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Module Development of Blended Learning on Christian Education History Subject: Study at The Tarutung State Christian Religion Institute

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Abstract

The objectives of this research are to: (1) Develop a quality blended learning-based History of Christian Religious Education learning module; and (2) Produce a blended learning-based History of Christian Religious Education learning module product that is feasible (valid), practical, and effectively used to improve student learning outcomes in the History of Christian Religious Education course at the Tarutung State Christian Institute. This research design is development research proposed by Borg and Gall combined with the Dick and Carey model as an operational step. Data collection techniques include document study, observation, interviews, questionnaires, and learning outcomes tests. The validation results for learning modules obtained from material experts were 98.5%, instructional design experts were 96.8%, and instructional media experts were 98%. The results of module content validation were 90.70%, and module construct validation was 93.61%. The practicality test results were obtained from expert and practitioner implementation assessments, with an average of 90.86% in the practical category. The effectiveness of the learning module was 91.25%. Observer observations obtained an average of 91.25%. Student learning completion was achieved by 92% of the 42 students. Student and lecturer activities are following the ideal percentage of time specified. The lecturer's ability to manage learning was obtained on average at 91.5% with very good criteria. More than 80% of the field trial students responded positively to modules and learning

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activities. The mean score of the pretest control class was 56.35 and posttest 76.70. The average score for the experimental class pretest was 56.06, and the posttest 91.56. The results of the different tests obtained a value of t = 8.058, which was higher than the t table = 2.004, indicating that the average learning outcomes for the experimental class were higher than the average learning outcomes for the control class. The results of this research show that the blended learning-based History of Christian Religious Education learning module is feasible, practical, and effective to use to improve the learning outcomes of students.

1. Introduction

The development of science and technology is very rapid (Hess, 2001). Currently, the world is in the era of society 5.0, which is a concept that requires humans to live side by side with technology, master and utilize science and technology to meet needs, and make human life easier (Fukuda, 2020). In particular, this liberating nature is felt very strongly in Christian Religious Education, both Christian Religious Education as a scientific discipline or one of the subjects in schools and universities, as well as Christian Religious Education as an educational activity in the lives of Christians in the church, family, and community.

Regarding the history of Christian religious education, up to now, many teaching materials in the form of textbooks have been published, but lecturers still need help applying them in realistic learning (Nirmala et al., 2022). Therefore, lecturers' teaching patterns need to be developed. Lecturers must be able to integrate information and communication technology in learning and facilitate the learning process with various teaching materials and innovative learning models that enable students to learn independently, building their knowledge according to their abilities and potential. Blended learning is authentic and individual-based learning, namely a learning approach that integrates face-to-face learning and learning that uses online learning resources and various communication options that educators and students can use.

Problems experienced by students are because they are less interested in the textbooks used as teaching materials, learning feels boring, students lose concentration after thirty minutes of learning and become sleepy. If the problem is not given the right solution, then students' interest in reading or enthusiasm for learning will be greatly reduced. Less will automatically impact learning outcomes, so students cannot achieve maximum learning outcomes per the predetermined learning objectives (Ghorbani, 2020). The identification of problems in this development research is that the teaching materials used for the History of Christian Religious Education are only textbooks in the campus library of the Tarutung State Institute of Christian Religion, the unavailability of blended learning-based learning modules for the History of Christian Religious Education, the limitations of lecturers in mastering technology resulting in a lack of creativity in designing learning modules based on blended learning, students lose concentration after thirty minutes of learning, feel sleepy, as a result of the monotonous and boring learning process, students cannot study independently because the only learning resource used only relies on textbooks in the library campus, so that students cannot achieve maximum learning outcomes, it is necessary to carry out development research that produces a product in the world of blended learning-based Christian religious

education, so this research has a research objective to produce a quality blended learning-based History of Christian Religious Education learning module product in The Tarutung State Institute of Christian Religion, produces learning module products that are feasible (valid), practical and effective for use to improve student learning outcomes in the History of Christian Religious Education course at the Tarutung State Christian Religion Institute.

2. Materials and Methods

This research uses a qualitative and quantitative approach (mixed methods). These two methods are analyzed and interpreted to determine the quality of the instructional product developed through information, responses, and suggestions for improvement from material experts, design experts, instructional media experts, evaluation experts, observers, and users obtained through questionnaires and interviews (Migiro, S. O., & Magangi, 2011). The purpose of development is not to formulate and test theories but to develop effective products for higher education. The instructional product developed is a learning module on the History of Christian Religious Education based on blended learning, learning tools, and the necessary instruments. It has yet to be implemented to meet user needs (based on need) and support achieving maximum learning outcomes because blended learning-based learning modules that are ready to use still need to be created. The process of developing this module was carried out by adapting the Dick and Carey instructional development model, which was modified with Borg and Gall's development research procedures, namely: (1) research and information gathering, (2) module development planning, (3) validation, evaluation and revision of the module and (4) Module implementation. Data collection techniques used in this development research are document studies, interviews, questionnaires, observations, learning outcomes tests, and checklist methods.

