KD Module 4: Organisation and Administration

Unit 1: Physical Learning Environment

Objectives:

In-service teachers should be able to …

1. Place and organise computers and other digital resources within the classroom so as to support and reinforce learning activities and social interaction. (KD.5.a)
2. Manage student project-based learning activities in a technology-enhanced environment. (KD.5.b)

Duration:

Total of 3 notional hours – 1 hour tutorial, 1 hour self-study (preferably at a computer), and 1 hour computer practical session.

A] Tutorial (1 hour)

Notes to Facilitator

Introduce student teachers to the topic of properly arranging and managing physical resources so as to produce flexible learning environments, allowing learners to work productively as individuals or in groups. Please note that learning environments refer to those of a classroom situation or lab setting. Tutors may use the introductory passage below to set the scene, but should research the topic independently ahead of the tutorial. In pairs, participants will be required to discuss how a poorly designed physical learning environment and a well-designed physical learning environment might have an impact on the quality of teaching and learning. As the tutor, you will be required to guide a group discussion and summarise the main points. You may refer to the following resources as background reading and support:

- Classroom Management: http://peoplelearn.homestead.com/BEduc/Chapter_9.pdf
- Creative Classroom Designs: http://digitalcommons.buffalostate.edu/cgi/viewcontent.cgi?article=1053&context=creativeprojects
- Basic Premises of Classroom Design: The Teacher's Perspective: http://www.earlychildhoodnews.com/earlychildhood/article_view.aspx?ArticleID=531.

- Classroom Management – Creating a Learning Environment, Setting Expectations, Motivational Climate, Maintaining a Learning Environment, When Problems Occur: http://education.stateuniversity.com/pages/1834/Classroom-Management.html.
- Creating a Positive Classroom Environment: http://www.slideshare.net/kstashuk/creating-a-positive-classroom-environment

Introduction

Managing a class full of students is one of the biggest challenges faced by teachers. If teachers do not have an effective plan in place, there will not be much opportunity for students to engage in meaningful learning experiences.

It is important to arrange the physical resources to produce a flexible learning environment that meets different learning goals and pedagogical approaches, such as the need for students to work in groups as well as individually. This includes the positioning of tables, desks, computers and equipment.

There are a number of factors to consider with regards to the management of the physical learning environment and resources:

Arranging Space and Furniture

Arranging desks and furniture is often a compromise between what a teacher would like and what is possible. It also depends largely on a teacher's teaching style and the approach being taken. To enable students to collaborate in small groups, organise them around tables or clusters of desks. If you intend on making use of regular whole-group discussions, then make use of a circle or U-shaped desk configuration. In a poorly arranged classroom, students will spend a lot of time waiting – waiting in line, waiting for help and simply waiting to begin. Make sure all resources are easily accessible. This will help to eliminate delays, disruptions and confusion as students prepare for activities**.**

According to the document, "Classroom Management" produced by Asia e University, teachers should consider the following factors to make the most of the physical environment[1]:

- Visibility – the room must be arranged in such a way that all students can see the board or overhead projector.
- Accessibility – the room should be designed in such a way that high traffic areas are kept clear and separate from one another.
- Distractibility – desks should be arranged in such a way that potential distractions, such as movements that are visible through doors and windows, are minimised.

Creating a Safe Environment

Ensure the learning environment is compliant with safety, security and other environmental conditions. For example, make sure that electrical wiring does not restrict mobility, that vandalism is prevented, firewalls are configured and a virus scanner installed. It is also essential to ensure that students can collaborate safely online and are aware of dangers associated with online use.

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[1] http://peoplelearn.homestead.com/BEduc/Chapter_9.pdf

Infrastructure
Consider the technological infrastructure that is required. Is the Internet required? Would wireless facilities work better? Should the computers be networked?

Special Needs
It is important to take into account the special needs of any students with regard to accessing the ICT resources. For example, ensure students with limited physical mobility can access the required resources.

Have a Plan
Have a contingency plan for ICT resource failure, and plan for maintenance and sustainability. Consider any limitations imposed by school policies or by the school management. For example, is the computer lab locked after school hours?

Follow Procedures and Establish Rules
One of the first applications of effective management of resources begins with the establishment of rules and procedures. Procedures are steps for the routines students follow in their daily learning activities, such as how they turn in papers, sharpen pencils and make a transition from one activity to another. Expert teachers plan and teach procedures until they become routines that students follow automatically. These routines provide a sense of regularity and equilibrium for both students and teachers. Rules are descriptions of standards for acceptable behaviour, such as "no drinking or eating while using a computer".

It is important that learners understand the reason behind rules so they can accept responsibility for their own behaviour.

The following principles can guide teachers in their efforts to promote this understanding among their learners[2]:
* Limit the number of rules to the absolute minimum.
* Solicit learners' ideas and suggestions for consideration as rules.
* Design rules that enhance learning.
* State the rules in a language the learners understand.
* Determine, in advance, the consequences of keeping or breaking the rules.
* Print, display, distribute and sign contracted rules with the learners.

[Introductory passage adapted from http://peoplelearn.homestead.com/BEduc/Chapter_9.pdf.]

