this project (what was done and how it was done) that you would recommend should be kept?

In response to this question, several key themes emerged:

- Using consultants who have experience and expertise in materials development to guide the process and support the teachers (28% of teachers)

Teachers should work with consultants because developing instructional material is different from actual teaching (Lesotho)

- the exchange of chapters between the writer and the consultant (Lesotho)

Make sure the Tutor chosen by the project knows what she or he is doing to avoid wasting time (Namibia)

- Conducting training workshops, but with a wider focus and more time spent on actual materials development and more regular (32% of teachers)

The workshops, but make sure that what is taught will be used. Give more time for actually working on the materials at the workshop, rather than cramming in a lot of skills or possible applications that can be used, that are probably never going to be used and then send us "home" with all the work still to be done. Rather have a few "tutors" available that can help when someone gets stuck with a specific thing. E.g. Let each person plan his or her modules, what interactive modes they want to use and then show them the first time they need a specific type of application. We all have the ideas and just need assistance on how to get them into practice. More workshops where we can think together and help each other (not where we are taught applications) are needed (Namibia)

More intensive face-to-face training in the development of on-line material (Namibia)

- Use of instructional design template (8% of teachers)
- Schedule sufficient, dedicated time to work on the development of the materials (4% of teachers)

Secondly, have scheduled weeks when the trainees would spend working on the project and not just a week - especially if they have other jobs. Supervisors do not have the same understanding. provide enough time for the project so that trainees will be able to grasp new concepts, have enough time to practise and make the new knowledge their own (Namibia)

So the key areas here are sufficient time, sufficient support from consultants, sufficient training and use of instructional design templates.

Lessons Learnt

There are two questions in this section.

Question to Teachers: Name three important lessons you learned while working on this project and explain how these have contributed to making you more confident and knowledgeable at designing and developing self-study material.

Some key lessons learnt were on the design and development of self-study materials (24% of teachers)

- User-friendly materials

That self-study materials represent a teacher so they must be very clear and user friendly. Distant learners have diverse needs, so materials should favour all of them. The units should not be too long and the learners should be informed at the beginning of the unit as to how long it is and what to expect (Lesotho)

- Interactive materials

Identifying and creating interactive lessons, using the teaching voice more effectively, (Botswana)

- Use of the teaching voice

Writing content using a teaching voice. Keeping learners engaged. Explaining new concepts. These important lessons contributed by improving the quality of self-study material which made me more confident (Trinidad and Tobago)

The importance of embedding the teaching voice throughout the materials, such as provide learner-friendly introductions, linking and summarising passages, activities and assessment that will motivate learners and consolidate their knowledge. Having worked on this project has provided opportunities to enhance my knowledge and confidence in developing self-study materials. This project has also helped me to be more critical about the way information is presented to students, and the types of activities and interaction that students are engaged in (Seychelles)

- Creating learning pathways

Create appropriate learning pathways which build on learning spiral that assumes that new learning should or is based on previous knowledge. This is a constructivist approach to learning that believes that learning takes place as a result of people's previous experiences gained from their interaction with their environment. In distance learning, the absence of a teacher/tutor to guide the learning process requires the use of a dialogue tone in the material to enable the material to talk to the learner. Articulate clearly the aims and objectives and consider your learner characteristics (Botswana)

- Team approach to materials development (8% of teachers)

The value of collaborative work. Learning what the effect is if a team leader does not value and listen to other people's inputs. I definitely try not to make the same mistake (Namibia)

These quotes provide a clear indication of the learning that took place, especially with regard to materials design and development, where teachers understood some of the key aspects of the process including use of the teaching voice and creating learning pathways.

Some key lessons learnt were more procedural such as working independently (8% of teachers), time management (8% of teachers) and use of technology and multi-media (28% of teachers).

The use of electronic media - although I was well computer literate, I have never developed interactive materials like this (Namibia)

- I prefer use of computers over pen and paper. The exchange between writer and editor is easier - I was able to make use of things like scanners - online study is real (Lesotho)

1. Using Moodle as a soft ware 2. Hyperlinking materials within the same document 3. Cropping. I am now able to use cropping of pictures and even sentences from a PDF document - this is improving my performance at my own work (Namibia)

Question to Teachers: If you had to train someone to design and develop self-study materials, what are the 5 most important things you would teach them?

Key themes that emerged in terms of *processes* are listed below:

- Project planning and management (8% of teachers)
- Time management (8% of teachers)
- Working collaboratively (16% of teachers)

For team members to listen to the ideas of others, be a sound board for them and critique their work in a positive manner (Namibia)

- Sufficient understanding and skills in technology (16% of teachers)
- Being creative (8% of teachers)

To be creative and not stick to what they can do, but plan what they want to do and then find out how to do the things they can't (Namibia)

Key themes that emerged in terms of *materials design and development criteria* are listed below:

- Developing clear learning pathways (12% of teachers)
- Writing concise clear realistic objectives in simple language (16% of teachers)
- Designing materials that are interactive (24% of teachers)

Be interactive in the design and do not produce e-textbooks (Namibia)

promoting active learning through in-text activities and the use of multimedia resource (Botswana)

- Enhancing the teaching voice (36% of teachers)

To make sure that there are clear instructions and guidelines and that the teacher's voice comes out clearly within the content (Namibia)

- Sequencing and scaffolding (24% of teachers)
- Assessment that matches objectives, and where a variety of types is included (20% of teachers)
- User –friendly and well laid out materials (8% of teachers)

designing simple but user friendly materials (Botswana)

and that the content has designs and pictures that are relevant and serves a purpose within the content and not just being decorative (Namibia)

- Setting the materials at the appropriate level for the learners (24% of teachers)

the learners' profile will allow one to pitch the content at the level that will suit all (Lesotho)

Be in touch with your learners by way of writing (Botswana)

To make sure they use the learners' prior or existing knowledge - they should be aware that trainees or learners are not empty vessels (Namibia)

Three quotes from the Namibian teachers provided a clear understanding of the extent to which teachers' understanding of the criteria for quality materials developed during the course of the project:

Self-study materials should have a teaching voice, there should be conceptual scaffolding, ensure that the learning pathway is clearly set out, the content matches the stated learning outcomes and lastly the assessment and assignment tasks should match target group (Namibia)

1. To make sure their objectives are clear and realistic 2. To make sure there is congruence between the main skill, the lesson objectives and the content, within the unit and in relation to other units or modules. 2. To make sure they use the learners' prior or existing knowledge - they should be aware that trainees or learners are not empty vessels. 3. To make sure that there is a variety of assessment and that higher order questions are also included. 4. To make sure that there are clear instructions and guidelines and that the teacher's voice comes out clearly within the content and that the content has designs and pictures that are relevant and serves a purpose within the the content and not just being decorative. 5. To make sure the content is suitable for the level of the grade (Namibia)

More intensive training in the development of self-study material to teachers with no experience. - teaching and learning approach to follow - material must have clear learning outcomes which must be assessed within each learning unit. - Content to be develop in a logical form starting from the basic and then scaffold into the more advance content. - use of the teaching voice within the material - use of multimedia to enhance material (Namibia)

Value of the project

Question to Teachers: What is the value of this project to your institution/ministry?

The key value to the institutions or ministries is that they provide a starting point of resources that can be used in distance education settings. Some quotes from teachers who responded to this question are provided below:

As for the institution, I think it is important because we can always use content from other countries instead of re-inventing the wheel. This can save time and money (Botswana)

To provide resource materials for teachers and students. Increase the skills-base of this participant who can now help others (Trinidad and Tobago)

This is a starting point for the institution to incorporate the use of on-line material. Institutions expand the use of ICT in the classroom (Namibia)

This project is of great value to our ministry as it will help many distance students to support their independent study in schooling subjects in improving their grades (Namibia)

This project is very very valuable to both my institution and the ministry as it has actually helped us develop and improve on our skills on ODL material writing.()Botswana)

It is of great value. I am personally using a lot of what I have gained in my everyday work and take every opportunity to pass on the knowledge and skills gained to learners and teacher colleagues in my institution and in schools (Seychelles)

Summary findings

In summary, the post survey showed that teachers gained from their experiences in the project, and were able to learn about the essential elements of designing and developing quality self-study materials

Roles and expectations: Teachers had only a general and uneven understanding of what the project would entail before starting. A more exact idea of what would be involved in the actual production of the self-study materials only emerged with clarity during the course of the project. It is interesting to note that whilst COL had a key objective of the development of master teachers who could train others, this aspect was only mentioned by one of the teachers that answered the questionnaire.

Additionally, the teachers realised that materials design and development is a process that required sufficient time to design and is also an iterative process. This points to the value of the formative evaluation and internal reviews.

Although one teacher mentioned the consideration of curriculum in other countries, it is uncertain the degree to which this took place. It appears not to be explicit in the materials.

Time on task: Overall teachers spent large amounts of time on the materials design and development task, with teachers spending between 2 and 4 days per week.

As indicated in the Midterm Evaluation Report, teachers were provided with limited dedicated time to work on the materials during working hours (although this did increase slightly). Only a few teachers (28%) indicated that the time they had for the task was sufficient. Additionally, the average number of hours spent on task increased slightly overall, as compared to results from the Midterm Evaluation Report.

It is noted that in a few instances teachers reported that institutions had recognised the demands of the task. They had therefore arranged for the teachers to have some dedicated time during working hours to spend on the project.

Computer access: Only 56% of teachers had access to computers at all times at work and 48% of the teachers had access at all times at home. This represents a major constraining factor to the success of the project.

Slightly more teachers had access to computers at work than at home, and this result differs slightly from the results of the Midterm Evaluation Report where the reverse was found. Challenges of work demands and unreliable internet coverage restricted the extent to which teachers could use computers at work.

Internet access: Just over half (52%) had sufficient internet access at work, and few (28%) had sufficient internet access at home. These results are similar to those obtained in the Midterm Evaluation Report. Additionally, for those who had access, the access was not always reliable. Again, this was one of the major constraining factors in the project.

Workshops: Teachers felt that the workshops were relevant, particularly for the print based materials, and the ratings were highest for the third workshop.

Institutional support: In line with the Midterm Evaluation Report, support from institutions was rated as somewhat effective to effective by 76% of the teachers. Support was mainly in the form of provision of resources like laptops and 3G devices and in some countries arrangements were made for teachers to be able to work on materials design and development during working hours. No other type of professional support or accommodation was mentioned.

Country consultant support: Ratings for consultants were positive, with 56% rating consultant support as somewhat effective to effective and 20% rating it as very effective. Areas of effectiveness included the provision of constructive feedback and comments. Areas where some consultants were rated as less effective included insufficiency of feedback and insufficiency of time spent. This means that there was uneven support provided by the different consultants.

Incentives: Just under two thirds (60%) indicated that they had or would be receiving incentives. Most stated that incentives had been monetary, and few mentioned workshop allowances, laptops or airtime, although these were provided in most of the countries. However, COL's arrangements with the individual institutions were that every teacher should receive some form of incentive.

Technology - knowledge, skills and abilities: Confidence in technology increased over the course of the project for technical aspects and social media, many of which the COL project had assisted with. However, confidence levels were still relatively low (below 48%) for all aspects of technology analysed except use of email and flash disks where confidence levels were in the

70%^s. these low levels of technical competence may mean that some teachers are not yet in the position to be ‘master teachers’ where they could train others. Initiatives from COL such as OpenSchoolsConnect could help facilitate growth in this area.

Instructional design – knowledge, skills and abilities: Confidence in materials design and development increased markedly during the project. The increase was from scores between 20% and 36% before the project to scores between 56% and 72% as the project was ending (showing increases of between 28% and 48%). Confidence increased most for embedding the teaching voice, sequencing and scaffolding, constructing a learning pathway and promoting an interactive approach. Confidence levels for developing assessment task for higher order thinking were still low as the project was ending, though contextual factors need to be taken into account when considering what these levels would be.

Strengths and challenges of the project: Strengths of the project listed by teachers included the collaborative nature of the project, the focus on technology and use of multimedia, the constructive feedback provided by consultants and the illuminating training workshops. Key challenges were around insufficient time to work on the task, delayed or varied feedback from consultants and insufficiency of internet access, amongst others.

Recommendations: Key recommendations for future projects include the continued use of experienced consultants who were familiar with materials design and development, the continuation and expansion of training workshop, the continuation of the use of the instructional design template and the scheduling of sufficient, dedicated time to spend on the task.

Lessons learnt: Key lessons learnt were both procedural and technical. Procedural lessons included time management, use of technology and multimedia, project planning, collaborative work and enhancing creativity. Technical lessons learnt included use of the teaching voice, sequencing and scaffolding, learning pathways, assessment techniques and interactive materials.

Value to the institution: The key value to the institutions or ministries is that they provide a starting point of resources that can be used in distance education settings

Conclusion

Teachers’ understanding of the task of designing and developing materials became clearer as the project unfolded. Teachers began to understand the planning and time involved in materials design, and that it was an iterative process. Their confidence in their technological and instructional design skills grew. However these confidence levels, particularly for technological skills, were still relatively low.

In the lesson learnt, teachers expressed their understanding of key aspects of materials design including the use of the teaching voice, sequencing and scaffolding, user friendly and interactive materials and assessment strategies.

Some teachers spent large amounts of time on the materials development task, ranging from 2 days to 4 days per week, most of this being outside of working hours. However, a few people

were able to work on the task during working hours, and one institution even changed its policy during the course of the project.

Institutional support was largely in the form of resources and access, with little programme involvement. A large percentage of teachers rated consultant support as effective or very effective, but there is evidence that this support was still uneven across the countries.

Just under half of the teachers did not have sufficient access to computers, and even fewer had access to sufficient reliable internet connectivity.

Results and findings from the post project assessment tasks and comparison with results of the pre project assessment tasks

Method

For the post project assessment tasks a **random sample** of 30 teachers (out of 86 that stayed with the COL project to its end) were selected to complete the post project assessment task. Twenty teachers submitted post project assessment tasks.

The submissions for the *post* project assessment were made by five teachers each from Namibia, Seychelles and Trinidad & Tobago, three from Botswana and two from Lesotho.

In the pre project assessment task, the teachers were required to critically review an extract from a study guide and prepare a short piece of self-study course material. For the *post* project assessment task it was decided that the teachers would critically review a unit of course material only and not prepare individually written tasks, as it was assumed that the 12 units submitted for the summative evaluation would provide sufficient evidence of the teachers' ability to design and develop self-study course material.

