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From TPACK to Learning Buffet: Developing a New Model for Open and Flexible Learning

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Abstract: Open and Flexible Learning is an excellent method of reaching all types of learners. It is truly a medium that helps to democratize education to all. Today, we are currently experiencing a time of constant evolution in the field of education in which students require more resources and tools to obtain the information and construction of knowledge. One such resource is the use of open and distance learning environment, where the lecturer assigns additional activities for the understanding of the concepts seen before. But there are times when the student does not understand the content because of the form it represents, making it necessary to have more options to facilitate the understanding of content through different ways that may be more attractive to the students, achieving more active participation in the subject and an affinity that leads to a better learning experience. This is the goal of the study, which proposes a model called "Learning Buffet Model" for designing Open and Flexible Learning content adaptable to the student´s learning style. This learning buffet model can be used as a fundamental model and applied in any area or discipline of education as it forces the consideration of four components (leaning style, content, pedagogy and technology) in the design of the lesson plan and subsequently enrich the learning environment with more specific learning objects the subjects taught.
Keywords: Flexible Learning, distance learning environment, knowledge

INTRODUCTION

Open and Flexible Learning (OFL) has become a pervasive and growing phenomenon giving a tremendous boost to the use of information and communication technologies (ICT) in tertiary institutions. Currently, online is the fastest growing sector of higher education [1], gaining popularity both on and off campus. With the development of new media, observes the proliferation of information and communications technology (ICT) in conventional campus-based educational settings is clearly blurring the traditional boundaries between open and flexible education and campus based face-to-face educational practices [2]. Hence, terms such as blended learning [3] or distributed learning [4] have become prevalent. All these terms describe a continuum between traditional distance education and contact education, in which pedagogical approaches, methods and technologies are used to enable extended and more autonomous, individualized, and self-directed learning opportunities. Today, most higher education institutions utilize e-learning, either in pure distance programs, or in blended learning programs to support on-campus lectures and laboratory sessions. Online distance education has moved from the periphery into mainstream higher education [5].

It is in the area of open and flexible learning where they have been major advances in the development of digital content more accessible and understandable to the student, among which is the use of various technologies, including online collaboration. The use of applications for the exchange of information, such as instant messaging or chat, email and social networks have produced an incalculable number of opportunities to ensure that education can be accessible from anywhere in the world. Because of this, there is a gateway to information in which it is no longer necessary to be physically present in order to obtain large collections of data relevant to something someone wants to know.

Open and flexible Learning has different meanings and labels in various countries e.g. distance education, open education and blended learning. The origins of open and flexible learning go back to what were called correspondence studies. With the development of new media, which was also used for distance teaching (e.g. telephone, fax, radio, video, computer, etc.), the term correspondence study became too narrow. In North America the terms independent study and home study were therefore used as competing designations, until the notion of open and flexible learning finally prevailed.

Considering previous definitions, we can define open and flexible learning as a form of learning and teaching in which technical media is used to bridge

the distance between the parties involved in the learning process. The capability of media to afford two-way communication for interaction between learners and teachers and among learners is an essential part of the process.

The various types of technologies used for teaching and learning are collectively referred to as educational technologies [6], and this term includes printed study materials. The term e-learning generally means learning with electronic media, i.e. via the Internet television and radio, audio and video. E-learning is therefore defined more narrowly than open and flexible learning, since open and flexible learning may also include print-based study materials and correspondence communication. E-learning can therefore be regarded as a particular form of open and flexible learning, but not all open and flexible learning is necessarily electronic [7].

Adapting Open and Flexible Learning to Different Learning Styles

The vast majority of students who are part of an open and flexible learning process suffer from a loss of interest in certain moments; these moments are marked by the continuous repetition of similar activities that become monotony. Another factor that favours the loss of interest is that many cases such activities are not attractive to the student; also because each student has a different learning style, it is necessary to recognize and provide sufficient approach to understand the topics to be addressed in the course so that it suits everyone [8]. For example, Groenwold & Knol [9] found that the learning styles of open and flexible students are as active, highly visual and sequential learners. For this it is important to establish what teaching style meets the learning style of the student in question and knows the educational method with which to try to approach him.