A research instrument was prepared and developed to measure the validity, practicality, and effectiveness of the blended learning-based History of Christian Religious Education learning module. The instruments used in this research were (1) validation sheet, (2) expert and practitioner assessment sheets regarding the implementation and effectiveness of the module, (3) observation sheets, (4) student response questionnaire to learning components and activities, and (5) learning outcome tests. Data obtained through instruments and data collection techniques from various data sources are validation sheets, assessment sheets, observation sheets, student response questionnaires, and learning outcomes tests. Some of the validation sheets used include: validation sheets used are: 1) module validation sheet; 2) student response questionnaire validation sheet; 3) observation sheet validation sheet; 4) Semester Learning Plan validation sheet; 5) learning result test validation sheet.

This assessment sheet is used for the implementation and effectiveness of the module based on mastery of the theory and experience of experts and practitioners. The observation sheets used are implementation observation sheets, student and lecturer activity observation sheets, and learning and learning management observation sheets using modules. This test-shaped instrument is used in carrying out the pretest and posttest. The questions consist of 66 multiple-choice items with five options to measure students' mastery of learning material representing cognitive abilities. To test the effectiveness of learning, a difference test is carried out between learning achievement before taking part in the lesson and learning achievement after taking part in the lesson, or technically, a difference test is carried out between the posttest of the control class and the experimental class using the t-test technique.

3. Results and Discussions

In the development process to obtain a valid blended learning-based History of Christian Religious Education learning module, validation activities were carried out on the module, learning tools, and research instruments needed. The validity of the blended learning-based History of Christian Religious Education learning module is measured based on theoretical rationale and consistency between the module components. Next, the development process to obtain a practical and effective blended learning-based History of Christian Religious Education learning module, activities, validation, and field trials (implementation of learning in the classroom) is carried out using the developed learning tools and instruments to measure implementation and effectiveness of the module.

Besides literature studies, observations are also carried out when lecturers teach in class and the campus environment. Many lecturers still tend to apply conventional learning when teaching. Learning is still dominated by lecturers using the lecture method, which results in students being more passive. The teaching materials used are still in the form of textbooks in the library as the main learning resource. Likewise with learning facilities, the campus has a computer laboratory and a WiFi network, which is rarely used to manage learning. Online learning tends only to be done via WhatsApp groups created by students due to lecturers' lack of understanding and ability to master technology.

Referring to the results of previous research, efforts need to be made to find solutions to overcome these conditions. For example, in terms of course development (online and open), lecturers need clear guidance on designing a good and quality blended learning system. Therefore, efforts must be made to improve student learning outcomes by developing teaching materials or learning resources. Considering that blended learning is something new for most educators, it is necessary to have a blended learning system design model as a reference for developers and lecturers in designing online and offline courses according to actual conditions in the field so that student motivation to learn and build knowledge becomes easier.

Blended learning can help students master the material, especially those related to cognitive and psychomotor skills, because students are given space to access other learning resources from the internet, and automatically, students increasingly master each material (Sari et al., 2021; Arafah et al., 2022; Suratni et al., 2022; Manullang et al., 2022). Blended learning is a learning model that combines online and offline or face-to-face learning activities. This model helps educators and students continue carrying out their roles despite being busy. Educators and students are now more technologically literate but increasingly use technology to simplify and expedite every learning activity in line with developments in today's world.

Validation activities are carried out by providing a draft blended learning-based History of Christian Religious Education learning module along with learning tools (semester learning plans and LKPD) along with validation sheets to experts and practitioners. The module instruments validated by six experts, namely material, design, and instructional media experts, are detailed as follows: Material experts' assessment of the learning module with an average percentage of 98.50% in the valid category. The average percentage of feasibility results from the instructional design expert assessment was 96.8%, which was very valid. The average percentage of module validity based on the assessment of instructional media experts is 98% in the very valid category. Based on the results of the analysis of data obtained from expert evaluations, the product produced through

this research has been declared very suitable (valid) for use, with several accompanying suggestions for improvement.

The results of content validation and construct validation of the History of Christian Religious Education learning module based on blended learning can be seen in the following table:

o	Assessment Aspects	Average Value (%)	Validity Criteria
	Contents	93,22	Valid
	Construct	93,61	Valid
	Average Validation Value	93,41	Valid

Learning tool validation activities are carried out by providing the semester learning plans developed and validation sheets to experts and practitioners. The average percentage obtained for RPS validation was 3.67 or 91.82%, and LKPD was 3.72 with a percentage of 93.06%.

