The needs analysis of expansion blended learning using icare’s model in history learning for tenth grade in senior high school level

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Abstract. The needs analysis of is an important component to identify educational problems. As the first step in instructional product development, the needs analysis must be done carefully. Research activities were carried out in 5 public and private schools in Jember Regency. The learning model that used all this time was analyzed by giving out a questionnary to 5 historical trainer to find out the needs of the trainer for a new innovative learning model. The results of this study found that (1) 80% of students were barely able to think historically and 20% of students could not think historically at all, (2) the method that used by educators is 40% using the PBL learning model, 20% of CTL, 20% of inquiry, and 20% of lectures, (3) 80% of students were interested and motivated by the present learning model but still not effective, and 20% of students were not interested by the learning model, (4) 40% of students still do not have good initial knowledge in history learning so they need extra guidance and 60% of students have good initial knowledge, but they need a long time to understand it, (5) 60% of educators think that class discussions, online or offline, makes a gap between active and passive students, and 40% think there is no gap between them (6) 60% of educators use the different learning model between online and offline classes but not optimal, and 40% use the same learning model both online and offline classes. The results of this study are used as the basis for developing the ICARE blended learning model in history learning.

1. Introduction
The current technological developments have influenced a new paradigm in the field of education. This paradigm shift leads to the use of technology to adapt education in the 21st century Bottino (2019). Also, the 2013’s curriculum has been adapted and skill-oriented to be a better curriculum in the 21st century [1]. In this century, the vision of education is to face technological advances and develop various intelligences of students to reach their maximum potential [2]. Globalization makes the world of education always adapt on technological developments to improve the quality of education. This goal can be achieved by integrating technology, pedagogy, content, knowledge (TPCK) [3]. The TPCK framework is a complex interaction between the three components of knowledge: content, pedagogy, and technology. Therefore, educators need a new innovations to carry out the best learning model for students. One of the model is a learning model that can be combined with technology that students can receive best education.

The learning model is a systematic procedure that organizing learning experiences to achieve learning goals. The learning model is a plan or pattern that we can use to design face-to-face tutorials in the classroom and to create teaching materials including books, etc [4]. This means that the learning model is a plan or pattern that will be used as a guide for learning and each model directs us in design learning to help students so they can achieve their learning goals. The learning design model, in general, can be interpreted as a graphic display, a conceptual framework that describes systematic rules for organizing learning, to achieve certain learning objectives. Thus, teaching and learning activities are really activities that are systematically organized and carried out as planned [5]. Learning models have many forms and choices according to the educator’s objective. The learning model used to be personal style learning in class. The most important thing, in using a learning model, is to achieve the best effectively and...
efficiently learning [6]. The learning model has five elements: (1) syntax, (2) social system, (3) reaction principle, (4) support system, (5) instructional impact, and (6) companion impact [7].

One example of the application of technology in learning is, the idea offered by NACOL (North American Council For Online Learning), a blended learning model. In this model, learning is not focused on face-to-face activities in class (face to face), but also uses technology. This section, theoretically and practically, bring out a new type of knowledge that can be a successful integration of technology in learning.

Blended Learning model can be interpreted as a learning system that is carried out by combining face-to-face learning with technology-mediated learning (technology mediated instruction) [8]. In Blended Learning, students not only rely on the material provided by the educator, but can search for material in various ways, including searching in the library, asking friends, opening websites, or it could be other media [9]. In the number of studies [10] [11] [12] [13] [14] suggest the blended learning model is an effective and innovative model to use. The results of the analysis of a number of studies on Blended Learning have confirmed the effectiveness of this technology-assisted learning. Blended learning is more effective at improving learning outcomes than online and face-to-face learning which are conducted separately [15]. In line with the results of research by Gede Sandi: 2012 [16] which states that students who are taught using the Blended Learning model, the value of learning outcomes is higher than using direct learning.

The ICARE learning model is a learning model that students can connect their knowledge with previous lesson to apply and practice their knowledge so that students will be more creative in solving problems [17]. The ICARE learning model is a learning model that can be applied to overcome learning problems [18]. ICARE includes five key elements of the learning experience namely: Introduction, Connection, Application, Reflection, and Extension. ICARE’s system is used to makes sure that students has a chance to applied what they learned. In line with research conducted by Susi Safitri: 2019 [19] shows that there is an influence of the ICARE learning model on student learning outcomes. Students become more active, motivated, and can explore knowledge, and are able to develop their potential to achieve optimal learning outcomes.

