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DESIGN AN E-LEARNING COURSE UNDER A PEDAGOGICAL PERSPECTIVE

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Abstract--- *In the contemporary world these days, Information Technology plays a vital part in assisting teachers with their teaching and training and its combination with education is mushrooming worldwide along with various successes. The trend of using e-Learning course, which created by the utilization of technology combined with a meticulously designed teaching and training program, is one of the most notable successes. This article will go through each step of designing a simple, yet effective e-Learning course for teaching and training.*

Key words--- *process, e-Learning course, course design, e-learning course design*

I. INTRODUCTION

According to Horton W. (2006), learners can have the best class-like experience if they study a well-designed e-Learning course and vice versa; therefore, a solid e-Learning course design process model is extremely important. In the 4.0 industry era, the increasing demand of learners for easy access to their study courses requires a constant supply of quality online courses. Henceforth, it is necessary to develop an efficient and scientific design process in order to lighten the workload and reduce the time needed to create an online course.

II. SOLUTION

E-Learning course is based on the internet platform which can be used to study off-line or online. It has an interactive interface that can help learners study without making physical contact with the teacher or follow the classic school-class-lesson model (Hung, N. V. Q. & Cuong, D. V., 2006).

The e-Learning design process is a sequence of implementing activities that are compulsory and can adapt to different criteria for designing an online course. This process will vary based on the roles of each person involved in the design process and this article will mainly refer to the design process of an online course under the perspective of a pedagogical expert. In other words, this e-Learning design process will aim to guarantee that the completed program can fulfill its role as a course, not just a single chapter, unit.

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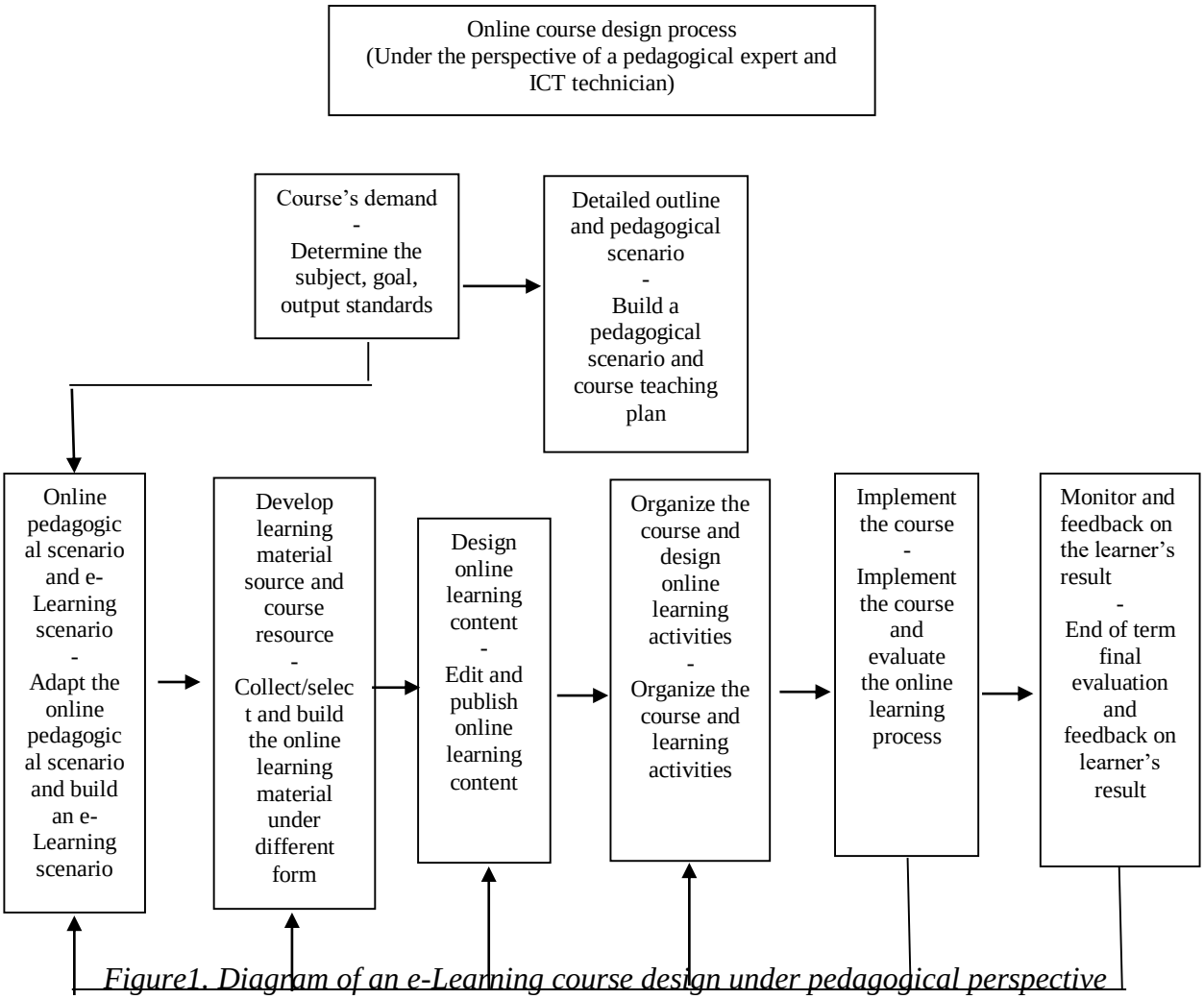

