Development of learning media patisserie based on hybrid learning

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Abstract. Utilization of the internet in patisseries learning is not optimal yet, the use of media in learning is not entirely interesting and varied, task collection and evaluation of learning outcomes are still print-based, one of the difficulties associated with technical issues is understanding the material and collecting assignments. These three factors are the background of the learning management system in the implementation of hybrid learning based patisseries. Learning Management System is one way to develop online learning or e-learning, which is a web-based learning management application that facilitates learners to learn as they should in a virtual classroom. The Learning Management System used in this study is a Web-based Learning Management System that is available at https://spot.upi.edu/. The design of the Learning Management System model in Patisserie learning is useful to assist in the teaching and learning process. Learning programs based on the use of internet technology (online) that can be done without the limitation of space and time ‘any time anywhere’. This Learning Management System application model, made based on the web, with the aim to enable lecturers and students who become the user model of this application, to access learning plans and learning material through the internet wherever they are. Supporting facilities in the form of network and network server at UPI have reached 800 Mbps, then from the SPOT process aspects using licensed software namely Microsoft Office and hardware +970 with the core 2 processor, P4 flat slim monitor. In addition to accessing learning material, this learning management system helps users to be able to discuss topics by on-line using the forum provided. This study aims to develop a hybrid learning based learning management system for the readiness of students’ competency test.

1. Introduction

Education has a very important role in human life. It shapes the character and dignifies human civilization in the context of educating human life (Law on the National Education System [1]. The development of technology has influenced all aspects and systems of human life. The education field cannot be separated from human life [2]. Along with the development of technology, the education field also experiences changes in terms of teaching and learning activities, resources, and techniques. The characteristics of students now are different from the characteristics of students in the past. The challenges of this change must be able to be answered by the teacher properly [3]. Responding to challenges and opportunities in the 21st century and following the development of industry 4.0, digitalization trend in the world of education as one of the dominant solutions carried out in the face of the industrial revolution 4.0 [4] it is necessary to pay attention to 4 (four) most important aspects, each of them is related to; (i) input starting from the development of science technology, especially in the
education field as a trigger for change, (ii) the process of changing the approach in developing models and mechanisms of education and teaching, (iii) the output of human learner who is not only intelligent in terms of cognitive but also in terms of psychomotor and affective as a characteristic human trait, (iv) the outcome of education as a pillar of the civilized and the cultured nation [5].

Open competition in the current era of globalization requires every workforce to master the required competencies based on the available jobs. In line with these conditions [6,7]. The influence of the rapid growth of information technology at this time could not be denied regarding the influence in the education field. The growth of information and communication technology field has an impact on the use of teaching media, such as computers and the internet, in the form of e-learning [8]. E-learning is defined as flexible learning experiences delivered through the use of information and computer technologies to be accessible anytime, anywhere, by anyone [9]. A flexible learning experience that utilizes ICT and can be accessed anytime, anywhere, by anyone [10].

Technology is used to support teaching and learning process more effectively and efficiently. The communication that is established between lecturers and students is not only limited in the classroom but also to the use of technology in outside of the classroom. Hybrid learning is as a learning model that integrates innovation and technological progress through online learning systems with the interaction and participation of traditional learning models [11]. Thus, Hybrid learning is a combination of learning within the network and outside the network, held partially in class, and some online. The characteristic of online lectures, which is different from learning in class (offline), requires a specific strategy in providing communication medium or kind of interaction between college students and lecturers or between students themselves. In general, there are two types of communication used; synchronous and asynchronous communication. Some of the channels used in synchronous communication include chat and video conferencing [12]. This study aims to develop a design of learning management system based hybrid learning based learning for the students’ competency test readiness.

