

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

## Trinidad and Tobago Second Group- Initial Evaluation Report



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## Introduction

This is the Trinidad and Tobago (Second Group) report on the Commonwealth of Learning (CoL) Open Educational Resources (OERs) project which is currently being implemented in the following countries: Namibia, Botswana, Lesotho, Trinidad & Tobago, Seychelles and Zambia.

In Trinidad and Tobago (Second Group), materials to support independent study in two selected secondary schooling subjects will be developed and 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 in the CoL project thus maximising their usage.

## Methodology

Data was collected for this report from two key sources. These are:

1. A baseline assessment of the participant's materials development competence; and
2. Participant evaluation of the training.

Criteria used for evaluating the participants' entry level materials development skills are set out in the evaluation plan.

Key criteria used are:

- There are clearly laid down aims and learning outcomes for this learning unit/topic.
- The content and teaching approach supports students in achieving the learning outcomes and there is an explicit learning approach/cycle.
- Materials have learner-friendly introductions, linking and summarizing passages that motivate students 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 material is accurate, up-to-date, and relevant to aims and outcomes.
- Materials exhibit congruence between stated outcomes, learning activities and assessment tasks.
- The language level is appropriate for the targeted students.
- Students' context is taken into consideration.
- Materials promote active learning approaches

Data collected from the two sources mentioned above was analysed and the findings were written up and are presented below.

### **Baseline assessment of the participant's materials development competence**

Data on participants' entry competences in developing self-instructional learning materials suitable for open learning contexts was obtained by the administration of two baseline assessment tasks specifically designed for the target group. These were given to all participants to complete at the beginning of the training workshop.

It is intended that this information on participants' entry skills will serve as a baseline against which to measure the impact of the first training workshop as well as the impact of any subsequent training provided.

The baseline assessment consisted of two tasks. The first being a critique of an extract from a learning guide on the HIV and AIDS pandemic, prepared as a teaching and learning resource for students enrolled in initial teacher training programmes. The participants were requested to critique the extract in terms of its instructional design features, identifying both the strengths and the weaknesses of the open 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. Participants were advised to spend 40 minutes on this task.

The second task required the participants to design and develop a short learning resource suitable for self instructional study in an open schooling context.

Participants were requested to select a teaching subject in which they had specialised knowledge to ensure that they would feel comfortable with the content. They were also required to use the COL instructional design template (a copy was provided for each participant) as a framework to assist them in structuring the design and development of *one topic in a unit of learning suitable for self study in an open school learning context*.

The envisaged length of this task was approximately three typed pages (font and point-size were specified). Approximately 1 hour and 15 minutes were allocated to complete this task.

It was a requirement that both tasks be completed in a MS WORD Document format on the computers made available.

Once completed, the participants were required to email the tasks directly to SAIDE.

### **Participant evaluation of training**

Data on participant training and by extension, on the role and function of the project consultant, was obtained by the administration of a carefully structured evaluation questionnaire designed for this purpose. These were given to all participants to complete at the end of the training workshop.

Basic data pertaining to the participant's profiles was also collected. Information pertaining to years of teaching and materials development experience as well as subjects taught and levels at which these subjects are taught was collected.

Over all, this component of the evaluation sought to determine the efficacy of the two week, training workshops held in all six countries. Areas of training focused on in the questionnaire include, the participant's overall degree of satisfaction with: The attainment of stated workshop objectives; content, relevance and methods used in delivering the training; and levels of knowledge and skills acquired in respect of using the Basecamp programme; the nature and value of open education resources; using creative commons licences; skills in developing course blue prints (course design); application of the COL instructional design template; and skills required for creating and editing multi media resources.

Participants were also required to reflect on and assess their own needs in terms of additional training and support required in any of the areas cited above.

Once the questionnaires were completed, the participants were required to email them to SAIDE.

As with the assessment tasks received, SAIDE staff were then responsible for analysing and writing up the findings.

However, in this case, only four respondents out of the ten respondents completed the training evaluation questionnaire. This means that results need to be interpreted with caution as conclusions cannot really be drawn from only four respondents.

