Principles of Best Practice for 21st Century Education

Introduction

The change in education practice and tools over the last ten years has been truly remarkable. The old dichotomy of traditional face-to-face and distance education is becoming obsolete as more diverse mixed-mode forms of education delivery emerge. However, the relationships between what is now possible in education, what various education stakeholders demand, and what is educationally effective are not clear as yet.

The imperatives for 21st Century education are (Nichols 2001:13-14):
- **Increased capacity and efficiency** - through enabling institutions to cater for the learning of a relatively large number of students at once.
- **Improved effectiveness** - by encouraging deep learning approaches and the adaptation of knowledge to the real world.
- **Easy accessibility** - by removing distance barriers and catering for a variety of learners' prior educational experience, physical abilities, and time commitments /lifestyles.
- **A competitive mindset** - education with the potential to be offered internationally, within industry, and at a distance; providing more choice and convenience for the student.
- **A resource-based emphasis** - enabling more student control over what, where, when and how they study and permitting non-linear learning; and
- **The personal touch** - with more interaction between students and between individual student and tutor, enabling a degree of customisation and the pursuit of individual students' learning goals in addition to the prescribed course learning outcomes.

The challenge to course designers and educators is how to realise these benefits practically without compromising the principles of sound education. The overall aim of education is to develop learners who are able to think as experts think; best practice principles should enable this transformation to take place in any subject area.

Discussion assumed that the underlying principles of education endure over time and apply regardless of the actual media applied, that is, none of them are inherently dependent on any particular technology. The six best practice principles identified by forum members are:

1. **Individualisation** – adaptability to the learning needs of the individual.
2. **Meaningful Interactivity** – providing opportunities for students to apply what they are learning.
3. **Shared Experience** – enabling students (and encouraging them) to learn from one another.
4. **Flexible and Clear Course Design** – preparing the entire course with a view to maximising student control while still providing clear expectations.
5. **Learner Reflection** – encouraging students to mentally engage with course concepts and to consider their progress.
6. **Quality Information** – providing actual content that is accurate and especially designed to facilitate understanding.

**Individualisation**

Individualisation or personalisation requires a mentor or facilitator to make an effort to determine the individual’s learning progress and support learning as required. One-on-one mentoring addresses the cognitive and emotive aspects of the learner, enhancing educational outcomes and providing personalised feedback on
student efforts. Essentially, individualisation involves discovering a student’s initial understanding, testing it, and helping the student to build a new understanding as required (related to ‘learner reflection’, below).

List members did not view learning styles as an effective enough tool for meeting diverse student needs. Instead, contributors to the discussion had a preference for those techniques that were able to determine where an individual was at in their learning so that an appropriate, even fully customised, teaching intervention could be made.

Individualisation is best achieved through tutors-as-mentors, though it is acknowledged that there is a shortage of tutors with the required skills. ‘Best practice’ tutors need to draw from a range of strategies if they are to meet the diverse needs that individuals may have and to help students to become more independent learners. A tutor who meets the requirements for this principle of individualisation must be accountable, adaptive, encouraging, emancipating, and an education expert – and, of course, a subject matter expert. The Oxford / Cambridge models were provided as examples of how such a system might work, however the potential pitfalls of the tutor/student relationship were also admitted to. While the personality and preferences of the tutor should be allowed in individualisation, they can result in conflict.

Pure technological individualisation is at too early a stage to effectively replace a tutor in this role, but tutors can act as agents of individualisation using communications technologies (‘telementoring’).

Meaningful Interactivity

It is not enough to just have students active in their learning; any tasks they perform as a part of their learning process must be carefully formulated so that they are somehow meaningful and educationally useful. Meaningful interactivity requires students to actively process information and apply it to real world contexts, perhaps through simulation and problem-solving. However meaningful interactivity need not involve expensive technologies.

Contributors expressed frustration with learning exercises that were trivial, contrived and draining, and did not require high-level thinking. Effective interactivity provides opportunities for feedback (see ‘individualisation’ above) and reflection (‘learner reflection’, below). Problem-based learning was identified as an effective strategy that can provide meaningful interactivity in a real-world context.

Shared Experience

Students always bring their own unique experiences and perspectives related to course materials. Students should be encouraged to share their experiences and learn from the perspectives of their peers. One contribution mentioned interpersonal communication as a vital component of knowledge acquisition. Shared experience may need the skills of a skilled moderator, whose task it is to help students to form effective academic relationships and to encourage reflection.

Terms such as ‘shared’, ‘mutual’, ‘relationship’, ‘community’, and ‘intellectually challenging’ were used to describe what this principle involves.

Flexible and Clear Course Design

The overall way in which a course is constructed should intentionally facilitate students’ cognitive and emotional development. It is possible to construct a course in such a way that flexibility is maximised alongside clear objectives and instructions. Part of effective course design involves determining which best practice principles will be used where, and in what way.

A clear and concise interface, clear directions, attention to sequencing and feedback and providing students with control whenever possible are all characteristic of flexible and clear course design. One contributor used the term ‘contextualised flexibility’ to describe how overall course design should be sensitive to contexts and adaptive.
Learner Reflection

Reflection initially referred to the student considering their progress through the course, but later the term was used to include purposefully considering course concepts so that they are adopted as one’s own. Reflection helps students to learn from their experiences and to evaluate and apply course content.

Several contributors pointed out the link between learner reflection and individualisation, and between learner reflection and shared experience (which can be enhanced through the use of asynchronous communications media). The main hindrances to effective reflection were identified as time, opportunity, and a general lack of student ability to reflect. It was felt by forum contributors that reflection had to be definite, even guided. Many students dislike reflection at the time, but appreciate its importance for learning later.

Quality Information

Mid-way through the discussion it was pointed out that ‘information is not knowledge,’ and that ‘what is obvious to a teacher might be completely unfamiliar to students.’ There is a need for quality information that is well-prepared and explains course concepts well. Quantity of information is no problem in the information age; rather, the need is for information of good quality. Part of information quality involves multiple representations of content to reach different populations of students; other aspects include relevance to the student and to learning objectives, accuracy and currency (see also the IMSA online learning department criteria). Quality information should particularly emphasise the ‘core elements’ of a subject.

The preparation of quality information was helpfully described by one contributor as an ‘art form.’ Content is one thing; flow is certainly another.

Applying Best Practice Principles

While the six principles identified are universal in scope, not all may be appropriate in particular cases because of the nature of what is being taught, or the restrictions of budgets or ability. With regard to the latter one forum member expressed that ‘the goal should be to optimise the best compromise one can devise.’

Neither should it be assumed that technology can achieve all six. One contributor stated that ‘human interaction has been, still is and ever will be the key to quality learning.’ There was no challenge to this statement during the discussion, even though debate on this very point was specifically invited.

As can be seen in the coverage above, there is a strong sense of interdependence between the six principles. A carefully constructed ‘meaningful interactivity’ exercise, for example, might encourage shared experience and reflection that can lead on to individualisation. A single learning opportunity may combine all six principles.

Finally, educators need to develop a sense of ownership of the six principles; otherwise the best practice principles may just become another set of unproductive rituals that are mindlessly applied just to meet best practice criteria. Educators would do well to exercise the principles in their own practice so that the principles permeate their education philosophy. Applying best practice is one thing; commitment to it quite another.

Reference