KD Module 1: Understanding ICT in Education

Unit 1: Advancing Policy through Classroom Action and the use of Technology

Objectives:   
Pre-service teachers should be able to explain and analyse the principles of using ICT in education. Describe how these principles can be put into practice in their own teaching. Analyse the issues that arise in implementing these principles and how the issues can be addressed (UNESCO ICT, KD.1.a).

****Duration:   
Total of 3 notional hours – 1 hour lecture and 2 hours group tutorial.

# A] Lecture (Total 1 hour)

**Notes to Lecturer**

The students will require some guidance on how to go about developing relevant and engaging learning activities. The checklist of questions below should be presented to the students as a tool that can be used in order to focus their thinking and guide them as they develop a particular learning activity. These questions are only suggestions; you may want to change them or add some of your own. For more ideas refer to ‘*Being a Teacher*’. [[See Being a Teacher: Professional Challenges and Choices](M1/U1/Being_a_teacher_guide_B.pdf)]. Ideally you should work through an example lesson plan and facilitate a discussion on whether the lesson meets the requirements of the guidelines listed below. Example lesson plans can be downloaded from the web [see [www.lessonplanspage.com](http://www.lessonplanspage.com)].

## Guidelines for Creating Learning Activities[[1]](#footnote-1) [CC: BY-ND]

A learning activity that is not carefully planned and structured can confuse and discourage learners. As educators, our challenge is to use activities in a way that will motivate learners, and help them to achieve worthwhile learning outcomes. If activities don’t motivate and encourage learners, learners will try to find ways not to do them! When planning an activity, you should ask yourself the following four ‘big’ questions:

1. ***WHO is the activity for?***

* Is the activity at a manageable level for learners in this grade?
* Will the activity be real and interesting for the learners? (This will apply particularly if it is based on things that are part of their experience.)

1. ***WHY are they doing it?***

* What is the purpose of the activity?
* What new information will the learners learn?
* What will the learners learn to do? For example, will they learn new skills, will they learn new ways of thinking, will they practice working together, etc.?
* Will learners see some purpose in the activity?
* Is it clear to them why it is worthwhile to do the activity?
* Does the activity give them an opportunity to assess what they have done, or to think about what they are learning?

1. ***HOW will they do it?***

* Are the instructions clear, simple and well-ordered? (If not, the whole activity could be ineffective!)
* Does the activity require learners to work together meaningfully? (Collaborating with others is a valuable way of learning, although obviously some activities will be designed for individuals.)

1. ***WILL they really do it, and want to do more?***

* Have you used exciting/interesting material to stimulate the learners (for example, pictures, sounds, objects, articles, etc.)?
* Does the activity come from somewhere and go somewhere?
* Does it lead them into the next activity or topic?
* Does it provide the right level of challenge? (This can be tricky because if activities are too difficult too soon, some learners will lose confidence. It is useful to vary the level of challenge. Some activities can be easier than others, hence it is often useful to add optional challenges for learners who complete these activities quickly.)
* Does the activity provide feedback which will help to motivate learners and build their confidence?
* Have you encouraged learners to express their own ideas, and think about their own opinions? (This makes them feel valued and encourages critical thinking.)

Carefully planned learning activities that address the checklist of questions above will help develop the personal attributes or soft skills of learners, including:

* Empathy
* Teamwork
* Leadership
* Communication
* Good manners
* Negotiation
* Sociability
* The ability to teach.

## How Teaching Activities Support Education Policy

Remember, when you are creating activities, all the educational experiences must not only motivate learners and help them to achieve worthwhile learning outcomes, but also work towards achieving national objectives and priorities. See some examples of various national objectives and priorities below.

*ICT4 Guyana National Strategy[[2]](#footnote-2)* [CC: BY-NC-ND]

|  |
| --- |
| * 1. The Overall Objective of the Strategy is to accelerate economic growth and social development.   The specific objectives of the strategy include:   * To promote the development of ICT services and businesses to increase job opportunities and generally to improve the economic and social well-being of Guyanese; * To improve the delivery of, and access by, all citizens to government and other public services, including information on government activities and opportunities, public health, education and social development services; * To improve the competitiveness of existing industries and to facilitate the sustainable development of new enterprises, thereby supporting economic diversification; * To increase Guyana’s international competitiveness in the delivery of goods and services to the global marketplace; * To develop pertinent, strategic and focused network infrastructure to enable access to information and knowledge; * To support national programmes and initiatives which foster social cohesion; * To ensure access to reliable ICTs at the lowest sustainable prices so that all Guyanese have the opportunity of participating in the information and knowledge society; * To create a new generation of citizens that can use ICTs to leapfrog Guyana’s development; * To develop and implement the necessary policies, laws and regulations that support the sustainable development of the ICT sector; * To modernise Guyana’s public administration, industry, commerce and communication sector; * To support initiatives to encourage innovation and creation in the ICT sector.[[3]](#footnote-3) |