Because students need activities to stimulate their interest in a certain topic and engage them in the learning process, it is necessary that these activities are according to the nature of behavior they use to learn. Many students like to read, but what happens to those who are not well suited for this activity? It is necessary to carry out activities in an open and flexible learning environment that can cover a wide spectrum based on the different learning styles, where each student learns at his own pace and form, so everyone deserves the information that is presented in a form adequate to their needs.

Despite knowing the individual learning styles of the open and flexible learners, the lecturers are still ignoring this fact [10]. Perhaps we should cease to endure these matching processes as one could never know the learning modalities, preferences and styles of a student, as much as one could never know the preferences, inclinations and approaches of the lecturer. Any one research on the learning characteristics of one particular cohort would be rendered useless against the next cohort.

We need a different approach where the direction, preferences and development evolve through the facilitation of educational transaction, with technology playing a pivotal function in the integration of the learning style, content and pedagogy. We need to work on the preferences and strength of the students through a variety of learning models. Hence this study will contribute to the development of a new learning model for open and flexible learning namely “learning buffet model”. It is hoped that the implementation of this unique learning model will allow the students to have the choice to pursue a learning preference while slowly being redirected to a higher level on a natural progression; a maneuver that requires an astute open and flexible pedagogical approach by the lecturer and utilising many forms of information and communication technologies and learning strategies.

Development of Learning Buffet Model

Shulman [11] and Koehler and Mishra [12] presented the pedagogical content knowledge (PCK) and the technological pedagogical content knowledge (TPACK), respectively in a Venn Diagram, as in Figure 1, that showed the logical relationships between the three components of technology, pedagogy and content. Koehler and Mishra [17] went on to argue that true technology integration is, understanding and negotiating the relationships between these three components of knowledge.

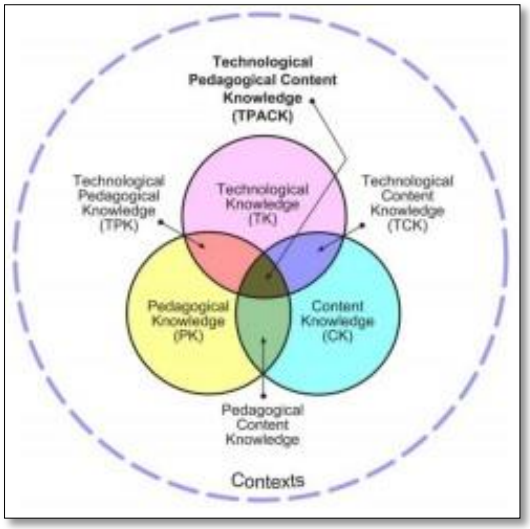

Fig-1: The components of TPACK

Several instruments have been developed using the TPACK in order to examine a wide range of variables in the context of teaching and learning. These

include assessment [13], students' achievement [14], curriculum development [15], among others. Considering TPACK's use in previous research and through the development of these instruments, it was considered that TPACK can be the suitable instrument to adapt in the development of learning buffet model for open and flexible learning. The limitation of TPACK is that there is no learning style inclusion as its three parts include technology, pedagogy, and content. The learning buffet model developed in the present study is the convergence of learning styles, content, pedagogy and technology where these four components have a dynamic relationship resulting in a specific learning buffet (Figure 2).

