Vol. 15, No. 01, pp. 210-224, 2025 DOI: 10.23960/jpp.v15.i1.202515

Jurnal Pendidikan Progresif

e-ISSN: 2550-1313 | p-ISSN: 2087-9849

http://jurnal.fkip.unila.ac.id/index.php/jpp/

Development of Local History Digital Modules to Increase the Learning Motivation of Senior High School Students

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Received: 29 January 2025 *Accepted: 04 February 2025* *Published: 18 February 2025*

Abstract: Development of Local History Digital Modules to Increase the Learning Motivation of Senior High School Students. Objectives: This study aims to develop a local history-based digital module on Willem Iskandar's struggle for education in North Sumatra and measure its effectiveness in increasing students' learning motivation. **Methods:** This research uses the Research and Development (R&D) method with the ADDIE model, which includes five stages: analysis, design, development, implementation, and evaluation. The sampling technique used was a saturated sample because the entire population in this study was taken as a sample, consisting of 55 grade XI students and one history teacher at SMAN 2 Doloksanggul. Research instruments in the form of interviews, observations, and questionnaires were used to measure the validity, practicality, and effectiveness of the module. **Findings:** The validation results from material experts showed a percentage of feasibility of 82.35% and from media experts of 83.33%, both in the very feasible category. The practicality test conducted by teachers and students resulted in scores of 88.24% and 80.63%, respectively, which also showed the module was very feasible to use in the learning process. The results showed that the digital local history module can increase students' learning motivation. A paired t-test showed a significant increase in students' learning motivation after using the digital module, with a significance value of 0.001. In addition, the N-Gain test showed the effectiveness of the module with a value of 0.54, which is quite effective to increase students' history learning motivation. **Conclusion:** The results showed that the developed local history digital module had a significant effect on increasing the learning motivation of grade XI students. The implication of this study is the importance of developing a more comprehensive training program for teachers in mastering digital technology, as well as expanding the focus of research by exploring other factors besides digitalization in increasing student learning motivation.

Keywords: digital module, local history, learning motivation.

To cite this article:

Sianturi, C. (2025). Development of Local History Digital Modules to Increase the Learning Motivation of Senior High School Students. *Jurnal Pendidikan Progresif*, *15*(1), 210-224. doi: 10.23960/jpp.v15.i1.202515.

INTRODUCTION

Education is a conscious and planned action with the aim of presenting an environment and teaching-learning process that helps students to be able to actively develop their potential, both in academic and non-academic aspects (Rahman et al., 2022). This is inseparable from the fact that every individual born into the world has unique potential, and education is responsible for ensuring that this potential can be optimally developed. Therefore, education has the power to shape the mindset, attitudes, and behavior of individuals well (Triadi & Agustina, 2024). With a good education system, individuals can be

prepared to become individuals who have the ability to compete in the future.

To achieve this, quality and effective education is needed. Quality and effective education can be realized if the learning process is carried out properly and optimally, because the learning process is an important part of the entire education system (Setyosari, 2014). As an important part of education, learning is a process of interaction carried out in a learning environment between teachers, students, and learning resources. The assistance provided by teachers in the learning process allows students to gain new knowledge, have skills, and build attitudes and self-confidence (Wardana, 2020). Therefore, teachers who are in charge of teaching in the classroom should center learning on students, and teachers are sufficient as supporting facilitators in facilitating students during learning (Nurzannah, 2022).

Student-centered learning will provide opportunities to be able to develop their knowledge so that students can achieve a deeper understanding (Pertiwi et al., 2022). Through this approach, it can improve the quality of students and teachers to have a great opportunity to improve the old paradigm in the learning environment and bring innovation to help student learning motivation. Such learning motivation essentially depends on the learning style used, suitable approaches, learning methods and media, and habits in the learning process of students by teachers (Wesli et al., 2024). As a teacher, innovation to foster learning motivation can be realized through the use of teaching media. Utilizing teaching media in the learning process can help to foster interest and motivation, stimulate the willingness to learn, and have a positive impact on the development of student knowledge (Arsyad, 2014). Therefore, the diversity of teaching media can be utilized by teachers in any subject, including history learning.

History teachers can utilize technology to innovate in presenting fun history learning so that it can help increase student learning motivation. Examples of innovation in history learning with technology can be realized through the development of digital teaching resources, such as learning videos, digital modules, and other interactive media (Nafi'ah & Agung, 2023). This is important because, based on information found in the field, history learning has not been carried out optimally and effectively until now, both in the approaches, methods, and media used by teachers (Muis et al., 2023). History learning is often considered boring for several reasons, including 1) History learning only burdens them with memorization without providing deep understanding; 2) Students feel that learning history cannot provide real benefits in their lives; 3) History learning still often uses a conventional approach by relying on textbooks as the main media material in learning (Santosa, 2017).