*Guyana Education Strategic Plan (2008 – 2013)[[4]](#footnote-4)* [CC BY-NC-ND]

|  |
| --- |
| 1. **KEY ISSUES AND CHALLENGES IN THE EDUCATION SECTOR**    1. **Effective incorporation of ICT in teaching practices and improvement of ICT equipment needs to be sustained.**   The Government of Guyana has recognised the huge potential of Information and Communication Technology (ICT) to empower Guyanese to meet developmental challenges and strengthen the economy. The Government has therefore outlined various policies that are aimed at creating an environment that will foster technology use and encourage investment in ICT. These include fiscal policies that allow the import of computers free of tax and the integration of ICT in some critical areas. Education is one of the most critical of these areas because narrowing the digital gap is more than just providing physical access to computers and the Internet; people must understand how to put it to good use.  The Education Strategic Plan (2003-2007) had as its most important objective the improvement of the quality of the delivery of education, especially in the area of literacy and numeracy. The increased use of technology was among the strategies identified to achieve the improvement in quality. At the primary level the teaching of mathematics by Interactive Radio Instruction for the first three grades was introduced. A new methodology for teaching literacy, with a strong emphasis on phonics, was implemented at the primary and nursery levels and, as indicated in the section on literacy, some low-performing primary schools were supported by innovative technology, including the setting up of computer laboratories and the use of supporting software programs in at least fourteen schools. At the secondary level the setting up of computer laboratories has mainly been for the purpose of allowing students to pursue studies in Information Technology and to offer this subject at the Caribbean Secondary Education Certificate Examinations (CSEC) offered by the Caribbean Examinations Council (CXC). |

*Revised National Information Technology Guides[[5]](#footnote-5)* [CC: BY-NC-ND]

|  |
| --- |
| The Objectives of the Revised National Information Technology Guides are to:   1. Guide the teaching of Information Technology in schools; 2. Help teachers improve their Information Technology skills; 3. Help to prepare students for Information Technology at the Caribbean Examination Council (CXC) and Caribbean Advanced Proficiency Examination (CAPE); 4. Serve as a tool for students who choose not to write IT CXC or CAPE but need to have a working knowledge of IT for the world of work. |

Careful planning can enable you to create learning activities that not only help to develop learner’s soft skills but also improve their ICT skills, thereby enhancing their job performance and career prospects as well as meeting the objectives of various national priorities and objectives.

# C] Tutorial (2 hours)

**Notes to Tutor**

During the Technology Literacy course, students were given an opportunity to review the specific objectives of the ICT4 Guyana National Strategy, list the objectives that should be addressed within the classroom setting and brainstorm three classroom practices that would support the objectives. In this unit students will build on this knowledge by developing a carefully planned learning activity that aligns to the learning outcomes of the relevant ‘Word Processing’ section of the Information Technology Curriculum Guide for either grade 7, 8 or 9. Students should be divided into groups consisting of no more than 4 members. The team members in each group should allocate a particular teaching level (either grade 7, 8 or 9). Each group will require access to a computer with Internet connectivity in order to download the relevant *Information Technology Curriculum Guide* from the Guyana Ministry of Education website. Once the activities have been completed, you should coordinate a report-back session and facilitate discussion amongst the various groups.

**Task 1: Download Information Technology Curriculum Guide**

Working in tutorial groups (3-4 members), select the Information technology Curriculum Guide that is relevant to your groups’ particular teaching level.

Note: You may be assigned a grade that is different from your level of study. It is important to complete this activity as it will help you to become familiar with the ICT curriculum guides and develop an understanding of the learning outcomes which can be applied to you specific level of specialism or integrated into other subject/learning areas.

* [Information Technology Curriculum Guide (Grade 7)](M1/U1/IT%20Curriculum%20Guide%20Grade%207.pdf)[[6]](#footnote-6) [CC: BY-NC-ND]
* [Information Technology Curriculum Guide (Grade 8)](M1/U1/IT%20Curriculum%20Guide%20Grade%208.pdf)[[7]](#footnote-7) [CC: BY-NC-ND]
* [Information Technology Curriculum Guide (Grade 9)](M1/U1/IT%20Curriculum%20Guide%20Grade%209.pdf)[[8]](#footnote-8) [CC: BY-NC-ND]

Study the learning outcomes of the relevant *‘Word Processing’* section of the curriculum guide.

