

## Development of A Kahoot Application-Based Module In NKPI Courses To Improve Student's Learning Interest In SMKN 2 Rembang

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### Abstract

Implementation in the learning process in the Covid 19 pandemic era at SMKN 2 Rembang showed a decrease in learning achievement due to lack of student interest in learning, this is based on a survey of researchers at the end of the semester showing that the average value of students decreased from 2020 during remote/online learning. This study aims to develop a teaching material based on Kahoot evaluation to increase students' interest in learning. This study uses the RnD research method with the ADDIE model consisting of analysis, design, development, implementation and evaluation. The results of the material validation carried out obtained an average of the three aspects of material validation (feasibility of the material, presentation and language) which was 4.26 and was in the "very good" criteria. Likewise with the results of product validation, the average of the three aspects of the validation of teaching/media materials (display, presentation, and effectiveness) is 4.4 and has the criteria of "very good". Furthermore, the results of students' interest in learning from the categories of feeling happy, students' attention, interest in student learning and aspects of involvement were also in the very good category.

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## INTRODUCTION

Education occupies a central position in development because the goal is to improve the quality of human resources, therefore education is also the middle line of all development sectors. Development in relation to the development of human resources means that development is not merely material and physical development but also spiritual development and the success of development can be reflected from the economic or material side as well as the spiritual side. It can be seen that the essence of development rests and originates on the human side, thus the ultimate goal of development is humans. Humans as development capital cannot be separated from education so that education is one of the benchmarks in seeing the success of development.

Rembang Regency is one of the areas included in the easternmost province of Central Java, which is directly adjacent to the province of East Java. Geographically, Rembang Regency is included in the maritime area, the economic potential in the marine and fisheries sector is very promising. Most of the social categories of fishermen in Rembang Regency are traditional fishermen and labor fishermen. They are the main contributor to the quantity of fishery production. However, their social position remains marginal in the process of unequal and exploitative economic transactions on the part of producers, fishermen do not get a large share of income. The most fortunate are the large-scale fish traders or middlemen. These traders are actually the "economic rulers" in fishing villages. Such conditions continue to happen to fishermen without having to know how to end it.

Efforts to improve the standard of living and welfare of fishermen so that they are not left behind in the wheels of development have been carried out by the government, including a program for developing fishing gear and boat motorization, providing credit facilities, counseling fishermen's skills, aiding fish preservation facilities and providing and rehabilitation of market facilities. However, from year to year the fate of fishermen has not moved from economic problems until now there are still

many poor fishermen, both poor in material, education and social status (structural poverty) which are still visible when entering fishing villages [1]. The educational process held both formally and non-formally is expected to provide assistance to students. Learning activities are directed so that students are able to accept and understand the knowledge and skills provided by educators. Therefore, it is very important to consider the quality of education for the improvement of the next generation and a teacher as a learning center must be aware of this condition because teachers have a responsibility to improve the development of education [2].

Maritime-based Vocational High Schools (SMK) are one of the right education levels for maritime residents, especially for fishermen's children who have an interest in fisheries. The core emphasis of the aim of SMK is to produce graduates who are able to work according to the level of competence obtained and are able to adapt to the work environment and develop themselves professionally [3]. Thus, this research focuses on maritime-based vocational schools in Rembang Regency. SMKN 2 Rembang is the only maritime-based vocational high school with majors in accordance with the geographical location of Rembang Regency, where most of the population works as fishermen. The department in question is Fishing Vessel Nautics (NKPI). The department can support and produce graduates who are competent in the field of fisheries.

Implementation in the learning process in the Covid 19 pandemic era at SMKN 2 Rembang showed a decrease in learning achievement due to lack of student interest in learning, this is based on a survey of researchers at the end of the semester showing that the average value of students decreased from 2020 during remote/online learning. Such conditions, of course, are not without cause, but at least there are several factors that decrease student interest in learning. During the Covid-19 pandemic, students have not been able to carry out the learning process or can be said to be less than optimal in participating in effective learning.