Based on observation activities that have been carried out at SMAN 2 Doloksanggul, the Merdeka curriculum is the curriculum used in the learning process. This curriculum centers and emphasizes the development of competency aspects and student character in order to answer the challenges of the times and current issues through more varied and up-to-date classroom learning systems and methods (Tuerah & Tuerah, 2023). Although SMAN 2 Doloksanggul has used the Merdeka curriculum in the learning process, the implementation has not been maximized because it is a new curriculum, and in-depth socialization or mentoring is needed before teachers implement the curriculum in the classroom to achieve the expected output of the Merdeka curriculum.

For history learning, SMAN 2 Doloksanggul also needs additional teaching materials to maximize learning in the classroom. During history learning in the classroom, teachers still focus on using government-issued history textbooks as a source of learning materials. Digital teaching materials, such as digital modules, cannot yet be used because the teacher's expertise in

developing them is still lacking. In addition, the development and provision of teaching materials experience time constraints due to various additional activities at school, busy teaching hours, and administrative tasks that must be fulfilled. History teachers in this school realize that these conditions when teaching in class lead to student boredom, so their motivation is often seen to decrease during history learning.

In addition, the observation results showed that students in class XI tended to be passive and less enthusiastic when learning history. This can be seen from the characteristics of some students who look bored, often yawn, and are busy doing other activities in class with their friends. The results of interviews with students show that there is a desire for history learning in the classroom to utilize more digital media. Currently, history learning tends to use textbooks that are considered very boring, less interesting, and less supportive in activating their involvement in every history lesson. In addition, students revealed that they are more interested in learning about history with technology, such as digital teaching materials, documentary videos, interactive simulations, and other digital resources. They believe that this can make learning history more alive in the classroom and motivate them to understand the full context of historical events more easily.

Several studies have discussed digital-based teaching modules in helping to increase student learning motivation, such as research conducted by Sa'diyah (2021) on the development of Flipbook digital-based e-modules for high school that shows that e-modules are very valid and effective to be utilized in learning economics, seen from the positive student statement response of 82%. Liatan & Laruli (2024) on increasing learning motivation through the use of teaching modules for grade V elementary school integers showed that the application of teaching modules can help increase the learning motivation of grade V elementary school students, as seen from the learning motivation of students who were given treatment reaching 67.64% in cycle I and 84.72% in cycle II. Furthermore, the research of Salsabila et al., (2022) on the development of learning modules for exponent material to increase the learning motivation of grade X students shows that there is an increase in student learning motivation through the use of teaching modules, seen from the 5 indicators used in measuring achievement getting an average of 2.23%.

The three studies above have the same focus on efforts to increase student motivation to learn by utilizing digital-based teaching modules in economics and mathematics subjects. However, this research offers something new by utilizing local history materials to be developed in digital-based teaching modules. Therefore, this research focuses on providing solutions to increase students' motivation to learn history through digital modules. Digital modules are considered more effective and commonly used because they are more practical and complete with various features, such as audio, video, and images (Khairiyah, 2023). In addition, this module is designed using a scientific approach that combines technology with various activities and evaluations for each student. This is simple, and in learning, students can be more active and motivated to study. Therefore, the digital module developed by the researchers is expected to be effective in increasing students' learning motivation in history education.

METHOD

Participants

In this study, the participants involved were 55 eleventh-grade students at SMAN 2 Doloksanggul. In determining the research sample, the researcher used a nonprobability sampling technique with the type of sampling technique being the saturated sampling technique. According to Sugiyono (2016), saturated sampling is a sampling technique in which all

members of the population are included as samples. This technique is chosen by the researcher because the population size is relatively small, namely less than 100 people, and the researcher wants to minimize the error rate in generalizing. By involving all students, the researchers hope to obtain more comprehensive and representative data so that the research results can reflect the overall condition of the population. The selection of grade XI was based on the suitability of the material in the Merdeka curriculum, where the topic of local history regarding Willem Iskandar was studied at this level in the context of the Dutch colonialism era.

