Collaborative e-learning Vocational Schools

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Abstract. For many vocational schools, online learning is still new. Compare this with traditional classrooms that are still widely used. E-learning requires multiple participating schools, teachers, students, and parents. When moving to an e-learning environment, teaching methods and team configurations must change. Therefore, collaboration is a critical component of creating high-quality e-learning. This study first described the problems found in vocational high school (SMK). This article discusses the details of authoring tools and describes the e-learning model and e-learning environment used. This research aims to encourage people to have a deeper understanding of the scope of e-learning and the roles and collaborative activities required for e-learning.
Keyword: Collaboration, E-learning, Vocational Schools

INTRODUCTION

Education aims to develop behavioral ability, self-control, and intelligence based on the community's culture and life as a form of instruction. The purpose of education is to produce knowledge in a process. The development of learning strategies focuses on using learning media to disseminate knowledge, build and develop students' personal skills to solve various situations according to type, subject, and ability. Information and communication technology (ICT) in society have contributed to the country's development because the community uses technology in all areas of life. Education does not determine a country's development, management knowledge, and technical acceptance. E-learning is a way to improve the national education system and promote its development according to its characteristics. The training aims to develop behavior, self-awareness, and intellectual abilities based on culture and community life. Its primary purpose is to generate the necessary knowledge. The development of learning and education strategies focuses on using all resources to spread knowledge, build and develop personal abilities, and complete various suggestions according to type, discipline, and shaping ability. As people use technology in all areas of life, information and communication technology (ICT) have contributed to their development. Education is not a factor that determines a country's development, management knowledge, and technology acceptance. E-learning is a way to promote national education and promote e-learning according to the characteristics and needs of the country [1].

The hallmark of learning in the 21st century is a new form of use of information technology and computers, namely digitization and e-learning. E-learning can improve the teaching process and increase efficiency. Teachers must properly prepare teaching materials before they can be accessed and stored in the source library. The development of e-learning technology is very rapid, so the concept is widely used and developed due to class restrictions, tedious learning, and limited interaction. Create e-learning in the form of an application that specifies learning materials. The Learning Management System (LMS) is designed as needed to facilitate interactive multimedia packaging, teaching materials, lectures, online discussions, instructional videos, and even interactive video conferences.[2].

The latest information and communication technology (ICT) changes have forced vocational schools to respond more quickly to the labor market and social needs. E-learning is an effective way to improve the teaching quality of vocational schools. Before the online learning process begins and develops, the media skills of students and teachers must be verified so that e-learning can reach its potential [3]. E-learning contributes to students' motivation and development in vocational schools because many people work outside the classroom or participate in various activities. Students can choose their learning path independently. Teachers have more free time to improve courses, develop new practice-based and laboratory-based assignments, and use high-quality multimedia content to fill textbooks. [4]

There are many learning methods, including face-to-face learning methods in the classroom, which are still teacher-centered (traditional) and student-centered (collaboration). The school's face-to-face concept is still teacher-centered (union), and students' enthusiasm for social interaction skills is currently a significant trend in education. In other words, establish an e-learning environment for collaborative distance learning. The purpose of teaching is to improve critical thinking and problem-solving skills [5]. E-learning is a new form of teaching. Cooperative learning

is not always easy. One of the difficulties in writing collaborative e-learning is introducing online and joint design and development, using e-learning content as a concept map and conducting it in an online environment. The collaboration and interaction between teachers and students are not limited by time and place [6].

LITERATURE REVIEW

Education

The concept of education is a consciously planned work aimed at creating a learning atmosphere that enables students to actively develop their potential in the learning process, exert their religious, spiritual power, self-control ability, personal games, and social talents. , Noble character and skill. The concept of education can be understood as a conscious and systematic effort to achieve living standards or make better progress. According to Ki Hajar Dewantara, the idea of education is a necessary condition for the lives of growing children. In terms of meaning, education is to guide all the natural forces that exist in these children to obtain the highest safety and happiness as human beings and members of society. [7].

E-Learning

E-learning is interactive distance learning, which provides direct teaching materials and content online and offers immediate feedback to students' learning activities. E-learning involves communication between teachers and students and pays more attention to online education media. E-learning emphasizes online education. E-learning covers a wide range of content and processes, such as online learning, computer learning, virtual classrooms, and digital collaboration. The focus must be on e-learning. In other words, knowledge is only part of education. Who can say that educators in online educational institutions usually focus on subject content, while online educational institutions provide complete educational services [8]. E-learning systems achieve different goals in different forms. E-learning can cover distance and time, independently access the latest information and technology, and increase interaction between students and teachers. E-learning has largely helped students improve their ability to develop customized learning solutions that focus more on adaptive and personal e-learning environments. [9].