## **Practical Materials Development Assessment Tasks**

<b>Country name:</b>	Trinidad & Tobago
<b>Number of participants:</b>	10 in the second group (9 submitted assessment tasks)
<b>Institutions represented:</b>	University of Trinidad and Tobago A number of Secondary Schools One College
<b>Subject areas:</b>	Spanish (4 tasks) and Food & Nutrition (5 tasks)

### ***Assessment Task One: Critique of resource extract provided***

The nine participants all provided comment on both the weaknesses and the strengths inherent in the extract which they were required to critique. Most of the participants also provided apt examples to illustrate their points. All participants commented on general design issues like the presence of an *introduction*, *outcomes*, *use of icons* as well as comment on the *lack of definitions* for some of the important terms used in the resource and generally on the *structure* of the resource.

Most participants commented on the actual application of certain design features. For example, noting that while outcomes had been stated, these were not in fact covered by the content provided in the resource. A few of the participants commented on the measurability or lack thereof, of the stated outcomes.

Comments were made about *tone, mechanisms for engaging the learner*, comments on *the intended target group* and *their social context* were made by three or four participants. This was with reference to *relevance* of content, but did not extend to any mention of the use of appropriate language for the target users.

One participant made reference to the *provision of feedback /comment on activities* undertaken by the learners.

Generally the critiques also provided *more detail* than has been observed in any other country assessment tasks. No comments were made regarding the time frames for completing the task, but again overall, the critiques provided evidence of thorough engagement by all but one participant. Language proficiency in the group is excellent.

Although possibly embedded in some of the critiques, no one made explicit mention of the importance of promoting active learning by designing activities that consolidate learning.

None of the participants made any reference whatsoever to the need for an underlying learning cycle. Most referred to the *structure* of the piece, but did not talk about “*sequencing*” *per se*, or about the importance of “*scaffolding of learning*”.

## **Assessment Task Two: Develop an exemplar unit of a learning material**

### **Background to the task**

In this task, participants were required to design and develop one topic in a unit of learning and teaching resource suitable for self study in an open school learning context. Participants were provided with the COL instructional design template which was given to them to use as a framework /guide for designing the learning and teaching resource. Participants were required to:

- Prepare a unit of ODL teaching and learning material that is approximately three to four typed pages long.
- Provide details of the subject and topic which they were developing
- Provide details of the target group for which the material was being prepared
- Use the COL template as a guide or checklist to assist the participants to structure their written work
- Allocate an hour and 15 minutes for this task.

### **Assessment of Spanish language learning units**

Of the four participants that developed Spanish language resources, only one stated the target group for whom the material was being developed. While it is assumed that all four participants were developing learning materials for secondary school

students, it was not possible to gauge the level of the target group, thus making it impossible to assess whether the materials were pitched at the appropriate level or not. The overall impression, however, was that the level was very low – equivalent of entry level, rather than final year of high school.

Although three of the four participants adhered to the COL template structure, the actual content of the unit of learning seemed rather thin in three of the four units of learning material prepared, e.g. in one instance learners were required to provide five words to complete each of the five, short sentences provided in the assessment task, in another they were required to read a short passage and answer four questions (for ten marks) and in yet another instance the assessment at the end of the learning unit required that the learners say six phrases out loud.

Two participants provided the correct answers to the assessment questions so that the learners could check their answers. (Although in one case, five questions were asked and seven correct answers were provided!) Two did not provide answers or comment on the assessment tasks that were set.

Two participants provided brief notes to support the learners to complete their tasks. Two did not provide any guidance at all.

One participant inserted clip art pictures into the learning unit – a helpful visual illustration of the content!

Overall, all four tasks lacked evidence of any scaffolding of skills or knowledge. Although each contained a brief introduction, no attempt was made to link new knowledge or input to knowledge previously covered. Equally, there was no evidence of knowledge or skills progression within any of the units or reference to future learning or application of learning.