2. Method
The step of learning model development research [13]. The development of the hybrid learning model has several steps: 1) a preliminary study and gathering information by searching for learning needs in patisserie lecture. Furthermore, gathering information about potential sources of college students, lecturers, and supportive infrastructure to implement this hybrid learning model. 2) compile the development programs based on preliminary study and gathering information through theoretical studies, then make hybrid learning designs: a) formulate the outline of objectives and programs, b) design hybrid learning model in patisserie lecture, c) use of SPOT UPI systems and input lecture material according to Patisserie Semester Program (RPS) plan and material.

The design of hybrid learning in the Patisserie course in this study is web-based using SPOT platform. The SPOT application uses browser technology to run it and is accessed through a computer network. The SmartRubric application has a program that is saved on the Server and sent via internet and accessed through a browser interface, so that it can be accessed using a web browser through an internet network or intranet. The use of web-based SPOT application is chosen to facilitate the design and use in carrying out assessments, web-based application through computer software that is coded in a programming language that supports web-based software namely HTML, JavaScript, CSS, Ruby, Python, Php, Java and other programming languages [14]. Supporting facilities in the form of network and network server at UPI reach 800 Mbps, then from the SPOT process aspects using licensed software namely Microsoft Office and hardware + -970 with the core processor 2, P4 flat slim monitor.
3. Result and discussion

E-learning is a consequence of the advance of information technology. The definition above can be interpreted as; in facing the challenge in the education field at this time, it is necessary to pay attention to the level of development of information and technology media in order to not be left behind by other developing countries, which are familiar with technology at first [15]. E-learning on campus does not mean that the face-to-face learning process (conventional) is then abandoned, but the combination between the two methods will accelerate the mastery both conceptually and skillfully. The use of e-learning in this study, researchers used the SPOT system as a medium of hybrid learning. The Integrated Online Learning System (SPOT) is an online-based learning application program for lecturers and college students at Indonesia University of Education (UPI). The learning program based on the use of internet technology (online) that can be done without limitation of time and space 'anytime anywhere'.
The integrated program referred to the integration of an online learning system with the stable application system currently owned by UPI, namely the Academic Information System (SIAK).

The study of hybrid learning in Patisserie lecture, researchers develop learning tools at first, starting from the Syllabus, RPS, learning materials and learning evaluation tools. Furthermore, the researchers inserted the SPOT system to be subsequently accessed by college students.

**Figure 2.** Display of RPS page on bread course.

Figure 2 illustrates the RPS page, there are menu, RPS settings, college students list, Grade List, BAP and attendance. Furthermore, researchers update the RPS at each meeting to add material according to the competencies that must be achieved by the students.

**Figure 3.** Material page.
Figure 4. Display material on the SPOT page.

Figure 3 illustrates the material page; the college students can access the material uploaded by the lecturer. Lecturers can upload material in various types of files, ranging from PowerPoint, Microsoft Office Files, PDFs, to learning videos. Figure 4 illustrates display material on the SPOT page. Therefore, using a hybrid learning system for lecturers and college students would be easier to access online learning.

Figure 5. Evaluation page.

Figure 5 illustrates the evaluation page, the function of the evaluation page is to evaluate both the quiz, midterm test, and final exam. In the hybrid learning system, lecturers can evaluate online. Students can access the evaluation according to the time specified by the lecturer. The hybrid learning model is a combination of face-to-face learning (conventional) with e-learning that is expected the college students are able to master the concepts of material and skills, to increase their independence and activeness in attending lectures by utilizing e-learning, and the learning outcome will also be higher.

4. Conclusion

The result from the development of the Learning Management System model design on Patisserie based hybrid learning which is suitable to be applied to Patisserie course in culinary education study program of Indonesia University of Education. The research on hybrid learning development is able to change the lecturer-centered approach become to the students-centered learning. The independence and the activeness of the students increases as the students to interact and obtain information through chatting,
downloading material, uploading assignments. E-learning is not the only method in the development of hybrid learning, a face-to-face learning process is also implemented as a material for making patisseries. This Learning Management System application model, made based on the web, with the aim to enable lecturers and students who become the user model of this application, to access learning plans and learning material through the internet wherever they are. The ease of using this learning model because it can be done anywhere and anytime.

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