

Development of Hygiene and Sanitation Learning Tools Based on Typical Food “Mbohi Dunggu” Using PBL Model to Improve Students' Creative Thinking Ability

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ARTICLE INFO

Keywords:

Hygiene and Sanitation, Mbohi Dunggu, PBL models, Creative Thinking.

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ABSTRACT

Research on hygiene and sanitation courses has been carried out on students of the tourism study program at STIPAR Soromandi Bima. This study aims to develop a hygiene and sanitation learning tool based on typical food "Mbohi Dunggu" using the PBL model to improve students' creative thinking skills. By using a 4-D model (developmental research) which include of RPS Textbooks, Worksheets and Instruments of students' creative thinking skills. Based on the objectives and results of the study, it can be concluded that the procedure for developing hygiene and sanitation learning devices based on typical food "Mbohi Dunggu" using Problem Based Learning Models to improve creative thinking ability of STIPAR Soromandi Bima students by using the Four-D research development model is in the "GOOD" category. Thus, the learning tools developed can be declared "FEASIBLE" to be used in the learning process in the Hygiene and Sanitation course at STIPAR Soromandi Bima..

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1. INTRODUCTION

Higher Education must continue to strive to improve the quality and quantity of the Tri Dharma Higher Education programs, one of which is related to the teaching aspect. Human Resources in the world of tourism today, it is felt that the quality and quantity still need to be improved. This can be seen from the increasing demand for tourism human resources and the rapid development of tourism. For this reason, the formation of human resources is very significant in preparing tourism students to enter or create jobs (Rony, 2016) Tourism students are thus required to have analytical skills including tourism skills so that they will be able to compete and implement the knowledge gained while in college. Higher education is a continuation of senior secondary education which is held to prepare students to become members of the community who have academic or professional abilities who can apply, develop, and create novelty. (Yuliawati, 2012).

The hygiene and sanitation course is a compulsory subject that must be taken by students of the tourism study program at STIPAR Soromandi Bima with a weight of 2 credits. By taking this course, students are expected to be able to master the concept of hygiene and sanitation as a basis for appreciating the diversity of Indonesian specialties, especially appreciating the typical food of the *Mbojo (Bima)* tribe. *Bima* Regency, West Nusa Tenggara Province is one of the islands that is famous for its natural attractions, especially beaches, not only offering beautiful beaches, Bima also has many very unique special foods, one of which is “*Mbohi Dunggu*”.

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Mbohi Dunggu is a snack made from kaffir lime, after being processed with various other supporting ingredients, Mbohi Dunggu is then fermented to produce an appetizing taste. Along with the development of science and technology, people are worried about the spread of rumors that Mbohi Dunggu made in Bima district uses preservatives so that it can last for a relatively long time. (Puspitaningtyas R, 2015). The addition of food additives into food products is needed to improve quality so that these food products can compete in the market. Food Additives (BTP) are ingredients that are added to food with the intention of influencing the nature or form of food or food products, whether they have nutritional value or do not have nutritional value. (Wahyuningsih, dkk, 2021). According to the Food and Agriculture Organization (FAO), food additives are compounds that are intentionally added to food of certain types and sizes and are involved in processing, packaging, and storage. In the learning process in the hygiene and sanitation course, so far it is still conventional and has not touched the locality of the region, in this case the composition and hygiene of regional specialties that are fit to be consumed or marketed nationally. To achieve this, all lecturers must develop creative, innovative learning tools and varied strategies. Lectures are said to be successful if the tools in learning are prepared as much as possible before the lecture takes place such as lesson plans, worksheets and teaching materials. In other words, the development of learning tools is developed according to the needs of students who are expected to be able to realize an effective learning process. According to (Baharullah, 2019) development of learning tools is a series of processes or activities carried out to produce learning tools based on existing development theories.

The description above is very clear that the typical food of the Mbojo area is an ancestral heritage that has its own taste value in Indonesia that needs to be preserved. Therefore, it needs to be processed properly so that it can be marketed in tourist attractions in Indonesia. With the integration of the typical mbojo food "Mbohi Dunggu" into the Hygiene and Sanitation course, it is hoped that it will improve the creative thinking skills of STIPAR Soromandi Bima students. The textbook can be used as a support for the lecture process by utilizing the Problem Based Learning Model. The integration of regional culture with the PBL model into textbooks will become a new reference for STIPAR Soromandi Bima students related to the use of Mbojo food "Mbohi Dunggu", especially in the health sector, so as to train students' creative thinking skills. The PBL model is suitable for use in Hygiene and Sanitation courses, because it can maximize learning time and develop students' creativity. Problem Based Learning learning model is a learning model that can help students to be active and independent in developing problem-solving thinking skills through searching data so that solutions are obtained rationally and authentically. (Hotimah, 2020). Same thing according to (Saleh, 2013), Problem Based Learning (PBL) learning model is a learning model that can help students to be active and independent in developing problem-solving thinking skills through searching data so that solutions are obtained rationally and authentically.

