THE ROLE OF INTERACTIVE APPLICATIONS – DISCUSSION ABOUT FLEXIBILITY IN MODERN LEARNING ENVIRONMENTS

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Abstract

Modern learning environments have learning material accessible in a centralized location. They provide large amount of reading material, exercises or learning content in a way that it is available for students anywhere and anytime. This type of flexibility can become a critical factor for learners. As an example, combining work and family with studying can be overwhelming without the flexibility of modern learning environments. Today technology allows access to digital learning material. In addition, there are applications that boost interaction and allow working in groups. Technology can have an important role in integrating students into learning process and helping students in studies during the pandemic. In this article we look at the role of social media applications as part of a modern learning environment. The findings and notions are based on empirical evidence from a case university where studying and digital learning has been the norm already before the pandemic. The learning environment is built on Moodle, but students use also different social media -based applications in studies. We found that social media can bring added flexibility to learning process, it helps in keeping in contact with others. Interaction and collaboration with others can be more straightforward as learning environment and other learners may be contacted directly with each student's smartphone.

Keywords: Learning, modern learning environment, flexibility.

1. Introduction

There has been lot of changes in education, especially in the role of technology in the learning process. The changes have occurred in relatively short time, in last 20 years. Now technology is a vital part of education, having computers and access to internet are considered vital for learning today. Learning methods have changed from a teacher-centred, classroom-based teaching to learning, where the student can access learning material, interact with teachers and other learners wherever and whenever. Clearly, the roles of teachers and students have changed. Now students are expected to be active learners in the learning process. Information technology is in this context a tool that makes everything possible.

Information technology has many roles in education. In addition, technology is more than a tool in the learning process, it has changed learning environment in a way that learning has become possible for learners that earlier could not be study, or it would have been very difficult. It can be argued that modern education relies on technology, as teachers and students use information technology and networks in a wide range of learning situations. (Wagner et al. 2008; Lim et al., 2014)

In this study we look at the role of interactive, social media applications in modern learning environments. The findings are based on empirical evidence from university-level courses and notion how learning technologies are used in learning.

2. Elements of modern learning environments

Learning environment is defined as a place or environment, setting or infrastructure where learning takes place. The emphasis is here on learning, not primarily on educational institutes, or different learning paradigms or methods. Therefore, learning environment can refer to a classroom at the university, but it can also be a cozy café where students work together with a group assignment, or learning environment could refer to dormitory where student prepares for an exam. Traditionally, learning takes place at the university, in classrooms where the lecturer and students are in the same physical place, all at the same time. Today learning environments use technology and networks, and so learning environments can be more virtual, places in the network where information on learning goals, material

and exercises can be accessed. It is also a space for meeting lecturers and other students. In a modern learning environment, it is possible that the learner can study from a distance, access learning material, and interact with others without the need to physically be in a classroom (Jonassen et al., 2008; Facer, 2011).

Technology has an important role in modern learning environments. It can be used in different teaching and learning situations, and in many ways (Anderson, 2007; Jonassen et al., 2008; Wagner et al., 2008). Information technology allows development of learning material that can be accessed from distance, without the need to travel to classroom, university library or campus, for example.

Firstly, technology and networks are used in creating a digital repository of learning material, providing course files like reading material and exercises in a centralized site that can be access with computers from a distance, whenever and wherever. Technology may also function as a cognitive tool in the learning process (Reeves & Laffey, 1999). For example, when the learner is in analyzing research material may technology be used in retrieving and managing literature, but it may also help in mapping and better understanding the research area. In this way technology becomes an integral element in the learning process.

Secondly, technology has an important role in accessing and delivering information. Information delivery refers to technology or system which makes it possible to access, retrieve or send digital information. A typical example is downloading or uploading files from or to a digital storage area. This requires the user to have a terminal that can access the storage area, working network access and a valid user account. Generally, technology which is used in information delivery is part of the information technology infrastructure, which is the underlying platform for all systems and applications in the organization. Therefore, it tends to be reliable and straightforward to use. Because it's criticality for all information systems is information technology infrastructure maintained and developed in a way that systems function as expected, and there are minimal interruptions in operations.

Technology is not only used in storing digital material or in accessing it. There are also many applications for interacting, changing ideas, and working together that can be used in the learning environment. The goal is to make participating and interacting possible, even though the participants are not in the same location. Furthermore, learners can interact asynchronously, referring to the idea that participants do not need to be online at the same time.

Interaction can be seen as a critical element in the learning process. It refers to the possibility to ask questions, comment, argument and present ideas to teachers and other learners. It is here believed that information technology can have an important role in enabling and empowering interaction (Jonassen, 2000). Typically, a person can interact, for example ask a question, even though there are no other persons online using the same application or environment at the same time.

Modern learning environments make it possible to work with common assignments, without the need to be in same location at same time. This brings flexibility to studying, and allows combining working and studying, which would have been almost impossible in more traditional classroom-based education. Modern learning environments make it also possible to use different types of media in interacting, in most applications are text, audio and video supported in communication.

