Bases for Education

Lesson Aim

Determine an appropriate basis for developing a course to suit a given need.

APPROACHES TO EDUCATION

Teacher-Centred Learning

Traditional education has been **teacher-centred**, devised by teaching staff (or those who support teaching staff), and delivered in a way where the teaching staff have firm control over what is being learnt, and how it is learnt.

Traditional education is **information-based.** The aim is to impart information to a student, have the student retain it, then have them present that information in different forms (essays, definitions, answers to questions) to show that the information has been retained. The success of information-based courses can be assessed by simply determining what information has been retained at the end of the course.

Many people expect this kind of education when they enrol in a course, and may be dissatisfied with courses that do not follow this basic pattern.

Student-Centred Learning

There are various methods of student-centred learning, and all give the student at least some control of what is learned, and how it is learned. Research shows that with student-centred learning, student motivation is stronger, and learning is far more effective. Research has shown that student-centred courses are more productive learning experiences than teacher-centred courses.

Some forms of student-centred learning are:

- *Problem Based Learning (PBL)*

This system is based on students learning to use critical thinking skills to solve 'real life' problems. PBL is discussed in greater detail later in this lesson.

- *Experiential Learning*

These are courses that focus on the experiences that a student goes through, and the learning that comes from undergoing those experiences. The success of experiential courses needs to be assessed not only on information which is acquired, but also on less tangible things such as attitudes that have changed. Here every step in the whole experience, and not just the end result, is equally important.

- *Montessori Education*

The Montessori approach was developed for educating young children in Italy, and now has a wide following globally. Montessori-based pre-schools operate in many parts of the world.

Montessori education allows the child to determine what he/she will learn, and even how he or she will learn. It provides options, exposure to ideas and information, and the facility for different individuals to pursue different learning experiences at the same time. Research has shown significant advantages in Montessori education.

- *Self Paced Learning*

In this system, students are able to choose when, and also possibly what, to learn. The system recognises that every person learns and completes tasks at a different rate to others. The mode of education may be applied in traditional classroom situations, but is more commonly used in open and distance education.

Specialist or Generalist Education

Throughout the late 20th century there was a worldwide trend toward specialist education. For example, instead of gardeners completing a broad-based gardening certificate, they might be required to choose between a course in turf maintenance, park management, nursery practices or arboriculture.

Experience and research from Germany has now shown that specialised qualifications can limit long- term career prospects. People who have studied more general courses have, in fact, been found to progress faster and with greater success in their careers.

Competency Based Training (CBT)

Competency based training (CBT) is a system of training based on the skills and knowledge a person requires to effectively perform in an industry. CBT was widely adopted by many employers during the 1990s, with the aim of improving workers' skills in specific jobs and giving them portable qualifications within their industry.

The CBT assessment process involves the learner demonstrating they have gained competency in a range of skills required in their profession or industry. The skills are divided into two broad areas: core skills (general skills required to undertake a task) and specific skills (specific skills required to complete a task). The learner's competencies are usually assessed against nationally recognised competency standards.

Learning in CBT programs comes from a variety of sources, including formal and informal on-the-job training, as well as off-the-job training.

A Question of Homework

Trials conducted in Australian schools have actually found that children can perform better in exams if they do not do significant amounts of homework. Senior secondary students who were given more leisure time, and less homework, performed better in their final examinations than those who were given significant amounts of homework.

Delivery Modes

Education need not be delivered in a classroom or in the form of set courses. Other options include Online, E learning, Blended and PBL.

ISSUES IN LEARNING

A Good Foundation

Education should give you the ability to build your knowledge and skills easier and faster. If you understand the foundations of a subject you have a basis upon which to build your learning.

Lifelong Learning

The idea of 'lifelong learning' has become part of the educational scene. It refers to the growing tendency (or need) among adults to pursue education throughout their lives, either for personal or professional development or because of changing job requirements, or the need to find employment. Lifelong learning is fuelled by changes to the job market, where technological and other rapid developments require almost continual re-skilling or upgrading of existing skills, and where permanent work is being replaced, more and more, with part time or casual work, as employers seek to minimise their obligations and costs. There is certainly a move toward adults studying more today than ever before.

Unfortunately some educators have assumed that a move toward lifelong learning means that it is no longer so important to develop foundation knowledge in a particular field. The thinking among these educators is: *"We don't need to spend so much time on understanding and reinforcing skills because the student will come back to us in a few years time to learn new skills when the current ones become redundant".* Foundation Studies are all

too often compromised in order to save money, with the excuse that they are not needed in today's world.

An Example of Developing a Foundation Skill

In plant identification, plants are identified by scientific names. Plant varieties are grouped according to common characteristics into Plant Families. When students understand the system and learn the characteristics that differentiate families, they then have a basis upon which to identify plants. Armed with this knowledge, students can identify the family a plant belongs to, even if they don't know the plant.

Once the family has been identified, the student can make informed judgements about how the plant should be treated (eg. propagated, watered, pruned etc). The student can also look for information on that family of plants (in books or on the internet) to find the species of the plant. Sadly, not all colleges teach plant identification in this way.