Figure1. Diagram of an e-Learning course design under pedagogical perspective

Step 1: Determine the objects, targets, output standards of the course

Before building an online course, we need answer the following questions: Who? Why? What's the outcome? What will the learner acquire after finishing?

Those are important questions that help orientate the contents, teaching methods and evaluation methods of the whole course. The more specific the objects, targets, and output standards are, the more specific, precise and learner-friendly the course will be·

Step 2: Building a pedagogical scenario and course teaching plans

A pedagogical scenario is the logically, efficiently arranged sequence of activities based on the psychological progress of learners in order to achieve the teaching goal. (Son, H. V., 2017). A pedagogical scenario displays the creativity of a teacher but still abide to principals like: continuity, surprise, diversity, intuition and interactivity. To

create a good pedagogical scenario, the teacher must deeply understand the teaching contents and his/her learners, analyze the teaching contents into specific study activities, transform them into interesting and attracting activities for learners. Moreover, according to the author Fujii, teachers should hold after class discussions for learner's feedback of the lesson. Teachers can evaluate and adjust their task based on the result and better their pedagogical scenario for their next lesson (Fujii, T., 2016). Besides, teachers must be capable of evaluating the awareness of learners to create appropriately practical cases for learners to be constantly active. Most importantly, teachers need to create a study material system so that learners can efficiently self-study. The activities in a pedagogical scenario must be determined in the course teaching plan to help learners achieve their study goal in each specified milestone.

Step 3: Transforming pedagogical scenario and establishing an online pedagogical scenario

The online pedagogical scenario will specify technical requirements to demonstrate the activities of a pedagogical scenario in an e-Learning system. The activities, ideas in the pedagogical scenario will not be implementable if there are no technical requirements, especially the technical aspects of e-Learning. Sometimes, the pedagogical scenario writers will have difficulties materializing their ideas due to lack of proper technical support. On the other hand, if their ideas could be properly demonstrated in the pedagogical scenario, learners will be easily interested in the lesson. Therefore, it is crucial for pedagogical scenario writers and technical department to have a close connection with each other in order to create a balanced, harmony online pedagogical scenario in both content and form.

A complete transformation and establishment of an online pedagogical scenario from script to reality require the product to possess the following traits: visuality, structure solidarity, auditory. After the transformation of the pedagogical scenario, its establishment must be carried out immediately to preserve the integrity of the ideas and to make sure that those ideas are integrated into the online course using information technology. According to the author Dalziel, to create a pedagogical scenario, teachers must improve their skills in information technology and keep themselves up-to-date with the latest of mankind's technological advancement (Dalziel, J., 2015).

Step 4: Collect, select, build online learning materials resources

The resource for online learning materials can be in different forms such as pictures, sound, PowerPoint slide, book, etc. Teachers must actively search for information on books and on the Internet to add to their lessons. Comparing to a regular lesson which is lectured using blackboards, online lectures are much more versatile regarding the way teachers can demonstrate their lesson, information to the learners. Obviously, the best study materials are the ones constructed, produced by the teachers themselves. If the study materials come from other sources, the usage of those materials must be allowed by their author and no copyrights issue should be violated. (Son, H. V., 2017).