The one-on-one evaluation questionnaire analysis of 3 respondents showed that the feasibility percentage of the module developed was 90% in the very feasible category with several module revisions in the module writing. The results of the small group evaluation with eight students showed a very decent category score (88%) with several revisions related to writing errors. The results of field trials on 42 people (experimental class) of the third-semester students of the IAKN Tarutung Christian Religious Education Study Program showed that 93% of the modules developed were very good without revisions.

The results of the practicality test obtained a result of 3.63. Suppose we refer to the criteria for determining the model's implementation level that has been determined previously. In that case, it is concluded that the level of implementation of the blended learning model in implementing the History of Christian Religious Education module, assessed based on mastery of theory and experience of experts and practitioners, is at a high level. Data assessing the effectiveness of the History of Christian Religious Education learning module implementing blended learning and learning tools, the total aspect average is 3.65, obtained from the results of dividing the number of aspect values by the number of aspects assessing the effectiveness of the learning model at a high level. Furthermore, the average Value of the total aspect is 3.65, obtained from the results of implementation observations, which are in the high category.

The average level of mastery of students in the third semester of Bachelor of Christian Religious Education Study Program Group E as an experimental class on the learning material for the History of Christian Religious Education in the pretest score was 56.06, and in the posttest score was 91.56. The percentage of students with a minimum high pretest score of≥ 75 was 92% of the 42 who took the test, so learning the History of Christian Religious Education for experimental class students was complete. Many students who graduated mastered the History of Christian Religious Education learning material, indicating that students had improved their learning after using this module. This was because the learning process was not monotonous and formed each student always to be active in constructing their knowledge independently and able to criticize a point. Problems relevant to learning the History of Christian Religious Education.

The average percentage of student and lecturer activity time for each category is referred to as the criteria for determining the achievement of the ideal percentage of student activity time, which is determined that the percentage of student and lecturer activity time meets the achievement of the ideal percentage of time or is within the time tolerance interval for the specified student activity category. The assessment results of lecturers' abilities in managing learning obtained a score of

3.66. they are included in the good category, meaning that when managing learning, it follows the devices prepared. The largest proportion of time students use during teaching and learning activities is writing activities, with 29.93% of the time available for each meeting. Student success in learning does not solely depend on the lecturer's success in teaching.

The results of the analysis of student response data, an average of 93.33% of students stated that they were happy with the learning components and activities; 92.37% of students stated that the learning components and activities were still new; 95.24% of students expressed interest in studying the History of Christian Religious Education using the blended learning-based History of Christian Religious Education learning module; 87.5% of students stated that the learning modules and student worksheets could be understood in terms of readability; and 100% of students expressed interest in the appearance of learning modules and student worksheets; pictures and the location of the pictures, and clear in terms of readability, language use and punctuation, it can be concluded that the student response to the learning components and activities with the blended learning-based History of Christian Religious Education learning module is positive. The effectiveness of the History of Christian Religious

Education learning module based on blended learning was obtained through a t-test, which was first tested for homogeneity and normality, then obtained a calculated t value = 8.058 with a t table value = 2.004, so it was concluded that there was a significant difference in student learning outcomes. Using the History of Christian Religious Education learning module based on blended learning at the Tarutung State Christian Religion Institute. The following table shows a summary of hypothesis test calculations;

Average Post-test Score			t_{count}	t_{table}	Conclusion
Experimental class	Control class		8,058	2,004	There are significant differences
91,56	76,70				

On the results of hypothesis testing, empirical evidence was obtained that the learning outcomes of experimental class students who used the blended learning-based History of Christian Religious Education learning module were higher than the control class.

4. Conclusion

Based on the results of the research and development of the blended learning-based History of Christian Religious Education learning module, the conclusions are as follows: (1) A quality blended learning-based History of Christian Religious Education learning module was produced by following the steps of the Borg & Gall cycle as a research foundation which was modified with the following steps. Dick & Carey's development steps as operational steps, (2) Produced a blended learning-based History of Christian Religious Education learning module that is valid and very suitable for use as a learning resource because it meets the validity criteria of the material expert validator, design expert validator, and instructional media expert validator as well test results. (3) A practical and effective blended learning-based History of Christian Religious Education module was produced to improve student learning outcomes, as evidenced by the results of testing requirements analysis and hypothesis testing showing that there was a higher difference in the increase in student learning outcomes taught with the blended learning-based Christian Religious

Education module and compared with the learning outcomes of students taught conventionally (without modules).

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