

Instructional Designing and Teachers' Role In Creating Effective Environment For Learning

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ABSTRACT

Education is being revolutionized by technology. Institutions of higher education have increasingly embraced online education and the number of students enrolled in distance programmes are rapidly increasing in colleges and Universities globally. With the ever-increasing integration of online learning or e-learning into higher education courses, there is a strong need for practical guidelines and recommendations to facilitate the development and delivery of pedagogically effective e-learning environment. E-education connects students, teachers and experts from around the world, enabling a more collaborative learning experience, introducing pupils to different cultures and allowing them to interact as if they were in the same class room. If quality of e-education is to improve we must also look at the pedagogical issues in online learning.

This paper presents effective instructional designs, principles and learning strategies which need be implemented during the instructional analysis, design, delivery and evaluation phases of e-learning environment in higher education in order to optimize their pedagogical quality.

1. Introduction

We live in the era of Information Technology. We have to learn where we are? And equip us suitable to the changing scenarios. There is no end for the learning particularly to the academicians. 'Learning that is supported by information and communication technologies (ICT) is the new technology. Every academician must be aware of this. E-Learning is defined as all forms of electronic supported learning and teaching, which are procedural in character and aim to effect the construction of knowledge with reference to individual experience, practice and knowledge of the learner. Information and communication systems, whether networked or not, serve as specific media to implement the learning process.

2. Approaches to E-Learning Services

E-learning services have evolved since computers were first used in education. There is a trend to move towards blended learning services, where computer-based activities are integrated with practical or classroom-based situations.

Computer-based Learning

Computer-based learning, sometimes abbreviated to CBL, refers to the use of computers as a key component of the educational environment. While this can refer to the use of computers in a classroom, the term more broadly refers to a structured environment in which computers are used for teaching purposes. The concept is generally seen as being distinct from the use of computers in ways where learning is at least a peripheral element of the experience (e.g. computer games and web browsing).

Computer-Based Training

Computer-Based Trainings (CBTs) are self-paced learning activities accessible via a computer or handheld device. CBTs

typically present content in a linear fashion, much like reading an online book or manual. CBTs provide learning stimulus beyond traditional learning methodology from textbook, manual, or classroom-based instruction. CBTs offer user-friendly solutions for satisfying continuing education requirements. Instead of limiting students to attending courses or reading printing manuals, students are able to acquire knowledge and skills through methods that are much more conducive to individual learning preferences.

Computer-supported collaborative learning (CSCL)

Computer-supported collaborative learning (CSCL) is one of the most promising innovations to improve teaching and learning with the help of modern information and communication technology. Most recent developments in CSCL have been called E-Learning, but the concept of collaborative or group learning whereby instructional methods are designed to encourage or require students to work together on learning tasks has existed much longer.

Technology-Enhanced Learning (TEL)

Technology enhanced learning (TEL) has the goal to provide socio-technical innovations (also improving efficiency and cost effectiveness) for e-learning practices, regarding individuals and organizations, independent of time, place and pace. The field of TEL therefore applies to the support of any learning activity through technology.

3. Pedagogical philosophy and instructional strategy for e-learning

Ally (2004) argued that in order to promote higher-order thinking through technology-based learning environments, instructional strategies which promote learners to make connections with new information tools, acquire meaningful

knowledge, and employ met cognitive thinking skills are required within the e-learning environment. This requires an analysis of the learner, the learning context and the learners' specific learning needs. Students may be required to learn a set of principles within a discipline area and integrate previously learned knowledge with new knowledge by employing techniques such as advanced organisers, worked-out examples, and elaborative questions.

Instructional design processes for e-learning

Caplan (2004) and Davis (2004) described how, in an ideal world, educators, instructional designers, e-learning media developers and graphic designers all work together to create pedagogically effective learning environments that are grounded in sound learning theories. In many cases, however, the lecturer is often left without this team support and resources. There are, however, aspects of the instructional design process that the lecturer needs to consider when creating pedagogically effective e-learning environments regardless of the available resources.

Student motivation in e-learning

Students enrolled in higher education courses come from a variety of backgrounds and have different reasons for studying. While it is generally accepted that online learning designers should use intrinsic motivation strategies, extrinsic motivation may also be used. A university student may be extrinsically motivated in only doing what is required in order to pass units without a significantly deep interest for the subject. Students studying in distance mode need to feel that they are part of a group of learners and are able to obtain assistance with the unit's requirements and technical difficulties.

Lecturer's role in e-learning

The lecturer's role is an important factor in the design of technology-based environments in that various roles can be supported. While there is much written about how e-learning technologies can facilitate greater interaction and collaboration for students and their lecturer in the teaching and learning process (e.g., Maor, 2003), there are several facets of the role of the lecturer that can impact upon how e-learning environments are developed and delivered. The following discusses the considerations that developers and lecturers need to take into account for each of these facets when designing e-learning environments.

Lecturer's role and availability

The lecturer's role is an important factor in the design of online learning environments in that various roles can be supported (Reeves & Reeves, 1997). A lecturer with a unit of first year undergraduate students may need to assume a didactic role in order to guide students' learning. This lecturer needs to be available at regularly scheduled times to assist students with the learning activities and for clarifying concepts.

Lecturer's online abilities

Lecturers' knowledge and abilities of online learning technologies may influence how they utilise the class website to enhance their students' learning. A lecturer with a low understanding of online learning technologies may simply use the website as a repository of content for students to access,

print out and read elsewhere without active online engagement with the learning materials.

Lecturer's online support and training

Lecturers involved in developing further knowledge of online learning through professional development may integrate what they learn into their own online learning environments. Lecturers with advanced knowledge of online learning development practices may apply more efficient ways of presenting the same learning materials. Educators need to be aware of the labour intensive nature of online learning and the resources available to assist with the development of effective online instruction.

Lecturer's development activities

The existing body of knowledge relating to instructional design should be made aware to all lecturers involved in the development of online learning (Siragusa & Dixon, 2005a). Lecturers involved in online learning design are more likely to employ some form of instructional design process in order to analyze and accommodate the specific learning needs of their students. The class website may be utilized to assist with students' learning through carefully planned activities.

Infrastructure for e-learning

Davis (2004) described the infrastructure for online learning including student support. Parker (2004) described 24 benchmarks for quality Internet-based distance education including institutional support, student support and course structure. The following discusses how student support may be provided within the structure of e-learning.

Development of learning strategies

Instructional design decisions can influence and encourage different learning strategies that can be used by students (Bull, Kimball, & Stansberry, 1998; Smith & Ragan, 2005). The development of content for online learning may include specific learning strategies for building new knowledge upon previously learned knowledge. A lecturer with a first year undergraduate group of students may encourage students to work collaboratively in finding specific information on the Internet and report their findings to the rest of the class via the bulletin board. Students may also be encouraged to share their thoughts regarding the content and assignments via communication facilities.

Study flexibility – when, where, at what pace

Students in higher education are demanding greater flexibility in the delivery of their courses (Ryan, Scott, Freeman, & Patel, 2000, p. 12). The design of an online learning environment may facilitate whether students are able to study when, where, in what sequence and at what pace they choose. A lecturer may require students to attend every scheduled class and the website is provided only as a supplement to face-to-face classes.

4. Conclusion

The development of instructionally effective online learning environments that meet these pedagogical needs require the application of appropriate instructional design principles. While the development and utilization of online learning technologies

continues to grow to include more sophisticated virtual environments for learning. The ongoing development cycle of an e-learning environment, as with all other learning

environments, needs to include an evaluation process to determine and maintain the effectiveness of the system.

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