* Grade 7 – Introduction to Word Processing [See page 11]
* Grade 8 – Intermediate Word Processing [See page 11]
* Grade 9 – Advanced Word Processing [See page 22]

**Task 2: Information Technology Lesson Plan**

Create an activity for the Information Technology subject area that addresses the learning outcomes for the ‘*Word Processing’* topic. The activity should be aligned to the particular grade (7, 8 or 9) allocated to the group. When planning the activity make use of the checklist of questions presented as a tool to focus your thinking and guide you as you develop the learning activity.

Complete the form below by adding the details of a specific classroom activity using both the curriculum guide and your own knowledge of Information Technology.

|  |  |
| --- | --- |
| Lesson Plan | |
| Level (Primary/Secondary): | **Secondary** |
| Grade: |  |
| Subject: | **Information Technology** |
| Topic: |  |
| Objective: | |
| * *Skills:* |  |
| * *Knowledge:* |  |
| * *Attitude:* |  |
| Content: |  |
| Description of Activities (Methods/Strategies/Materials): |  |
| Evaluation: |  |
| Areas of Integration: |  |

**Task 3: Presentation of Learning Activity**

Prepare a short presentation which describes the learning activity and demonstrates the way in which it addresses the following questions:

1. WHO is the activity for?
2. WHY are they doing it?
3. HOW will they do it?
4. WILL they really do it, and want to do more?
5. In what way does this lesson plan contribute to the nations’ needs as expressed in national policy?
6. Explain and analyse the principles of using ICT in education.

Nominate a presenter who will take responsibility for presenting the ideas of the group to the class.

# Resources Used in this Lesson Unit

SchoolNet SA, South African Department of Education, & South African Institute for Distance Education. (2010). *Commonwealth Educators' Network*. Retrieved from <http://www.schoolnet.org.za>.

Guyana Ministry of Education. (2011). *Level 7 - Information Technology Curriculum Guide*. Retrieved from <http://www.education.gov.gy/Public/Resource.aspx?cat=6>.

Guyana Ministry of Education. (2011). *Level 8 - Information Technology Curriculum Guide*. Retrieved from <http://www.education.gov.gy/Public/Resource.aspx?cat=7>.

Guyana Ministry of Education. (2011). *Level 9 - Information Technology Curriculum Guide*. Retrieved from <http://www.education.gov.gy/Public/Resource.aspx?cat=7>.

ICT Guyana. (2006*). ICT4D Guyana National Strategy*. Retrieved from <http://www.ict4d.gov.gy/ictstrategy/ICT4D_Strategy_FinalDraft.pdf>.

Guyana Ministry of Education. (2011). *Information Technology Curriculum Guide*. Retrieved from <http://www.education.gov.gy/Public/CGuide.asp>.

Guyana Ministry of Education. (2011). *Education Strategic Plan (2008 – 2013)*. Retrieved from <http://www.education.gov.gy/Public/Resource.aspx?cat=14>.

1. SchoolNet SA, South African Department of Education, & South African Institute for Distance Education. (2010). *Commonwealth Educators' Network.* Retrieved from <http://www.schoolnet.org.za>. [↑](#footnote-ref-1)
2. ICT Guyana. (2006). *ICT4D Guyana National Strategy*. Retrieved from <http://www.ict4d.gov.gy/ictstrategy/ICT4D_Strategy_FinalDraft.pdf>. [↑](#footnote-ref-2)
3. ICT Guyana. (2006). *ICT4D Guyana National Strategy*. Retrieved from <http://www.ict4d.gov.gy/ictstrategy/ICT4D_Strategy_FinalDraft.pdf>. [↑](#footnote-ref-3)
4. Guyana Ministry of Education. (2011). *Education Strategic Plan (2008 – 2013).* Retrieved from <http://www.education.gov.gy/Public/Resource.aspx?cat=14>. [↑](#footnote-ref-4)
5. Guyana Ministry of Education. (2011). *Information Technology Curriculum Guide*. Retrieved from <http://www.education.gov.gy/Public/CGuide.asp>. [↑](#footnote-ref-5)
6. Guyana Ministry of Education. (2011). *Level 7 - Information Technology Curriculum Guide*. Retrieved from <http://www.education.gov.gy>. [↑](#footnote-ref-6)
7. Guyana Ministry of Education. (2011). *Level 8 - Information Technology Curriculum Guide*. Retrieved from <http://www.education.gov.gy>. [↑](#footnote-ref-7)
8. Guyana Ministry of Education. (2011). *Level 9 - Information Technology Curriculum Guide*. Retrieved from [http://www.education.gov.gy](http://www.education.gov.gy/Public/Resource.aspx?cat=7). [↑](#footnote-ref-8)