Research Design and Procedure

The type of research used in the study is the Research and Development (R&D) method. Research and development are a type of research that aims to make a product that can be utilized in learning by passing the research stage to the development stage. In addition, it acts to test the validity of the practicality and effectiveness of the products developed (Sugiyono, 2019). Therefore, the educational products developed must be valid, effective, and accountable when used in learning (Okpatrioka, 2023). This is done as one of the solutions in helping to improve the competence of students, produce better quality education, and overcome the imbalance that occurs in research with implementation in the real world (Zafri & Hastusi, 2023). Then, the research design in developing learning products uses the ADDIE model, which includes five stages, including analysis, design, development, implementation, and evaluation (Slamet, 2022).

In the first stage, observations and interviews were conducted to analyze the problems and needs of the product to be developed in overcoming problems in learning history at SMAN 2 Doloksanggul. The results of the analysis will be a reference for researchers in planning products with the hope that they can help overcome the problems found in schools because the decision to develop products is based on the needs of students during history learning in the classroom. In the second stage, designing local history digital module products on the historical material of Willem Iskandar's struggle for education in North Sumatra, following the core competencies, basic competencies, and learning indicators. The digital module design process will use help of Microsoft Word and Canva software.

In the third stage, the digital module that has been developed will pass the validation test by including one material expert and one media expert. The aim is to test whether the product is suitable for use in learning history. The validation results were obtained through an instrument provided by the researcher as a guide to assess the developed module, coupled with suggestions and input from the two experts. To test the practicality of the module that has been designed, a limited trial was conducted on class XI students, totaling 10 students and 1 history teacher at SMAN 2 Doloksanggul, before later conducting a wide-scale trial. The scale used as criteria for determining the validity and practicality of digital modules is as follows (Arikunto, 2010).

Table 1. Likert scale of module validity and practicality

Percentage	Criteria
81 - 100%	Very feasible / without revision
61 - 80%	Feasible / without revision
41 - 60%	Less feasible / needs revision
21 - 40%	Not feasible / needs revision
< 20%	Very unfeasible / needs revision

Based on the provisions in the table, the module is said to be very feasible if the percentage of validation results is in the range of 81%-100% and does not require revision. Conversely, the module is said to be very unfit if the validation percentage is below 20%, which also indicates that the module needs revision.

After going through the validity test and practicality test stages and getting the conclusion that the module is suitable for use, the next stage is the implementation of the product on a wider scale. On a wider scale, the sample used by researchers involved 55 students. In the last stage, implementation was carried out to test the effectiveness of digital modules in increasing student learning motivation.

To test the effectiveness of the digital module, the researchers used the t-test and N-Gain, where the t-test and N-Gain were conducted after passing the prerequisite stage, namely the normality test. Then, the normality test used the Kolmogorov-Smirnov test because the research sample is more than 50 (Agustin & Permatasari, 2020). At this stage of testing, the data distribution is said to be normal if the significance value is 5% or > 0.05 (Ismail, 2022). After the prerequisite tests are met, the t-test is conducted using the paired t-test, with the aim of determining whether there is a significant difference before and after using the digital module. The significance level used in the study is 5% or < 0.05 (Widiyanto, 2013).

Furthermore, the N-Gain test was carried out with the aim of determining the level of eûectiveness of the method or treatment of a study (Wahab et al., 2021). The N-Gain test can be done if there is a significant diûerence between students' pre-test and post-test scores. To determine the eûectiveness of digital modules in increasing student learning motivation, a scale with the following criteria was used (Hake, 2002).

Table 2. Likert scale of module validity and practicality

N-Gain score	Category
$g > 0.7$	High (effective)
$0.3 \leq g \leq 0.7$	Medium (moderately effective)
$g < 0.3$	Low (not effective)

Instrument

The research instruments used by researchers consisted of questionnaires as well as pre-test and post-test. The questionnaire instrument uses a 5-point Likert scale, namely Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD), and Strongly Disagree (VSD). This Likert scale aims to measure the level of learning motivation in the learning process that utilizes digital-based teaching modules. The questionnaire in the form of a questionnaire consists of 12 questions covering six indicators of learning motivation, namely perseverance in learning, motivation and needs in learning, desire and need to succeed, aspiration for achievement, ability to face challenges, and independence in learning, where each indicator is represented by two questions. The questionnaire used in this study is the result of adjustments made by Nasrah & Muafiah (2020).

Pre-test and post-test are designed based on learning indicators relevant to the learning objectives to be achieved. Each test consists of 20 questions covering four main indicators, namely: the life journey of Willem Iskandar, the history of the establishment of the Tano Bato Teacher School in North Sumatra, the development of the Tano Bato Teacher School into a center for teacher education, and the closure of the Tano Bato Teacher School. Each

indicator is represented by five questions designed to measure students' understanding of the material that has been studied through the use of the digital teaching module.

