

# KD Module 2: Curriculum & Assessment

## Unit 2: Subject-Specific Tools II



### Objectives:

Teachers operate various open-ended software packages appropriate to their subject matter area, such as visualisation, data analysis, role-play simulations and online references (UNESCO ICT CFT, KD.4.a).



### Duration:

Total of 5 notional hours – 1 hour self-study and 4 hour computer practical.



### A] Self-study (Total 1 hour)

#### Notes to Participants

Read through the materials below and online in order to develop an understanding of educational software, the different purposes of educational software and the way in which the appropriateness of the software is affected by the learning level of your learners. You will need access to a computer with Internet connectivity in order to be able to review the additional readings.

#### Educational Software<sup>1</sup> [CC: BY-ND]

Educational software is an extremely broad category, and one that has been poorly defined. You can look at it in many ways, but for the purposes of this unit it is suggested you regard educational software as predominantly computer-based software that enhances and/or supports teaching and learning.

Software is a programme that allows you to perform various tasks on the computer. Educational software is just one of the teaching and learning resources that you could use. Your choice of educational software should be determined by your specific needs. You look for a resource that can fulfill a specific function in your context – and that context is determined by the curriculum outcomes. Software would be appropriate if it helped your learners to achieve the learning outcomes and assessment standards through one or more of the following:

- Repetition and practice (especially in Foundation Phase and remedial situations)
- Basic skills development
- Cognitive (thinking) skills development
- In the broad context of your learning area content.

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<sup>1</sup> SchoolNet SA, South African Department of Education, & South African Institute for Distance Education. (2010). *Commonwealth Educators' Network*. Retrieved from <http://www.schoolnet.org.za>.

## **Different Purposes of Educational Software<sup>2</sup> [CC: BY-ND]**

There are numerous types of educational software packages, all of which serve different purposes. Software packages can be characterised into three broad categories: '*developmental*', '*instructional*' and '*other*'.

### *Developmental*

1. Basic skills development – basic numeracy and literacy development in the lower phases, e.g. Maths Blaster.
2. Creativity and organisational tools – content-free tools that enable the learners to organise and present data in creative ways without the purpose of actually developing cognitive skills.
3. Cognitive skills development – content-rich educational software that aims to develop thinking skills, especially higher order thinking skills such as problem solving, decision making, synthesis, analysis and evaluation.
4. Remedial and special needs – software specifically designed or specifically appropriate for use in circumstances of remediation and special needs.
5. Simulations – software that simulates what could be done in reality, such as flying a plane.

### *Instructional*

6. Learning area-specific content and skills – this may overlap with other categories, but the concepts would be specific to learning areas rather than general cognitive or basic skills.
7. Repetition and practice – sometimes known as drill and practice, providing a high number of repetitive tasks to develop mastery.

### *Other*

8. General reference and informational CDs
9. Applications
10. Administrative
11. Online resources
12. Predominantly print resources that have limited CD resources.

Quite often, software packages will demonstrate a combination of the characteristics listed above. For example, many programmes have built-in assessment; many basic skills development programmes include repetition and practice.

## **How Learning Level Influences the use of Educational Software<sup>3</sup> [CC: BY-ND]**

The appropriateness of specific types of educational software will depend on the particular learning level/grade of your learners.

### *Grades 1-3*

The emphasis is on software that can enhance basic concept development

- Basic numeracy & literacy

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<sup>2</sup> SchoolNet SA, South African Department of Education, & South African Institute for Distance Education. (2010). Commonwealth Educators' Network. Retrieved from <http://www.schoolnet.org.za>

<sup>3</sup> SchoolNet SA, South African Department of Education, & South African Institute for Distance Education. (2010). Commonwealth Educators' Network. Retrieved from <http://www.schoolnet.org.za>

- Word recognition, word sequence, pattern, shape and states, directionality and laterality (relative position), classification.

Very basic cognitive skills development is included in such software.

- Software will be engaging.
- Its use would often be used as a reward; the use of sound will enhance the chances of comprehension.

The use of repetition will be a feature in such software – the software has infinite patience with the learner and keeps prompting the learner to retry.

#### *Grades 4-6*

- Learners are able to read faster and for longer. Basic information retrieval and information processing and presentation are practised more. Use of educational software can support this. Applications such as the word processor, presentation tools and publishing tools are now used.
- Learners are more involved with information retrieval, although the recommendation is that this experience should be directed (the educator or the software provides pre-selected content and guides the learner through it).
- Basic concept development continues in this phase, but software will focus on cognitive skills development such as problem solving, hypothesis, analysis, more complex sequencing and recognition of processes. Keyword searching in databases is also introduced.