Due to the lack of maximum learning in this pandemic era, it is certain that students do not get enough knowledge. If students take face-to-face classes, educators will be able to convey the material well and the material will be completely explained until the end of the semester, with this pandemic must condense the material as much as possible so that students are not difficult in doing the assignments that have been given online to students. Therefore, during this pandemic, many students also feel bored in participating in the online learning process and students' knowledge is also decreasing. So that it can lead to low student success, and they will be educated with online schools and will be lazy to study indoors. And will be embedded in their minds a sense of laziness with school conditions as usual. The current pandemic period must make students learn independently by utilizing existing sources of reading material, for that we need a learning module that can assist students in studying at home. The module is a self-study package that includes a series of learning experiences that are planned and systematically designed to help students achieve learning goals [4]. The renewal of the teaching system towards Individualized Instruction has been carried out, including the implementation of programmed teaching (modular instruction) and teaching with modules (modular instruction) [5]. This module is needed in providing students' understanding through the material presented and equipped with interesting pictures and evaluations for students to read. Teaching materials in the form of this module will affect student psychology in the form of interest and motivation in learning [6].

In addition, the ability to learn this independent module will certainly make students successful in learning. The module can be an alternative teaching material that is appropriate to integrate education, because with the module students can study independently so that the allocation of learning hours is more efficient [7]. A person's success is not determined solely by knowledge and technical skills (hard skills), but also by the skills to manage oneself and others (soft skills) [8]. The use of modules allows

students to learn according to the speed at which they master the subject matter and can measure their level of mastery of the material provided [9]. Based on the results of research presented by [7] the development of learning modules can improve students' cognitive learning outcomes. In addition, the provision of modules in learning can also increase students' creativity [10]. This research has a uniqueness, namely, the development of a fishing vessel navigation module which is arranged with interesting materials and pictures and is equipped with an evaluation of each material based on e-learning media, namely the use of Kahoot media to increase student interest in learning.

## METHODS

This research uses Development Research (DR) research. In this study, researchers analyzed student needs and developed teaching materials as needed through the stages of development. The development model used in this study is a development model with the ADDIE design (Analysis, Design, Develop, Implement, and Evaluate) developed by [11]. The ADDIE development model has 5 successive stages, namely (1) Analysis, namely the stages of analyzing needs (needs analysis) which includes needs analysis, curriculum analysis and student needs; (2) Design (Design) in the form of formulating learning objectives that are in accordance with the subject of Nautical Fishing Vessels and making product design storyboards; (3) Development is the process of realizing a design that has been designed into a product; (4) Implementation is a real step to implement the learning system that is being developed. At this stage, everything that has been developed is set in such a way according to its role and function so that it can be implemented; (5) Evaluation, namely the process to see whether the learning system being built is successful, in accordance with the initial design or not [12].

This product trial was carried out on all class X students of the NKPI Department who had implemented the maritime curriculum in the even semester of the 2021/2022 academic year at

SMKN 2 Rembang. The subjects of this research are students of class X NKPI SMKN 2 Rembang who will be divided into 2 groups. Class X NKPI A has 33 students, Class X NKPI B has 33 students. Class X NKPI A is the control class, while Class X NKPI B is the experimental class. Data collection techniques in this development research are expert validation sheets, questionnaires and observation sheets. The data collection instrument in this study used a needs analysis instrument in the form of a questionnaire to be filled out by students and an observation sheet filled out by the lecturer. Product validation test instruments to be filled out by product expert validators consisting of material experts and layout experts, and product testing instruments in the form of questionnaire sheets that will be given to students.

The data generated from the needs assessment questionnaire, which has been given to students at the needs assessment stage. Needs assessment is seen from the learning process. The analysis was carried out qualitatively, taking into account the results of the observation sheet on the needs analysis. Product feasibility data analysis was obtained from the results of the expert validation test by material experts and layout experts, as well as lecturer response questionnaires. This analysis is done by looking for the average score. Further revisions were made by taking into account the results of the qualitative analysis based on the comments and suggestions given by the expert validators. After that, the conclusion of the validation test was converted.