The first indicator aims to measure the extent to which students understand the life journey of Willem Iskandar. As an example question, what were the reasons behind Willem Iskandar's decision to establish the Tano Bato Teacher School, and what were his contributions to the development of education in North Sumatra? The second indicator assesses students' understanding of the history of the establishment of the Tano Bato Teacher School, which was founded for the people of North Sumatra. As an example question, what was the process of establishing the Sekolah Guru Tano Bato, and what are the main objectives this school aims to achieve for the community in North Sumatra?. The third indicator aims to evaluate students' understanding of the development of the Tano Bato Teacher School into an influential teacher education center. As an example question, how did Sekolah Guru Tano Bato develop into a teacher education center that had a significant impact in North Sumatra, and what was its role in improving the quality of education in the region? The fourth indicator focuses on the closure of the Tano Bato Teacher School. As an example, the closure of the Tano Bato Teacher School and how this affects the education sector in North Sumatra.

The pre-test data is collected before the intervention or treatment is applied to the student group, with the aim of evaluating the initial condition of the students related to the variable being measured, namely learning motivation. In contrast, post-test data is taken after the intervention or treatment is completed in order to measure changes or improvements in students' learning motivation after they follow the learning process or receive the material that hs been given.

The instrument that has been developed for this research has undergone a validity and reliability test process to ensure its quality. The validity test was conducted using the Content Validity Index (CVI) involving three experts, two in the field of history education and one in the field of educational technology. The result showed that the instrument obtained a CVI value of 0.86, indicating a good validity category, adapting the calculations used by Ameu et al. (2024). After that, the instrument's reliability was tested using the Alpha Cronbach test, which showed a value of 0.78, falling into the high reliability category, adapting the calculations used by Taherdoost (2018). With these results, it can be concluded that the instrument has adequate validity and reliability for use in research.

Data Analysis

After collecting data in the field, the next step is to conduct an analysis to test the effectiveness of digital modules in increasing student learning motivation through comparison of pre-test and post-test results. The pre-test was conducted before the use of the module to measure students' initial motivation, while the post-test was conducted after the intervention with the digital module to see the increase in motivation. This analysis aims to determine the extent to which digital modules have an effect on motivating students to learn better. The application program that will be used to support researchers in conducting normality tests, t-tests, and N-Gain calculations is SPSS version 29. This version of SPSS allows researchers to evaluate the effectiveness of digital modules in increasing learning motivation. The t-test is used to see the difference in motivation levels before and after the use of the module, while the N-Gain calculation will provide information about the magnitude of the increase in motivation that occurs after the digital module is implemented.

RESULT AND DISCUSSION

Analysis

Before determining the type of product to be designed, a series of preliminary activities were conducted to identify problems in history learning. These activities include observations and interviews conducted with history teachers and several students at SMAN 2 Doloksanggul. The results of the observations and interviews indicate that there is still a limited availability of history teaching materials that can be used by students in history lessons, so the history textbooks published by the government remain the main learning resource used by teachers. Teachers rarely use other media, especially those integrated with technology; for example, digital modules are never used due to inadequate skills and time constraints with various administrative tasks that must be completed. Then, according to the students, history lessons are often monotonous and boring because the teaching materials only use textbooks as the learning source, which often leads to a decline in enthusiasm and motivation.

Therefore, based on the results of the problem analysis, there is a need for teachers and students to use additional learning media as a source of teaching materials for history in the classroom. Teaching materials developed in the form of digital modules are designed according to their characteristics and needs in order to increase students' motivation to learn history.

Design

Based on the results of the analysis of problems in learning history, a digital teaching module design was carried out following the core competencies, basic competencies, and learning indicators about Willem Iskandar and his contribution through education during Dutch colonialism in North Sumatra. In general, the developed digital teaching module consists of three main parts, including introduction, content, and closing (Triandini et al., 2023). An overview of the module design that has been developed is as follows.