Three texts, comprising one each from English Language, Physical Science and Business Studies course material were provided. Each teacher was required to select only one text for review purposes and to prepare a written review commenting on the strengths and weaknesses of the selected unit. Brief guidelines, including a set of 12 key assessment criteria, were provided to frame the assessment task.

The results of the 20 *post* project tasks were evaluated, 18 of these were then compared with the results of the critical review tasks completed by each of the 18 teachers in the *pre* project assessment process. Two teachers in the Trinidad and Tobago country group had not prepared *pre* project assessment tasks.

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Assessment results

Table 7: Assessment results

Summary of pre project assessment results 2009		Summary of post project assessment results 2011	
Country & No of assessments		Country & No of assessments	
Botswana	<ul style="list-style-type: none"> Text: Generic unit on HIV and AIDS was provided to everyone. Each wrote a half page in point form In total the 3 teachers provided comments on approximately 40% of the instructional design elements in the unit The critical points made were generally confined to comments about form and technical aspects of the unit, with little or no comment addressing pedagogical issues in the unit, 	Botswana 3 teachers submitted assessment tasks	<ul style="list-style-type: none"> All three teachers selected to review the Physical Science unit provided. All 3 of the teachers are in science education - 2 teach Biology and 1 Physical Science. Each wrote approximately 2 pages Two of the three teachers showed a marked improvement in their understanding of the key strengths and weaknesses of the unit, commenting on about 60% of the key instructional elements of the unit. One of the teachers presented an excellent critique, assessing approximately 90% of the key elements and demonstrating a thorough understanding of these. Overall a range of critical points was made, relating to both the technical/formal aspects of the unit such as the clear statement of learning outcomes/objectives and issues related to layout through to a range of issues pertaining to the pedagogic approach used and identification of higher order skills in assessment tasks.
Lesotho	<ul style="list-style-type: none"> Text: Generic unit on HIV and AIDS was provided to everyone. Both teachers wrote less than a quarter of a page in point form. One of the two teachers wrote only three bullet 	Lesotho 2 teachers submitted	<ul style="list-style-type: none"> Both teachers selected to review the Physical Science unit. Both are Science teachers. The teacher that provided only 3 points in 2009, now provided 7 points. Given that Science is this teacher's field of expertise, one would have expected a more robust engagement, however, the points made do reflect critical engagement & the teacher was able to identify the weaknesses in the text reviewed. Only about 40% of the indicators were addressed.

	<p>points.</p> <ul style="list-style-type: none"> Both reviews were confined to generic formal & technical information – no comments on structural aspects of instructional design, or pedagogic approach were provided. No more than 20% of the instructional design elements in the units were assessed. 		<ul style="list-style-type: none"> The second teacher provided a two a page narrative review, effectively engaging with most ($\pm 80\%$) of the key indicators provided as a guide to completing this task.
Summary of pre project assessment results 2009		Summary of post project assessment results 2011	
Country & No	Pre project	Country & No	Post project
Namibia	<ul style="list-style-type: none"> Text: Generic unit on HIV and AIDS was provided to everyone. Overall the 5 teachers presented their assessment predominantly with reference to form and content, but not to pedagogy or other key aspects of instructional design that are key in self-study materials. Between the 5 teachers, at most, 40% of the instructional design elements were addressed in the assessment. 	Namibia 5 teachers submitted	<ul style="list-style-type: none"> 2 teachers selected to review the English unit, two the Business studies unit and one the Physical Science unit. All chose units that corresponded with their own teaching content expertise. All 5 teachers generally engaged much more comprehensively with the review than in the first instance. 2 of the 5 teachers, while trying to address most of the indicators, appeared not to fully understand them as their assessments were often off the mark. These 2 teachers also failed in particular to engage with pedagogic issues. 3 of the 5 provided comprehensive assessments of the unit – if they were to be scored they would attain between 70- 95% respectively.

Summary of pre project assessment results 2009		Summary of post project assessment results 2011	
Country & No	Pre project	Country & No	Post project
Seychelles	<ul style="list-style-type: none"> Text: Generic unit on HIV and AIDS was provided to everyone. Overall the 5 teachers presented their assessment predominantly with reference to form and content, but not to the embedded pedagogical issues in the instructional design of the self-study materials. 1 of the 5 teachers presented only two points, one strength & one weakness. The other 4 teachers presented approximately a half page each comprising 6-8 points of critique. 	Seychelles 5 teachers submitted assessment tasks	<ul style="list-style-type: none"> 3 teachers selected to review the Science unit and 2 reviewed the English language unit. Across the five countries, the most marked improvement in the execution of the assessment tasks appears to be in Seychelles. However, it must be noted that the content and format of 2 of the 3 Science unit assessments is identical. It is not clear whether one person copied the other's task or whether both worked on the task collaboratively? While the format of the 3rd task differs from the other two, the contents is also almost identical, raising further questions regarding possible copying or collaboration? If the assessment tasks are the product of positive collegial collaboration, rather than plagiarism, the end result reflects an excellent critique of the Science unit in which 90% or more of the elements/ indicators provided in the assessment guideline are addressed in great detail. The critique is presented in a 3.5 page tabular format, in which all strengths & weaknesses are carefully interrogated. The 2 English language unit assessment tasks vary a lot. In the one instance, although some of the basic concepts of instructional design appear to have been understood there is also some conceptual confusion – for example the notion of “scaffolding” is misinterpreted. The other language task is done very well. An average rating of close on 85% is applicable if all assessment tasks are the product of authentic
Trinidad & Tobago	<ul style="list-style-type: none"> Text: Generic unit on HIV and AIDS was provided to everyone. Overall the 3 teachers presented very scant assessments - listing only 	Trinidad & Tobago 5 teachers submitted assessment	<ul style="list-style-type: none"> The 3 teachers who participated in the pre & post assessment all demonstrated some improvement in their ability to identify & discuss key instructional design elements. In one instance the improvement was really significant, in the other two it was less so. 3 teachers selected to review the English unit and 2 reviewed the Science unit.

	<p>between 5-8 points each. Typically these pertained only to form and content, but not to the embedded pedagogical issues in the instructional design of the self-study materials.</p>	<p>tasks.3 of the 5 submitted <i>pre</i> project assessment tasks, 2 did not.</p>	<ul style="list-style-type: none"> • Overall the results in Trinidad and Tobago were uneven and with one exception, did not reflect a thorough understanding of the key instructional design elements. • Both the teachers who were not part of the 2009 group (i.e. who did not do the <i>pre</i> assessment) prepared critiques on the English language unit. Both assessment tasks were weak – addressing only about 50% of the instructional design elements in the unit. • 1 prepared a 3 page narrative critique which addressed about 60% of the indicators - key indicators like content, sequencing & scaffolding were addresses, while issues pertaining to active learning, reflection/consolidation and higher order thinking activities were not addressed. The second teacher wrote a page. Although thin, it succeeded in identifying & addressing the key weaknesses also addressing approximately about 55% of the indicators. • Od the three teachers who had participated in the pre assessment, 2 produced uneven, rather weak assessment tasks. These focused primarily on the formal aspects of the unit and less on process or pedagogical aspects. Only about 50% of the indicators were addresses. • 1 of the 3 did grapple with issues around pedagogy, the teacher presence (voice) and the like. About 70% of the indicators were addressed.
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Findings

Comparisons are made with the results from the *Input Indicator Report* (May 2009). However, this analysis is necessarily limited given the sample sizes difference. For this reason, general trends are compared, and some analysis is included.

In both the *pre* and *post* assessment tasks, the teachers were requested to critique a unit extracted from a set of course materials in terms of its instructional design features, identifying both the strengths and the weaknesses of the learning resource. This exercise was intended to test participant's knowledge of what a good self-instructional learning resource consists of, including their ability to identify the design and pedagogic strengths and weaknesses of the resource.

It remains clear from the baseline data collected for the *Input Indicator Report* that the teachers participating are highly heterogeneous in terms of their experience in teaching and in developing self-study materials. This fact is reflected in the *pre* and *post* project assessment results across all the five countries. Significant variations in the results, evident in the *pre* assessment tasks, persist in the *post* assessment tasks. These are apparent across the group of 20 teachers as a whole and within each country grouping.

Pre project assessment results

Using a basic check list comprising of 14 key elements of quality self – study material (See Appendix A1: Post Project Assessment Task for check list) the analysis of the *pre* project critical review assessment tasks, reflects that the teachers generally were able identify and comment critically on strengths and weaknesses pertaining to the more formal and technical aspects of instructional design. These included whether:

- outcomes/objectives are stated?
- content levels and language usage are appropriate?
- content is generally well sequenced or not?
- linkages to other units of learning, introductions & summaries are used?
- the materials are generally learner – friendly? and
- the layout is good?

Generally the teachers were unable to identify and comment on the process- oriented aspects of the instructional design, such as, whether:

- the pedagogical approach that is embedded in the materials has been appropriately applied?
- the teaching voice, i.e. conducting a dialogue with students to provide a sense of context and linkage between aspects of learning as well as serving to motivate students is properly implemented?
- content and activities are well “scaffolding”?
- mechanisms and strategies for supporting students to reflect on and consolidate what they have learnt exist in the materials; and

- ultimately to assess whether the materials are in fact suitable for self- study purposes or not?

An overall finding of the *pre* assessment task was that the teachers were only able to identify and critically comment on between 25% - 50 % of the instructional design elements.

Post project assessment results

While the uneven results persist in the *post* assessment tasks, overall, a significant improvement is evidenced.

- Botswana: Two of the three teachers showed a marked improvement in their understanding of the key strengths and weaknesses of the unit, commenting on about 60% of the key instructional elements of the unit. One of the teachers presented an excellent critique, assessing approximately 90% of the key elements and demonstrating a thorough understanding of these.
- Lesotho: A teacher that only wrote down three points in the pre assessment task, provided seven points in the post assessment task. Although a much robust critiques was expected, the points made do reflect critical engagement & the teacher was able to identify the weaknesses in the text reviewed, although overall, only about 40% of the indicators were addressed. The second teacher however provided a two a page narrative review, effectively engaging with most ($\pm 80\%$) of the key indicators provided as a guide to completing this task.
- Namibia: All five teachers generally engaged much more comprehensively with the review than in the first instance. Two of the five teachers, while trying to address most of the indicators, appeared not to fully understand them as their assessments were often off the mark. These two teachers also failed to engage with pedagogic issues. Three of the five teachers provided a comprehensive assessments of the unit – if they were to be scored they would attain between 70-95% respectively.
- Seychelles: Across the five countries, the most marked improvement in the execution of the assessment tasks appears to be in Seychelles. However, it must be noted that the content and format of two of the three Science unit assessments is identical. It is not clear whether one person copied the other's task or whether both worked on the task collaboratively? While the format of the third task submitted, differs from the other two, the contents is also almost identical, raising further questions regarding possible copying or collaboration?
- If the assessment tasks are the product of positive collegial collaboration, rather than plagiarism, the end result reflects an excellent critique of the Science unit in which 90% or more of the elements/ indicators provided in the assessment guideline are addressed in great detail. The critique is presented in a 3.5 page tabular format, in which all strengths & weaknesses are carefully interrogated.

- The two English language assessment tasks vary significantly, one is very well done and one is not.
- Trinidad & Tobago: Three teachers participated in both the *pre* and *post* assessment all demonstrated some improvement in their ability to identify and discuss key instructional design elements. In one instance the improvement was really significant, in the other two it was less so.
- The other two teachers were not part of the *pre* assessment process, so no comparison can be drawn in this regard. One teacher was able to address about 60% of the key indicators such as content, sequencing and scaffolding, while issues pertaining to active learning, reflection / consolidation and higher order thinking activities were not addressed. The second teacher wrote only one page. Although thin, it succeeded in identifying and commenting on the key weaknesses of the unit under review and thus addressing approximately 55% of the indicators.
- Overall, the results for the Trinidad and Tobago country group are uneven and the lowest when compared with the other four countries participating in this project. Of the three teachers who had participated in the *pre* assessment, not all participants in the *pre* assessment both produced weak assessment tasks addressing about 50% of the instructional design elements in the unit.

Conclusion

Effectively it was only possible to compare the results for 18 teachers, thus providing a rather limited sample. However some key trends are distinguishable. Overall there has been a marked improvement in the teacher's ability to identify and critically engage with a range of key instructional design elements that typically constitute good quality self-study course materials.

Using the basic check list highlighting 14 key elements (referred to above) of quality self-study material that was provided to all the teachers as a frame for engaging with the *post* project assessment task, it is clear that the teachers generally were able to identify and comment critically on a range of strengths and weaknesses in the units under review.

Whereas in the *pre* project assessment task, teachers had typically been able to identify and comment on elements pertaining to the more formal and technical aspects of instructional design, cited above, the *post* project assessment tasks provide evidence of the teachers being able to identify and engage more robustly with a much larger range of design elements. These include those dealing with the process-oriented aspects of the instructional design, such as, the pedagogical approach that is embedded in the materials, the teaching voice, whether the content is well scaffolded or not and ultimately to assess whether the materials are in fact suitable for self-study purposes or not?

Although attributing percentages to the number of key instructional design elements that have been identified and that have been appropriately commented on in a unit,

may not be an absolute way of determining each teacher's ability in this regard, it does provide a good indication that the teachers understand the role and function of these instructional design devices. It also suggests that they can engage critically with them.

The overall finding in the *pre* assessment task was that the teachers were only able to identify and critically comment on between 25% - 50 % of the instructional design elements. In the post assessment tasks, the percentages range is between 57% -90%.⁴ This is significantly higher than in the pre assessment tasks. The improvement does need to be acknowledged as an important step in the capacity building process towards developing teachers capable of designing and developing quality self-study course material. However the range between 57% and 90% suggests that not all the teachers in this (small) group of 18 are equally clear about what does and does not constitute good quality teaching and material.

It is important to note that while these results may signify that many of the teachers have gained a good understanding of the constituent components of good quality material, these results do not necessarily suggest that all the teachers are able to implement these confidently themselves as yet.

⁴ 90% has been attributed to the Seychelles group of teachers on the assumption that the post project assessment tasks were their authentic, collaborative) work, rather than a plagiarism of one person's work.

Summary results from materials evaluation

Introduction

The materials are evaluated in terms of their fit with the syllabi requirements as set out in the subject Blueprints, as well as from a course design perspective (by examining the course purpose, exit level outcomes and proposed assessment structure) and from a teaching and learning perspective. COL intended that 20 secondary school courses would be developed however, 16 were finally produced. Of these, it was planned that some would include multi-media components and some would be adapted and uploaded onto Moodle so that they could be offered online.