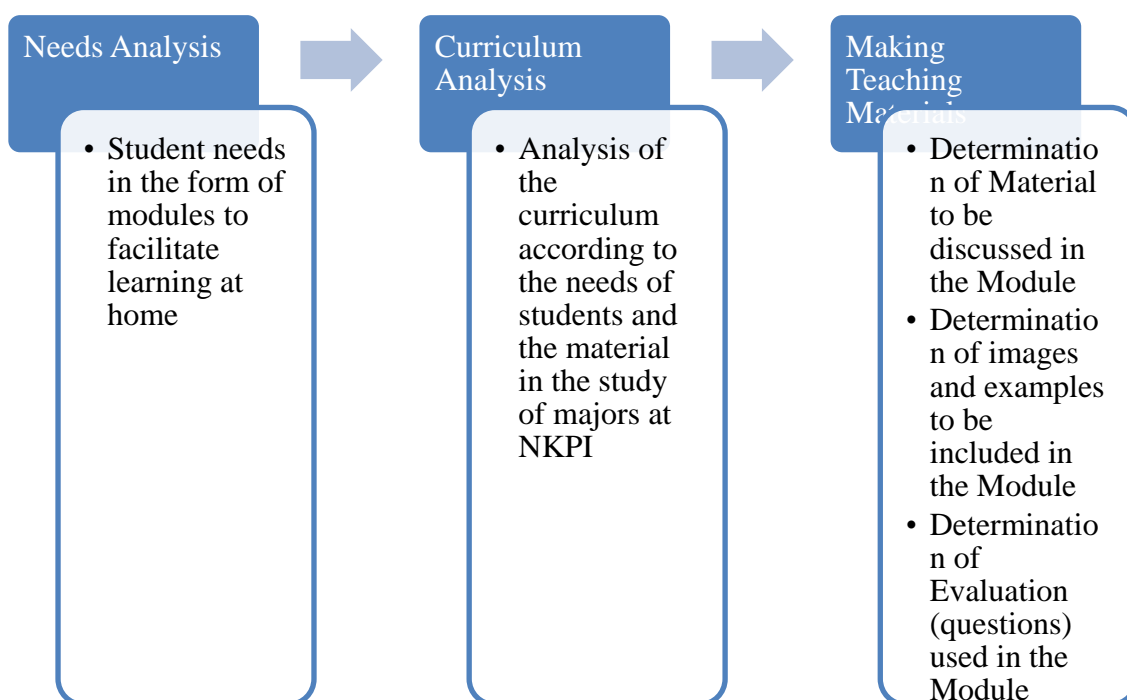
## RESULTS AND DISCUSSION

Analysis was conducted to determine learning needs and identify problems. The analysis phase aims to identify problems that occur during the learning process. Things that are done at the analysis stage are, (1) analysis of the learning curriculum. At this stage of analysis, subjects that are able to develop knowledge are determined in accordance with the Learning Outcomes and Core Competencies selected. After conducting the analysis, the appropriate

subjects were obtained, namely NKPI. (2) analyzing learning resources, at this stage there are several things that must be considered, namely, availability, suitability, and ease of use; Learning resources are one of the most important tools in achieving a learning goal. For this reason, appropriate learning resources are needed to support the achievement of these goals. Based on the analysis carried out, it has not been found learning resources that are in accordance with the material and sub-materials that must be mastered by students. Learning resources that are in accordance with the needs of students' subject matter will certainly be very good for the provisions that students will bring later. The Training Module for Sustainable Professional Development for Fishing Vessel Nautics Teachers is very much needed by students as one of the supporting learning materials for Fishing Vessel Building and Stability. The module is designed specifically and clearly based on the speed of understanding of each student, thus encouraging students to learn according to their abilities [13].

[3] analysis of student needs which refers to the development of teaching materials in supporting learning in the classroom. From the analysis of the curriculum and learning resources carried out, it can be concluded that students have difficulty in finding reference sources in learning on the subjects of Fishing Vessel Building and Stability in the Fishing Vessel Nautics expertise package at SMKN 2 Rembang, for this reason, a learning resource in the form of materials teaching materials that contain materials and sub-materials in accordance with CPL and can assist students in carrying out learning.

Stage 1) Analysis. This design begins with making a storyboard (figure 1.) to make it easier to make teaching materials in the form of modules. The results at this stage are in the form of a framework used in the development of teaching materials. In addition, at this stage, a validation sheet of teaching materials and an assessment questionnaire were also produced on the student's character. Validation aims to assess and determine the feasibility of teaching material products before they are implemented.



**Figure 1.** Storyboard

Stage 2) Design. This product aims to design a product to obtain an initial draft. This product design activity begins with product design. Product design begins with a discussion again between the teacher and students. The teacher and students together convey the results of the need analysis that has been found in the previous stage. After the delivery took place, the researcher began to conduct discussions about the product to be developed. After that, jointly design the product to be developed.

Stage 3) Development. The process of realizing a design that has been designed into a product (Fig. 2). At this stage, product development is carried out starting from the material contained in the teaching materials and also the appearance of the teaching materials. The module development stage, language display and writing must be considered because it will affect the quality and interest of students in the media [10]. In line with this, [14] states that learning media will also provide learning innovation and make students more active in

learning. Material development is carried out by reviewing the curriculum first, then determining the sub-materials that will be included in the teaching materials.

**Product Validation**

Product validation is carried out to test the feasibility of the product to be developed. In this development, expert validation tests were carried out on the material and product validation developed. The results of material expert validation can be seen in table 1.