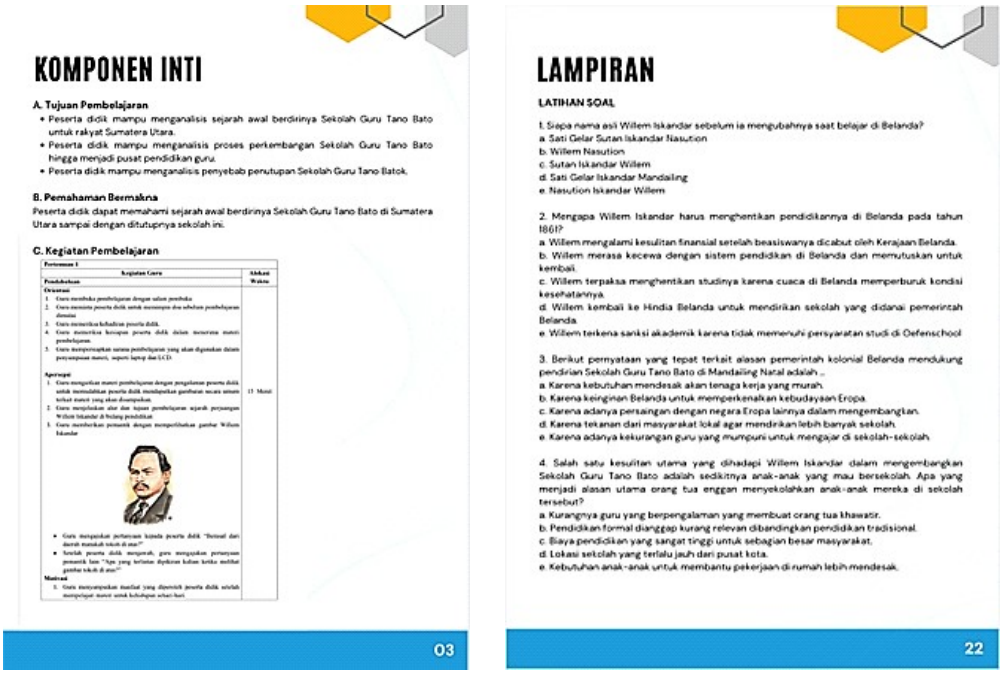

Figure 1. Digital teaching module design

Development

After the digital module has been developed, the next step is to conduct validation to ensure that the module is not only effective in delivering the material but also attractive and easy to use by students so that the module is suitable for implementation in history learning. At this stage, two competent parties were involved, namely one material expert and one media expert. The material expert is responsible for assessing and evaluating the suitability of the module content with the history learning objectives, the accuracy of the information, and the way the material is presented, as well as its relevance to the competencies achieved by students. Meanwhile, media experts were responsible for assessing and evaluating technical and visual design aspects, such as graphic display, ease of use, interactivity, and compatibility with the digital devices used.

Expert Validation Test

Based on the results of the validation test from material experts, which consists of 14 question items with three indicators, such as content feasibility, presentation, and language, it shows some results. In the content feasibility indicator, it scored 5 out of 6 question items with a percentage of 83.33%, which is included in the very feasible category. This shows that the material developed has met the standards, especially related to historical accuracy and relevance. In learning history by utilizing digital-based learning resources, content feasibility is very important because the material presented in the module must remain in-depth, accurate, and informative so that the historical narrative conveyed remains in accordance with the facts and is effective in supporting student understanding.

In the indicator of the feasibility of presenting the material, getting a score of 6 out of 7 question items with a percentage of 85.71%, which is included in the very feasible category. This shows that the material is presented in an interesting and easy-to-understand way. In digital-based history learning, the presentation of images relevant to the material strengthens students' understanding. The exercises and evaluation questions allow students to measure their understanding, while the answer key and feedback support the improvement process. Glossaries and summaries assist students in understanding terms and reviewing key points. The bibliography provides additional references to deepen the topics studied. These elements enrich the learning experience and enhance interactivity in history learning.

On the language indicator of the material, it received a score of 3 out of 4 questions with a percentage of 75%, which falls into the good category. This shows that the language used in the material is quite clear, easy to understand, and effective in supporting each student's comprehension. In history learning, the use of appropriate language is very important to ensure that students can easily understand historical concepts. The use of simple and easily understandable language will make it easier for students to comprehend the material independently. Overall, scoring 14 out of 17 question items with a total percentage obtained from the three indicators is 82.35%, which falls into the very feasible category. This shows that the history learning materials developed through the digital module meet the criteria to be applied in the learning process with good standards.