Reinforcement of Learning

Learning is not just a matter of reading or hearing something once. Learning involves repetition and seeing the material from different angles in order to reinforce what is being learned. With reinforcement, knowledge and skills enter the student's long-term memory and are not easily forgotten. Also, as the student reflects on what is being learned, he or she develops a deeper understanding of the material and its application, and a greater capacity for innovation. Reflection upon learning also serves to change attitudes, as the learner becomes aware of different aspects of the subject that are not immediately apparent.

PROBLEM-BASED LEARNING (PBL)

Most educators would argue that the main goal of education is to develop students who are effective problem solvers. Problem-based learning (PBL) is an approach that aims to develop problem-solving skills (and also to reinforce learning by having the student interact with information in different ways). PBL involves giving student s a well-structured problem to work through (usually as a team guided by a tutor). Since PBL learning is student-centred, it is a more effective mode of learning than can be gained by traditional classroom-based education.

PBL has been defined as: "A learning method based on using problems as a starting point for acquisition and integration of new knowledge."

Characteristics of PBL

- Relies on problems (well-defined cases) to drive curriculum.

- PBL relies on real life problems, where students act as professionals.

- PBL problems are not precise – they are not intended to generate neat answers. In their struggle to find the answer, the students will gain essential problem solving and critical thinking skills.

- There are no single correct or incorrect solutions. Problems must be designed so that different appropriate answers might apply – there is never meant to be just one solution.

- Teaching staff are facilitators or coaches, and must resist providing solutions. Students solve the problems.

- Students are provided with guidance but not with answers – they should be given guidance in techniques that might be used for problem solving.

- Assessment is based upon performance, not upon giving correct answers.

Why PBL?

There is a strong trend toward the use of PBL by many successful and progressive universities across the world, and graduates from this form of education consistently achieve better and progress faster in their careers than graduates from comparable traditional classroom-based education.

- Research has shown that graduates of PBL based courses are far more successful in career advancement over 5 to 10 years following graduation. (Ref: comments by P. Jolliffe, University of British Columbia, in paper at ISHH Hort Education Symposium, Perth 2004)

- Research indicates critical thinking and problem solving skills are not typically addressed in a classroom. (Ref: SCORE Internet Classrooms –http://score.rims.k12.ca.us/problearn.html)

- Entire medical degrees have been taught this way in the USA. While students from both PBL and traditional systems are given the same exams, and research has shown similar success rates in those exams, ten years later the PBL graduates have more successful careers. (Ref: P. Jolliffe)

- It is widely considered that 50% of what is taught to students will be out of date or of no use by the time students finish a course, but there is no way of predicting which 50% that will be. Therefore, it is more valuable to develop habits and skills for researching information and solving problems rather than for only acquiring information.

- PBL prepares students better for "real life" situations.

- PBL initiates the development of networks and networking skills.

Benefits of PBL

- It encourages academic proficiency.

- It meets traditional learning outcomes or course aims.

- It goes beyond simply knowing; it forces the student to *think* about what they know.

- It develops positive habits in the way the mind is used (eg. it encourages a positive attitude towards lifelong learning, social responsibility, career ambition).

- It integrates different disciplines and sub-disciplines by encouraging a broader multi-disciplinary and lateral thinking approach to problems.

- It builds relationship skills (in that it requires interaction with others).

- Assessment is naturally based on criteria more closely related to real world situations.

- It is more inclusive – the same projects can be worked on by students with varying skill levels, encouraging less motivated students to become more motivated.

- Teachers using PBL methods report that students have more energy and enthusiasm.

Problems

Some problems identified with PBL are:

Cultural Change

PBL requires a cultural change. Students and teaching staff who are used to traditional education models will often show resistance and may complain. Teachers who are used to a teacher-centred environment (even in distance education) may find it difficult to change to a student-centred environment. Students who are used to being given information (through notes or lectures) and assessed on the basis of information retained may complain when this situation does not apply.

Diminished Effect

In a classroom situation, the benefit of PBL has been shown to diminish when used as part of a predominantly traditional classroom delivery (lectures and lab classes). It appears that PBL only achieves its full potential when the entire course is student-centred (not teacher-centred), and not heavily focused upon learning and recalling information.

Response to Problems

Assignment 1

Question 1

What are some advantages (at least 3) of student-centred learning over traditional classroom/lecture education? Explain.

Question 2

Compare online learning using the internet with traditional distance education using the postal system. You might need to investigate further to learn about these modes of education.

Question 3

Report on your set task 1. Identity different modes of education available in your region then report on people's perceptions and expectations of each mode, including your own. (Write 1 page maximum)

Question 4

Report on your set task 2. State the mission or philosophy of the educators contacted. Based on these statements and other information you have obtained, explain the educator's goals, in your opinion. (Write ½ page)

Question 5

Talk to two different educators in different areas (eg. secondary school teacher, university lecturer, college principal) about changing trends in education. You can also read the 'education' or 'schools' sections of your newspapers, and listen to education-related news. Report on your findings. (Write 1 page maximum).

Congratulations on finishing this section.

Now start the next section on the next page