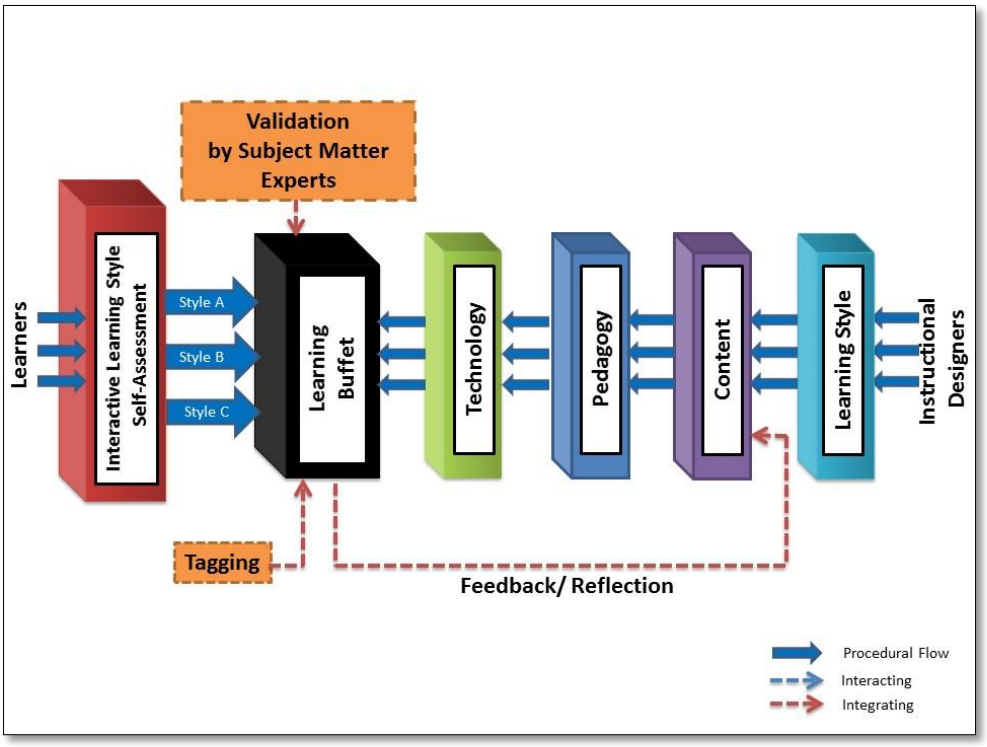

Fig-2: Learning Buffet Model

Figure 2 shows the approach in the creation of a learning buffet model for open and flexible learning. Via learning buffet model, we will now witness the presentation of learning object/buffet in a continuum rather than a segmented approach for a specific cohort of open and flexible students. The learning buffet will take into account the learner's characteristics, learning styles and preferences and the production of a variety of appropriate media components to support, complement or for the purpose of teaching and knowledge retention. We can now capture the design of content (learning object) for the open and flexible learning environment that is based on many learning theories such as situated learning, multiple intelligences, experiential learning, constructivist theory, cognitive load theory as well as connectivism. Moreover, all learning objects/buffet will be validated by the subject matter experts to ensure the quality. In order to make the searching process easier, all learning objects/buffet will be tagged based on subject, topic, types of learners, pedagogy, duration (length of video or audio file), language, location, institution and author.

Implications of Learning Buffet Model

The learning buffet model can incorporate the teaching elements pertinent to the learner towards the transformation of the open and flexible environment to foster learning. Although we talk about a personalised learning environment and learner-centredness, we have not even analysed the learning styles and preferences of students; let alone incorporating learner needs in our lesson design [16].

Ultimately, via learning buffet model, an open and flexible student can enter a site and be administered an interactive learning style self-assessment and subsequently be led to a sector where appropriate learning object/buffet based on the student's style and preferences. There, the student is served with a buffet of learning that has been laid out to choose or try in his educational transaction; the logistical difficulties in creating learning experiences to suit every situation and learning style, notwithstanding. This will give rise to new paradigm in the design of the open and flexible learning environment and experiences for the presentation of a pedagogy-rich learning environment.

CONCLUSION

Creating, designing and developing learning materials for open and flexible learning is difficult, but not impossible. The purpose of the present study is to show that the learning buffet model can be a fundamental model and applied in any area or discipline of education as it forces the consideration of the four components (leaning style, content, pedagogy and technology) in the design of the lesson plan and subsequently enriches the learning environment with more specific learning objects that the subjects taught. It will also strengthen the unique needs of open and flexible students and the design for their instruction. Hence we are giving the open and flexible students autonomy on pace, where the students can learn and acquire knowledge at their own rate. The philosophy of most open and flexible learning systems aim at removing all barriers to education and at allowing learners to study what, when and where they want, thus increasing educational access and educational choice.

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