Modern learning environment is a setting that uses technology and networks, an infrastructure that combines physical locations like classrooms with virtual space. A modern learning environment allows different learning styles and activities. The role of technology can be critical, a fact that is best notices noticed should there be a technical malfunction or issue that stops normal actions. In this kind of situation information and files in the learning platform cannot be accessed, which makes it impossible to continue normal teaching and learning activities. This is an issue that needs to be addressed in planning the environment. Robustness and reliability are key elements in the learning environment, and they have to be goals when choosing, installing, and developing infrastructures in the learning environment. The role of technology should be to enable, improve and empower, not to become an obstacle the learning process (Gros, 2002).

3. Managing the learning environment

Technology has an increasingly important role in modern learning environment. However, a modern learning environment can also be a challenge to some users. Ideally, the learning environment should be such that it makes it possible for differently skilled users to take advantage of the interactive elements and features of the environment. The users should be able to use different technical devices, applications, and networks in order to successfully manage in the environment. This can be challenging, even overwhelming to some users.

In teaching and education can technology be used in many ways, and for various purposes. Often there is a digital environment which acts as a digital storage area for various learning material. This environment can be accessed with different computers and terminal devices, at the campus and from student's home.

The learning environment is developed by the university, faculty or school that is responsible for education and teaching. It is also the body that sets guidelines for digitalization in this domain. Typically, digitalization takes is a long process, and therefore needs to be based on strategy. As a result, development activities can become better goal-oriented, and the learning environment is likely to become the basis for learning material in different schools and disciplines. In contrast, if there would not be common strategy or policy the learning environment might be more fragmented, with all kinds of different technologies, systems, and application, and teachers working together with these tools (Leonard & Leonard, 2010). Even in a centralized learning environment there can be plenty of variation between individual faculties, disciplines, courses, and lecturers. At the end of the day, it is the teacher who decides how and what technology will be used in each course, lecture, and exercise (Pani et al., 2015). The way technology is used also reflects the demands of learners. The real-life applications are mutual agreements between teachers and students in each course, seminar and learning situation. For example, it may be agreed that next week's lecture will be held as a video stream, and the assignment must be uploaded to Moodle before Friday. Furthermore, students can agree by themselves what technology and applications they use in working together in group assignments. It is not uncommon that they use other than "official" university applications, instead use mobile phones and instant messaging apps when working in groups (Sirkemaa & Varpelaide, 2021). As a result, the learners and teachers are facing a learning environment, which has numerous technologies, systems, and applications.

4. Discussion

In recent years it has become clear that learning takes place in an increasingly technical, networked environment. In modern learning environments a major part of learning happens often outside classroom or university campus area. The geographical location is not critical, it is the access to a learning platform. Today learning environments are platforms that act as a centralized storage of learning material, collection of assignments and information about learning objectives and curriculum. It connects teaching staff and other learners, and here technology and computers have a key role. Education and learning are made available wherever the student is roaming and accessing with his or her terminal device. Here we have looked at the role of social media applications and found that they can provide flexibility to learning process. These applications are easy, straightforward, and very intuitive to use, and they allow connectivity and access to information directly from user's smartphone.

In this paper we have looked at changes in learning environment and challenges facing learners today. Firstly, Covid-19 has had a huge impact on universities, teaching and learning as everything has gone virtual and distance learning has become basically the only option for learning. Secondly, it has become increasingly typical that students need to combine studying and work, working part-time or even having full-time jobs and studying at the same time. Thirdly, some have small children at home so attending lectures at the campus is not an easy task to organize. In these challenging situations can digital learning environment make studying possible. Technology allows access to learning material, working together with other students, and staying in contact anywhere and anytime (Facer, 2011; Laal & Laal, 2012).

Flexibility allows also different learning styles and approaches to learning. Technology and applications allow development – or tailoring - of learning environment for different learners. In a way, the learner may better choose how to study. As an example, users may select applications that are not part of the "official" learning environment provided by the university. In a group work assignment learners may use social media app in their smartphone for changing ideas, if they find it better for this task than messaging applications in the official learning platform. Flexibility is not only about choosing how, but it also allows selecting when and where. If learning material is digital, it can be accessed at any time, and from any location. As a result, it is possible to combine work, family life, leisure activities with studying in a way that was earlier difficult. For the learner this is a significant possibility, having more control of the learning environment (Dooley et al., 2016).

The empirical evidence comes from a case university where students take advantage of social media -based applications in learning. The learning environment is based on Moodle, which is the official learning platform of the case university. Especially in coordinating and preparing group assignments students use social media -based messaging applications. In thew case university the increasing pressure to distance learning – especially because of Covid-19 – has further underlined the importance of technology in learning process.

Our findings reveal that information technology can empower learning, even applications that are not officially supported by the university can be valuable. It has been found that social media -based applications may provide easy and intuitive access to learning material and connect to other learners. To summarize, we believe that social media applications have potential in bringing added flexibility to the learning environment and empower learning process.

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