The resource for online learning materials should not only be collected and selected from different sources but also built based on demands, purposes of the activities in the pedagogical scenario such as: Films (teacher's lectures, guest interview, practical experience at class or in public), Records (stories, targeted activities), Graphic design (infographic – contents are visualized by graphs, pictures). All the created resource for study materials must revolve around the contents of the online pedagogical scenario, aiming at the goal and targeted outcome standard of the course.

Step 5: Editing and publishing contents

Before any "raw" study materials are being published, they need to go through an editing process. Reading materials need to be checked in spelling errors, page layout and must follow a specific template applied to the whole

course. For the filmed and recorded materials, after processing data on set, it is necessary to edit the movie post-production. This job includes editing the shots, inserting and matching the background music with the movie so as to properly demonstrate the contents, ideas or any other relevant technical and artistic requirements (Clementi, D., & Terrill, L., 2017).

Editing and publishing online learning contents is, in fact, the process of completing built contents, checking for errors and running simulations of the online course. This will be the basis to correct and finalize the course for learners to officially participate. From practical experience, the contents of the online course get better and better after several editions. The careful editing will limit the unwanted errors in the system later on, for any small error in the editing process can cost a lot of time fixing the problem after the contents of the course are published. Moreover, editing and publishing online learning contents is also the confirmation of the compatibility of ideas, contents with the way they are demonstrated in technical and artistic aspects.

Step 6: Building a course and organizing class activities

Organizing a class is a process of controlling the study activities of learners and constantly creating situations for learners to solve and understand the subject as quick as possible. The act of organizing a class comprises of the following work: set up the activities, learners will participate in the activities, announce the result and end the activities (Long, L. D., 2014). When building and organizing class activities, teachers must make sure that the activities are learner-orientated so that learners are able to be more active in participating in the activities.

On that basis, building a course and organizing the study activities need to follow these principals:

- Ensuring the consistency between science and education in online teaching: A quality and effective online course not only develops the mind and knowledge of a person but also inspire their passion to study. For many reasons, students have a tendency to drop out of the course mid-way. Therefore, it is necessary for an online course to teach both knowledge, discipline, and responsibility.
- Ensuring the systematic and sequentiality in an online course: for activities that provide independent knowledge, learners are allowed to choose their own learning sequences through the “Elective” activities. However, for activities that provide systematic knowledge, learners must follow the “Compulsory” activities. This principle will create a sense of freedom for learners to be flexible in their comfort zone as well as ensuring learners can achieve the whole knowledge of the course.
- Ensuring the visuality of the activities: this is an important element to affect the emotions, excitement, and motivation of learners. Vividly designed activities will attract learners to get themselves exposed to exploring new knowledge. In contrast, the lack of visuality in the activities will bore the learners and cause them to lose interest in studying, henceforth increase the chance of learners dropping out of the online course mid-way.
- Ensuring the consistency between self-awareness, activeness, solidarity for learners: self-awareness is demonstrated when learners realize their purpose, study mission, and strife their best to achieve and master the knowledge. Activeness is the attitude of the learners towards the course, especially their readiness in psychological functions to combat the difficulties on their way to achieve and master the knowledge. Independence is to be psychologically ready to self-study and allow learners to discover, solve the problems themselves, test themselves and evaluate their own study activities. Self-awareness, activeness, independence are closely related to each other. Self-awareness act as a basis for activeness and independence. Activeness is the condition, result, orientation, and manifestation of developing

independent. Independence is the demonstration of self-awareness and activeness at a high level. The activities in an online course system need to ensure student's self-awareness, activeness, and independence. Some measures can be implemented such as limit the time to participate in activities, extend the time for exercises and projects

Step 7: Deploying the online course and evaluating the online learning process

Deploying the online course can be implemented on a variety of study management system. Within the scope of this article, we will refer to one study management system, which is LMS – Learning Management System. This is a software application for the administration, documentation, tracking, reporting and delivery of educational technology (known as e-Learning) for courses or training programs (Fathema, N., Shannon, D., & Ross, M., 2015).