Historical learning is a branch of science that examines the origins, the development, and the role of society in the past which contains wisdom values that can be used to train intelligence, shape attitudes, character, and personality of students [20]. However, the subject of history is one of the subjects that are known to be boring and difficult to understand because of the many important dates, as well as historical events that must be understood and remembered. This makes student feel bored and hard to understand. These things can happens because the teachers still use lecture method that makes the results is not optimal.

Based on the above explanation, it is necessary to develop a learning model that can be combined with technological advances and is effectively used in learning. The first step that must be done is to conduct a needs analysis to be able to find out what is actually needed in the field. Need analysis be interpreting as an initial stage assessment carried out to find out what is actually needed [21]. Needs analysis is the first step and an important stage in instructional design and development of learning models [22]. Needs analysis refers to three stages: information gathering, analysis, and development of Jean and Daniel (2009). In model development, needs analysis plays a role as a process of defining one's needs in learning and deciding what kind of learning model to use for existing problems [23].

The reality in the field shows that students often feel bored with the learning models used by educators, so that learning is not optimal, and also history learning is known to students as boring subjects, because there is a lot of material that is complicated and difficult to remember. Therefore, it must be supported by a more effective and innovative learning model adapted to the current situation. This needs analysis will later involve senior high schools, public and private, in Jember city. This study aims to find and analyze data related to the needs of learning models needed by educators today, to improve the quality of learning to be more effective and innovative. The benefit for educators through this research is to provide solutions in choosing the right learning model so that it can motivate students and can improve learning outcomes, and become information and further research studies.
2. Methods

Needs analysis is the earliest stage for developing a learning model. Conducting a needs analysis at the start is a determinant of whether the model needs to be developed or not. Conducting a needs analysis requires determining the appropriate method to suit the conditions to be assessed. This study uses a survey method. The survey method is used to conduct a needs analysis in order to design a learning model. The survey method can be used as the basis for the development of learning products [24].

The basis for the needs analysis comes from data on (1) understanding the aspects of historical thinking in students, (2) learning models applied to students, (3) students' interest and motivation towards the learning models used, (4) participants' prior knowledge students towards history learning, (5) gaps that exist in class discussions both online and offline between active and passive learners, (6) differences in the use of learning models between online and offline classes.

This study used observations and questionnaires as a method that were distributed to history educators. The questionnaire technique was used to collect all research variables. The items in the questionnaire were made thoroughly so that their validity could be ascertained. The research sample used in this study were 5 educators from 5 public and private schools in Jember Regency, namely: 1 educator at 2nd High School Jember, 1 educator at Balung High School, 1 educator at Baitul Arqom High School, 1 educator at Santo Paulus Catholic High School, and 1 Nuris High School educator Jember. Descriptive analysis were used to analyze the research data.

3. Results

Needs analysis is carried out to determine the learning model needed in the field to improve learning, especially in history subjects. This study examined the need analysis in 5 public and private schools in Jember Regency. This mismatch is related to two things, namely: (1) the ability of students to understand history learning, and (2) the learning model used does not make students motivated.

Based on the analysis of needs obtained from observations and questionnaires for educators, the following details were obtained: (1) Understanding of the historical thinking aspects of students in five schools, not all educators in schools stated that students had good historical thinking aspects. Only 80% of students can think historically but even that is still not optimal and 20% of other students cannot think historically, thus educators must pay special attention to their students.

![Figure 1. The ability to think historically](image)

(2) the learning model applied to students is quite varied, including 40% of educators using the PBL learning model, 20% using CTL, 20% inquiry, and 20% lectures. Although the learning model used is varied, students still feel bored and less motivated so that the results obtained are not satisfactory, in other words, a new, more innovative learning model is needed, which can foster students' learning motivation so that the learning outcomes of the average student also experience an increase.
(3) Not all students are interested and motivated by the learning model used by educators, not all of them say that students are interested and can be motivated by the learning model used, namely only 80% of students are interested and motivated by the learning model used, but still not optimal, and the remaining 20% are not interested and motivated by the learning model used. Thus it can be concluded that it is necessary to develop new learning models that can make students interested and ultimately motivated in learning history.