**Table 1.** Expert Validation Results (Material Expert)

Criteria	Average Score	Category
Material Feasibility	4.25	Very Good
Presentation Feasibility	4.28	Very Good
Language Eligibility	4.25	Very Good
Average Score	4.26	Very Good

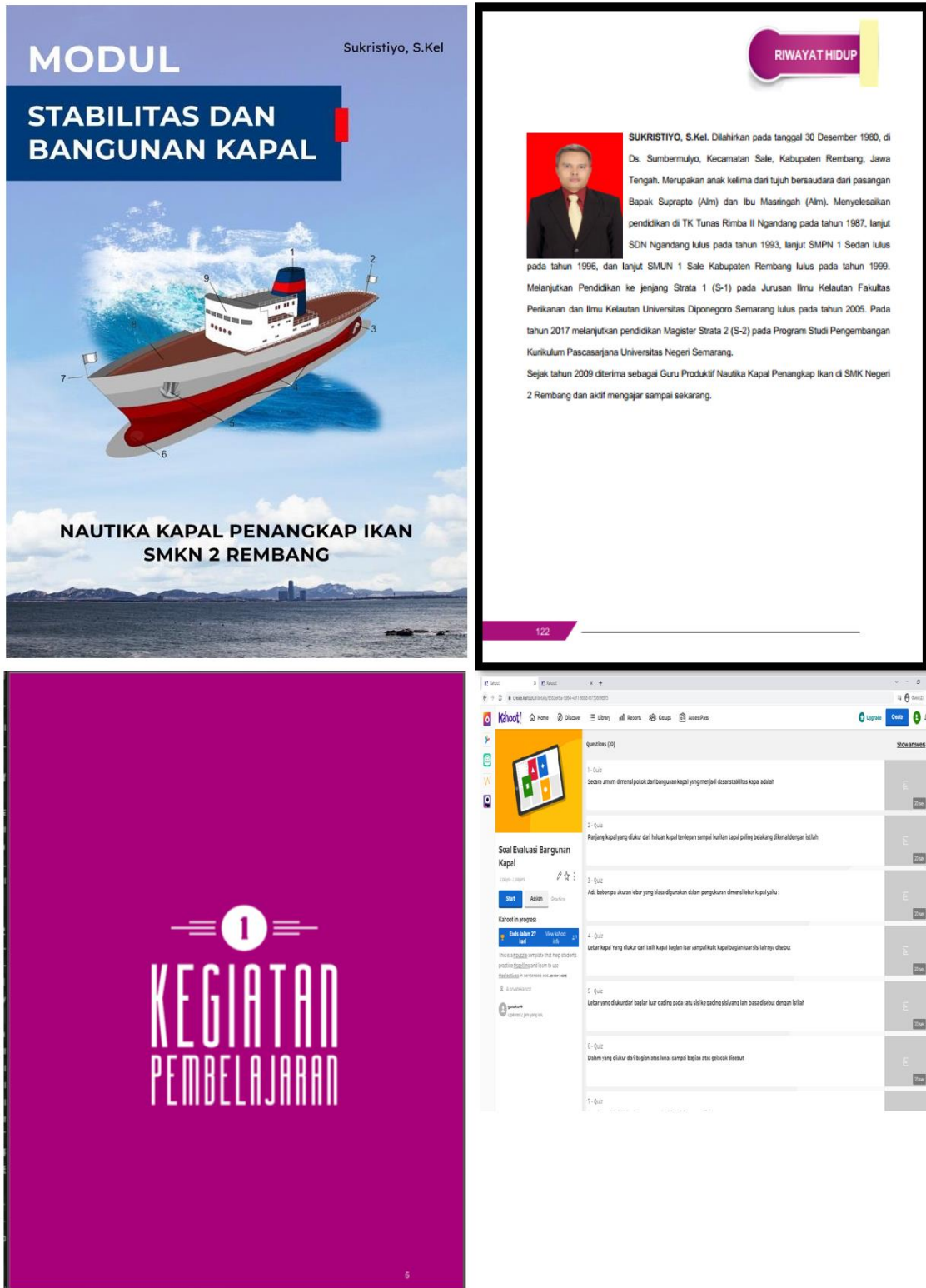


Figure 2. Module Development Design

**Media Expert Validation Results**

Furthermore, a media expert validation test was conducted to assess the appearance and products that have been developed. The results of

the media expert validation test are as shown in table 2.