Furthermore, the media validation test, which consists of 13 question items with three indicators, such as module size, module cover design, and module content design, showed some results. In the module size indicator, getting a score of 1 out of 1 question items with 100%, which is included in the category of very feasible to use. This shows that the developed module follows the predetermined standards. In the module design indicator, getting a score of 3 out of 4 question items with a percentage of 75%, which is included

in the feasible category. In the module content design indicator, get a score of 6 out of 8 question items with a percentage of 75%, which is included in the feasible category. Overall, scoring 10 out of 13 question items with a total percentage obtained from the three indicators is 83.33%, which falls into the very feasible category and can be used for large-scale trials in history learning in the classroom.

Practicality Test

After going through the validation stage, the next stage is to test the practicality of the digital module through a limited trial involving 10 students and 1 history teacher at SMAN 2 Doloksanggul. The purpose of this stage is to measure the level of ease and practicality of using digital modules in learning history in the classroom on a limited scale trial. In the pilot test, students were given the opportunity to access and use the digital module during history learning activities, while the teacher monitored the process to evaluate the effectiveness of the module in supporting history teaching.

Based on the results of the digital module practicality test by one history teacher, which involved 17 question items with four indicators, such as material suitability, ease of use, language, and benefits, it shows some results. In the material suitability indicator, getting a score of 5 out of 6 question items with a percentage of 83.33%, which is included in the very feasible category. This shows that the material presented in the module has met the expected standards, especially in terms of the suitability of the material with the learning objectives. Content appropriateness is very important because the material must be accurate and relevant and can describe historical events in depth. The digital module has successfully presented information that supports students' understanding without reducing the substance of complex historical material.

On the ease of use indicator, the module scored 4 out of 5 question items with a percentage of 80%, which is in the feasible category. Although there are some challenges in ease of use, especially for some users who are not familiar with technology, the module is still considered quite easy to operate. In history learning, ease of use is very important, as the module should be easily accessible by teachers and students and support the smooth learning process without requiring complex technical skills. On the linguistic indicator, it scored 4 out of 4 question items with a percentage of 100%, which indicates that the language used in the module is very suitable for the students' developmental level. This is important because in learning history, the language used must be clear, simple, and easy for students to understand in order to better understand historical narratives.

On the module benefits indicator, it received a score of 2 out of 2 question items with a percentage of 100%, which shows that the module provides great benefits in supporting history learning. This module helps teachers as learning facilitators, provides teaching materials that are ready to use, and lightens the teacher's workload by presenting material that is structured and easy to understand. This is very relevant in the context of digital-based history learning, where the existence of technology can make it easier for teachers to deliver material more interactively and effectively. Overall, the total percentage obtained from the four indicators is 88.24%, which is included in the category of very feasible to be used for wide-scale trials in history learning in the classroom.

Then, the results of the digital module practicality test on 10 students, consisting of 17 questions with four indicators, such as material suitability, ease of use, language, and benefits, showed some results. In the material suitability indicator, getting a score of 45 out of 60 with a percentage of 75%, which is included in the feasible category. This shows that the material presented is in accordance with the learning objectives and relevant to the topic discussed.

The order of the material presented is quite logical and supports student understanding. Each part of the material is well organized, so students can follow the learning easily. In learning history, the suitability of the material and the order in which it is presented remain important so that information is conveyed systematically, making it easier for students to understand complex historical concepts and events.

In the ease of use indicator, it scored 40 out of 50 with a percentage of 80%, which is included in the feasible category. This shows that the digital module is easy to use by students, with a clear interface and intuitive navigation. This module makes it easy for students to access the material and go through the learning process smoothly. In learning history using digital learning resources, ease of use is very important to ensure that students can focus on learning without being constrained by technical aspects. On the language indicator, it received a score of 33 out of 40 with a percentage of 82.5%, which is included in the very feasible category. This shows that the language used in the module is very suitable for the level of development of students, making it easier for them to understand the material presented. The use of clear and simple sentences greatly supports students' understanding of the material presented. In learning history, the use of appropriate language is very important to ensure students can understand and absorb information well.

On the benefit indicator, it scored 17 out of 20 with a percentage of 85%, which is included in the very feasible category. This shows that the module provides great benefits for students in exploring historical material. The module helps students understand historical concepts and events in a more interactive and interesting way and supports the development of their critical thinking skills. By using this module, students can more easily access the material independently and repeatedly, deepen their understanding according to their individual needs, and provide a more enjoyable learning experience so that students can be more motivated in participating in history learning. Overall, the total percentage obtained from the four indicators is 80.63%, which is included in the category of very feasible to be used for wide-scale trials in history learning in the classroom.