Of the 16 paper-based courses that have been completed, *Saide* have selected one unit from each of 12 subjects across five countries for the summative evaluation – sampling 75% of the materials development output. Six of the units were selected by COL and submitted for the midterm evaluation. Detailed feedback was provided on each of these and forwarded to the country consultants and writing teams. These courses and units have since been revised and have now been resubmitted for evaluation. In addition to the six ‘old’ units, six ‘new’ units have also been selected by *Saide* for the summative evaluation.

Of the 12 units selected two include multi-media components. Additionally, *Saide* has also evaluated seven units which have been adapted and mounted in Moodle for use in online course delivery. The evaluation results and findings for the Moodle mounted units as well as the evaluation of the BaseCamp platform follow in the next section of this report.

Selection of paper-based units

It was intended that the subjects selected for evaluation would constitute a representative spread of subjects and levels across the five countries. The six old units (previously evaluated) are:

1. Botswana Grade 12: Geography: Unit 2: Map Reading
2. Lesotho Grade 12: Mathematics: Unit 11: Standard Form
3. Lesotho Grade12: English: Unit 1: Verb Tenses
4. Namibia Grade 10: English: Unit 1: Life in Namibia
5. Namibia Grade 10: Life Science: Unit 5: Human Biology
6. Seychelles Grade 10: Coordinated Science: Unit 1: Biological Classification

The six new units are:

1. Botswana Grade 12: Human Social Biology: Unit 4: The Respiratory System
2. Lesotho Grade 12: Physical Science: Unit 20: Magnetism
3. Namibia Grade 10: Physical Science: Unit 6: Electricity and Magnetism
4. Seychelles Grade 10: Life Skills: Unit 3: Health and Safety
5. Trinidad & Tobago Grade12: Technical drawing: Unit 3: Construction of Plane Figures

6. Trinidad & Tobago Grade 12: Principles of Business: Unit 7: Leadership, Teamwork and Communication.

Structure

The materials evaluation component of this report is subdivided into three sections, A, B, and C.

In Section A midterm (2010) and summative (2011) summary results and findings of the first set of six units are compared.

In Section B, results and findings from the evaluation of the match between the course Blueprint and the course materials for the six new course units is presented. The results and findings of the six new course unit materials is also presented.

In Section C a table showing the results of the midterm and summative evaluation of the first six units and the results of the second set of six units is presented for comparative purposes.

Method

For the midterm evaluation (2010), COL provided a range of documents which helped to track the materials development process and provided information about the project context. These documents included records of communication between COL and the Country Consultants, Team Leaders and teams.

These, together with reports on workshops that have been held with the various country writing teams and support offered to teams based on recommendations of the midterm report, provide the context for the summative evaluation. The key documents used in the materials evaluation are the Course Blueprints and the selected sample units provided for evaluation for each of the twelve subjects.

To ensure consistency, the same evaluation instruments used in the midterm evaluation were used for the summative evaluation. These are attached in Appendix A. For the evaluation of the six, old, revised units, the completed checklists used for the midterm evaluation were used again. By adding additional columns to the original checklists, the results of the summative evaluation were recorded alongside of those recorded from the midterm evaluation for ease of reference and immediate comparison. For the six new units, the two detailed checklist (used in the midterm evaluation) were used by the subject specialists, to check the congruence between the Course Blueprints and the units and to review the ODL course materials. A Summary Report Template designed by *Saide* was used by the subject experts to prepare summary reports for each unit evaluated.

The *Saide* team appointed to conduct the materials evaluation component is comprised of two senior *Saide* staff members and eight subject experts, one to cover each of the eight subject areas under review. To further ensure consistency, the same subject experts that were appointed to evaluate the units for the midterm evaluation, were again appointed to re-evaluate the revised, 'old' units. Additional subject experts were appointed to review the new units which included the following subject

areas, Physical Science, Life Skills, Technical drawing and Principals of Business – all areas not covered during the midterm evaluation. Each of the subject experts have had extensive teaching and materials development experience. Collectively, the team members have published learning and teaching materials, not only in South Africa, but also in Lesotho, Zambia, Zimbabwe and Swaziland, thus providing the team with useful experience of regional contexts.

Given the two sets of units, one old (previously evaluated) and one new, two processes were followed in the summative evaluation. As described immediately above, the original instruments used during the midterm evaluation were adapted for re use in the evaluation of the old units. Only the course units were evaluated, as COL reported that there had not been any significant changes made to the Blueprints since the Midterm evaluation. For the new units, both the match between the Course Blueprints and the course unit, as well as the course units were evaluated. As in the midterm evaluation the results were recorded on the two checklists provided. This information was then used to prepare the narrative, summary reports for each course and the completed checklists and summary reports were submitted to *Saide*.

The findings from the twelve summary reports have been used to prepare this summative evaluation report intended for the COL Steering Committee and the Country Management Committees and funders.

The six completed comparative evaluation checklist and summary reports for the old units are attached in Appendixes C and E respectively. The six completed blueprint and unit evaluation checklists and reports are attached in Appendixes B, D and F respectively.

Section A: Comparative summary results and findings from six course units

Introduction

A summary of the results from the midterm evaluation of the six old course units is compared with the re- evaluation results of the same six units for the summative evaluation. The main purpose is to evaluate the extent to which the materials meet the criteria for quality Open and Distance Learning (ODL) self-study materials. The elements or criteria used are those agreed to in the COL evaluation proposal and evaluation plan. The criteria are clustered into four dimensions, namely:

- Context and Content
- Approach to teaching and learning materials
- Activities, assignments and assessments
- Editing and layout

Each of the four dimensions is unpacked into a number of indicators which are included on the evaluation instrument (below) in the form of questions.

The table below provides a summary of information synthesised from the review of the seven selected sets of materials provided by COL for the midterm formative component of the evaluation carried out in 2010 compared with six of the same selected materials revised for the summative evaluation in 2011. (One of the 2010 units was withdrawn).

Key:

Y = Yes

N = No (If NO explain in comment column)

P = Partially (If partially, explain)

N/A = This aspect is not covered in the Course Blue Print

2010 data 2011 data

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Summary comparative analysis for summative evaluation of the following six course units submitted in 2010 and revised and resubmitted in 2011:

1. Botswana Grade 12: Geography: Unit 2: Map Reading
2. Lesotho Grade 12: Mathematics: Unit 11: Standard Form
3. Lesotho Grade 12: English: Unit 1: Verb Tenses
4. Namibia Grade 10: English Unit 1: Life in Namibia
5. Namibia Grade 10: Life Sciences: previously Unit 5, now divided into 3 Units (5, 6 & 7) still entitled - The Human Body,
6. Seychelles Grade 10: Coordinated Science: Unit 1: Biological Classification

Note: Agricultural Science Unit submitted by Trinidad & Tobago for the formative (2010) evaluation was withdrawn and not resubmitted for the summative evaluation (2011).

ODL materials for self-study purposes need to take cognizance of the fact that they will not be mediated by a teacher, <i>the materials themselves need to teach</i> i.e. all steps needed in the learning process need to be made explicit, all requirements and instructions need to be made clear and the teacher's voice needs to be embedded in the materials as though the teacher were talking through the materials – pre-empting queries, anticipating the next step, making links, encouraging learners!													
Context and Content	Y		N		P		N/A		Total No of units in which this element was successfully achieved				
	10	11	10	11	10	11	10	11	2010		2011		
							1	0	11				
1. Do the materials cover the learning outcomes/objectives stated at the beginning of this unit?	3	5			4	1				5.0/7	71%	5.5/6	92%
2. Are there any explicit links made in this unit to the previous or the following unit/s? (If unit 1, then only to the unit/s that follows it).		2	5	1	2	3				1.0/7	14%	3.5/6	58%
3. Is the content accurate & up to date?	2	2			5	4				4.5/7	64%	4.0/6	67%

4. Are key concepts and terms clearly / accurately defined?	1	5			6	1			4.0/7	57%	5.5/6	92%
5. Is the content logically sequenced? Does it provide building blocks for the acquisition of key concepts that are well scaffolded?	2	4	1		4	2			4.0/7	57%	5.0/6	83%
6. Has the learners' profile and the learners' general context been taken into consideration? (contextually relevant examples/ illustrations? Is the content sensitive to gender/ cultural/religious diversity etc)	1	3	3	2	3	1			2.5/7	36%	3.5/6	58%
7. Is the language level suitable for the targeted learners?	3	4	2	1	2	1			4.0/7	57%	4.5/6	75%
TOTAL FOR THIS COMPONENT									25/49	57%	31.5/42	75%

Approach to teaching and learning	Y		N		P		N/A		Total No of units in which this element is successfully achieved			
	10	11	10	11	10	11	10	11	2010		2011	
8. Is there evidence in this unit that an explicit learning approach underpins the design of these materials? (e.g. <i>Gangne's Nine Events of Instruction</i> , <i>Kolb's Learning Cycle</i> etc.)	1	2	3	3	3	1			2.5/7	36%	2.5/6	42%
9. If there is a stated approach used or evidence of a specific approach used, is it applied effectively? i.e. do they actually do what they claim to be doing?		1	3	2	4	1		2	2.0/7	29%	1.5/6	25%
10. Do the materials have a learner-friendly introduction and linking and summarizing passages that motivate the learners and that provide coherence? Is the <i>teaching voice</i> made explicit in the materials?	1	5	2	1	4				3.0/7	43%	5.0/6	83%
11. Is the content knowledge presented as open, changing and debatable rather than as fixed and not to be questioned? (Social construction of meaning rather than transmission style).		1	7	5					0.0	0%	1.0/6	17%
12. Is content presented linked to what the learners already know & can do before moving onto new content?		1	6	3	1	1		1	0.5/7	7%	1.5/6	25%
13. Does the content provided enable the learners to successfully undertake the activity/ies that follow?	3	3		2	4	1			5.0/7	71%	3.5/6	58%
14. Do the materials promote active learning? Are they activity-based?	1	4	3	2	3				2.5/7	36%	4.0/6	67%

15. Are structured opportunities for reflection that assist with consolidating new knowledge built into the materials?	1	2	4	1	2	3			2.0/7	29%	3.5/6	58%
TOTAL FOR THIS COMPONENT									17.5/56	31%	22.5/48	47%

Activities, Assignments and Assessments	Y		N		P		N/A		Total No of units in which this element is successfully achieved			
	10	11	10	11	10	11	10	11	2010		2011	
16. Do the materials contain a range of different types of activities?	2	3	3	1	2	2			3.0/7	43%	4.0/6	67%
17. Are assessment tasks clearly and unambiguously expressed? i.e. instructions and outcomes are clearly stated.	3	4			4	2			5.0/7	71%	5.0/6	83%
18. Do the assignments and assessment tasks build the learner's ability to achieve the stated outcomes/objectives of the unit? (e.g. is there <i>congruence</i> between the stated outcomes and the what is being tested in the in the assessment tasks?)	3	4	1	2					3.0/7	43%	4.0/6	67%
19. Do the assignment and assessment tasks test higher order skills /thought? (e.g. not just recall, but <i>critical thinking, analysis and problem solving</i> etc.)			4	3	3	3			1.5/7	21%	1.5/6	25%
TOTAL FOR THIS COMPONENT									12.5/28	45%	14.5/24	60%

Layout and editing	Y		N		P		N/A		Total No of units in which this element is successfully achieved			
	10	11	10	11	10	11	10	11	2010		2011	
20. Has the template (provided by COL) been used consistently throughout the unit? E.g. same font used throughout?	3	5	4	1					3.0/7	43%	5.0/6	83%
21. Have the text/ illustrations etc. remained in the correct format? E.g. nothing has shifted around or got scrambled?	4	5	3			1			4.0/7	57%	5.5/6	92%
22. Are illustrations / diagrams/ tables clear, relevant and clearly labelled?	2	3	1	1	4	2			4.0/7	57%	4.0/6	67%
23. Are illustrations / diagrams/ tables appropriately referenced?		3	3	2	2	1	2		1.0/7	14%	3.5/6	58%
24. Are all quotations, extracts etc.	1	2		2	1		5	2	1.5/7	21%	2.0/6	33%

appropriately referenced?												
25. Is the language usage grammatically correct?	4	4			3	2			5.5/7	79%	5.0/6	83%
26. Has the unit been well edited?	2	3	1	1	4	2			4.0/7	57%	4.0/6	67%
TOTAL FOR THIS COMPONENT									23/49	47%	29/42	69%

Summary table showing implementation of instructional design elements per design component

Instructional design components/dimensions	Implementation of instructional design elements per design component			
	1 st iteration		2 nd iteration	
	2010		2011	
Context and content	25/49	57%	31.5/42	75%
Approach to teaching and leaning	17.5/56	31%	22.5/48	47%
Activities, assignments and assessment	12.5/28	45%	14.4/24	60%
Layout and editing	23/49	47%	29/42	69%
Overall percentage of instructional design elements successfully implemented across the six units in the midterm and summative evaluations	78/182	43%	97.5/156	63%

Comparative evaluation of first and second iteration of the first six units

Overall a significant improvement is evident in the six old units that have been re-evaluated as is evident in the table above with the overall percentage of instructional design elements successfully implemented increasing from 43% in the midterm evaluation to 63% in the summative evaluation. The results are discussed in greater detail below to better highlight areas of improvement and pin point areas that still need attention.

1. Unit context and content

Current learning theory emphasis the importance of building on the learners existing knowledge and experience – moving from the known to the unknown, carefully sequencing and scaffolding new learning. For this reason an understanding of the learner (the target audience) is very important. Then linking new learning to the learner’s environment or context, finding ways of linking old and new learning and careful sequencing of learning is key to providing a good basis for learning in self – study material.

The most significant improvement in the self-study materials has occurred in this dimension.

Do the materials cover the learning outcomes/objectives stated at the beginning of the unit? Five of the units cover the outcomes/objects and one partially.

Are there explicit links made between units? Two of the units reflect some links to other units in the course, but these are not maximized. Three do so partially and one unit does not exhibit any explicit links to preceding or following units.

Is the content accurate and up to date? The content in two units was assessed to be accurate and up to date and in four only partially. In one instance, information provided in learning activities was not correct. This result is consistent with the results of the midterm evaluation which suggests that a content edit of all the units is still necessary.