(4) The student’s initial knowledge of history learning, based on a needs analysis conducted in five schools, showed that 40% of students still did not have good initial abilities and 60% of students already had good initial abilities, but they needed really long time to understand it. Thus a new learning model is needed that can make it easier for students to be able to understand history learning young and efficiently.

(5) The gaps in class discussions, both online and offline, between active and passive learners hinder the learning process. Educators from the five schools stated that 60% in class discussions, both online and offline, often had gaps between active and passive learners, and 40% said there were no gaps. Thus it can
be interpreted that with the learning model used by educators there are still gaps between students (6) differences in the use of learning models between online and offline classes and whether the use of these models is effective. Educators from the five schools stated that 60% used different learning models between online and offline classes but it was still not effective, and 40% used the same learning model both online and offline classes, the results were the same ineffective. From the analysis of the data obtained, it can be concluded that there is a need for a new learning model that is more innovative for learning history, so that students are more interested in learning history and are also more motivated so that it is hoped that the value of student learning outcomes will increase.

4. Discussion

Based on the results of the needs analysis, the following conclusions can be drawn: (1) students are mostly able to think historically but still need extra guidance, (2) the learning models used are PBL, CTL, inquiry, and lectures, (3) most of them students are already interested in the learning model used by educators but still not optimal, and there is needed to develop a new learning models, (4) students still lack the ability to have initial knowledge about learning history and take a long time to understand the material, (5) there is still a gap between active and passive learners in both online and offline classes, (6) most of the educators use different learning models, both online and offline classes, but history learning is still not optimal. The description above reveals that needs analysis plays an important role in the world of education [25]. Needs analysis is an important component of development, thus, data collection analysis is important for making decisions related to the development of learning models.

This result is in line with the research of Dina L, Dinn W, Yulia R, & Cepi R [26] which tries to analyze the need for developing a blended learning model in the distance education system to improve graduate competence. The result of this research is that proper needs analysis can determine the importance of the blended learning model design in the distance learning system in open universities in the working area of UPBJJ Bandung in order to improve the competence of graduates. Research by Nikhrawati Z, Arsad B [27] regarding the Needs Assessment Of Blended Learning Development Integrated Taxonomy Bloom-Rederker-Guerra (BRG) On Cell Course, the results of this study prove that a proper needs analysis can provide an overview of what kind of learning model is needed by the digital as it is today.

Research by Hasmunarti, Arsad B, Irma SI [28] about the Needs Analysis for Integrated Blended Learning Development PBLRQA Strategy (Problem-Based Learning and Reading, Questioning & Answering) shows that information about new innovations in the learning model is needed can be obtained by conducting a needs analysis. The research from Ni Kadek, D, R, I Gede, M, D, & I Gede, P, S [29] regarding the analysis of the development of the ICARE learning model to improve learning outcomes for digital image processing. The result of this research is that with proper analysis of needs, it is known that there is a need for a new learning model, namely the ICARE learning model (Introduction, Connection, Application, Reflection, and Extention) in order to improve learning outcomes of digital image processing. So it can be said that the analysis of needs is important in order to find out what is needed to improve existing learning.
Figure 5. ICARE Learning Model

5. Conclusions
The needs analysis conducted by the researcher aims to obtain data on students' understanding of history learning and what learning models are used by educators in history subjects. From these data, it can be seen what kind of learning model is needed by educators today. This model is used to improve the quality of learning in history subjects which can also be adapted to the times that are full of technological sophistication. Effective and innovative learning models are expected to motivate and maximize student learning outcomes. This data can then be used as recommendations for further researchers to develop a learning model that is more effective and innovative to foster student motivation so that learning outcomes increase, namely by developing the ICARE Blended Learning model in history learning.

Acknowledgments
Researchers say many thanks to Dr. Nurul Umamah, M.Pd, and Dr. Mohammd Na'im, M.Pd, who has taken their time to provided guidance and advice with patience for the completation of the research and publication of this journal. The author also thanks the relevant parties who have helped the author and provide encouragement and support.

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