2. METHOD

a. Types of research

This research is a developmental research, by developing learning tools that include: RPS Textbooks, Worksheets and instruments for students' creative thinking skills that refer to the 4-D Model in [1].

b. Research Instruments

The research instruments used in this study are:

- 1) Learning device validation sheet
- 2) Student response sheet
- 3) Worksheets
- 4) test questions

c. Data Analysis Techniques

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1) Validation Data Analysis

The data from the experts' assessments for each learning device were analyzed by considering the input, comments, and suggestions from the validator. The results of the analysis are used as guidelines for revising the learning tools. The data from the assessment results from the validators were analyzed based on the average score:

$1,00 \leq \text{Average} \leq 1,50$ not very good

$1,50 < \text{Average} \leq 2,50$ not good

$2,50 < \text{Average} \leq 3,50$ good

$3,50 < \text{Average} \leq 4,00$ very good.

2) Trial Data Analysis

a) Data analysis of lecturers' ability to manage learning

Data about the ability of lecturers to manage learning were analyzed using descriptive statistics, namely the average score. The description of the average score of the ability level of lecturers is as follows:

$1,00 \leq \text{Average} \leq 1,50$ not very good

$1,50 < \text{Average} \leq 2,50$ not good

$2,50 < \text{Average} \leq 3,50$ good

$3,50 < \text{Average} \leq 4,00$ very good

b) Analysis of student activity data

Data from observations of student activities in learning were analyzed by percentage. The percentage of observation of student activities is the frequency of each aspect of the observation divided by the total frequency of all aspects of the observation multiplied by 100%. Determination of the suitability of student activities based on the time allocation in the lesson plan (hereinafter referred to as the ideal time) with a tolerance of 10% is taken based on the level of error in decision making that is allowed for social and educational research.

c) Student Response Data

Data about student responses obtained through questionnaires were analyzed using descriptive statistics, student responses were calculated by the formula:

$$\frac{\text{Jumlah respon positif untuk setiap aspek}}{\text{Jumlah seluruh siswa}} \times 100\%$$

d) Analysis of Learning Outcome Test Data

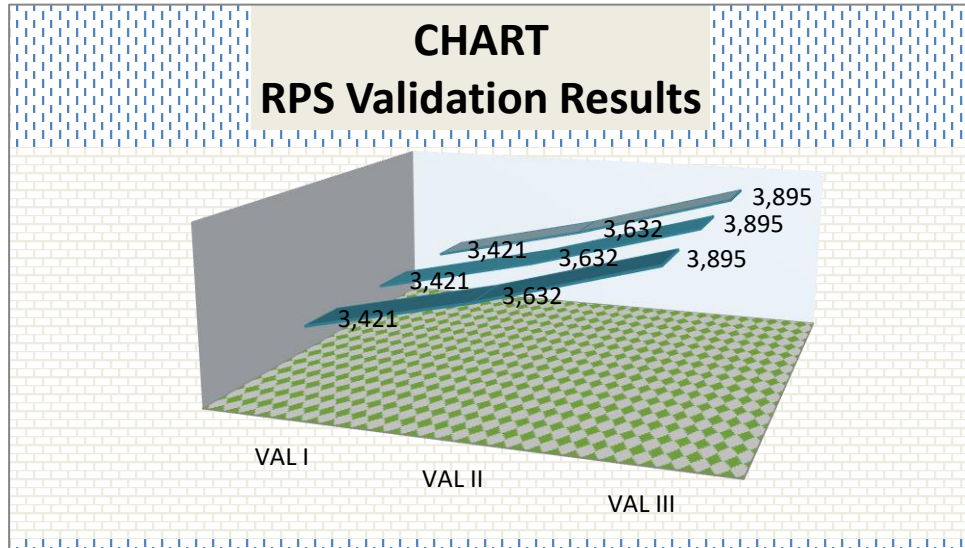
The data obtained from THB was then processed to determine the validity of the test items, the sensitivity of the test items, and the reliability of the test.