The deployment of the online course includes: giving learners an account, surveying learners before – in – after the course and technical support in order to facilitate learners to participate in the course and manage the system effectively. Besides, there should be regular evaluation of learners through their completed products or the results of their activities in order to assess the learner's process.

The evaluation system for the learner's study process needs to qualify the demand for an overall evaluation of teaching and learning activities such as: student's profile management, online evaluation support. The evaluation system should be comprises of:

- Student profile management system, for example: an e-portfolio that supports the students.

- Nuturing activities evaluation system which comprises of evaluation criteria, gathering data manually and automatically, connection with student profile management system and LMS

- Online survey system.

- Tools to collect, process the assessement result to provide reports that fully cover all the activities of learners on the online course

Deploying the course and evaluate the online learning process will help these main subjects to interact in the online learning system: The provider, the user, the operator, the evaluator. To depoly the course and evaluate the online learning process effectively, the LMS is required to have the following functions:

- Managing and storing digital data function: Allowing the subjects in the e-Learning system to be able to upload digital documents that can support the learners. The uploaded digital data must be categorized under these format: file, capacity, time of posting, and the contents must go through censorship.

- Security function: This is an important function to protect the data system of the subjects in the system; protect the personal information related to the subjects or data related to financial.

- Response function: Supporting technological devices that can gain access to the online learning system such as: Personal computer, laptop, tablets, mobile devices; ensuring the amount of users accessing the online learning system.

- Multi-subject function: Supporting a class or an online training program with the participation of many teachers or learners from different places.

- Multilingual function:Allowing multiple languages in the online learning system.

- Registration management function: Managing and adjusting the online registration process (Son, H. V, 2017)

- Interaction management function:

Managing and supporting:

+ Interaction between learners: This function allows learners to exchange information, documents through a chatting, email or SMS system.

+ Interaction between teacher and learner: This function allows learner and teacher to exchange information, evaluate, comment on each other

+ Interaction between learners, teachers and system operators: This function allows the teacher and the learner interact with the operator regarding rules and regulations issue.

- Test and exam function: This will allows learners to take a capacity test and then get ranked after finishing the course.

- Monitoring and controlling function: This will allows learner or supervisor to be able to control the learning process as well as the learner's capacity through each stage.

- Schedule management function: This will allows the establishment of online learning program such as: class schedule, course duration and exam schedule.

Step 8: Final evaluation and learner's feedbacks

The final evaluation is a compulsory requirement to evaluate what the learner has achieved after finishing the course. An effective, qualified exam needs to determine the structure or the exam's matrix table to avoid duplication of questions and classify the level of learner's awareness and ability (Trinh, P. Q., Hung, N. M.& Giang, V. L. Q., 2016). After that, the purpose and objectives need to be clarified based on specific requirements such as capacity and quality. On that basis, the teacher will start writing, checking, reviewing, evaluating the questions and make sure that they are scientifically qualified. Finally, the teacher needs to determine the requirements for a plausible answer, find the score that corresponds with each answer and estimates the time needed to finish the test

Besides having the basic requirements, the final evaluation and learner's feedback must have additional requirements regarding information technology and the Internet. With that being said, the tests need to be scientific, objective, enough difficulty, difficulty classification and most importantly reflect the goal of the course. Learner's feedback includes feedback requirements and suggestions to better the course.

III. CONCLUSION

The determination of e-Learning design process so that it is scientific and practical is an urgent requirement to ensure an effective online teaching process. If the online learning system wants to ensure the requirements of interactive teaching as well as modern teaching, following closely to the course design process is mandatory. This is the key as well as challenges when it comes to establishing a teaching model on the e-Learning system. The implementation of the online learning course design process will minimize the time and efforts when building the

course with specific, scientific and reasonable steps. The initial test results about building teaching courses on the e-Learning system at Ho Chi Minh City University of Education such as Teaching introduction, Training course for a title upgrade of high school teachers (Son, H. V., 2017); (Long, L. D., 2018) are practical proof to affirm the science and efficiency of the e-learning course design model. In the context of globalization and the 4.0 industry revolution, the model has gained interesting result and the orientation to implement this model process will be continued to set a standard and ensure the efficiency of the e-Learning courses.

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