Monitoring of the Virtual Learning Process during the Covid-19 pandemic

Chris Batara
Informatics Department, Universitas Kristen Indonesia Paulus, Indonesia

*chrisbatara@ukipaulus.ac.id

Abstract. The COVID-19 pandemic that is currently sweeping the world is forcing the world of education to close classrooms and avoid physical gatherings. This situation forces the education system to redesign or re-engineer an education and training system that is not limited by time and space, with a virtual learning system (e-learning) that utilizes information and communication technology, the use of digital devices for various purposes in the world of formal education and non-formal. Virtual Learning System (e-learning) is a learning system by providing an online environment based on information and communication technology. This system can overcome problems that arise due to Covid-19 not to come together to carry out the learning process, but must learn from their respective places. In the virtual learning process, there is a need for a system that can be used to monitor and ensure the learning process goes well and the quality is maintained. Monitoring and evaluation which is part of the governance system developed to maintain and ensure that education is carried out according to educational standards listed in Permenristek Dikti no 44 of 2015 concerning National Higher Education Standards (SN-Dikti). Realizing this, education managers need to make various efforts to ensure good management of learning, starting from the planning stage, implementation to the evaluation process. Based on the foregoing, it is necessary to formulate guidelines for monitoring and evaluation of learning as a reference to ensure the implementation of SN-Dikti. The monitoring carried out in this study was the activeness of lecturers and students in virtual learning.

1. Introduction
In general, conventional educational programs are carried out at a certain time and location, where instructors and students gather to interact with the teaching and learning process. However, sometimes obstacles arise that do not allow the conventional education program to be implemented properly. One of the main obstacles to implementing conventional education is the geographic location of the people who are spread out, not in the same location as the resource persons.

The COVID-19 pandemic currently affecting all aspects of human life, including the educational aspect, has caused the closure of campuses or schools and other educational institutions around the world and forced 1.5 billion students and 63 million educators to change their way of learning face-to-face physically [1, 2]. This situation forces the education system to re-engineer an education and training system that is not limited by time and space, a virtual learning system (e-learning) that utilizes information and communication technology, the use of digital devices for various purposes in the world.
of formal and non-formal education with the principles openness to face the era of the industrial revolution 4.0.

Monitoring is a monitoring activity carried out to find out the learning process activities carried out by lecturers and students. Monitoring is carried out during the teaching and learning process which is carried out for one semester. Monitoring activities in the learning process are activities carried out by authorized leaders. This activity aims to monitor the implementation of learning process standards that have been set by higher education institutions that can be carried out by lecturers continuously so that these standards can be achieved. This paper will discuss how to monitor the virtual learning process well.

2. Methodology
This paper will discuss monitoring the virtual learning process that was carried out during the Covid-19 pandemic. The monitoring process carried out here is to monitor the activeness of lecturers and students in the virtual learning process based on the RPS (Semester Learning Plan). The activities of the lecturers that will be monitored are the readiness of the material, the evaluation of learning carried out by the lecturers, the presence of the lecturers in learning, and the learning modes used by the lecturers. Meanwhile, monitored student activity is student activity in following the virtual learning process, responding to assignments given by lecturers.

This paper discusses the Monitoring of Virtual Learning Process on UKI Paulus e-learning which was used during the Covid-19 pandemic. Monitoring is carried out by the leadership (study program, faculty and university) or UKI Paulus' Quality Assurance Agency (BPM). The stages carried out in this study are as follows:

This paper will use the SLR approach to review research on the Naïve Bayes algorithm with the problem of attribute independence assumptions. Systematic Literature Review (SLR) is a process for identifying, assessing, and interpreting all available research with a view to providing answers to specific RQs[15]. In the guide that Kitchenham has made in 2007[15], the literature review will be compiled based on the Systematic Literature Review.

3. Result and Discussion
3.1 Learning Quality Standards
Learning quality standards are a measure of the quality of planning, implementation, monitoring and evaluation activities in the learning process.

Learning planning standards:
- Lecturers make semester learning plans (RPS)
- Lecturers determine the most suitable learning method to achieve the desired learning outcomes
- Learning resources are provided in accordance with the learning objectives.
- Learning facilities and infrastructure are able to support learning.

Learning implementation standards:
- Lecturers must be disciplined in carrying out learning (according to the specified schedule)
- The number of students per class is adjusted to the characteristics of the subject
- Students are actively involved in order to create interactions that support learning.
- Lecturers must act as facilitators who encourage independent learning.
- The learning method applied must be able to develop the learner as much as possible.
3.3 System Requirements Analysis

System requirements describe the processes or functions that must be performed by the system in serving the needs of users (User). So the main functions performed by the e-learning system for monitoring and evaluating lectures at UKI Paulus are as follows:

a. Login
   This function is used by the leadership or BPM to log into the system before monitoring.

b. RPS monitoring
   This function is used by the leadership or BPM to monitor the RPS whether there is one for each course in the system.

c. Monitoring the learning resources used.
   This function is used to determine the learning resources used in the learning process, the literacy used.

d. Monitoring of learning facilities and infrastructure
   This function is used to determine the facilities used in the learning process, the availability of facilities such as the library, elab, emulator, etc.

e. Schedule monitoring.
   This function is to determine the discipline of lecturers and students in the learning process, attendance list.

f. Monitoring the number of class participants.
   This function is used to determine the number of participants in each lecture meeting.

g. Monitoring student activeness in learning.
   This function is used to determine the activeness of students in the learning process: activeness in discussion forums, taking lectures, doing assignments, taking exams that are carried out.

h. Monitoring the activeness of lecturers as facilitators
   This function is used for lecturers to provide feedback on student activities such as assignments, exam results, discussions etc.

i. Monitoring methods used in learning
   This function is used to determine the methods used in the learning process.

j. Monitoring of learning resources is easily accessible by interested parties.
   This function is used for easy access to the learning resources provided.

k. Monitoring the learning process evaluation method.
   This function is to determine the method of evaluating the learning process in a transparent manner in the administration of the learning process.

4 System Model

The system model aims to describe the system requirements clearly and completely. This learning monitoring and evaluation information system modeling uses an object-oriented approach, namely by describing use case diagrams, class diagrams and activity diagrams. The following is an overview of the model:

4.1 Use case diagram

Use case diagrams are used to model the functional system used and describe system requirements from the user's point of view. Based on the needs analysis above, a use case diagram can be described in the learning monitoring and evaluation information system as follows:
5. Implementation

Display system for monitoring:

Figure 2. Use Case Diagram

Figure 3. http://elearning.ukipaulus.ac.id/

Figure 4. Login form:
Monitor the process in predetermined courses, for example monitoring the RPS, the number of participants, the media used in learning:
6. Conclusion
From this research it can be concluded that:

a. Monitoring of the learning process can be done without being limited by time and space.
b. Monitoring and evaluation of the implementation of learning related to the performance of the learning process in the study program as a whole has not been included in this research.

References

[1] Chris Batara; Charnia Iradat Rapat; Design And Implementation Of Virtual University Based On Ict. International Journal of Research –GRANTHAALAYAH, Vol. 8 No. 4 (2020): Volume 8 Issue 4: April 2020

[2] The World Bank Education and COVID-19. Available online: https://www.worldbank.org/en/data/interactive/2020/03/24/world-bank-education-and-covid-19 (accessed on 15 June 2020).

[3] UNESCO COVID-19 Educational Disruption and Response. Available online: https://en.unesco.org/covid19/ educationresponse (accessed on 8 May 2020).