3. RESULTS AND DISCUSSION

a. Research Results

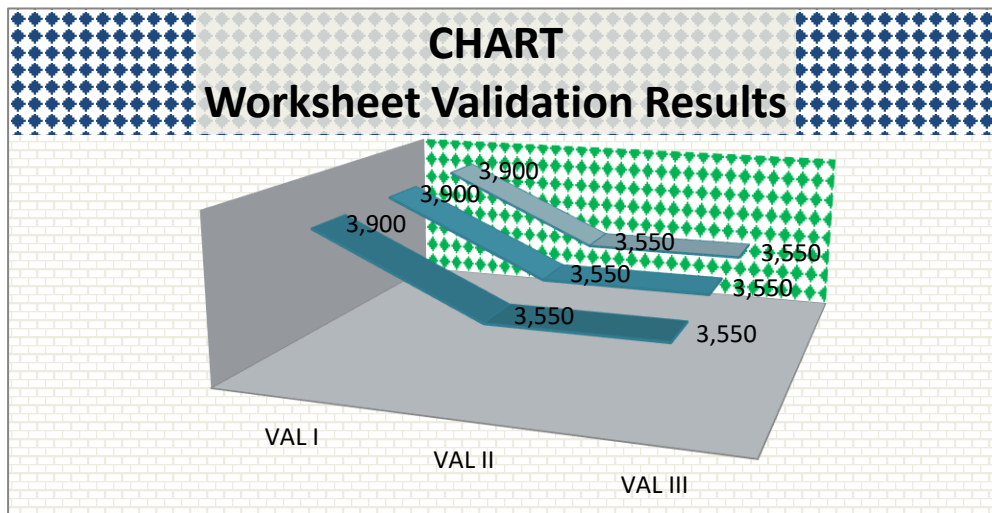
The results of this study were compiled based on the acquisition of data from the validation results and trials of learning tools carried out at STIPAR Soromandi Bima in 2022 for students of the Tourism Studies program. The results achieved in this study are described as follows:

1) RPS Validation Results



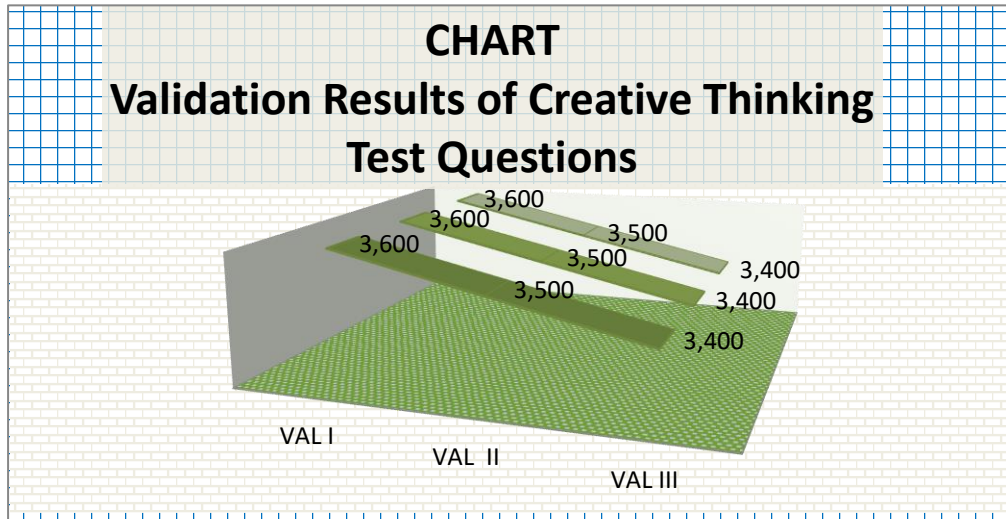
The graph above shows that the average assessment of each indicator for all aspects is in the good and very good categories, so it can be stated that the RPS in draft 1 is valid. In general, the validators stated that the RPS was of very good value and could be used with minimal revision notes. Furthermore, below will be presented the results of Workhseet validation.

2) Workhseet Validation Results



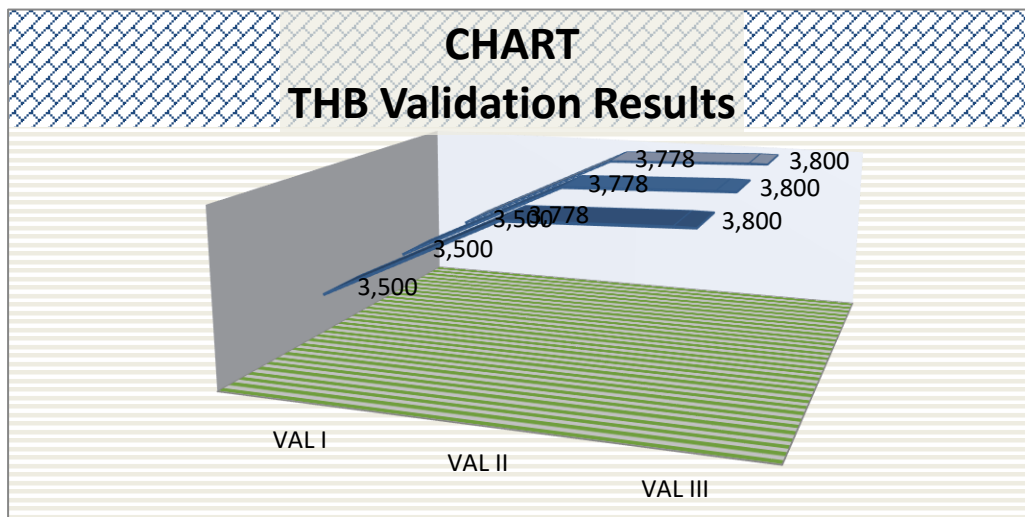
The graph above shows that the average of each indicator in all aspects assessed is in the good and very good categories. The results of the general assessment of the worksheets show that the worksheets are of very good quality and can be used with minor revision notes. Furthermore, below will be presented the results of the validation of Student Test Questions