In two of the units (Namibia- Grade 10 English and Lesotho English) submitted for this evaluation, the subject specialists raised a concerns regarding the level of the unit. In both instances they were worried that the level was possibly too low. The low cognitive level of learning activities in the Botswana Geography unit has also been noted.

Are key concepts and terms clarified? In five units concepts have generally been clarified, however, in at least three of the five, there is room to expand the existing glossaries as there are still numerous words and terms have not been defined. However, the current status is a significant improvement on the midterm evaluation in which only one unit was deemed to have a suitable glossary.

Is contented appropriately sequenced and scaffolded? Sequencing and scaffolding content needs to be viewed at various levels, in terms of the various units that make up a course and in terms of the various topics that make up a unit. The findings in this aspect of the evaluation are that appropriate sequencing and scaffolding was only evidenced in four units and partially in two.

Has the learner's profile and general context been taken into consideration?

Responsiveness to the target audience – taking the learner and his/her context into account is evidence in three units , partially engaged with in one and missing from two units.

Is the language level suitable for the target group? For the majority of learners across the five countries in this sample, English is not their mother tongue, however it is a national language in each of the countries and it is also the language of instruction. Evaluating English levels in this context and acknowledging the additional hurdles encountered in ODL, require careful consideration as a range of issues need to be considered.

In four units the language levels were assed to be appropriate, in one, only partially appropriate and in one not at all appropriate.

2. Approach to teaching and learning

The successful embedding of the teaching and learning approach into the instructional design of the material (the course unit) lies at the heart of all ODL teaching and learning material development. A learning pathway has to be created

for the learner. How learning is sequenced, how the materials 'teach', how the content is mediated, is all especially important in self-study materials. In the absence of a teacher to explain difficult concepts, answer questions and pre-empt problems in the implementation of learning activities or assessment tasks – all of this needs to be embedded in the instructional design. It is however, the most difficult dimension of materials design to get right.

While much improvement is evidenced in the implementation of the more pedagogically oriented dimensions of instructional design in the second iteration of the six units, this dimension still require strengthening.

Many of the dimensions of pedagogical delivery dealt with in this section are closely intermeshed. For this reason the findings presented here are not necessarily covered as eight separate points (in the way they are listed in this section of the Checklist) instead some elements have been clustered for ease of discussion.

Is the evidence of a specific, systematized approach to teaching and learning in the materials? As was the case with in the midterm evaluation, only in two instances has reference been made to an underpinning pedagogic approach. Typically, the units have been structured by the use of the COL template which does to a large extent follow the structure of *Gagne's Nine Events of Instructional Design*. It is therefore safe to say that all the materials are presented in a structured, coherent format. This format however cannot, and does not promote experiential learning *per se*. The template also does not provide for *reflection on new learning* – an element that is generally missing from all the units. None of the units under review have demonstrate any evidence of the idea of *learning through doing and being guided and supported by the teaching voice/teacher presence in the materials to reflect on what you have done in order to consolidate new learning*.

Despite the national syllabi of Botswana and Namibia elucidating a learner-centred, experiential approach to learning and teaching, this is not evidenced in the units that have been evaluated. Overall it was found that most units contained a number of activities and assessment tasks in each section, but that these generally still predominantly test recall. Learners were required to fill in missing words, tick boxes, match concepts in tables etc. None of the units provided solid evidence of linking new content knowledge to what learners already knew or could do. Where it does exist, it is most often done very superficially. For example, a reference is made in the text to x or y covered in Unit z. However, little or no actual attempt is made to build systematically on the skills and knowledge engaged with in the previous unit that is being referenced.

Is the content presented in a typical transmission style? Whereas previously five units were deemed to be presented in a transmission style, now five of the units present some evidence of attempts to make the content more open to debate and not fixed. Only in one instance, is a more dialogical approach to teaching and learning successfully implemented.

While no mention is made in any of the Blueprints of a social constructivist approach to teaching and learning current learning theory supports this type of approach as being optimal for learning success.

Do the materials have a learner-friendly introduction? All the materials contain a learner-friendly introduction which helps to create a relaxed and a less overwhelming learning experience. All units provide evidence of the ‘teacher’ providing social/emotional support.

Is the *teaching voice* made explicit in the materials? In the first iteration of the six units (midterm evaluation) this concept appeared not to have been understood or considered at all. Now there are five units in which there is some evidence of teaching voice. Differently put, embedded in the text is a teacher presence that helps to ‘talk’ the learners through new concepts, mediating new knowledge, setting out the learning steps, providing guidance and pre-empting questions and possible difficulties with activities and assessment tasks, thereby helping to facilitate the learning process. However, there is still a large tendency for the teacher presence to manifest as *social* rather than a *teaching* voice. An easy conversational tone has been achieved in most of the units – the social presence serves to motivate the learner, but does not always manage to mediate the new learning optimally.

Is there evidence of linking and summarizing passages that motivate the learners and that provide coherence? Making explicit links to previous and future components in the unit (and in the course as a whole) is a key mechanism used for consolidating learning in an ODL environment. In the first iteration of the six units the notion of creating links between previous learning in earlier units and helping to scaffold and integrate learning was absent in five units. This is still largely the case, although the notion of linkages between past and present units of learning is partially achieved, albeit rather superficially, see section on *systematized approach to teaching and learning* above.

Are time allocations provided? Generally time allocation for readings, activities and assessments are not provided

3. Activities, assignments and assessments

How learning activities, assignments and assessment task are designed is directly related to the pedagogic approach that undergirds any course design and as a consequence, any course materials. It is therefore not surprising that some of the weakness still inherent in the teaching and learning dimension of the materials is also apparent in this aspect.

As with the teaching and learning dimension, improvements in the second iteration of the six units have been noted, however, room for further improvement exists.

Do the materials contain a range of different types of activities? In the midterm evaluation, two units exhibited a range of different types of activities. Overall it is evident that a wider range of activities has been designed into the second iteration of the six units. There is however still a tendency to design activities that show little variation and that are rather repetitive. There are also still too many instances of activities being presented devoid of any context.

Assessment instructions and outcomes are clearly stated? In the midterm evaluation assessment tasks were clearly expressed in only three units. Now this is the case in four units, with partial attempt in the remaining two units. While the assessment instructions are generally clearer, the intended assessment outcomes are still not always clearly articulated and in some cases, not stated at all.

Do the assessment tasks and the assignments build the learner's ability to achieve the stated outcomes/objectives? Differently put, is there appropriate alignment between the stated unit objectives/outcomes, the unit content and the assessment tasks? In the midterm evaluation a high degree of congruency was evidenced in three units. Currently four units provide evidence of congruence and two do not.

Do the assignments and assessments test higher order skills? In the midterm evaluation three units each had a few examples of tasks requiring higher order skills. This appears to have remained the same in the second iteration of these units.

Group work: While this was not one of the criteria against which these units were evaluated, mention is made in a number of the units of learners working in pairs or small groups, however no guidance is provided on how this may be facilitated in an open learning environment.

4. Editing and layout and hyperlinks

Overall there has been a great improvement in the layout and editing of the second iteration of the six units being evaluated. However, thorough content and language edit of all units is recommend. As highlighted above (in the section dealing with accurate content) there are a number of small content inaccuracies across at least four of the units. There also are small grammatical errors, typographical errors, labeling omissions and referencing errors and omissions. In cases where multimedia components have been included (only one instance in this set of units) all hyper-links should be carefully checked to ensure that they are functional.

Has the COL template been used consistently throughout the unit? In the midterm evaluation it was found that the COL template had been used consistently in three units. Now it's consistent use is evident in five of the six units.

Use and labelling of illustrations, diagrams and tables: As in the midterm evaluation, four of the six units have made good use of illustrations, diagrams and tables. The Maths unit and one of the English units from Lesotho do not include any illustrations diagrams or tables. Whereas it is not necessary in the Maths unit, the English unit may be strengthened with the inclusion of some relevant illustrations or photographs.

Is all art work and are all quotations, extracts, adaptations appropriately referenced and acknowledged? Some improvement regarding referencing and acknowledgements across all units, however these still remain unevenly implemented.

It would appear that no material of any sort was derived or adapted from any source as no references to any sources exist in any of the units.

5. Use of multi-media

Multi-media elements were not evaluated at midterm as this aspect had not been developed in any of the units at the time. COL reports that five of the sixteen print-based units include multi-media components and will be made available to learners on CD. Of the six (old) units in the current evaluation, only two (Namibia Grade 10 English and Grade 10 Life Science) have incorporated the use of multi-media. The units have a considerable range of linked resources which has served to enhance the content greatly. The English language unit includes web links which support study skills and time management; a range of additional resources; answers to quizzes and assessment tasks and references to sites like Kalahari.co which is a commercial bookselling site. In total there are 26 hyperlinks in this unit unfortunately 11 of the links are not functional so it was not possible to check some of the key resources e.g. the links to notes and rules. The Life Science unit has a number of audio and video clips that have been linked to the material which have a great potential to enhance the learning experience, however, many of these links are also currently not live.

Findings

COL intended that 20 secondary courses for open schooling would be developed, however, 16 were finally produced.

Overall a significant improvement is evident in the six units that have been re-evaluated as is evident in the table above with the overall percentage of instructional design elements successfully implemented increasing from 43% in the midterm evaluation to 63% in the summative evaluation. The largest improvements have occurred with respect to the elements dealing with *context and content* dimension (57-75%) and those dealing with *layout and editing* (47-69%). The least improved dimension is related to the way *teaching and learning* has been embedded in the instructional design in the respective units. The overall percentage of instructional design elements successfully implemented across the six units pertaining to the *teaching and learning* dimension in the summative evaluation is 47%.

The instructional design dimension that has exhibited the greatest degree of improvement across all six units is *content and context*. The writing teams have, generally been able to address the learner in his/her environment at the appropriate level and in a manner that is relevant to the learner's context.

Overall the content has been assessed to be appropriate, well aligned with the unit outcomes and well sequenced.

Generally there is a much greater degree of interactivity across the units - in line with the approach of Gagne's *Nine events of instruction*.

All the units include a warm and friendly 'teaching voice' that serves to link information and motivate the learners.

The new-look, clear, uncluttered layout of the units and improved editing has greatly enhanced the unit format and facilitated ease of reading. However, a final edit to check content and copy errors is still necessary.

Time allocations for readings, activities and assessments need to be provided to support the learners in structuring their learning.

Two of the units have multi-media components - a considerable range of linked resources have been added which has served to enhance the content greatly. The English language unit includes web links which support study skills and time management and other resources, while audio and video clips have been incorporated into the Life Sciences unit. In both instances, the full potential of the multi-media components has not been realized as many of the hyperlinks are currently not functional.

In two instances, concerns have been raised about the content level being too low (Namibia & Lesotho English Units). The low cognitive level of learning activities in the Botswana Geography unit has also been noted.

Links to other content are often implied rather than made explicit, e.g. *“you should have already learnt...”* imply content covered elsewhere, but one is not certain where or when.

The ‘teaching voice’ in the units is mostly social rather than a cognitive teaching presence that helps to mediate the content. Guidance on practical aspects such as on how learners studying on their own can engage in group work activities is also missing.

Despite greater variation in the range of learning activities and assessment tasks, some units still contain activities and assessment tasks that are rather limited both in form and content. In many instances, formative assessment tasks are self-check lists and few high level skills are practiced or tested.

Summaries provided in the units tend to be summaries of content covered in a particular section, rather than summaries or consolidation of key learning points.

In most instances, feedback provided on activities and self-assessment tasks is provided in the form of factual content, rather than a guided reflection on what has been learnt by doing the activity.

The dominant teaching and learning approach is the transmission style of presenting content.

A content edit to obviate minor content errors (noted in at least four of the units) and a language edit across all units is required. Referencing and acknowledgements - especially given that these materials are to be released as OER under a Creative Commons license need to be checked throughout all units as generally this aspect has been poorly implemented.

Conclusion

Generally the materials have been reviewed and revised in response to many of the comments made in the midterm evaluation and a considerable improvement is evident. There are however still some areas in all the units that require further attention.

In one unit in particular (Lesotho English), it is felt that while the materials have been revised and improved not enough has been done. Most of the recommendations made in the midterm report still apply.

In all other instances, it is advocated that the range of recommendations made in the detailed commentary provided in the summative evaluation checklists for each unit and summary reports be implemented. It is believed that this will serve to further strengthen the materials to meet the quality standards required for ODL materials, whether they are for national use or for international distribution as OERs.

All units need a final content, language and copy edit.

Section B

Summary results and findings from six new course units

Results from evaluation of congruency between course blueprints and course material

Introduction

As this set of six units is being evaluated for the first time, a detailed evaluation of the match between the Blueprints and the materials has been conducted. As the blueprint forms the base on which the course materials need to be developed, it is important that a high level of congruency exists between both.

The six categories of information used and the questions in each category in the check list below are derived from the Blueprint itself. The table below is a synthesis of results distilled from an analysis of the six checklists prepared by the subject experts. Appendix B provides the detailed, annotated check lists from which the summary finding below are derived.

Summary results of the match between course blueprint and course materials for the following six new units are presented on the table below:

7. Botswana Grade 12: Human Social Biology: Unit 4: The Respiratory System
8. Lesotho Grade 12: Physical Science: Unit 20: Magnetism
9. Namibia Grade 10: Physical Science: Unit 6: Electricity and Magnetism
10. Seychelles Grade 10: Life Skills: Unit 3: Health and Safety
11. Trinidad & Tobago Grade12: Technical drawing: Unit 3: Construction of Plane Figures
12. Trinidad & Tobago Grade 12: Principles of Business: Unit 7: Leadership, Teamwork and Communication.