Implementation

At this stage, after the digital module has been proven to be valid, practical, and useful in learning history, it can be applied to a larger group involving 55 students in a class. The implementation was carried out with the aim of measuring the effectiveness and efficiency of the module in the learning process by collecting additional data on students' responses and its effect on their learning motivation. To measure the changes, a paired t-test was conducted by comparing students' learning motivation before and after using the digital module. Through this step, it is expected to provide a more representative picture of the potential of the digital module to increase history learning motivation in the classroom.

Evaluation

To test the effectiveness of the digital module in increasing students' learning motivation, a t-test was conducted based on the results of the pre-test and post-test and the N-Gain test based on the results of the questionnaire followed by 55 students of class XI at SMAN 2 Doloksanggul. Before conducting the t-test, a prerequisite test in the form of normality was first conducted. The normality test used was the Kolmogorov-Smirnov test, because according to Kuntoro (2007), this test is more appropriate to use when the number of research samples is more than 50.

Based on the results of the normality test, the Kolmogorov-Smirnov value for the pre-test was 0.958 with a significance value of 0.052, and for the post-test was 0.969 with a significance

value of 0.159. Since the significance value of both data (pre-test and post-test) is greater than 0.05, it can be concluded that the data is normally distributed. This indicates that the normality assumption required for statistical analysis has been met. Thus, further analysis can be carried out using the t-test. For the t-test, the paired t-test was used with a significance level set at 0.05 to determine the significance of the increase in learning motivation measured through the pre-test and post-test.

Based on the results of the paired t-test, a significance value of 0.001 was obtained, which is smaller than the predetermined significance level of 0.05. This indicates a significant difference between the pre-test and post-test results after the application of the digital module. The average pre-test score was 56.10, while the average post-test score increased to 76.19. With a significance value lower than 0.05, it has been confirmed that the digital module is effective to increase students' history learning motivation in class XI of SMAN 2 Doloksanggul. This finding is in line with Sa'diyah (2021), who concluded that the use of digital modules developed in the form of flipbooks can increase learning effectiveness and student motivation. The same thing was also found by Liatan & Laruli (2024), which showed that the application of teaching modules can increase student learning motivation, as evidenced by the increase in learning motivation from cycle I to cycle II. These findings corroborate the research results, which show that the use of digital-based modules in the history learning process can significantly increase student learning motivation.

Furthermore, the N-Gain test was conducted to measure the contribution of digital modules to increasing student learning motivation based on the results of the learning motivation questionnaire that had been filled in by students. This test produces N-Gain values for each indicator of student learning motivation, both in the control class and experimental class. The results of this test are used to compare the increase in learning motivation in the two groups and evaluate the extent to which digital modules have a significant impact on student learning motivation on each indicator measured.