Collaboration

There is a positive relationship between students and educators, mutual benefit in interactive learning, and e-learning activities between students and educators.. By integrating social software with a learning management system and connecting user networks with social networks and knowledge networks, an interactive e-learning platform that combines the advantages of a learning management system and social software will help users build social networks and personal knowledge networks. learning process [10].

Collaborative e-learning is a learning strategy that uses new technologies and allows students to communicate to achieve common goals. The computer network uses various interactive tools provided by the e-learning system to support collaboration in group work based on discussions, cooperation, and exchanges between teachers, tutors, and students.

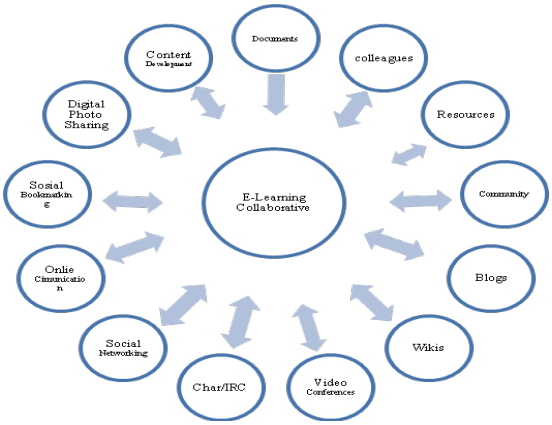

FIGURE. 1. *The background of collaborative e-learning*

Collaborative e-learning pays more attention to learning the relationship between students and teachers, using social applications (such as personal websites, digital libraries, social media), and discussions between students and teachers. Collaborative e-learning institutions assume that knowledge is socially constructed. In collaborative e-learning, students can directly learn actively on the existing system, realize convenient resource access and use, and promote interaction and collaboration.[11].

Vocational

For those junior high school students in grade 9 who are still confused about wishing to continue studying at SMA or SMK, please do not be confused. We have an article for your continued study and reference. SMA is the education department after junior high school. It has become a forum for improving the quality and quality of students. They put theoretical ability first and hope to become ideal science graduates. SMA has three majors, namely science and social science. Science and language. SMK is the vocational high school education department after junior high school. It has become a forum to improve the quality and quality of students. They focus on practical skills and hope to become expert graduates in the field. SMK has more expertise than SMA. The main goal of SMA is to make students a disciplined person to make the details of each topic more detailed so that students can truly understand. This is one of the differences between SMA and SMK because the distribution of SMA is more even, and the cost of SMA is relatively cheap. SMK emphasizes practical issues, not theoretical problems. They acquire practical skills directly until they truly understand. After graduation, they will be proficient in their respective fields and can use their future work capabilities. [12].

METHODS

To achieve the goals proposed in this study, what can take the following steps:

1. Literary research The steps of this research are to conduct literary research to determine the topics to be used, and then find out the questions to clarify the concepts of e-learning, collaboration, and learning to be carried out in this research, including online learning framework.
2. Subject identification and problem identification: At this stage, the problem expression to be studied in this research will be carried out to understand the problem to be solved in this research clearly.
3. Problem statement This step identifies the problem in the "collective e-learning" research.E-learning methods The e-learning method is selected based on the results of the literature research carried out, and it is hoped that this method can produce accuracy and classification as required.
4. Test method Then, test the technique used to determine Boyd Cohen's approach's success rate.
5. Result in The welding accuracy is applied according to the method used.
6. Prepare report research report.

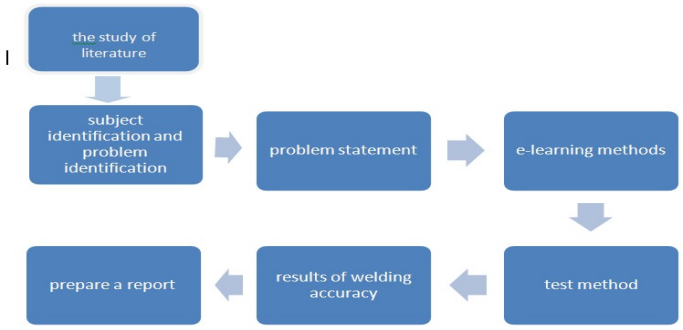

FIGURE. 2 *Framework*

RESULTS

E-learning is a general term for the concept of learning. Who can break down the educational content into several parts: learning objects. Learning objects are small pieces of shared content that can be known, and learning goals represent the state of direct participation of learners who can be directly evaluated by the evaluation system. Collaborative e-learning combines learning theories based on the concepts and models of explicit one-way teaching

and proposes cognitive learning theories. From the perspective of cognitive learning, the teaching model includes the so-called understanding of the situation related to the goal, which can be organized to understand the complexities and events in real life that can be simulated and reproduced and resolved differently understanding through teamwork. Collaborative learning can create an active learning environment and provide learners with median e-learning opportunities. There are four characteristic modes of constructivist strategies: direct education, peer-to-peer learning, collaborative learning, and multiple perspectives.

