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How to build engaging e-learning experiences

Claudio Franco argues for incorporating multiple intelligences and learning styles into the virtual classroom.

No one can deny the impact of technology upon the field of education, especially the introduction of the online medium of delivery, often called e-learning, which can change the way one learns dramatically. However, this also raises concerns related to the strategies for designing learning environments.

The need to offer distance learning courses has led to instructional designers rushing to deliver content through web-based systems with little or no thought for the quality of this content. The application of technology in education seems to be ineffective if it purely mimics the traditional face-to-face classroom. The way forward lies in addressing different learning styles when developing learning objects. This belief is consistent with the view expressed by Garland and Martin (2005:1) that the learning style of all students must be considered when designing online courses.

Learning styles

Gardner's work on multiple intelligences (MI), has been effectively used by educators over a number of years. Its successful application in traditional classroom environments has paved the way for its use online. The theory provides instructional designers and e-teachers with a stimulus for matching technology facilities to learning styles, thus improving students' adaptivity to learning systems.

Gardner (1993) views intelligence as the ability to solve problems or to develop products that are important in a given environment or cultural community. He originally proposed seven types of intelligences: verbal-linguistic, logical-mathematical, visual-spatial, bodily-kinaesthetic, musical-rhythmic, interpersonal-social and intrapersonal-emotional (1999: 41–3). (See Figure 1.) Human beings possess all of these intelligences, having some more developed than others.

Educators should therefore encourage learners to develop MI, and web-based activities can serve this purpose as they offer a rich learning environment.



Figure 1: The eight intelligences

Learning objects

The possibilities for integrating educational technology with MI are diverse. One example of educational resources being employed in technology-supported learning is called 'learning objects'.

There are various attempts to characterise learning objects, but as our focus is on digital learning objects, the definition from Koper (2003) will be considered most suitable. He refers to learning objects as 'units of learning' defined as digital objects with a specific educational purpose.

The development of learning objects, which should aim, first and foremost, at providing effective and customised resources, has to take into consideration primarily the

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student. Reigeluth (1999) says that apprentices must be at the top of the instructional structure.

The implementation of learning objects based on MI theory provides an environment for the students to exercise their potential, allowing dynamic approaches to be adopted.

Designing learning objects to cater for an array of learning styles may sound daunting but in fact it is far from being an insurmountable task. Backer (2001) suggests considering eight questions when doing so:

- Who are the learners?
- What will be the learning outcomes of the multimedia, subject, or course?
- What will be the content of the multimedia, subject, or course?
- How will the content be ordered?
- What teaching methods/learner activities will be used?
- What media will be used?
- How will the learning be assessed?
- How will the subject/course be evaluated for improvement?

Social interaction

The role of social interaction in the development of cognition is fundamental for learning to take place. For Vygotsky (1978: 57) it was the interaction with teachers or peers that allowed students to advance.

The Vygotskian theory of zone of proximal development (i.e. the distance between what students could accomplish by

themselves and what they could accomplish when assisted by others) enables us to understand how socioconstructivist environments can provide fruitful learning opportunities. E-learners stand to benefit from the sociocultural approach, because it is through interaction with peers or teachers that they can develop understanding. Researchers have found that online discussions provide the conditions for students to practise their literacy skills in a non-threatening environment (Colomb and Simutis 1996).

Collaborative learning

A successful online learning experience is also promoted when it is student-centred and focuses on collaborative work by fostering a sense of community and collaboration in the classroom (Kahmi-Stein 2000; Plass and Chun 1996).

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Learning at a pace that meets the needs of the learner enables them to become more active in their learning. Jonassen, Carr, and Yueh (1998: 13) regard learners as actively engaged in interpreting the external world and reflecting on their interpretations in the sense that they must participate and interact with the surrounding environment in order to create their own view of the subject.

According to Larsen-Freeman (2000: 164), cooperative or collaborative learning essentially involves students learning from each other in groups. But it is not the group configuration that makes cooperative learning distinctive; it is the way that students and teachers work together that is important.

In collaborative learning environments, students have the chance to learn cooperatively, which allows the members of a community of learners to be able to teach each other something in a learner-centred fashion. Effective learning experiences are created when each group member is encouraged to feel responsible for participating and for learning. Learners' level of motivation is high and leadership is distributed, as they share experiences and solve problems.

Autonomy

If constructive online environments enhance learning, in the sense that learners play an active part in their own learning, the ability to make appropriate decisions leads to increased autonomy. Freire (1997) understands autonomy as the learner's capacity and freedom to construct and reconstruct the taught knowledge.

From the moment students have achieved autonomous learning, they are able to decide which learning objects will facilitate learning and meet their needs. By using online search engines such as Google, they can choose from a wide range of learning objects available.

Conclusion

The main concern must be not to simply reproduce traditional methods in an online learning environment. In doing so, one may run the risk of restricting the number of learners whose learning styles will be taken into account. Kaminski (2002: 7) reiterates this idea:

Specific attention must be given to online student learning styles. The opportunities extended by distance education cannot be taken advantage of if, during implementation, they replicate the problems found in traditional classrooms.

Technology-enhanced learning environments will only realise their potential if they provide learners with the necessary tools to become responsible for their own learning. In the long run, if due consideration is given to employing a flexible, adaptive, student-centred, non-linear, personalised, interactive and collaborative web-based learning system, the learning experience will be more likely to result in successful learning outcomes.

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