3) Student Test Question Validation Results



The graph above shows the validation instrument for the students' creative thinking test questions given to the validator containing assessments and comments on suggestions for improvement. The results of the validator's assessment can be seen in the graph, that the average of each indicator in all aspects assessed is in the good and very good categories. The results of the general assessment of the test items show that the test items are of very good quality and can be used with a few notes of revision. Furthermore, below will be presented the results of the validation of the Learning Outcomes Test

4) Learning Outcome Test Validation Results



The graph above shows the validation instrument for student learning outcomes given to the validator, which contains assessments and comments on suggestions for improvement. The results of the validator's assessment can be seen in the graph, that the average of each indicator in all aspects assessed is in the good and very good categories. The results of the general assessment of the THB show that the test items are of very good quality and can be used with a few notes of revision.

b. Discussion

Some things that can be noted in this study based on the findings during expert validation and field trials are described as follows: The results of the expert/validator assessment show that the learning tools consist of: RPS, Worksheet, and THB in terms of format indicators, language, content, and/or illustrations are categorized as good. This is indicated by the average score of the expert's assessment of the RPS, Worksheet, and THB of more than 3.50. In general, the Hygiene and Sanitation Textbook is oriented to the Problem Based Learning Model in the Hygiene and Sanitation course developed in the "very good" category and can be used.

Based on the category of Researcher/Lecturer's ability to manage learning, the results of data analysis of each aspect of the Researcher/Lecturer's ability to manage learning that was observed/assessed for two meetings indicated that the learning activities were effective. This is indicated by the average score on each aspect of the ability of the Researcher/Lecturer to manage learning reaching a minimum category of good. The Hygiene and Sanitation Textbook is oriented to the Problem Based Learning Model in the Hygiene and Sanitation course to Improve Students' Creative Thinking requires students to be active in learning. Thus, the dominance of researchers/lecturers can be reduced. This is in line with the constructivist theory where this theory recommends that students play an active role in learning or better known as student-centered learning. The results of the analysis of student activity data showed that the percentage of student activity from each aspect observed during the two meetings was in accordance with the time allocation in the RPS and in accordance with the ideal time criteria.

Based on the criteria for the effectiveness of student activities, it shows that Aspect 1 of "Paying attention/notes/asking/answering explanations or questions from researchers/lecturers during orientation and debriefing" for all RPS is in the ideal time criteria. The 2nd aspect of "completing individual worksheets" for all RPS is on the ideal timing criterion. The third aspect of "finishing worksheets through group discussions" for all lesson plans is on the ideal time criterion. The fourth aspect of "participating in presentation activities" for all RPS is on the ideal timing criterion. The fifth aspect of "following the conclusion" for all RPS is on the ideal timing criterion. The 6th aspect of "irrelevant behavior" for all RPS is on the ideal timing criterion. Based on the data above, it can be concluded that student activities are categorized as "effective".

The results of the analysis of the validity of the test items, the reliability of the test items, and the sensitivity of the test items showed that all the test items for learning outcomes on the topic of logic had sufficient and high validity. The reliability of the learning outcomes test is included in the high category, and all test items are sensitive to learning. This is also in line with what was stated by Ratumanan and Laurens that a test is said to be reliable if the reliability coefficient of the test is interpreted at least sufficiently and a test item is said to be sensitive if the sensitivity index is between 0.00 and 1.00. So THB is categorized as "Good"

4. CONCLUSION

Based on the objectives and results of the study, it can be concluded that the procedure for "Developing Hygiene and Sanitation Learning Devices Based on Typical Food "Mbohi Dungga" Using Problem Based Learning Models to Improve Creative Thinking Ability of STIPAR Soromandi Bima Students using the Four-D development model is in the "GOOD" category. , this is evidenced by the six criteria for good learning tools that have been met, namely: (a) Valid according to the validator, (b) Effective for the ability of Lecturers in managing learning in the classroom, (c) Effective for student activities in carrying out learning activities in the classroom. class, (d) Positive for student responses to learning activities, (e) Valid, reliable, and sensitive for Learning Outcomes Tests, and (f) classical completeness of learning has been achieved. Thus, the learning tools developed can be declared

"FEASIBLE" to be used in the learning process in the Hygiene and Sanitation course at STIPAR Soromandi Bima.

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