Activity:
1. In pairs, discuss how a poorly designed physical learning environment might have an impact on the quality of teaching and learning. Also, discuss the ways in which a well-designed physical learning environment would affect teaching and learning. Provide examples to support your answer.
2. In pairs, discuss how the inclusion of a special needs learner (sight and mobility impaired) might have an impact on the design of a learning environment.

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[2] http://peoplelearn.homestead.com/BEduc/Chapter_9.pdf

3. Create hand-drawn sketches, (or use the graphic tools in PowerPoint if you have access to a computer), detailing how you would configure a learning environment to enable learners to:
   - collaborate in small groups to produce posters or PowerPoint presentations;
   - conduct biology experiments at six different stations;
   - report research finding to the whole class.
4. Discuss your ideas as a group as part of a tutor-led discussion.

B] Self-Study (1 hour)

In the tutorial you looked at classroom configurations, but now we want you to turn your attention to the layout of a computer lab. You will require computer access to complete this assignment.

Assignment:
1. Visit the following resources and read the information pertaining to the design of a computer lab.
   a. Computer Classroom Design Considerations (From OIT, University of Colorado)
   b. Computer Lab Layouts (From BrightHub.com)
   c. Computer Labs in Schools (From eHow.com)
2. Study the four layouts in the table below and consider when each might be useful within your teaching subject or learning area. Write a paragraph explaining the advantages of each for the lesson you have in mind.
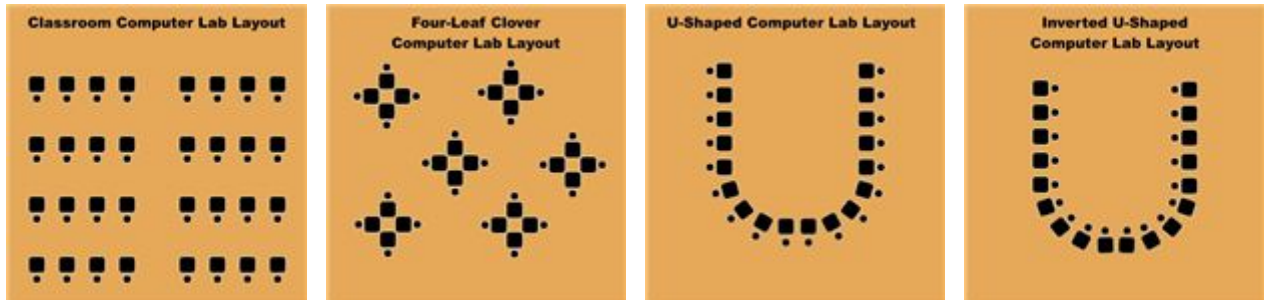
Diagrams from John Garger (2011)
at http://www.brighthub.com/computing/hardware/articles/52714.aspx .

C] Computer Practical (1 hour)

Notes to the Facilitator
In this practical participants will create visual maps that portray the set up of a number of different scenarios. The participants will require access to computers that have been loaded with MS PowerPoint. The facilitator should be on hand to support the participants wherever needed.

1. Using MS PowerPoint, design the layout of a physical learning environment to support ICT integration and learning goals in the following situations:

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- Classroom of 20 learners configured for a whole-group discussion referring to an overhead projector. The class has one sight-impaired student.
- Computer laboratory with 15 computers and 30 learners configured for small-group discussions.
- Remember to label all parts, including desks, chairs, computers and any other equipment you believe is necessary to install and maintain a computer-assisted learning venue.

2. Now consider the school you were at as a student. If you could go back and the school had acquired 20 computers, demonstrate using the drawing tools in PowerPoint how you believe they should be set up.

Resources Used in this Lesson Unit

Basic Premises of Classroom Design: The Teacher's Perspective. Available online at http://www.earlychildhoodnews.com/earlychildhood/article_view.aspx?ArticleID=531.

Classroom Management – Creating a Learning Environment, Setting Expectations, Motivational Climate, Maintaining a Learning Environment, When Problems Occur. Available online at http://education.stateuniversity.com/pages/1834/Classroom-Management.html.

Asia e University. *Classroom Management*. Available online at http://peoplelearn.homestead.com/BEduc/Chapter_9.pdf. Accessed 16/08/2011 (Copyright).

Creating a Positive Classroom Environment. Available online at http://www.slideshare.net/kstashuk/creating-a-positive-classroom-environment. Accessed 16/08/2011 (Copyright).

Garger, J. (2011). The Four Best Computer Laboratory Layouts for Schools. Available online at BrightHub http://www.brighthub.com/computing/hardware/articles/52714.aspx. Accessed 22/08/11 (© All rights reserved. Can use free online.).

Computer Classroom Design Considerations. Available online at http://oit.colorado.edu/software-hardware/computer-lab-design/computer-lab-design. (Copyright.)

Computer Labs in Schools. Available online at http://www.ehow.com/about_6472462_computer-labs-schools.html. (Copyright.)

Komendat, Sarah. *Creative Classroom Designs.* Available online at: http://digitalcommons.buffalostate.edu/cgi/viewcontent.cgi?article=1053&context=creativeprojects (2010)

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