All four units lacked congruency between stated outcomes and the assessment task set. In one instance, there was virtually no link between stated outcomes, input and the assessment task. The stated outcomes are:

- Know the common health problems that exist in the Latin American region
- Study measures put in place to educate persons about the causes and effects of diseases and various illnesses
- Identify preventative measures to safeguard one's health
- Examine healthy lifestyles to leading a healthy life

And the assessment task requires the students to:

Listen to three advertisements taken from a radio station in Colombia. Answer the following questions in English based on the information heard in each advertisement.

1. What product is being advertised in each advertisement?
2. What age group is being targeted in each of the advertisements,
3. What does each advertisement warn the consumer against,
4. What ill-effects are associated with each product according to the advertisement?

In another instance, five outcomes are stated, but only one is assessed.



All assessment activities rely solely on rote learning and recall. There no evidence what so ever of higher order thinking in any of the tasks or assessments provided in these units.

### **Assessment Food & Nutrition learning units**

**Low level:** All five participants that developed Food & Nutrition resources stated the target group for whom the material was being developed. One unit was prepared for grade 12, three for grade 11 and one for grade 10. As with the units prepared for Spanish, the over all impression, is that the level of the content provided and skills that the students are expected to demonstrate, is very low, e.g. the grade 11 topic *Weighing and measuring flour*. One would assume that basic weighing and measuring skills would have been covered rather earlier in the school curriculum. Dedicating a whole unit of learning to this topic seems excessive at grade 11 level. Equally concerning is the notion that 45 minute should be dedicated to “research” on “*how to care for my kitchen scale*”. In another example, a unit prepared on the topic “nutrients” required students to provide “true/false” answers to five simple questions and in another instance to fill in the missing word in five short sentences. No evidence of any higher order thinking being required of students was provided.

Two participants submitted almost identical content on the topic of “Nutrients”. Given the identical text extracts used in both Units, it is assumed that these were copied from the same source.

Only one unit was reasonably developed (Topic: *Visible and invisible fats*). This unit also provided an opportunity for the students to consolidate their learning in the final assignment and to apply their learning in the assessment task. In the other four instances, the content provided was inadequate. Such content/input as was provided, lacked sufficient clarity to support the students to carry out the required learning tasks.

Very confusing input on the function of nutrients was provided in one instance, which was completely unrelated to the Activity that the students were required to do, eg the following input was provided:

Our diet is made up of foods that are eaten during the course of the day. As we learnt previously, food is any substance solid, liquid and powered which when eaten enables the body to be healthy and function properly. Every day you eat food so that you are able to have energy to go- perform different activities eg. walking and talking; food helps us to grow and repair tissues eg. when you fall down the broken skin mends and new skin grows over the cut during the healing process; food helps to protect you so that for example you do not catch the common cold every day of they year. Did you know that all these functions are performed by not the food itself but by what is found within the food. Yes, think about it, there is something special in food that helps you to go, grow and repair and prevent disease. Yes all of those functions that food helps your body to perform are made possible through the nutrients that food contains. Nutrients are the chemical substances found in food. So if food contained no nutrient then we would not be alive, or we would not be able to perform these various functions or duties daily, in essence we would die. Therefore nutrients give food its value. It could be likened to having a wallet which contained no money. Could you purchase an article of clothing, food or could you hire a taxi? The answer will be no because there in no value in the wallet and this can be likened to food.

And then students were required to undertake the following activity:

Activity 1 (*Nutrient Detective*)

*On your computer screen a boy is represented on a growth chart at age 5 years and 9 years, a girl is shown running and a teenager is shown recovering from the common cold.*

- 1. In terms of the functions of food list what has happened to each individual.*
- 2. List foods each individual should have in their diet to make them or their bodies perform the identified function or activity.*
- 3. Give the name for the term that tells us what each food must contain in order to perform the actions portrayed.*

**Lack of scaffolding of knowledge and skills.** Overall, four of the five tasks lacked evidence of any scaffolding of skills or knowledge. Although each contained a brief introduction, no attempt was made to link new knowledge or input to knowledge previously covered. Equally, there was no evidence of knowledge or skills progression within any of the units or reference to future learning or application of learning.