Y = Yes

N = No (If **NO** explain in comment column)

P = Partially (If **partially**, explain)

N/A = This aspect is not covered in the Course Blue Print

Table : Summary analysis of match between course blueprint and course materials

Questions	Y	N	P	N/A	Total number of Blueprint elements matched with course unit	
1. Learner Profile: Is there a match between the stated Learner Profile provided in the Course Blue Print and the course materials? Consider the following:						
1.1 Level appropriate language for the stated target group? Consider the average age of learners and whether	5		1		5.5/6	92%

Questions	Y	N	P	N/A	Total number of Blueprint elements matched with course unit	
English is a first or second language?						
1.2 Is the content level appropriate?	4		2		5/6	83%
1.3 Are the overall <i>course</i> outcomes clearly stated?	6				6/6	100%
1.4 Are the <i>unit</i> outcomes clearly stated?	3	1	2		4/6	67%
1.5 Does the <i>stated</i> unit content and /or outcomes/objectives match the content/outcomes/objectives of the <i>actual</i> unit?	3		3		4.5/6	75%
1.6 Are the materials gender sensitive?	3			3	3/6	50%
1.2 Are examples used representative of the stated demographic spread? (urban/rural, mono cultural /multicultural etc.)	3	2		1	3/6	50%
1.8 Are challenges identified in the Learner Profile addressed in the materials?	1	3		2	1/6	17%
TOTAL FOR THIS COMPONENT					27.5/48	57%

Questions	Y	N	P	N/A	Total number of Blueprint elements matched with course unit	
2 Assignments and Assessments						
2.1 Overall, is there a match between the way in which assignments and assessments are set out in the material and what has been stated about these aspects in the Course Blue Print?	2	1	3		3.5/6	58%
2.2 Does the course material provide opportunities for both formative and summative assignments and or assessments?	2	1	3		3.5/6	58%
TOTAL FOR THIS COMPONENT					7/12	58%

Questions	Y	N	P	N/A	Total number of Blueprint elements matched with course unit	
3. Instructional design: To a large extent, the instructional design is predetermined by the COL template in which the course material has been developed. However, where assertions are made regarding any of the following design aspects, check for congruency:						
3.1 Stated use of a specific approach to teaching and learning e.g. <i>Gagne's Nine Events of Instruction, Kolb's Learning Cycle</i> etc.	2	2	2		3/6	50%
3.2 If yes, is the stated approach exemplified in the course materials?		2	1	3	.5/6	8%
3.3 Does the Course Blue Print state whether the learners	4	1		1	4/6	67%

are required to engage with any other materials that complement the print-based materials? E.g. Audio or video tapes , CD Rom etc.						
3.4 If yes, are these specified in the print-based materials?	1	2		3	1/6	17%
TOTAL FOR THIS COMPONENT					8.5/24	35%

Questions	Y	N	P	N/A	Total number of Blueprint elements matched with course unit	
4. Time allocations:						
4.1 Are time allocations for studying and undertaking assignments and assessment tasks provided in the Course Blue Print?	2	3	1		2.5/6	42%
4.2 If yes, is the corresponding information regarding time allocations provided in the actual unit?	2	3	1		2.5/6	33%
TOTAL FOR THIS COMPONENT					5/12	42%

Questions	Y	N	P	N/A	Total number of Blueprint elements matched with course unit	
5 Learner Support:						
5.1 Are any learner support strategies cited in the Course Blue Print?	4	1	1		4.5/6	75%
5.2 If yes, is there evidence of these in the course materials or elsewhere?		5		1	0/6	0%
TOTAL FOR THIS COMPONENT					4.5/12	37%

TOTAL OF ALL 5 COMPONENTS					53/108	49%
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Findings

The results reflected on the table above are unpacked in some detail below. An overall percentage rating of 49% has been allocated to the degree of congruency that exists between the blueprints and course materials. It is not suggested that the percentage rating is a definitive one rather it is a broad assessment indicator. Broken down, as it is in the table above into constituent components, it is intended to highlight areas of strength and weakness.

1. Learner Profiles

The Blueprint template requires that information on the target learners is provided - *the learner profile*. Components of the profile include information about the learner's language levels, demographic information, general context and

identifying any particular challenges that the learners may face. It is intended that this information should be used to ensure congruence between the learner's needs in his/her learning situation and contents and reaching and learning methods used in the materials.

- **Language** In all five countries, English is not the mother tongue of the majority of learners, although it is the language of instruction and is the national language, in each of these countries. Overall the language level was deemed to be appropriate.
- **Content level** The Blueprints and the units submitted for these evaluations were signed off by the team leaders, it is therefore assumed that the content of the units is deemed to be appropriate for the target group. However the subject experts that undertook this evaluation, had concerns regarding two of the subject areas in which they felt that the content levels were too low (Physical Science in Namibia and Lesotho).
- **Gender sensitivity** In three units gender sensitivities are observed. In the other three units (Technical Drawing and two Science units) this may not be applicable.
- **Use of examples that are representative of the stated demographic spread** In three units gender sensitivities are observed. In the other three units (Technical Drawing and two Science units) this may not be applicable.
- **Are challenges identified in the Learner Profile addressed in the materials?** In five of the six units there is a mismatch between the type of learner support that is sighted in the blueprint, and the strategies provided in the actual material, particularly in self- study material, this is an important omission that needs to be addressed.

2. Match between outcomes/objectives/content stated in the Blueprint and the Course Units

- Overall the Course and Unit outcomes are clearly stated in the Blueprints. When it comes to the actual match between what is stated in the Blueprint and what is evidenced in the materials, three units of materials are congruent and three provide only a partial match.

3. Assignments and assessments

- Overall, there is evidence of only a partial match between the information about assessment and assignments set out in the Blueprints and the way in which it is implemented in four of the six units.
- On the whole, formative assessment opportunities exist in all units, in some feedback is provided and in some it is not. There does not appear to be any elaboration of summative assessment requirements in any of the units. Generally there is a mismatch between requirements for assignments set out in the blueprint and practice as exemplified in the unit materials.

4. Instructional design

- The Blueprint template provided does not explicitly require information regarding the approach to teaching and learning that is to be followed. However, two Blueprints make reference to Gagne's, *Nine Events of Learning*, advocating this approach. But this approach is only applied evenly in one unit. Generally the course materials have been coherently structured and content appropriately sequenced.
- Four Blueprints provide information about additional resources to complement the print based materials, however no reference to these is integrated into the materials themselves, thus resulting in a mismatch between stated intention and implementation. In one instance reference is made to online materials – but these are not referenced in the unit, in two units, use of a range of multi-media applications is advocated, but again these are mentioned in the unit.

5. Time allocations

- Time allocations for studying and activities are only mentioned in two blueprints and implemented accordingly. It is recommend that time allocation should be included. This type of structuring and support is typically expected in quality self- study materials.

6. Learner support

- Some degree of tutor support is cited in four of the Blueprints, however there is no reference to this in any of the units. The notion of support conceptualized narrowly as tutor support. The notion academic support built into the materials is not present in the blueprint documents and equally missing from the course materials.

7. Curriculum transferability

- The Course Blueprint template clearly notes that account should be taken of syllabi from other participating Commonwealth countries in order for the proposed open education resources (OERs) to be useable across these countries. Overall it does not appear as though any of the seven units have been adapted to, or taken cognizance of, the requirements of syllabi in any of the other countries participating in this project.

Conclusion

The overall percentage rating of the elements in the above table suggests that a number of areas still need some attention. Generally, it was found that the blueprint templates have been appropriately completed, but that the translation of the blueprint requirements into the course materials needs strengthening.

The material do exhibit a high degree of congruence around certain aspects pertaining to the learner profile and the degree to which the materials are responsive to the learner's context, language levels and content levels generally.

The lack of match between stated and actual unit content/objectives/ outcomes must be addressed. This problem is further exemplified in the lack of congruence between stated assessment strategies and actual practice in some of the units. The course materials will not achieve coherence and systematized learning will not be possible unless these aspects are addressed.

The overall silence around learner support – especially in the context of self –study courses, is a worrying omission.

The promise of rich multi –media content made in a number of the Blueprints has not been actualized in the course materials themselves.

Results from evaluation of course materials (six new units)

Introduction

The six paper-based units which are the focus of this section of the summative evaluation have been presented in their first iteration – they have not been reviewed or evaluated by *Saide* previously. The evaluation purpose is the same as it was for the evaluation of the six units reviewed in *Section A*, namely, to evaluate the extent to which the materials meet the criteria for quality Open and Distance Learning (ODL) self-study materials. Equally, the elements or criteria used are the same. They are those that have been agreed to in the COL evaluation proposal and evaluation plan. The criteria are clustered into four dimensions, namely:

- Context and Content
- Approach to teaching and learning materials
- Activities, assignments and assessments
- Editing and layout

Each of the four dimensions is unpack into a number of indicators which are included on the evaluation instrument (below) in the form of questions.

The table below provides a summary of information synthesised from the review of the six new units of materials provided by COL for the summative evaluation (2011).

Key:

Y = Yes

N = No (If NO explain in comment column)

P = Partially (If partially, explain)

N/A = This aspect is not covered in the Course Blue Print

Summary results for the following six new course units are presented on the table below:

1. Botswana Grade 12: Human Social Biology: Unit 4: The Respiratory System
2. Lesotho Grade 12: Physical Science: Unit 20: Magnetism
3. Namibia Grade 10: Physical Science: Unit 6: Electricity and Magnetism
4. Seychelles Grade 10: Life Skills: Unit 3: Health and Safety
5. Trinidad & Tobago Grade 12: Technical drawing: Unit 3: Construction of Plane Figures
6. Trinidad & Tobago Grade 12: Principles of Business: Unit 7: Leadership, Teamwork and Communication.

Table: Summary results from evaluation of six new course units

ODL materials for self-study purposes need to take cognizance of the fact that they will not be mediated by a teacher, <i>the materials themselves need to teach</i> i.e. all steps needed in the learning process need to be made explicit, all requirements and instructions need to be made clear and the teacher's voice needs to be embedded in the materials as though the teacher were talking through the materials – pre-empting queries, anticipating the next step, making links, encouraging learners!						
Context and Content	Y	N	P	N/A	Total No of units in which this element was successfully implemented	
27. Do the materials cover the learning outcomes/objectives stated at the beginning of this unit?	4		2		5/6	83%
28. Are there any explicit links made in this unit to the previous or the following unit/s? (If unit 1, then only to the unit/s that follows it).	3	1	2		4/6	67%
29. Is the content accurate & up to date?	3		3		4.5/6	75%
30. Are key concepts and terms clearly / accurately defined?	2		4		4/6	67%
31. Is the content logically sequenced? Does it provide building blocks for the acquisition of key concepts that are well scaffolded?	4	1	1		4.5/6	75%
32. Has the learners' profile and the learners' general context been taken into consideration? (contextually relevant examples/ illustrations? Is the content sensitive to gender/ cultural/religious diversity etc)	3	1	2		4/6	67%
33. Is the language level suitable for the targeted learners?	5		1		5.5/6	92%
TOTAL FOR THIS COMPONENT					31.5/42	75%

Approach to teaching and learning	Y	N	P	N/A	Total No of units in which this element was successfully implemented	
34. Is there evidence in this unit that an explicit learning approach underpins the design of these materials? (e.g. <i>Gagne's Nine Events of Instruction, Kolb's Learning Cycle</i> etc.)	3	3			3/6	50%
35. If there is a stated approach used or evidence of a specific approach used, is it applied effectively? i.e. do they actually do what they claim to be doing?	2	1	1	2	2.5/6	63%
36. Do the materials have a learner- friendly introduction and linking and summarizing passages that motivate the learners and that provide coherence? Is the <i>teaching voice</i> made explicit in the materials?	2	2	2		3/6	50%
37. Is the content knowledge presented as open, changing and debatable rather than as fixed and not to be questioned? (Social construction of meaning rather than transmission style).	1	1	3	1	2.5/6	50%
38. Is content presented linked to what the learners already know & can do before moving onto new content?	4		2		5/6	83%
39. Does the content provided enable the learners to successfully undertake the activity/ies that follow?	4	1	1		4.5/6	75%
40. Do the materials promote active learning? Are they activity-based?	3	1	2		4/6	67%
41. Are structured opportunities for reflection that assist with consolidating new knowledge built into the materials?		3	3		1.5/6	25%
TOTAL FOR THIS COMPONENT					26/48	58%

Activities, Assignments and Assessment	Y	N	P	N/A	Total No of units in which this element was successfully implemented	
42. Do the materials contain a range of different types of activities?	1	2	3		2.5/6	42%
43. Are assessment tasks clearly and unambiguously expressed? i.e. instructions and outcomes are clearly stated.	4	1	1		4.5/6	75%
44. Do the assignments and assessment tasks build the learner's ability to achieve the stated outcomes/objectives of the unit? (e.g. is there <i>congruence</i> between the stated outcomes and the what is being tested in the in the assessment tasks?)	5		1		5.5/6	92%
45. Do the assignment and assessment tasks test higher order skills /thought? (e.g. not just recall, but <i>critical thinking, analysis and problem solving</i> etc.).		3	3		1.5/6	25%
TOTAL FOR THIS COMPONENT					14/24	58%

Layout and editing	Y	N	P	N/A	Total No of units in which this element was successfully implemented	
46. Has the template (provided by COL) been used consistently throughout the unit? E.g. same font used throughout?	5		1		1.5/6	25%
47. Have the text/ illustrations etc. remained in the correct format? E.g. nothing has shifted around or got scrambled?	3	3			3/6	50%
48. Are illustrations / diagrams/ tables clear, relevant and clearly labelled?	3	1	2		4/6	67%
49. Are illustrations / diagrams/ tables appropriately referenced?		4	2		1/6	17%
50. Are all quotations, extracts etc. appropriately referenced?		2	4		2/6	33%
51. Is the language usage grammatically correct?	5	1			5/6	83%
52. Has the unit been proof read and well edited?	2	1	3		3.5/6	58%
TOTAL FOR THIS COMPONENT					20/42	48%

Overall percentage of instructional design elements successfully implemented across the six new units

Instructional Design Components	Implementation of instructional design elements per design component	
Context & Content	31.5/42	75%
Approach to teaching and learning	26/48	54%
Activities, Assignments and Assessment	14/24	58%
Layout and editing	20/42	48%
Overall percentage of instructional design elements successfully implemented across the six new units	92/156	59%

Results

These six units were assessed for the first time as part of the summative evaluation. The overall percentage of instructional design elements successfully implemented is 59% (as can be seen on the table above). It is good to note that, despite the writing teams that prepared these six units not having had the benefit of the detailed feedback on their units received by teams whose units were evaluated at the midterm, the general concerns raised in the midterm evaluation have been conveyed to all writing team members. There is not a great difference in the overall quality of this set of six units when compared with the first set of units, resubmitted in their second iteration for further review in the summative evaluation. The overall percentage rating of instructional design elements successfully implemented in the second iteration is 63%.

It is noted that the dimension dealing specifically with the *approach to teaching and learning*, is in fact more successfully implemented in the new units than in the second iteration of the old units as can be seen in the table below. Overall, the weakest dimension in the new set of units is *layout and editing*.