Collaborative e-learning can and should facilitate learning and teaching in an e-learning environment. Who must create high-quality collaborative e-learning to optimize and enhance learning. What should use collaboration in conjunction with online learning to achieve maximum efficiency. Collaborative e-learning provides many beneficial benefits to the teaching process. They encourage interdisciplinary and interdisciplinary cooperative teaching. This article proposes a reusable collaborative online learning system method. There is no doubt that who can provide other methods to create collaborative e-learning. An important factor in creating collaborative e-learning is to choose an excellent collaborative e-learning architecture that contains a set of industry-standard principles necessary for runtime environment, metadata, and content packaging. Also, in collaborative e-learning, instructional design models and user interface designs essential for teaching must be integrated.

Four categories of collaboration methods are assumed in Figure 3. Each image contains the exact process aspects. Each technique will be described in detail based on these four views. What are the four viewpoints (themes), why (goals), how (forms), and which (tools)? Each statement consists of several aspects representing a set of attributes and provides a value for detailed information. Also, connect between screens. [5]

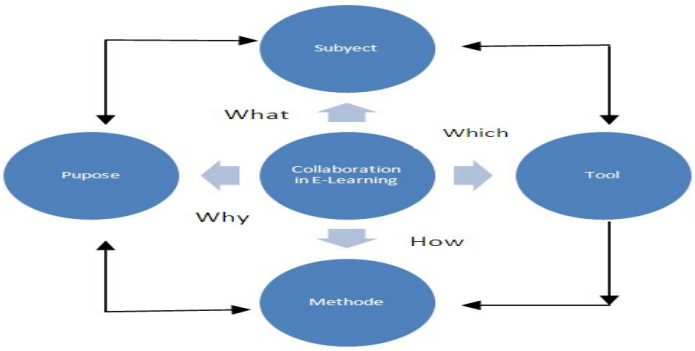

FIGURE 3. *A classification framework for collaborative methods in e-learning [5]*

DISCUSSION

E-learning is an ideal learning environment using modern information technology. It realizes a new learning method by effectively combining information technology with courses, which can fully reflect students' central role, thereby completely reforming the traditional teaching structure and education core and training a large number of high-quality talents. The existence of technology is an intermediary element in academic education. Although not directly related to learning, technology helps to create a learning environment. To be consistent with the characteristics of teaching existence, in students' presence, the concept of technological reality under the framework of intelligent education is regarded as a personalized connection between various places. The coexistence of teachers and students puts forward the paradigm of smart education.

A basic plan for using information and computer technology (ICT) in smart schools. Although attempts have been made to implement intelligent schools in the private and public sectors, it has been recognized that these efforts use different information technology infrastructures (platforms), ideas, and teaching materials. To promote the success of smart school development, Who should be responsible for developing the ICT infrastructure framework? E-learning can be defined as the use of information technology and computers (ICT) in learning. To this end, a variety of tools and technologies can be used, including e-mail, Internet, streaming video, and virtual classrooms. Table 1 shows the conceptual framework of e-learning. [13]

TABLE 1. *Framework of education information system*

	Kategori	Indikator
Teacher	Instructional design	Use student-centered, personalized, collaborative teaching models to design learning.
	Direct facilitation and instruction	Facilitate the learning process by facilitating interaction and providing direct feedback/guidance.
	Technology support	Support students to use technology.
Technology	Liaison	Support social interaction and Collaboration.
	Access everywhere	There are learning resources everywhere.
	Personalized	Adapt to personal needs.
Student	Autonomous learner	Independent learner.(
	Collaborative learner	Collaboration.
	Efficient technology users	The ability to learn how to use new technologies.

CONCLUSION

The social environment and comfortable environment directly or indirectly affect the way vocational high schools accept e-learning technology. The social environment has a significant influence on use and intentions. On the contrary, service has a more substantial impact on intent. This relationship shows that What can reasonably adjust the social environment's effects on e-learning through perceived usefulness and intended use.

Convenience has an essential impact on the ease of use of e-learning. The convenience of using e-learning is lower than expected. This relationship shows that the effects of comfort on e-learning are well regulated by the perception of ease of use, usefulness, and use intention. These two relationships confirm that the three main variables of the technology acceptance model, namely the perception of ease of use, have well mediated the impact of social environment and convenience on e-learning. , Perceived usefulness, and intention of use.

The application of e-learning systems in vocational high schools only focuses on equipment (hardware and software) and teacher training. When implementing e-learning, technical support is also needed, including technology and teaching methods, to help teachers implement e-learning. Schools must provide an atmosphere conducive to e-learning applications. The implementation of e-learning should not only be seen as voluntary advice. The acceptance of technology is not a fixed model of sustainable development. In the future, the technology acceptance model will expand and modify the model by adding other dimensions to make it have more external variables.

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