#### *Grades 7-12 and Adults*

- The learners are expected to have increasingly well-developed information retrieval skills. FET learners can be expected to find and use web resources cost-effectively and with little direction from the educator.
- Software should support and encourage the practice of higher order cognitive skills, and a high degree of interactivity and simulation is possible.
- Applications are widely used to more advanced levels as production, information processing and presentation tools.

#### *Useful Readings*

- [Educational Software](#) (Wikipedia)/ [PDF Version](#)
- [What are the Different Types of Educational Software?](#) (Wisegeek)
- [What is the purpose of educational software?](#) (BlogSpot)/ [PDF Version](#)



## **B] Computer Practical (Total 4 hours)**

### **Notes to Facilitator**

Participants will need access to a computer that is not only connected to the Internet but also to a printer with paper. Participants will be given an opportunity to experiment with various types of educational software packages. Participants will also be required to carry out searches on the WWW for software reviews as well as criteria for evaluating software packages. You should be on hand to support the participants as required but should also encourage the participants to interact with their peers when help is required.

### Task 1: Experiencing Educational Software

Spend some time experiencing different software packages. Visit each of the websites listed below and spend no less than 25 minutes experimenting with five different educational software packages. Ensure that at least two of the software packages are aligned to your particular learning area/subject and level.

- Clicknkids – <http://www.clicknkids.com/Public/FreeTrial.php>
- Disney Interactive – <http://disney.go.com/disneyinteractivestudios/games.html>
- GCompris – <http://gcompris.net/-en->
- Knowledge Adventure – <http://www.knowledgeadventure.com>
- The Learning Company – <http://www.learningcompany.com/content/tlcdigitalplatform/english/homepage.html>
- Question Mark – <http://www.questionmark.com/us/index.aspx>
- Evalunet – <http://www.evalunet.com/>
- PlaceSpotting – <http://www.placespotting.com/>
- Cinderella – <http://cinderella.de/tiki-index.php>
- MindGenius – <http://www.mindgenius.com/>

If the list of software packages provided is not suitably aligned to your particular learning area/subject and/or level, spend some time searching the WWW for appropriate software packages.

Hint: Add ‘free’ or ‘trial’ to your search to help you find software that is readily available!

### Task 2: Evaluating Software

- Carry out a search of the WWW for software reviews that have been completed on various educational software packages.
- Carry out a search of the WWW on ‘Criteria for Evaluating Educational Software’.
- Use the information found to complete the table below and compile a list of criteria that should be used in order to select appropriate educational software packages.
- Save a copy of the ‘Criteria for Evaluating Educational Software (either on the computer hard drive or on a removable storage device).

<b>Criteria for Evaluating Educational Software</b>		
Type of software being evaluated:		
Learning area/subject:		
Learning level/grade:		
<i>Criteria/Category</i>	<i>Description of Criteria/Category</i>	<i>√</i>
Example: Key Competencies and Skills	Does the software package support the development of key competencies and skills?	√

### Task 3: Selecting Suitable Software

Select a software package that supports the development of key competencies and functional skills for your specific subject area and grade. You may want to refer back to the PowerPoint presentation developed in the previous unit to review the list of key competencies and functional skills that could be supported through technology.

Tip: Ensure that the software package meets the criteria that should be used to select appropriate educational software packages!

### Task 4: Creating a Learning Activity

- Create a classroom activity that includes the use of the educational software package selected.
- Complete the form below by adding the details of a specific classroom activity.

Feel free to make use of the appropriate curriculum guide.

- Primary Curriculum Guides<sup>4</sup> [CC: BY-NC-ND]
- Secondary Curriculum Guides<sup>5</sup> [CC: BY-NC-ND]
- Once complete, print out a copy of the classroom activity.

Lesson Plan	
Level (Primary/Secondary):	
Grade:	
Subject:	
Topic:	
Objective:	
- <i>Skills:</i>	
- <i>Knowledge:</i>	
- <i>Attitude:</i>	
Content:	
Description of Activities (Methods/Strategies/Materials):	
Evaluation:	
Areas of Integration:	

<sup>4</sup> Guyana Ministry of Education. (2011). *Primary Curriculum Guides*. Retrieved from <http://www.education.gov.gy>.

<sup>5</sup> Guyana Ministry of Education. (2011). *Secondary Curriculum Guides*. Retrieved from <http://www.education.gov.gy>.



## 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>.

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MindGenius. (2011). Retrieved from <http://www.mindgenius.com/>.