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RISK MANAGEMENT FOR INSTRUCTIONAL DESIGN ELEARNING IN HIGHER EDUCATION

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ABSTRACT

The education process during the Covid-19 pandemic greatly affected learning patterns at various levels, especially universities. Various rules regarding face-to-face interaction in class are clearly not recommended to avoid the emergence of a new covid-19 cluster. This causes no other choice, except to take advantage of the online learning process. Various uses of technology and platforms can be selected according to the policies of each university. Risk management for the online learning process needs to be managed properly because the main thing that needs to be obtained from the implementation of an eLearning rule is that the achievement of the expected competency abilities for students. Risk management, in this case, is more focused on management efforts made related to instructional design in the learning process so that learning outcomes can be measured according to outcome-based education. The influence of instructional design that is designed will also affect the motivation and efforts of students in carrying out various activities. This research was conducted in 2 different types of subjects with the same students. The result will be obtained through several learning activities carried out every week and or learning achievement targets that are used as goals for students.

Keywords: risk management, eLearning, competence, instructional design, motivation.

INTRODUCTION

During the Covid-19 pandemic, various areas of life were severely affected, with the making of the same policies from various governments around the world that required not carrying out activities directly in the real world. This has an impact also in the world of education, especially in higher education, in that the learning process, which is usually face-to-face in the classroom, has turned online [1]. There are many policy models related to eLearning that is carried out by each university about several common parameters, such as infrastructure; lecturer; college student; and instructional instruction [2], [3].

However, the large number of these parameters creates various risks that will arise with the use of these parameters [4], [5]. Suppose that the first three parameters have been fulfilled for the use of eLearning in the sense that there are no obstacles, then the next question that arises is what kind of learning instruction is ideal for achieving learning goals for students [6], [7].

Instructional learning is analogous to the general conditions (interactions) that occur face-to-face in the classroom between lecturers and students. Usually, the learning outcomes at that time cannot be measured and it is also likely that the learning objectives cannot be achieved. Of course, this incident is prioritized because the lecturer as a learning center (one way) provides material during the learning time, while students only listen and are less active in being involved in learning at that time. Based on research in universities where researchers and several other universities are related to the use of eLearning, the implementation of eLearning only replaces meeting places that were in the real world into learning in cyberspace (eLearning).

Of course, this method can be presumed, that the results obtained regarding learning outcomes are not more optimal than face-to-face meetings in class. This is because in general what happens in class has a higher scope of interaction, where direct control can be done by the lecturer if there are things that are not suitable for students to do [8]. This is what lecturers often think that face-to-face learning is better than online. Risk management in the use of eLearning needs to be planned and measured, especially related to instructional design to reduce the impact of risk due to not optimal eLearning implementation strategies [9]. The focus of this research will be more towards instructional design because it is very dynamic and can affect the interactions that occur between lecturers and students.

BACKGROUND

The courses are given, namely Supply Chain Management and eProcurement, will deliver this material for 14 weeks and two exams, namely midterm exams and final semester exams. Students are involved in the same class to see the extent to which individual changes occur in different courses. Research, in this case, focuses on instructional design because a series of instructions designed will greatly affect the patterns and habits of learning, which will be carried out by two parties, namely lecturers and students. Various activities that are usually done face-to-face in class, can actually be more optimal in eLearning. This refers to the availability of learning resources on the internet that is easier to obtain and the results can be processed and distributed effectively and efficiently.

The following is a comparison of the face-to-face and eLearning learning designs that can be done with various planning routine learning activities. The direct face-to-face learning experience has a strengthening of intellectual and emotional maturity physically for lecturers and students, this is very pronounced for students at the public high school education level down (kana-kindergarten). It is different from students whose intellectual and emotional maturity levels are mature enough so that what the lecturers deliver can be

used as an assessment and comparison of various other opinions that come from various learning sources on the internet.

This reference is important, given the rapid development of information technology, and the greater the information stored, the information-overloaded [10]. That is, student learning design has led to the learning stage independently (intellectually and emotionally). Orientation to the independent learning process can occur, if the facilities for providing learning resources are also available easily and quickly for presentation. So that learning design is needed at this time, where the support of guidance is directed at intellectual maturation for students to want to do independent learning [11]. The consequences of this independent learning will lead to increased learning instruction and student achievement [12].

Information technology that stores a variety of information can be accessed anytime and anywhere. So that the learning process can be designed according to the characteristics of each student, but within a mutually agreed time frame. As in the comparison table of conditions that have been and will be carried out regarding instructional design in various learning activities, as follows:

Table 1. Instructional design comparison

Mode / Classroom	Instructional Design			
	Asynchronous	**Synchronous**	**Evaluation**	**Timing**
Face-to-face	no activity	Providing direct discussion topics	The topic cannot be repeated	According to time credits
	Assignment for 7 days (next week)	Assignments are given at the time of presentation of the topic	Simultaneous submission of all students and sometimes the results of the assessment are not conveyed to students	Delivery time for a week
	no activity	Question and answer in class	Often no questions (student passive)	Time is limited
Online (eLearning)	Providing topics in the form of modules or audio-visual recordings	Providing live and recorded topics of discussion	Recording topics can be played repeatedly	Time is unlimited
	Assignments for an interval of 1-5 days	Assignments are given at the time of presentation of the topic	The assignment was time vary from students and given directly ratings	Submission time is 1-5 days
	Questions and answers are stored in the discussion forum and can be accessed at any time	Questions and answers in real time	Questions & answers always occur for every student (active students) and are immediately given an assessment	The time to ask and respond to questions can be done in a span of 1-5 days
	Student responses about weekly activities (Reflection)	no activity	Lecturers can rearrange the appropriate activities for students for next week	every end of the week

METHODOLOGY

The development of eLearning needs to be developed as best as possible by giving priority to instructional design [13]. This is relevant considering that the availability of information technology infrastructure can be readily available whenever the tertiary institution wants it, as well as the readiness of lecturers to use technology to interact in cyberspace, is not the most difficult

thing that can be available at any time as long as it is facilitated or received assistance from the university [14], [15].

