

KD Module 3: Pedagogy

Unit 2: Implementing Project-Based Learning



Objectives:

Teachers identify or design complex, real-world problems and structure them in a way that incorporates key subject matter concepts and serves as the basis for student projects (UNESCO ICT-CFT, KD.3.b).



Duration:

Total of 4 notional hours – 2 hour computer practical session and 2 hour self-study on a computer.



A] Computer Practical (Total 2 hours)

Notes to Facilitator

Set up the venue so that the *Commonwealth Certificate for Teacher ICT Integration* tutorials can be accessed from the computers. The purpose of this practical is to provide participants with clear directions so that they can design such a project. We will be accessing one of the Commonwealth Educator's Network elective modules entitled 'Learning with Projects', this time looking at Activity 4. For clarity purposes the activity has been separated out from the web tutorial and is recreated here. Provide guidance and assistance so that participants can access and do the tutorial described below.

Task 1: Commonwealth Certificate for Teacher ICT Integration Tutorial (2 hours)

Complete the following CCTI tutorial.

Elective Module 9 – Learning With Projects

Adapted from Activities 3 & 4: The Information Process

Activity 1

1. Read the article [The Information Process](#).
2. Open the file [The Information Process Exercise](#) (a Flash file). You will see that it contains a list of many different kinds of class activities. Your job is to arrange these activities in the table by placing the activities in the correct section of the table (use cut and paste, or simply drag). This will help you to think about and increase your understanding of the information process.
3. Form groups of 4-5 participants and collaboratively brainstorm a list of possible project ideas for a PBL project that includes gathering, processing and presenting information.
4. As you receive the contributions from your group, select what you consider to be the best ideas and adapt them to suite your teaching subject or area.

5. Now that we have some general ideas we need to start planning a real project. Open [this planning template](#) and fill in ...
 - a. A title for your own project;
 - b. A description of your project;
 - c. Develop a question(s) that will force the students to use higher order thinking skills in order to answer them.
6. Save this template so that you can access it again. We will use it in the next lesson.



B] Self Study (Total 2 hour)

You need to reflect on the questions you have posed for the project. Are they real world questions? Do they tie your subject or teaching area to the students' experiences? Research has shown that if you link your curriculum content to the local context, students are more likely to see the relevance in your subject and be more engaged in the activities you set for them. Another consideration is, have you posed an open or closed question?

Study the following article:

Types of questions – open and closed questions

**"Smart questions are essential technology for those who venture on to the Information Highway."
Jamie McKenzie (Editor of the educational technology journal, *From Now On*)**

Closed questions

Research shows that teachers sometimes ask a question every 2 to 3 seconds. Unfortunately, these questions are usually just asking students to remember facts. These are called recall questions and often fall into a category of questions known as closed or convergent questions. Closed questions normally have a correct answer and often this is a "yes" or a "no".

Examples of closed questions:

- What is the height of Mount Kenya?
- What is the capital of Guyana?
- What did we do in the last lesson?
- Do you want to go to the soccer match?

Learners' questions

The best questions in the class are those that are asked by the learners themselves. If learners are encouraged to ask questions they will become lifelong learners. Sometimes learners need some easy, closed questions to get them started. Sometimes teachers use closed questions to test their learners' research skills, in which case the teacher is trying to develop search skills and not necessarily thinking skills.

Closed questions are not always bad. It is sometimes necessary to recap on work done and to assess whether learners understand something. However, if you only ever use closed questions, then you are never going to encourage your learners to think for themselves.

Open questions

As an educator, you should use open or divergent questions as much as possible to encourage the learners to think. Open questions are not answered with a simple answer. Often there is more than one possible correct answer. Certainly the learner has to think a while before an open question can be answered. Open questions help learners to formulate opinions and allow them to make informed decisions.

Quite often, open questions start with one of the three big questioning words: How? Why? and Which? If we use How, Why and Which, we are very unlikely to get a Yes or No answer. Look back at the table that gave examples of such questions under the previous section called, "Why ask Questions?" Do you notice the importance of the wording?

Examples of open questions are:

- Why do you think that Hitler did not attack the allies at Dunkirk?

Well, only Hitler knows for sure. Historians have grappled with this question for decades. Incidentally, "Why?" is used most commonly by learners in the primary phase. Why do teachers and learners stop using this word in higher school levels?

- Why do schools get vandalised?

The "Why?" question often causes the learner to analyse a situation and offer an opinion based on evidence.

How do I improve my questioning techniques?

Well, practice makes perfect, but there are several answers to this question. The "How?" question often leaves the learner with a problem to solve and the reply often describes plenty of action.

- What did you like about that movie/ food/ dentist?

This question is more likely to get a detailed response than "Did you like it?"

- Which school should I send my child to?

The word "Which" often leaves the learner with a decision to make.

"A good question is never answered. It is not a bolt to be tightened into place but a seed to be planted and to bear more seed toward the hope of greening the landscape of idea."

John Anthony Ciardi (1916-86), American poet, critic

Samples of closed and open questions:

Topic	Closed questions	Open questions
History	When did the Soviet Union (USSR) disband?	Why did the USSR disband?
Geography	Who was the first astronaut?	Which planet, other than Earth, would you prefer to visit and why?
Science	What are the two elements of water?	Why is it important to purify water before drinking it?
Maths	What is the definition of a triangle?	How have triangles influenced architecture?

From CCTI

Task

1. Open the your PBL planning document and review your leading question.
2. Adjust the question posed in your planning template so that it:
 - a. Provides a local context for the investigation;
 - b. Is 'Open' in character and will allow a number of different research directions.



Resources Used in this Lesson Unit

SchoolNet SA/SCOPE. (2011). *Commonwealth Certificate for Teacher ICT Integration: Learning with Projects Module*. Available online at <http://www.schoolnet.org.za/CoL/ACE/projectbased/activities/pbl.index.htm>. Accessed 16/08/2011 (© All Rights Reserved. Free to use online.).