**Lack of congruency between stated outcomes and assessment tasks.** Two participants developed an assessment task that was congruent with the stated outcomes. One participant did not provide an assessment task at all in the unit. Two other participants had assessment tasks which were congruent with the stated outcomes, but no content in the unit to support the student's ability to demonstrate their understanding of the topic in question.

**Lack of content/input for the students to undertake the assessment tasks required.** In two instances, the unit did not contain the required information needed by the student to undertake the assessment task.

**No higher order skills reflected.** Three of the four assessment activities developed, rely solely on rote learning and recall with no evidence of higher order thinking being required.

## **To sum up**

### **Task One**

Overall, the standard of the critique was high, participants displayed thoughtfulness and insight in their engagement with the content and structure of the resource extract provided. As stated above, the critique provided by this group reflected a high level of detail in the commentary.

However, although the participants in this group have demonstrated that they are keenly aware of most technical and structural aspects of learning materials design, it appears that most participants are not aware of the key pedagogical features of good quality self-instructional materials. Most participants did not reflect on issues relating the underpinning cycle of learning, or on the value of reflecting on new content before proceeding to the next aspect of learning. Basic issues like "sequencing" and the importance of "scaffolding of learning" were not mentioned by any of the participants. Use of appropriate language for the target users was also not mentioned, nor was the notion of activity-based learning raised by any one.

The absences of discussion of any of these aspects of resource development, suggest that the participants will require a lot of support in materials design and development.

### **Task Two**

Although most of the participants were able to follow the structure of the COL template only two of the participants demonstrated a fairly sound understanding of ODL materials design. The issue of “level – appropriate” materials needs to be problematised with the group as a whole. The level of the content used in these tasks appeared too low in almost all cases. Additionally, subject matter content was generally very thin. Four out of the five participants who prepared units of learning material in the field of Food and Nutrition also presented rather garbled content which did not support students to attain the state outcomes. Generally, assessment tasks required only rote learning and regurgitation of factual content and were wholly lacking in cognitive rigour. Also as flagged above, key pedagogic considerations such as sequencing and scaffolding and building in mechanisms for reflection and consolidation were absent.

## **Training Evaluation**

The teachers participating in the training workshop were requested to complete a questionnaire evaluating the success of the training sessions. The training took place over a two week period. The results are presented below.

A total number of four respondents (out of 10 respondents) answered the questionnaire. Therefore, the results from the training evaluation need to be interpreted with caution, as they cannot be generalized, and it is difficult to draw conclusions from only four respondents.

### **Years of Experience**

- Years of teaching experience ranged from 15 to 39.
- For years of materials development experience, two respondents had no experience, one respondent had ten years of experience and the last respondent did not answer the question.

### **Satisfaction**

Satisfaction with training was high. In particular, most respondents agreed or strongly agreed with the following statements:

- The workshop was well organized;
- The workshop objectives were clearly stated;
- The facilitators were knowledgeable and helpful;
- The training methodologies were conducive to learning;
- The workshop was practical and hands-on;

- The course materials are useful; and
- The workshop met its stated objectives.

## Expectations

Two to three respondents indicated that their expectations were highest for:

- To learn to about open education resources ;
- To develop a course blueprint; and
- To learn and use the instructional design template.

Three to four respondents indicated that the workshop had met expectations in the following areas:

- To learn about Basecamp;
- To learn about open education resources;
- To learn about creative common licences;
- To learn to develop a course blueprint; and
- To learn and use the instructional design template.

Two respondents stated that there was insufficient time to explore creating and editing media resources fully

## Anticipated challenges

Respondents were requested to indicate what they expected their greatest challenges to be.

The responses are provided below. These are individual quotes provided by participants.

Area	Anticipated Challenges – Quotes from individual respondents
In the project as a whole	<i>“Designing the practical, hands-on modules for the practical sessions”</i> <i>“Managing the course writing along with other commitments”</i> <i>“To communicate in print – making sure I am reaching the learner”</i>
In designing and developing materials	<i>“Avoiding excessive overlap in production of materials”</i> <i>“Drawing the necessary diagrams using the electronic media”</i> <i>“Writing conversationally as opposed to instruction/direction mode”</i> <i>“Engaging learners with differing styles of learning”</i>
In collaboration using the platform	<i>“Timely response by team mates”</i>

The responses represent varied challenges, mostly revolving around the actual design of the materials.