**Table 2.** Expert Validation Results (Products Expert)

Criteria	Average Score	Category
Appearance	4.43	Very Good
Presentation	4.35	Very Good
Effectiveness	4.41	Very Good

Stage 4) Implementation. At this stage, the teaching materials developed have been declared very good by the validator and can be continued at the next stage. This research was piloted on class X students of the NKPI Department of SMKN 2 Rembang for the 2021/2022 academic year.

This implementation stage is by testing the products that have been made. Furthermore, after the trial was held, students were given a questionnaire to assess the modules that had been tested on students. Based on the results of the questionnaire, students' responses to the teaching materials developed were very good, with an average percentage score of 84.25%. So that the feasibility of this NKPI teaching material can be used in learning, of course, taking into account the inputs given by students and material experts and media experts.

In addition to assessing the effectiveness of the modules that have been developed, students are also given a learning interest questionnaire to measure the increase in student interest in learning by developing modules and evaluating learning through the Kahoot application. The score range of this questionnaire is 1-5. The results of the questionnaire are as follows:

**Table 3.** Results of Student Interest Questionnaire

Indikator	Rata-rata Skor
Feeling happy	4
Attention	4.15
Interest	3.94
Involvement	4.43
Average Score	4.48 (very good)

From table 3, it can be seen that the average student interest in learning is very good, this comes from the questionnaire that has been given after students learn to use the module and also evaluation using Kahoot. Kahoot media is

used as a variation of learning activities so that it is not monotonous and to support learning [15]. In addition, according to [16] the use of learning that uses technology and information as learning aids can be said to be effective learning.

Stage 5) Evaluate. At this stage, is a process to see whether the learning system that is being built is successful and in accordance with the initial design or not. For the results, media experts stated that the products developed were very good. So, it can be concluded that; (1) The modules developed have been in accordance with the steps for compiling and developing modules with the ADDIE model, namely analysis, design, development, implementation, and evaluation, (2) The modules used developed has met the criteria of validity, practicality, and effectiveness. The results of the products that have been tested get evaluations from material experts to improve some sub-materials that are still not coherent and also to improve overlapping materials. After all stages of development and testing have been carried out, the results of this study indicate that with the development of teaching materials for the stability module and ship building, students' interest in learning will increase. In addition, through this module the teacher feels helped by the existence of a module in learning activities because it can help students to learn independently without receiving a more detailed explanation from the teacher [17]. Modules as learning media are certainly very influential on student learning outcomes, especially in schools, [18] saying that the learning media used can be a means of improving student learning outcomes in schools. [19] stated that learning media is something that cannot be separated from learning.

In the evaluation of learning using Kahoot, it can be used to optimize and improve as well as motivate and independent learners are also used to facilitate the evaluation process and variations in learning [20]. Based on [21] Learning using kahoot! This more effective method is based on the teacher's achievement in managing learning very well, student activities are very active, improve learning outcomes classically, and are able to get responses.

## CONCLUSION

The ADDIE development model has 5 successive stages, namely (1) Analysis (Analysis) which is the stage of analyzing needs (need analysis) which includes needs analysis, the needs analysis shows that learning modules are needed to overcome student problems in learning, then curriculum analysis, The curriculum taken is on the Stability and Ship building material, this is adjusted to the needs of students on the material, the curriculum is also adjusted to the achievements of student graduates so that the material developed will also be in accordance with the existing curriculum; (2) Design (Design/Design) in the form of formulating learning objectives that are in accordance with the subject of Fishing Vessel Nautics and making product design storyboards. In addition, with the learning objectives, it will facilitate the design of the evaluation that will be given. (3) Development is the process of realizing a design that has been designed into a product, after going through the design design stage, the development stage is in the form of making a module with Kahoot as a form of evaluation. After the module has been developed, a validation test will be carried out regarding the material and product of the module being developed, the results of which the module developed can be tested and get a very good score by the validator. (4) Implementation (Implementation / execution). At this stage, everything that has been developed is set in such a way according to its role and function so that it can be implemented, the student's response to the developed teaching materials is very good, with an average percentage of 84.25%. So that the feasibility of this NKPI teaching material can be used in learning, of course, taking into account the inputs given by students and material experts and media experts. (5) Evaluation. The module developed has met the criteria of validity, practicality, and effectiveness. The evaluation of the material experts has been improved and after evaluating the input of various parties, it is concluded that the developed teaching materials module can increase students' interest in learning. The resulting product can be used by the teacher

as a teaching guide because it contains material on ship building and stability that can be used in the subject of Nautical Fishing Vessels.

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