Comparison of overall percentage of instructional design elements successfully implemented

Instructional Design Components	2011 (old)		2011 (new)	
	Second iteration		First iteration	
Context & Content	31.5/42	75%	31.5/42	75%
Approach to teaching and learning	22.5/48	47%	26/48	54%
Activities, Assignments and Assessment	14.5/24	60%	14/24	58%
Layout and editing	29/42	69%	20/42	48%
Overall percentage of instructional design elements successfully implemented	97.5/156	63%	91.5/156	59%

The results of the new units are discussed in greater detail below to better highlight the strengths and weaknesses of this set of units.

6. Unit context and content

As highlighted in Section A point 1, an understanding of the target learner is key to good scaffolding of learning and for relevance.

Has the learner’s profile and general context been taken into consideration?

Responsiveness to the target audience – taking the learner and his/her context into account is evidence in five units, and completely omitted in one (Lesotho Science).

Is the language level suitable for the target group? In five units the language levels were assessed to be appropriate, in one, only partially appropriate.

Do the materials cover the learning outcomes/objectives stated at the beginning of the unit? Four of the units cover the outcomes/objects and two partially.

Are there explicit links made between units? Three of the units reflect some links to other units in the course, but these are not maximized. Two do so partially and one unit does not exhibit any explicit links to preceding or following units. ‘Reminders’ about previous material learnt are referred to, but no explicit links are made to previous units or learning.

Is the content accurate and up to date? The content in three units is accurate and up to date, in two only partially and in one not at all. In one instance, some of the information provided is not correct (Botswana Biology).

In two units (Botswana-Biology and Seychelles Life Skills) the subject specialist raised a concern about the content level of the unit being too low for the particular grade. Particularly in the Seychelles unit, basic hygiene (brushing teeth etc.) and basic road safety (crossing the road) do not seem appropriate for grade 12 learners.

Are key concepts and terms clarified? In two units concepts have generally been clarified, however, even in these two there is room to expand the existing glossaries as there are still numerous words and terms that have not been defined. In four units glossaries are weak.

Is content appropriately sequenced and scaffolded? In four units content was well sequenced, in one this was done only partially and in one unit (Namibia Science) content is poorly sequenced. Scaffolding on the whole is less rigorously implemented than sequencing in most units, with the exception of Lesotho Science – where the scaffolding is particularly well done.

7. Approach to teaching and learning

As discussed in the Section A, point 2 above, embedding the teaching and learning approach into the instructional design of the material is a key aspect of quality ODL material development. Overall, this aspect has been more successfully managed in this set of units than in the second iteration of the first set of units (as above, despite not having had the benefit of the detailed input during the midterm evaluation).

Is there evidence of a specific, systematized approach to teaching and learning in the materials? As with the first set of materials evaluated, only two units exemplify an explicit pedagogic approach (Seychelles Life Skills and Trinidad & Tobago Business Studies) both refer to Gangne. Typically, the other four units have been structured by the use of the COL template which does to a large extent follow the structure of Gangne's *Nine Events of Instructional Design* which has provided a structured, coherent format.

Promotion of active learning: The learner-centred, experiential approach to learning and teaching stated in the Botswana and Namibia curriculum documents is not evident in the two units from these countries.

Overall, only one unit was found to have significant range of different types of activities. None of the units contained assessment tasks that tested higher learning. Instead, it was found that most units contained a number of activities and assessment tasks in each section, but that these predominantly test recall. Quizzes and recall – based activities do not provide opportunities for experiential learning e.g. the Botswana Biology unit has many “activities” – which are in fact just sets of recall – based questions. In the whole unit there is only one activity in which the learners are required to actually do something.

Linking and integrating learning: Two of the units provided solid evidence of linking new content knowledge to what learners already know or can do (Botswana Biology and Seychelles Life Skills). In the other four units, basically only lip service is paid to the idea of linking – fleeting references are made to previous content but without any substance.

Is the content presented in a typical transmission style? Only one unit presents knowledge as open ended, discursive way. In the other five units, content is presented as “a given”.

While no mention is made in any of the Blueprints of a social constructivist approach to teaching and learning current learning theory supports this type of approach as being optimal for learning success.

Do the materials have a learner-friendly introduction? All the materials contain a learner-friendly introduction which helps to create a relaxed and a less overwhelming learning experience. All units provide evidence of the ‘teacher’ providing social/emotional support.

Is the *teaching voice* made explicit in the materials? In most units there is evidence of the writing teams trying to insert the teaching voice, but succeeding only partially. The voice that is present in these units is a social, rather than a teaching voice that helps to mediate learning, although there are some exceptions e.g. Lesotho Science.

Is there evidence of linking and summarizing passages that motivate the learners and that provide coherence? Making explicit links to previous and future components in the unit (and in the course as a whole) is a key mechanism used for consolidating learning in an ODL environment. This is done in four of the units.

Reflection and summaries: While feedback on activities and summaries of sections have generally been more or less successfully integrated across all six units, none of these fully succeed. Feedback has typically be understood to mean “providing the answers” to a set of questions in a learning activity, rather than a reflection on key learning points. Likewise, summaries provided are understood to be a list of key content covered in a particular section/unit, rather than an attempt at consolidating learning.

Time allocation: This is only mentioned in two course Blueprints and generally has not been translated into the units, typically suggested time allocations are not provided for activities, assessment and the like.

8. Activities, assignments and assessments

Do the materials contain a range of different types of activities? Are instructions clearly stated? and Do the assignments and assessments test higher order skills?

Although most of the units (five out of six) contain numerous activities , these are mainly recall type activities and assessment tasks (Lesotho Science, Botswana Biology). They present little or no opportunity for engaging in assessment that requires higher order skills (such as analysis, investigation, evaluation etc.) Some of the examples that accompany the practical activities and assessment tasks in the Namibia Science unit are incorrect, some of the practical activities are “poorly explained” and “too difficult to do as part of a self- study course”, they are “unmediated” and “no feedback or answers are provided”. The Seychelles Life Skills requires learners to “do fieldwork and interview people” in order to prepare a CPR manual, but without any support or scaffolding to assist learners to execute these tasks.

Group work: While this was not one of the criteria against which these units were evaluated, mention is made in a number of the units of learners working in pairs of

small groups, however no guidance is provided on how this may be facilitated in an open learning environment.

9. Editing and layout

Has the COL template been used consistently throughout the unit? The template has been consistently used in five of the six units. This has helped both the structure and layout in these units, which is coherent and easy to follow.

Use and labelling of illustrations, diagrams and tables: Three of the six units have made good use of illustrations, diagrams and tables. In the Botswana Biology unit it is recommended that more illustrations be used, in the Namibia Science unit, the graphic images are small and not clear.

Is all art work and are all quotations, extracts, adaptations appropriately referenced and acknowledged? It appears that in all units, referencing and acknowledgements are unevenly implemented. If these materials are released as OERs, it is imperative that references and acknowledgements are correct.

All the units require a content and language edit. As highlighted above (in the section dealing with accurate content) content inaccuracies have been identified in two units. To a greater or lesser extent there are small grammatical errors, typographical errors, labeling omissions and referencing errors and omissions across all the units.

Findings

The overall percentage of instructional design elements successfully implemented in this, second set of six units (first iteration) is 59%.

Of the four dimensions used to evaluate the material (context and content, approach to teaching and learning materials, activities, assignments and assessments editing and layout) the *approach to teaching and learning*, is the most successfully implemented dimension in the new units. The weakest dimension in the new set of units is *layout and editing*.

Overall the content of these units has been assessed to be appropriate, and generally aligned with the unit outcomes and well sequenced.

Generally, the units are well structured, well laid out, competent use of the COL template is demonstrated and the materials are learner friendly reflecting a warm social presence.

Linking of content to the learner's environment/context is generally well presented. Although links to other units/content previously covered are often superficial and without substance e.g. they are 'Reminders' about previous material learnt, but no explicit links are made to previous units or learning.

Concern has been raised regarding two units, one in which erroneous content is presented (Botswana) and one in which erroneous examples are presented (Namibia)

In two units (Botswana-Biology and Seychelles Life Skills) the subject specialist raised a concern about the content level of the unit being too low.

The 'teaching voice' in the units is mostly social rather than a cognitive teaching presence that helps to mediate the content. Guidance on practical aspects such as on how learners studying on their own can engage in group work activities is also missing.

There are lots of learning activities and assessment tasks intended for formative, self-assessment in all the units. These, however, are mainly recall type activities and assessment tasks, presenting little or no opportunity for experiential learning (through doing and reflection on doing) and little or no implementation of higher order skills.

Summaries provided in the units tend to be summaries of content covered in a particular section, rather than summaries or consolidation of key learning points.

In most instances, feedback provided on activities and self-assessment tasks is provided in the form of factual content, rather than a guided reflection on what has been learnt by doing the activity.

The dominant teaching and learning approach is the transmission style of presenting content.

The allocation of suggested time frames for learning activities would be help learners to pace themselves.

A content edit to obviate minor content errors (noted in at least two of the units) and a language edit across all units is required. Referencing and acknowledgements - especially given that these materials are to be released as OER under a Creative Commons license need to be checked throughout all units as generally this aspect has been poorly implemented.

Conclusion

Of interest is the fact that the overall percentage of instructional design elements successfully implemented in this, second set of six units (*first iteration*) compares favourably with the first set of six units which are in their *second iteration*. It suggests that the capacity building workshops and other input and support provided to the writing teams after the midterm evaluation have borne fruit.

As with the first set of units (second iteration) the basis for a sound set of materials has been established, however for these materials to meet the standards of high quality ODL materials, it is advocated that the range of recommendations made in the detailed checklists and summary reports be implemented.

Section C

Comparative summary of results

In this section a table showing the results of the midterm and summative evaluation of the first six units and the results of the second set of six units is presented for ease of comparison and by way of providing a set of summary of results.

The table below provides a summary of information synthesised from the review of the seven selected sets of materials provided by COL for the midterm formative component of the evaluation carried out in 2010 compared with six of the same selected materials revised for the summative evaluation in 2011. (One of the 2010 units was withdrawn).

Summary information pertaining to the six new units (first iteration) submitted for the summative evaluation (2011) is also provided for the sake of comparison.

Key:

Y = Yes

N = No (If NO explain in comment column)

P = Partially (If partially, explain)

N/A = This aspect is not covered in the Course Blue Print

2010 data 2011 data

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Table: Comparative summary of results of instructional design evaluation 2010-2011.

Context and Content	Total No of units in which this element was successfully implemented					
	2010 1 st iteration		2011 (old) 2 nd iteration		2011 (new) 1 st iteration	
53. Do the materials cover the learning outcomes/objectives stated at the beginning of this unit?	5.0/7	71%	5.5/6	92%	5/6	83%
54. Are there any explicit links made in this unit to the previous or the following unit/s? (If unit 1, then only to the unit/s that follows it).	1.0/7	14%	3.5/6	58%	4/6	67%
55. Is the content accurate & up to date?	4.5/7	64%	4.0/6	67%	4.5/6	75%
56. Are key concepts and terms clearly / accurately defined?	4.0/7	57%	5.5/6	92%	4/6	67%
57. Is the content logically sequenced? Does it provide building blocks for the acquisition of key concepts that are well scaffolded?	4.0/7	57%	5.0/6	83%	4.5/6	75%
58. Has the learners' profile and the learners' general context been taken into consideration? (contextually relevant examples/ illustrations? Is the content	2.5/7	36%	3.5/6	58%	4/6	67%

sensitive to gender/ cultural/religious diversity etc)						
59. Is the language level suitable for the targeted learners?	4.0/7	57%	4.5/6	75%	5.5/6	92%
TOTAL FOR THIS COMPONENT	25/49	57%	31.5/42	75%	31.5/2	75%

Approach to teaching and learning	Total No of units in which this element is successfully implemented					
	2010		2011 (old)		2011 (new)	
	1 st iteration		2 nd iteration		1 st iteration	
60. Is there evidence in this unit that an explicit learning approach underpins the design of these materials? (e.g. <i>Gagne's Nine Events of Instruction, Kolb's Learning Cycle</i> etc.)	2.5/7	36%	2.5/6	42%	3/6	50%
61. If there is a stated approach used or evidence of a specific approach used, is it applied effectively? i.e. do they actually do what they claim to be doing?	2.0/7	29%	1.5/6	25%	2.5/6	63%
62. Do the materials have a learner- friendly introduction and linking and summarizing passages that motivate the learners and that provide coherence? Is the <i>teaching voice</i> made explicit in the materials?	3.0/7	43%	5.0/6	83%	3/6	50%
63. Is the content knowledge presented as open, changing and debatable rather than as fixed and not to be questioned? (Social construction of meaning rather than transmission style).	0.0	0%	1.0/6	17%	2.5/6	50%
64. Is content presented linked to what the learners already know & can do before moving onto new content?	0.5/7	7%	1.5/6	25%	5/6	83%
65. Does the content provided enable the learners to successfully undertake the activity/ies that follow?	5.0/7	71%	3.5/6	58%	4.5/6	75%
66. Do the materials promote active learning? Are they activity-based?	2.5/7	36%	4.0/6	67%	4/6	67%
67. Are structured opportunities for reflection that assist with consolidating new knowledge built into the materials?	2.0/7	29%	3.5/6	58%	1.5/6	25%
TOTAL FOR THIS COMPONENT	17.5/56	31%	22.5/48	47%	26/48	58%

Activities, Assignments and Assessments	Total No of units in which this element is successfully implemented					
	2010		2011 (old)		2011 (new)	
			1 st iteration		2 nd iteration	
68. Do the materials contain a range of different types of activities?	3.0/7	43%	4.0/6	67%	2.5/6	42%
69. Are assessment tasks clearly and unambiguously expressed? i.e. instructions and outcomes are clearly stated.	5.0/7	71%	5.0/6	83%	4.5/6	75%
70. Do the assignments and assessment tasks build the learner's ability to achieve the stated	3.0/7	43%	4.0/6	67%	5.5/6	92%

outcomes/objectives of the unit? (e.g. is there <i>congruence</i> between the stated outcomes and the what is being tested in the in the assessment tasks?)						
71. Do the assignment and assessment tasks test higher order skills /thought? (e.g. not just recall, but <i>critical thinking, analysis</i> and <i>problem solving</i> etc.)	1.5/7	21%	1.5/6	25%	1.5/6	25%
TOTAL FOR THIS COMPONENT	12.5/28	45%	14.5/24	60%	14/24	58%

Layout and editing	Total No of units in which this element is successfully achieved					
	2010		2011 (old)		2011 (new)	
	1 st iteration		2 nd iteration		1 st iteration	
72. Has the template (provided by COL) been used consistently throughout the unit? E.g. same font used throughout?	3.0/7	43%	5.0/6	83%	1.5/6	25%
73. Have the text/ illustrations etc. remained in the correct format? E.g. nothing has shifted around or got scrambled?	4/7	57%	5.5/6	92%	3/6	50%
74. Are illustrations / diagrams/ tables clear, relevant and clearly labelled?	4.0/7	57%	4.0/6	67%	4/6	67%
75. Are illustrations / diagrams/ tables appropriately referenced?	1.0/7	14%	3.5/6	58%	1/6	17%
76. Are all quotations, extracts etc. appropriately referenced?	1.5/7	21%	2.0/6	33%	2/6	33%
77. Is the language usage grammatically correct?	5.5/7	79%	5.0/6	83%	5/6	83%
78. Has the unit been well proof read and edited?	4.0/7	57%	4.0/6	67%	3.5/6	58%
TOTAL FOR THIS COMPONENT	23.0/49	47%	29/42	69%	20/42	48%

Summary analysis of instruction design components successfully implemented across all units submitted for both the formative (2010) and summative (2011) evaluations.