## Training and support

Respondents were requested to indicate what types of additional support they would require to develop the materials.

The responses are provided below. These are individual quotes provided by participants.

Area	Additional Support Requested – Quotes from individual respondents
Computer Literacy	<i>“Graphic design for interactive modes”</i> <i>“Movie making software”</i>
Basecamp	<i>“Explain the intention behind milestones a little bit better”</i>
Creating and editing media resources for inclusion in materials	<i>“Fully understanding copyright and creative commons especially where we must introduce graphic content in our materials”</i>
Designing and developing course materials	<i>“Support in the form of feedback would help to improve my skills in designing and developing course materials”</i>
Other	<i>“Regular feedback”</i>

The wide array of responses illustrates the need for a strategy to be developed for providing individual and differentiated support.

## General comments

Respondents were requested to provide any further additional comments about the training workshop. The responses are provided below:

Area	Comment – Quotes from individual respondents
Reflections	<i>“The training was both enjoyable and challenging. Enjoyable because I had the opportunity to team up with a committed group led by a resourceful leader and challenging because I had to get rid of the old mindset and that comfort zone of teaching students in a classroom to embrace this new on-line learning concept”</i> <i>“Training is ongoing and I think that any challenges that I may encounter will be dealt with expeditiously”</i> <i>“The two weeks was just sufficient to familiarize yourself with basecamp, theory on developing instructional materials. However putting together the course blueprint, a completed one, in my opinion needed a further week and concretize other concepts taught during the two weeks.”</i>
Further Training	<i>“Creating and editing audio and video resources”</i>

## Conclusions and Recommendations

As can be seen in the data emerging from the training evaluation, teachers in this group have had many years of teaching experience, but have limited experience in materials development.

The participants' ability to critique materials was overall, stronger than their ability to design and develop their own. To get this group to develop quality ODL materials will require deep and sustained support. The fundamental underpinning aspects of design, such as identifying a clear learning cycle at the outset, and then carefully crafting resources that are well sequenced and scaffolded need particular attention. Simply adhering to the format set out in the COL template is not sufficient to constitute quality ODL resources.

From the responses received, the respondents seemed to be satisfied with the facilitator and the content of the training – they felt they had been provided with skills. Respondents indicated that, in general, their expectations had been met.

Requests for additional support varied between the four respondents, suggesting that individualised support may be required

These findings are consistent with the findings from the other countries in the project. The recommendations that can be made are therefore the same as those made in the initial report, as discussed below.

It is recommended that participants take into account the following points as materials are developed:

- There should be teaching voice, i.e. materials should promote dialogue in the learning process and should motivate students.
- There should be conceptual scaffolding – materials should be presented in logical form and should have building blocks that support learners in acquiring new concepts. It is important that participants be conscious of key pedagogical theories underpinning development of self-study materials; e.g. that new knowledge is built on existing concepts/knowledge within the learner.
- Attention needs to be given in ensuring that the learning pathway is clearly set out.
- The content of the resource should be matched to stated learning outcomes.
- Assessment and assignment tasks should match the relevant target groups.

As indicated in that initial report, and equally relevant here, it is our view that one of the best ways of enhancing capacity in materials development is to provide high-level detailed feedback on drafts of materials. This feedback should be timely enough and should include consideration of a range of pedagogical issues in addition to the more detailed technical instructional design issues with which most participants are generally more familiar. This includes whether:

- There are clearly laid down aims and learning outcomes for this learning unit/topic.
- The content and teaching approach supports students in achieving the learning outcomes and there is an explicit learning approach/cycle.
- Materials have learner-friendly introductions, linking and summarizing passages that motivate students and that provide coherence of materials – the ‘teaching voice’ is made explicit in the materials.
- The content of the material is accurate, up-to-date, and relevant to aims and outcomes.
- Materials exhibit congruence between stated outcomes, learning activities and assessment tasks.
- The language level is appropriate for the targeted students.
- Students’ context is taken into consideration.
- Materials promote active learning approaches.