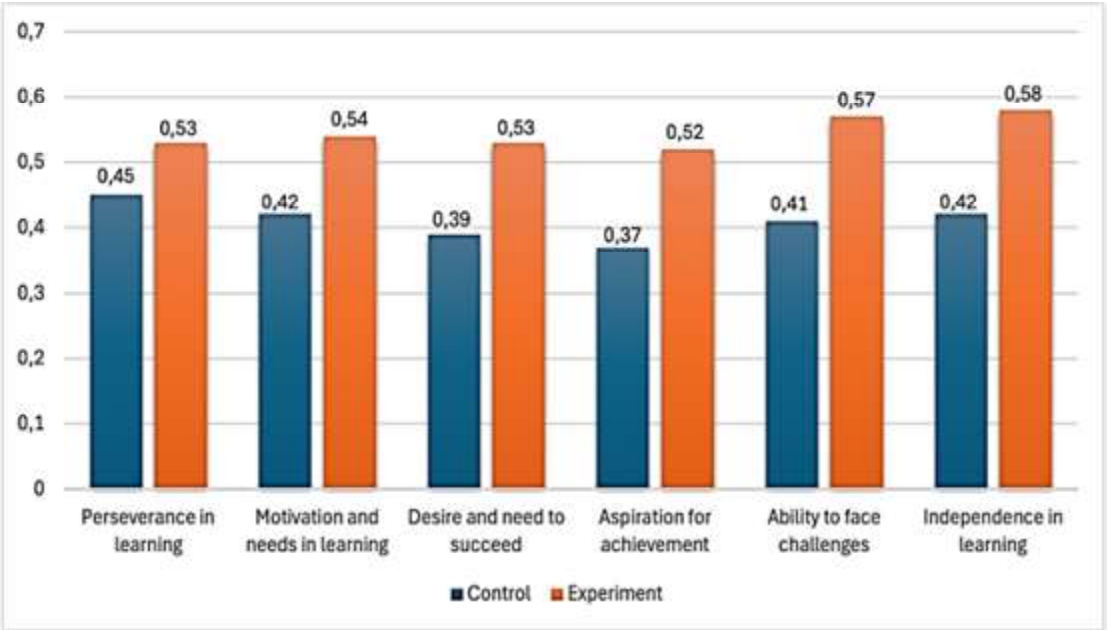

Figure 2. Comparison of the percentage increase in student learning motivation

Based on the data, it can be concluded that the use of digital modules significantly increases students' motivation to learn history in the experimental class compared to the control class. This improvement can be seen in various indicators, such as perseverance, the drive to study historical material, the desire to understand past events, the desire to excel in history lessons, the ability to face challenges in analyzing historical sources, and the independence to explore historical information on their own. The results of the N-Gain analysis, which obtained an average score of 0.54, categorized as medium (moderately effective), have shown that the digital module is effective in increasing students' motivation to be more active and interested in studying history overall. These results support the findings of Salsabila et al. (2022), who concluded that the development of teaching materials through digital modules can help increase student learning motivation because digital modules are designed to be more engaging and interactive. Thus, the implementation of digital-based learning is an effective solution to address various challenges faced in history education. Thus, the implementation of digital-based learning is an effective solution to address various challenges faced in history education.

■ CONCLUSION

This research shows that the developed local history digital module has a significant effect on increasing the learning motivation of grade XI students. After analyzing the problems of learning history at SMAN 2 Doloksanggul, which continues at the digital module design stage. Validation of the digital module was carried out through material and media expert validation. The results of the material expert validation showed a percentage of 82.35%, which was categorized as very feasible, while validation by media experts resulted in a percentage of 83.33%, also in the very feasible category. These two results confirm that the digital module is very feasible to be tested in history learning in the classroom. Furthermore, a wider-scale practicality test was conducted to measure the ease and practicality of using digital modules in history learning. Based on the results of the practicality test involving one history teacher, a percentage of 88.24% was obtained, which included a very feasible category. While the results of the practicality test involving ten students showed a percentage of 80.63%, which included a very feasible category. Thus, the digital module that has been developed is very feasible to use in learning history.

After going through the validation and practicality test stages, the digital module was implemented in a wider scale trial involving 55 grade XI students at SMAN 2 Doloksanggul. Through this implementation, an evaluation of the digital module will be conducted to measure the effectiveness of the module in increasing students' learning motivation. The evaluation process includes t-tests and N-Gain. Before the t-test, a prerequisite test was conducted in the form of a normality test, with the results of the Sig. value for the pre-test of 0.052 and post-test of 0.159, both of which were greater than 0.05, indicating that the pre-test and post-test data were normally distributed. Paired t-test showed a significance value of 0.001, which is smaller than 0.05, indicating a significant difference in student learning motivation before and after using the digital module. Furthermore, the N-Gain test resulted in a value of 0.54, which is in the medium category. Thus, the developed digital module is effective enough to increase students' history learning motivation.

The findings in this study support previous research, which shows that students' motivation to learn increases by using digital modules that are developed more interactively through integration with technology. Despite the success in increasing students' learning motivation, there are still some limitations in the study. This study

has not thoroughly examined the influence of other factors besides digitization that play a role in increasing students' learning motivation, such as students' interests and aspirations, the quality of the relationship between teachers and students in the classroom, and the learning methods applied by teachers. Students' interests and aspirations, which reflect personal interests and goals in learning, can play a major role in motivating students to be more active and engaged in learning history. The quality of the relationship between teachers and students, which involves aspects of communication, empathy, and support provided by teachers, also affects students' comfort and motivation. In addition, the learning methods used by teachers, whether traditional or innovative, also play a role in creating a learning environment that motivates students to learn history. Furthermore, the scope of this study is only limited to one school, namely class XI at SMAN 2 Doloksanggul, with a small number of research samples used. Therefore, to generate more comprehensive and representative insights in the context of increasing students' motivation in the history learning process, further research is needed that is more in-depth and involves a wider range of learning factors.

Some recommendations for future research are to develop a more comprehensive training program for teachers on mastering digital technology, taking into account the time constraints and workload they face. Further research could also broaden the focus by exploring the influence of students' interests and aspirations in the learning process as well as the quality of relationships between teachers and students that have the potential to increase students' learning motivation. In addition, the use of other innovative learning methods that can be developed more interactively to see the impact on student motivation, with a wider scope covering several schools.

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