Instructional Design Components	2010		2011 (old)		2011 (new)	
	First iteration		Second iteration		First iteration	
Context & Content	25/49	51%	31.5/42	75%	31.5/42	75%
Approach to teaching and leaning	17.5/56	31%	22.5/48	47%	26/48	54%
Activities, Assignments and Assessment	12.5/28	45%	14.5/24	60%	14/24	58%
Layout and editing	23/49	47%	29/42	69%	20/42	48%
Overall percentage of instructional design elements successfully implemented	78/182	43%	97.5/156	63%	91.5/156	59%

Results and findings for evaluation of Moodle course materials

Introduction

Nine of the 16 paper-based courses developed as part of this project were adapted and mounted into Moodle with the intention that they should be made available as online OER courses. Of the nine Moodle courses, *Saide* evaluated one unit each of seven courses – thus 78% of the Moodle courses were sampled for evaluation. The purpose of this component of the evaluation was to assess:

- ease of use/access and navigation in Moodle;
- the degree to which using Moodle has enhanced/added value to the existing; paper-based version of the six courses in general and the units in particular;
- whether the use of Moodle features has been maximised; and
- the use of the Basecamp platform over the course of the project implementation.

The six units below were part of the paper-based unit evaluation (See Materials Evaluation Appendices E and F) and were selected for the Moodle evaluation as well.

1. Botswana Geography: Geography Grade 12 Unit 2 - Mapping
2. Seychelles Life Skills: Life skills Grade 10 Unit 3 – Health & Safety
3. Seychelles Coordinates Science: Grade 10 Unit 1- Biological Classification
4. Trinidad and Tobago Business: Principles of Business Grade 12 Unit 7 – Leadership, Team Work & Communication
5. Lesotho Physical Science: Physical Science – Grade 12 Unit 20 - Magnetism
6. Namibia English: English Grade 10 Unit 1 – Life in Namibia

In addition to the six units mentioned above, one unit, not evaluated as part of the assessment of the paper-based units was also evaluated in Moodle:

1. Namibia – Entrepreneurship

Method

The seven courses identified for this component of the evaluation were scanned in order for the evaluator to obtain an overall idea of the whole course. The rubric with six criteria (see below) was applied in a detailed evaluation of the specific seven units that have been identified. The results and findings are set out below.

Rubric: In order to evaluate the various Moodle COL Open School courses the following criteria were used.

- Was there a logical structure to the course and how was the platform set up to provide students with a navigation guide through the course structure?
- Were there sufficient activities, were they appropriate in addressing the outcomes, and was the array of Moodle activity tools exploited to optimize learning?

- Were the courses contextualized through the use of real world examples and to what extent has the multimedia capability of the platform been used to support this?
- Were there sufficient tools in the online course to offer students support not only with the course methodology but also with any technical hurdles?
- Did the course encourage discussion around the topic and to what extent were the Moodle communication tools used to support this?
- Was the course's use of technology supportive or alienating to the user? Would a user feel they are part of an automated process or do they feel there is human support?

General Comments

There is a marked difference between the Midterm Evaluation and this evaluation. The materials that were evaluated are now strong in terms of instructional design. There is strong evidence that the project has had guidance on how to design online courseware. There is also a uniformity of approach (style) for all the materials. This will be very useful for students who will learn quickly what to expect and how to navigate around the online environment. There are also a number of comprehensive support tools and documentation designed to support new student needs in all the courses. Also there are numerous activities designed around supporting the course outcomes rather than the content heavy focus that was evident previously.

The structure of each course is logical and there is consistent use of structure within each unit. Despite these significant improvements there are a few issues that came to light where improvements can still be made.

The Generic Course Interface (Common to all courses)

Copyright

The materials are licensed as CC BY SA but currently one needs a username and password to access the materials. The manner in which these courses will be released to a wider audience needs to be considered. Perhaps the current access is simply for the development period and there are already plans to make these courses open when completed.

Strong Points

1. The landing page for each course has well designed support files. However, once one enters a course 'unit' one cannot easily access the support files.
2. The courses and their units are logically structured and sequential in approach.
3. The units within a course are compiled in a consistent manner: Content, Activity and Summary throughout, with some type of assessment at the end.
4. The content sections use the Moodle Book module. The Book index running down the left hand column is effective in allowing the students to gauge their progress within that particular topic of the content.

The chunking of content within the units has been handled well throughout the various courses with only a few exceptions.

Design Issues

The courses and their units were uneven in their treatment of this aspect. There were some strong courses whose designs supported effective learning, while other course's designs were less supportive. What follows is a generalised list of common design issues that act as barriers to effective learning and which were found to a greater or lesser extent in the courses. Both good and poor elements within each of the assessed courses are specifically identified in the section entitled Individual Country Evaluations below.

1. Overall, the courses lack what is called 'teacher's presence' – the environment is sterile and not engaging or motivating for the learner. While the 'landing page' is very neat, it does not look or feel like an educational environment whether for mediated or unmediated use.
2. The support page "How to communicate with your instructor" within each course does not identify a particular individual. This could be problematic because initial exposure to online learning may be isolating for the learner and an anonymous 'instructor' or tutor may contribute to this.
3. While the support files are admirable, their positioning is not. A student needs to read for approximately 45 minutes before he/she arrives at the first piece of curriculum work. It would be preferable if these documents could be 'hidden' and accessed as needed, and also accessed from within the content section.
4. Extensive use of the Book Module (which emulates the reading of a book on the screen) to create the courses has led to many authors creating flat and sequential materials rather than embracing the platform's scope and maximising its potential. Also in order to get around the Book module's lack of interactive tools, authors have created activities in the form of downloadable files. These activities therefore often take on the form of a worksheet or test which is more akin to paper based materials.
5. There is very little use of the Moodle assessment tools which could have provided immediate feedback to the students. Nearly all activities require students to upload a document as evidence of their participation. Consequently, manual marking is required if feedback is to be generated. This is a time consuming manpower intensive exercise. While this might do for the summative assessment tasks it makes sense that as much of the formative assessment as possible should have been automated and handled by the platform.
6. The acknowledgement pages have not been adjusted for each of the national writing teams. For example the same people are thanked for both the Botswana Geography and the Seychelles Life Skills courses. While this might be true for the template each course needs to acknowledge the original writing team. This will also be important when we come to attribute authors for Creative Commons Copyright.

While there is strong uniformity in the introduction and support sections of each course, each country and each course differs in approach. Specific issues related to particular courses are listed below.

Individual country evaluations

Botswana (Map Work)

1. The section on Map work has images/maps that are a bit too low in resolution. They appear slightly fuzzy and lack detail. This is significant because they act as a reference resource for student activities.
2. Some pictures are missing. e.g.
<http://moodle.col.org/~intern/bw/mod/book/view.php?id=2313&chapterid=17> (This is critical as it shows examples of map symbols, the chapter's focus.),
<http://moodle.col.org/~intern/bw/mod/book/view.php?id=2313&chapterid=29>, and
<http://moodle.col.org/~intern/bw/mod/book/view.php?id=2313&chapterid=30> (This is critical as the chapter is on bearings and is the only visual reference.)
3. The course checklist link was inside Unit Two – but when clicked, reports error: 'file not found'. Additionally, not all units were present – only two, and then 6-13.
4. When downloading Activity Sheets by clicking on the links, occasionally a strange MS Word Form page would appear stating that the user is not logged in (even though the user is logged in). It tries to direct the user to the log in screen. However, if the user ignores this page the document stills downloads. As a result, there may be a possibility that if the user were to upload his/her assignment, it might not be linked to the correct username.
5. Student activity is exclusively assignment based and is reliant on someone to mark the scripts and uploaded files. There has been no use of the Moodle interactive tools. This might be a consequence of the Book module which allows very limited use of these tools. There was no obvious use of the Quiz facility, forums, blogs, chat rooms etc. Consequently the platform is used only for tracking student assignments and the dissemination of content.
6. In some of the modules the pictures are distorted which appears very unprofessional. e.g. Unit 6
<http://moodle.col.org/~intern/bw/mod/book/view.php?id=2314&chapterid=93>
7. The downloading of activity sheets and uploading of assignments is potentially confusing. In order to access the activity sheet one needs to click 3 times. First on the activity link, then the topic assignment page and then a virus checker may ask for confirmation. The students may not remember where the upload facility is with so many windows open.
8. This does not appear to be an interactive and engaging learning environment. It appears to be more of a platform to disseminate resources to teachers. This may not suffice for educating scholars directly if they are indeed the target audience.
9. The 'Summary of Results' at the end of each unit is badly named – it is merely a (too) short summary of the content contained in the unit.

Seychelles (Life Skills)

1. This course is on its way to attaining the required standard. The writers have embraced the use of the Moodle tools. There is evidence of them using Forums, Blogs, Quizzes and Wikis. All to good effect. There is even a course chat room although it is not clear when this is used. There is inclusion of 'Discussion

Feedback' after a forum discussion which has the effect of identifying important points and trends within the discussion no matter what direction the actual discussion takes. Discussions, however, were typically timed at 5 minutes. This may be too little time for an online discussion which happens at a more protracted pace. It may be best to increase this time by doubling it. The description of the activities is also somewhat loose. Each activity should ideally include an Objective (AIM), Motivation (WHY), required Preparation (what do you need in order to undertake this task), WHAT to do, HOW to do it, WHEN, HOW LONG (timing) and FEEDBACK.

2. When the blog was used it proved difficult to get back to the right place in the course. Though in Moodle the Blog is handled differently from the other communication tools, there is a need to find a way to make access and return easier. It is advised that instead of using the blog the Moodle Journal tool is used.

Seychelles (Science 10)

1. The Course Checklist could not be accessed.
2. This unit predominantly uses the assignment tool for interactivity. Even the assessment is a downloaded file.
3. In Unit 1 the author does use illustrations within the book module but most are in black and white, and rather unexciting, even dull. In unit six the quality of the pictures are better but there are still a number of black and white versions. Unit 17 makes better use of graphics with a number of fun colourful images.
4. Copyright is expressed well for most instances of graphic inserts.
5. There is no evidence of video or animations which would have made the science more engaging.
6. Some of the pictures are missing e.g.
<http://moodle.col.org/~intern/sc/mod/book/view.php?id=3386&chapterid=67>
7. Unit Six Feedback page is missing
<http://moodle.col.org/~intern/sc/mod/resouce/view.php?id=3534>
8. In Unit 17 some of the graphics and text seem to be misaligned e.g.
<http://moodle.col.org/~intern/sc/mod/book/view.php?id=3397&chapterid=616>

Weight = mass × gravity, which can be represented symbolically as

$$W = m \times g \text{ (in N)}$$

The unit for mass (kg) cancels out each other

$$W = 90 \text{ kg} \times 10 \text{ N/kg}$$
$$W = 900 \text{ N}$$

Trinidad & Tobago (Business Studies)

1. A 'Reflection' icon is used but it is not clear how the students are supposed to reflect. Those pages pose a question and then immediately provide feedback. It

- would have been more effective if there was a pause (temporarily hidden text opened by clicking a 'reveal' button for example) before supplying feedback.
2. This course does use the blog facility for some of the activities but no feedback supports the activity.
 3. Unit One has a number of pages where chunking is less effective e.g.
<http://moodle.col.org/~intern/ostandt/mod/book/view.php?id=690&chapterid=45>
 4. Unit 11, on marketing, is devoid of images and is almost exclusively text. It becomes very tedious reading large chunks of text on the screen. Where a flow diagram is used it does not fit on the page:
<http://moodle.col.org/~intern/ostandt/mod/book/view.php?id=699&chapterid=486>

Lesotho (Physical Science)

1. Using the University of Nottingham periodic table videos was a great idea but the supporting activity is poorly conceived. The wiki's only purpose is to collect pasted hyperlinks. It would have been a better activity for students to have written a précis of the content covered in the video or even better to criticize the filming of the videos and to suggest improvements for future versions.
2. Occasionally critical images are missing. For example, the equation image on this page is not present:
<http://moodle.col.org/~intern/ls/mod/book/view.php?id=1619&chapterid=210>
3. When bonding is discussed in Unit 2 static low resolution illustrations are used. Here is an obvious place where an animation would enhance understanding.
<http://moodle.col.org/~intern/ls/mod/book/view.php?id=1619&chapterid=213>
4. Currently there are no 'Further Reading and/or Sources' for Unit 2. The page only has a heading.
5. Could not locate the checklists in this course.
6. In Unit 20 on Magnetism the author's approach has been to embed most of the relevant content in the activity sheets. Consequently it makes it difficult to drill quickly down to the content. Also it makes revision more difficult.

Namibia (English 10)

1. In the gender unit, NAMCOL is specifically mentioned as the service provider. If the materials are to be distributed widely it might be an idea to keep such references generic.
2. There is very nice use of the quiz facility in the English 10 course. There are in fact numerous opportunities to try out the skills being taught. There is also evidence of a forum and wiki used in this course.
3. While there are lots of activities present, the course is devoid of any graphical cues. It comes across text dense which could be off putting for a second language English speaker.
4. Chunking is not bad but tends towards the large side.
5. Quite a few units, specifically five, seven and nine's 'Further Reading' pages are blank.
6. The Unit 15 introduction page has a Voki animated avatar that reads out the introduction. Perhaps more appropriate animations could have been used throughout because it does generate visual interest in an otherwise exclusively text environment.