The stages to be carried out in instructional design refer to the ADDIE model which is one of the instructional design models to be used [16]. The stages are steps that will be used as an instructional design in this research, namely: the analysis stage, the design stage, the development stage, the implementation stage, and the evaluation stage [17], the stages can be described as follows:

Figure 1. ADDIE Model

An explanation of the ADDIE model that has been adjusted to the research plan, namely:

1. Analysis: collecting and selecting various topics related to adjusted subjects, with any topic that will form a goal of learning outcomes for the subject concerned.

2. Design: Determining various interaction designs that can motivate students both individually and in groups to be fully active. Furthermore, each interaction activity that occurs can be assembled into a student learning achievement each week. Then combine (recapitulate) several weekly achievements, so that the final result is the learning achievement of the relevant subject.

3. Development: Preparing the results of a selection of various topics that have been selected and will be developed by determining what various interaction design tools are suitable for use, to provide feedback according to the desired learning outcomes.

4. Implementation: Implementing development results tailored to the eLearning platform that will be used. At this stage, the various objectives of the interaction design will also be given, which will be carried out by students and will see changes in the learning pattern of each interaction design that has been used by students.

5. Evaluation: Assessing various interaction designs with previously integrated topics, as well as assessing the feedback that occurs in the interaction. The results of this feedback will become a reference for lecturers to assess the learning achievement of each student. If students do not meet the weekly learning achievement criteria, the lecturer can provide another opportunity to improve activities that are not yet optimal, before the weekly scores are shown to the student concerned. This evaluation will also look at the effectiveness of interaction selection for a topic that has been selected, so that next week's activities may change interactions for a particular topic.

IV. RESULTS AND DISCUSSION

Regarding the research carried out will involve 65 students with 2 different types of subjects, namely eProcurement and Supply Chain Management courses. The study is conducted for one semester with a total of 14 online meetings and 2-semester examinations (mid and late). The results are associated with the ADDIE model in the preparation of its instructional design, as follows:

1. Analysis

The selected courses are prepared for learning outcomes that lead to the competence of the relevant subject or produce outcome-based education. These learning outcomes have an element of competencies that will prove the extent to which students will have skills and knowledge, and a measure of achievement through continuous case resolution, which is designed from the first week to the final meeting. In the end, each weekly meeting will produce weekly learning outcomes (competencies).

2. Design

The interactions that will be used in the learning process are a) The module is a supporting material (trigger) to introduce weekly topics, but the point is as a trigger so that students are introduced to the topic of discussion by providing rewards for students who answer quizzes according to the content of the module, the aim is to motivate to read the module. b) The discussion forum is a discussion of excellent themes from weekly topics that will be discussed with various references from students, assessment rewards will be given to students who contribute questions and responses. c) The streaming that is carried out does not explain face-to-face in class, but the lecturer is more directed at explaining the problems/questions posed by students, both from modules/discussions in the discussion/assignment forum. All students who contribute will be given an assessment reward. d) Assignments in the form of group assignments and individual quizzes. e) Reflections on various interactions or activities that have been carried out during the week, and an assessment reward needs to be given to the students involved. f) Evidence of the achievement that has been made by each student, then the assessment reward of each previous activity will be combined into a weekly assessment to obtain weekly learning outcomes. g) The overall results of the weekly assessment along with the midterm and end-of-semester exams will be combined into the final score of the relevant course.

3. Development

The selection of interactions that have been formulated will be used in the context of the previously analyzed weekly topics. This condition will determine how to create learning topics that are by the instructional design, which is directed at achieving weekly learning. In this case, rewards and punishments are also developed which aim to motivate students to be fully involved in each instructional design.

4. Implementation

Choosing an eLearning platform that suits higher education abilities and the need for data administration, which will record all lecturer and student interaction activities. All of this is more in the direction of the technological infrastructure that will be used by universities, lecturers, and students. Meanwhile, for the instructional design needs, that the development readiness that has been planned must be accommodated in the application tools that are in the eLearning platform. This will also support success in interacting online to fulfill learning outcomes.

5. Evaluation

Finally, all implementation results will be evaluated every week, especially related to instructional design. The goal is that the dynamics when interacting will lead to various possibilities that occur, it can match / not match/exceed the plans that have been made. The weekly results obtained can be a guideline for the lecturer concerned to be able to revise their instructional design to carry out activities next week.

The results of the instructional design that have been carried out using the ADDIE model, that overall everything goes according to plan with the percentage level of success for each indicator adjusted to active student involvement. The following is an evaluation table regarding all activities carried out by students with 2 types of courses

Table 2. Evaluation of instructional designs

Courses	Activity log data 14 weeks eLearning							
	Reading module	Repeating recording learning	Sharing information in discussion forums	Follow streaming	Carry out an assignment	Take Quizzes	Doing Reflection	Make Improvements
eProcurement	85%	92%	96%	98%	91%	89%	80%	2%
Supply Chain Management	75%	91%	92%	98%	93%	90%	88%	3%

V. CONCLUSION

Instructional design is an obligation that needs to be done by lecturers in a university. Various learning activities need to be carried out optimally by using the support of information technology (text/audio / visual), this means that the many learning resources on the internet will be a reference for students in solving various problems according to their level of comfort. Increasing students' intellectual and emotional motivation is very relevant, by sending messages so that students do not hesitate in doing learning independently. Of course, through instructional design and direction that have been made by the supervisor of the relevant course.

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