Namibia (Entrepreneurship)

This is by far the strongest course of those evaluated. The authors have made good attempts to exploit the platform and its multimedia potential. They have also effectively exploited the built-in interactive tools in such a way as to enhance the learning environment.

1. Introduction video and audio courtesy of xtranormal is a nice touch, as are the use of YouTube & EncycloMedia videos in unit three and elsewhere.
2. Cartoons break up text in Unit Three.
3. Good use of static images throughout.
4. Good use of Moodle tools: Wiki & Quiz.

Conclusion

The materials on display are vastly improved from those seen during the Midterm Evaluation. Systematic use of an instructional design template ensures that there is a high level of support for learners and a consistent interface. The levels of quality between the countries and courses, however, are uneven. There are some courses such as the Namibian Entrepreneurship which integrates both the Moodle tools and multimedia objects well and the Seychelles Life skills which uses the Moodle tools more effectively. However there are many courses that while the content might be relevant don't exploit the platform to enhance the potential for learning. Below are some general recommendations that could raise the level of effectiveness of these less effective courses.

General Recommendations

1. *Insert 'the Teacher's Voice'*. The courses should be reworked emphasizing the 'teacher's presence'. It should be perfectly clear to the learner at all times who they are engaging with, and how they should collaborate with each other. e.g. There should be some narrative on the 'landing page' to introduce the course (and facilitator) to the learner, and an activity to introduce the learners to each other, a short introduction to each topic as it arises etc. It should be evident that the facilitator is 'talking to' the learner, and actively guiding them through the learning pathway. The courses would be enhanced if they had facilitator details, a human presence, to offset the medium of the technology.
2. *Use the Moodle communication/interactivity tools more extensively*. Very few courses fully exploited the power of the platform although the Seychelles Life Skills course was an exception. This team used the Forum, Bogs and Wiki tools to encourage student dialogue around the course content.
3. *Use the Moodle platform assessment tools more extensively to provide immediate formative feedback to students*. This would negate the need for facilitator intervention and marking, a well-known barrier to effective fast feedback. This would also allow the courses to be used outside of a formal schooling environment. An example of where this was used well is in the Namibia English course. The authors use the Quiz tool regularly to provide opportunities for students to practice the skills they learnt in the course content.

4. *Provide students with time parameters for the activities* as this would prove supportive especially where the activity is open ended. When designing an activity or assignment a certain structure should be followed, ensuring that it is entirely clear what has to be done etc. All the activities and assignments should have meaningful names in addition to 'Assignment 1', Activity 2, etc. The use of a course checklist for each course did allow students to see their overall progress throughout the course and were invaluable in this regard, but this could have been improved further by providing timings for individual activities and assessments.
5. *Provide a local context to enhance the learning process.* Although these materials were developed all around the globe they seem devoid of situation. Ideally contextualising a course makes it easier for students to understand the relevancy of a piece of work but in this instance it would also make the work 'exotic' for foreign users. Examples of where this was done well include the map work section from Botswana Geography and parts of the Namibia English module. On the whole though you do not feel y experiencing something crafted in another country.
6. *Use multimedia more effectively.* Images, animations, audio and video were used sparingly despite the courses being housed in an electronic environment. This was especially lacking in the Seychelles Science 10 course that could have benefitted from animations and video to enhance student understanding of scientific principles. The Namibia Entrepreneurship course is an example where multimedia makes the materials more engaging and less conceptual and more centred in the real world.
7. *Conduct another round of Quality Assurance.* There are still a number of issues related to quality such as the occasional broken hyperlink, empty Further Reading pages, distorted or fuzzy images etc. that detract from the effectiveness of the lessons. A second round of quality assurance is needed to address these concerns.

Further recommendations regarding the use of Moodle hinge on understanding what the planned delivery mode is.

- Is the course going to be *facilitated (mediated) online* by the subject matter expert (teacher) or not? If the course is *unmediated (self study)* then the materials will require significant changes as the approach currently used is not conducive to self- study.
- Are the students going to be together in a computer lab working on an online course at the same time? i.e. does the opportunity exist for collaboration offline as well as online?

- Is there a facilitator in the lab with the students? If so, are they there as subject matter expert or as technical facilitators to assist students in accessing and engaging with the course environment?
- Is the course itself going to be run online on the COL site, or is this merely the development platform?
- Is each educational institution going to download the course backup (like UK OU OpenLearn) and then restore it (with possible changes) on their own Moodle server? Or will there be a mixture of the above modes, where individual schools will decide how they are going to implement the courses?

All these questions will inform the way that the course quality is evaluated

BaseCamp Platform Evaluation

Usage patterns indicate the BaseCamp platform played a more significant role in this round of the development. Previously there seemed to be a dearth of involvement from the national teams although COL and consultants interacted via this medium. This time round it is clear that the file repository component of the platform played a crucial role in controlling draft versions of the materials for a number of the national teams.

There is evidence that the national teams and the consultants used the platform to store and access different versions of the materials. However, as there were missing units in the draft document folders it was not used consistently by all individuals. (e.g. Lesotho's course has 26 units but only nine appear in the file repository.) A parallel technology, Dropbox, was also set up where a shared file structure made the sharing of versions even easier. This for many stakeholders negated the need to share documents using BaseCamp.

The number of postings in the message centre was low for such a sophisticated project. The reasons given include poor connectivity for some of the stakeholders who struggled to connect either because of poor bandwidth or cost (despite subsidies). In addition competing functionality of other platforms such as Moodle and Skype negated the need to communicate via BaseCamp. In many instances stakeholders preferred to use their familiar e-mail clients for quick or urgent correspondence. While this strategy is more convenient in the short term it does not easily allow the compilation of a history of interactions as is stored inside BaseCamp.

Usage patterns, however, differed from group to group. For example the Namibians had a robust discussion taking place inside the BaseCamp platform but did not use the file repository to control unit versions. On the other hand Trinidad and Tobago used both extensively.

Across the board the 'To Do' lists, calendar and whiteboard were not utilized at all for this project.

It is worth considering these comments in light the section above on 'Access to the Internet'. Connectivity access was low generally amongst the national teams and BaseCamp is Internet dependent. It is perhaps not surprising that alternative communication and sharing strategies were developed to expedite progress.

Conclusion

While Basecamp tools, particularly the message centre and the file repository, had a beneficial role to play in the management of the project it was not used consistently by the project members. Involvement and use of the tools is uneven amongst the various team players. As a consequence of various connectivity issues amongst project members alternative strategies and tools were sought. Consequently Moodle, Dropbox, Skype and regular e-mail were used in tandem to the BaseCamp platform. As it was not possible (and desirable) to make use mandatory BaseCamp's usage patterns are not typical of what was really happening within the project and therefore can't really be used as the sole platform to document project activities either for research or record. However, in light of the need to push forward progress the project needs to be commended for making other means available to teams to communicate.

Conclusions and recommendations

Conclusions

The Open Education Resources for Open Schools Project has two main outcomes:

1. The development of 20 sets of high quality Open Educational Resources (OERs).
2. Professional development of 100 master teachers to increase the effective use of technology in classrooms.

The Saide formative and summative evaluations have assessed the various inputs made and processes followed in this project in order to determine the degree to which each of the outcomes have been achieved.

The final evaluation is comprised of four components:

1. A post survey, implemented to evaluate teacher perceptions and attitudes at the end of the project;
2. A post project assessment task implemented to assess teacher knowledge and skills in reviewing materials;
3. An evaluation of selected units from a sample of materials from the five countries; and
4. An evaluation of course materials mounted in Moodle and the BaseCamp platform used by the teachers to develop materials.

Key findings drawn from each of these four components will be presented below:

1. Post project survey

The Teachers reported that their understanding of the task of designing and developing materials became clearer as the project unfolded. Teachers began to understand the planning and **time involved in materials design**, and that it was an iterative process. Their confidence in their technological and instructional design skills grew. **However these confidence levels, particularly for technological skills, are still reported as relatively low.**

The **teachers expressed their understanding of key aspects of materials design** including the use of the teaching voice, sequencing and scaffolding, user friendly and interactive materials and assessment strategies.

Just under half of the teachers reported **not having sufficient access to computers. Even fewer had access to sufficient reliable internet connectivity.**

Thus while the overall results of the post project survey reveal **a marked increase in confidence** of the teachers, both in terms of technical skills and materials design and development skills, **the technical skills confidence levels are still low.**

The teachers identified overall factors that hindered progress in the project as being:

- Insufficient computer and internet resources despite promises
- Uneven consultant support
- Uneven involvement and accommodation of institutions

2. Post project assessment task

The results of the post project assessment task show a **marked overall improvement in the teacher's ability to identify and critically engage with a range of key instructional design elements** that typically constitute good quality self-study course materials.

In their critical review of an extract of course material, the teachers **generally were able to identify and comment critically on a range of strengths and weaknesses** in the units under review. They were able to identify and engage more robustly with a much larger range of design elements than had been the case before the project commenced.

The overall finding in the pre assessment task was that the teachers were only able to identify and critically comment on between 25% - 50 % of the instructional design elements. In the **post assessment tasks, the percentages range is between 57% - 90%**.⁵ This is significantly higher than in the pre assessment tasks.

The improvement does need to be acknowledged as an important step in the capacity building process towards developing teachers capable of designing and developing quality self-study course material. However the range between 57% and 90% suggests that **not all the teachers are equally clear about what does and does not constitute good quality teaching and learning material**. These results also do not necessarily suggest that **because these teachers can identify and talk about a range of elements that constitute quality in materials design and development, that they can implement these confidently themselves**.

3. Evaluation of course materials

Generally, the second iteration of the first set of course **materials submitted for the final evaluation have been much improved and provide evidence of the Midterm Evaluation recommendation having been taken seriously and being responded to accordingly**.

The number of **instructional design elements that have been successfully implemented across all units rose from 43% in the first iteration to 63% in the second iteration**.

The second set of course materials (first iteration) also submitted for the final evaluation compares favourably with the first set (second iteration). It suggests that

⁵ 90% has been attributed to the Seychelles group of teachers on the assumption that the post project assessment tasks were their authentic, collaborative) work, rather than a plagiarism of one person's work.

the **capacity building workshops and other input and support provided to the writing teams after the Midterm Evaluation have borne fruit.**

The overall percentage of **instructional design elements successfully implemented in this set of materials (first iteration) is 59%.**

There are however still some areas in all the units that require further attention. Both sets of materials provide a sound basis for meeting the standards of high quality ODL materials, but are not there yet.

4. Evaluation of Moodle course materials and the use of the BaseCamp platform

The materials on display are vastly improved from those seen during the Midterm Evaluation. The systematic use of an instructional design template has ensured that there is a high level of support for learners and a consistent interface. **The levels of quality between the countries and courses, however, are uneven.** There are some courses such as the Namibian Entrepreneurship which integrates both the Moodle tools and multimedia objects well and the Seychelles Life skills which uses the Moodle tools more effectively. However **there are many courses that while the content might be relevant don't exploit the platform to enhance the potential for learning.**

In summary

- Marked improvements have been noted in all four components of the final evaluation (since the Midterm Evaluation)
- The technical skills confidence levels of teachers are still low and current work and country contexts provide constrained access to computers and the internet.
- Not all the teachers are equally clear about what does and does not constitute good quality teaching and learning material.
- The fact that the teachers can identify and talk about a range of elements that constitute quality in materials design and development, does not mean that they can implement these confidently themselves.
- There have been significant improvements in the design and development of the ODL resources, however they do not as yet meet high quality standards.
- There are many Moodle courses that don't exploit the platform to enhance the potential for learning.

Recommendations

The project outcome of professionally developing 100 master teachers to increase the effective use of technology in classrooms has not yet been realised. To achieve this outcome would require a significant amount of additional professional development support to build the teachers confidence and technical ability to integrate the use of technology in classrooms.

As these teachers report that they are not confident themselves, it is unlikely that they would be in apposition to train and support other teachers to use and integrate various technological applications in their classroom.

If it is decided to pursue this outcome then further capacity building is necessary. It will also be equally important to ensure an enabling environment. All these teachers must have their own laptop, so that they have easy access to a computer at work and home. Sufficient access to the internet must also be ensured.

As has been stated, great improvements in the materials have been noted, However they do not yet meet high quality standards. It is therefore advocated that the range of recommendations made in the detailed checklists and summary reports attached to this report as (Appendices) be implemented to further strengthen the materials to meet the standards required for quality ODL materials, whether they are for national use or for international distribution as OERs. All units need a final content, language and copy edit.

Great improvement in using the Moodle application has also been evidenced. However a number of improvements still need to be made to maximize the features of this virtual learning environment.

These are included here in summary form, as the detailed recommendations can be seen in the discussion of the Moodle application on page 84 above.

- *Inserting 'the Teacher's Voice'*. The courses should be reworked emphasizing the 'teacher's presence'.
- *There should be some narrative on the 'landing page'* to introduce the course (and facilitator) to the learner, and an activity to introduce the learners to each other, a short introduction to each topic as it arises etc
- *Use the Moodle communication/interactivity tools more extensively*. Very few courses fully exploited the power of the platform.
- *Use the Moodle platform assessment tools more extensively to provide immediate formative feedback to students*.
- *Provide students with time parameters for the activities* as this would prove supportive especially where the activity is open ended.
- *Follow a structure when designing an activity or assignments* to ensure that it is entirely clear what has to be done etc.
- *Provide a local context to enhance the learning process*. Although these materials were developed all around the globe they seem devoid of situation.
- *Use multimedia more effectively*. Images were used sparingly and audio and video almost non-existent despite the courses being housed in an electronic environment.
- *Conduct another round of Quality Assurance*.

Conclusion

Since the Midterm Evaluation, a large amount of time and effort has once again been invested by all parties involved in this project. A lot has been achieved, 86 (of the original 100) teachers stayed with the project despite the project time frames being extended by a year or more. The small dropout rate is, in and of itself, highly commendable. Sixteen sets of complete courses materials have been developed for use as paper- based- materials, in Moodle and in other forms, including braille.

Materials were intended for WIKI, but COL introduced Moodle as this facilitated the online process better and empowered the teachers. Master teachers were also introduced to Poodle, an offline version of Moodle.

From the evaluation of the 12 (out of 16 courses) selected sample units, the overall finding is that writing teams significantly improved the materials after receiving the Midterm Evaluation recommendations. While the materials do not as yet constitute high quality, a very firm base has been established on which to make the final recommended revisions.

Once the good quality of the materials is achieved through the implementation of the suggested revisions the overall project objective of making these materials available as OERs can be successfully realised.