Φ Jurnal Phi

APPLICATION OF ETHNOPEDAGOGICAL MODULE IN NATURAL SCIENCES BASED ON LOCAL WISDOM TOWARDS LEARNING INDEPENDENCE IN THEMATIC LEARNING

Nuraini Fatmi[1,], Halimatus Sakdiah[2], Alchalil[3], Henni Fitriani[4]

[1234]Universitas Malikussaleh

Corresponding e-mail: nurainifatmi@unimal.ac.id

ABSTRAK. This research aims to determine students' responses to the implementation of ethnopedagogical modules in science-based on local wisdom in thematic learning towards learning independence. The research was conducted at SD Negeri 1 Muara Satu, Lhokseumawe City. Field problems found that during the learning process in both elementary schools, thematic learning had not been linked with ethnopedagogy based on local wisdom. Consequently, students lacked learning independence at school. The research type used was a pre-experimental design, labeled as such because it was not a full-fledged experimental study. The research design used was the One-Group Posttest Design, an experiment conducted with only one group without a comparison group. The sample in this study was a fifth-grade class with 114 students, selected using purposive sampling technique. This instrument aimed to assess students' learning independence after using the teaching module. The research results indicate that the implementation of the Ethnopedagogical Module, which smoothly integrates local wisdom and cultural contexts into science education, results in enthusiastic student engagement and contextualized learning experiences. This is evidenced by the results of the student learning independence test indicators, with the highest scores found in the research results for the learning independence variable in the indicator of having a competitive drive to advance. The overall sample obtained an average score of 83.2 in the category of excellent.

1. Introduction

The progress and development of a region are greatly determined by education in that area, including in Aceh, because education shapes moral character and can bring about social change. In the learning process, there is a need for engaging and easily understandable material management planning to prevent learners from becoming bored during the learning process. Education has a significant impact on human life because it shapes future civilizations for the better. Additionally, education plays a crucial role in shaping human character (Alfiana, 2022).

One of the character values that students should develop and possess is independence. According to Ali Asrori (2018), independence is an inner strength acquired after going through the stage of individualization, which is the process of self-realization and approaching perfection. It involves the process of diversification, development, and expressing the personality system until reaching the highest level of independence.Independence, according to Erikson (as cited in Desmita, 2017), is an individual's effort to find their identity by detaching from their parents and going through a series of solid and individual identity search stages; independence is a developmental process towards individuality. Characteristics of independence include the ability to determine one's own fate, initiative, creativity, responsibility, self-regulation, self-restraint, problem-solving, and making various decisions without the influence of others.

The observation results at SD Negeri 1 Muara Satu indicate that thematic learning has been implemented, but the existing concepts are not linked to local wisdom in the area. It's important to note that thematic learning integrates several subjects into a theme, emphasizing student activity in learning, so that with active student involvement, better learning outcomes can be achieved. However, it must be acknowledged that the implementation still seems overlapping. The internalization of local wisdom values that should be possessed by the nation's children remains partial. In this era of globalization, local wisdom has received special attention, especially in supporting national progress. Various convincing analyses show that local wisdom contributes to determining the progress of a nation. In this millennial era, exploring local wisdom is a strategic effort in building the nation's character. Therefore, it can be concluded that ethnopedagogical modules are crucially important to be implemented in schools. This is because globalization and technological advancements can lead to cultural changes in Indonesian society. If education is not oriented towards ethnopedagogy from an early stage, it may eventually displace local wisdom in society.

Based on the problem, the state of the art in this research is as follows:

According to Intan Budiarti, in her study titled "Implementation of Problem-Based Learning Model Based on Local Wisdom to Improve Critical Thinking Skills," Problem-Based Learning based on local wisdom can be applied in integrative thematic learning in elementary schools because it can be an alternative for teachers to meet the demands of the 2013 Curriculum (Intan Budiarti, 2019). Novelty: In this research, local wisdom can help students understand further learning through their everyday experiences in their environment.

According to Nafia Wafiqn, in the study titled "Thematic Learning Model Based on Local Wisdom," learning that uses themes as learning objects and presents material based on local wisdom can make learning activities more meaningful because learning is no longer textbook-based but contextual (Nafia Wafiqn, 2018). Novelty: Thematic learning in this research is presented in the form of ethnopedagogical modules to enhance students' scientific literacy, aiming to achieve the desired competencies.

Umi Kulsum's research titled "Improvement of Learning Independence and Learning Outcomes on Textile Course through Hybrid Learning Model" in 2017 concluded that learning independence has a significant relationship with learning outcomes. Novelty: The novelty lies in examining learning independence through the application of ethnopedagogical modules based on local wisdom.

The purpose of this research is to determine students' responses to the implementation of ethnopedagogical modules in science based on local wisdom in thematic learning towards learning independence. This study aims to provide new innovations in learning by applying ethnopedagogical modules in science based on local wisdom in thematic learning to shape the character of elementary school children regarding understanding thematic learning through local wisdom to recognize the identity of their own region.

2. Research Method

This research employs a quantitative approach with a pre-experimental design type. It is termed pre-experimental design because it is not a full-fledged experimental study. The research design used is the One-Group Posttest Design, which is an experiment conducted with only one group without a comparison group. The purpose of this research is to determine students' responses to the implementation of ethnopedagogical modules in science based on local wisdom in thematic learning. The experimental design used is the one-shot case study. In implementing this method, the research only utilizes one class and only has a post-test, enabling the assessment of the outcomes after the treatment is applied. The research design layout can be seen in the figure below.

Table 1. Study Design

R1	X	Q1

Explanation:
R1= Experimental group
X = Treatment using ethnopedagogical   module
Q1= Response for the experimental group

The research was conducted for approximately 6 months, starting from July 2023 until December 2023, involving processes such as proposal preparation, data collection, planning of instrument creation, observation, data processing, and completion of the final research report. This study was carried out at SD Negeri 1 Muara Satu, located at Jln. Tgk. Yusuf Alie Batuphat Timur, Muara Satu Sub-district, Lhokseumawe City. The sample in this research consisted of fifth-grade students, totaling 114 individuals, selected using purposive sampling technique. Purposive sampling is a sample determination technique based on specific considerations. Classroom considerations were used for class distribution based on attendance numbers. Odd-numbered attendance for the control group and even-numbered attendance for the experimental group. The research instrument used was a questionnaire regarding students' learning independence.

The student response questionnaire was given to the students at the end of the study. This instrument aims to assess students' learning independence after using the teaching module. The data analysis technique used for the questionnaire follows the assessment categories by S Eko Putro Widyoko as follows: the questionnaire consists of 4 answer choices with the following assessment categories:

Table 2. Scale of Questionnaire Response Assessment

Category	Skor	
	Negative Statements	Positive Statements
Always	1	4
Often	2	3
Sometimes	3	2
Never	4	1

This research utilizes a Likert scale questionnaire with predetermined or closed-ended answers to measure attitudes. Respondents select their chosen response by marking a check (√) in the provided column. The Likert scale used employs four alternative answer options: always, often, sometimes, and never. Before drafting the questionnaire, it is necessary to determine indicators and then elaborate on several statements or questions. To facilitate instrument development, an instrument grid is required (Sugiyono, 2016). Learning independence is the

ability of learners to control and manage their own actions, thoughts, and feelings in learning without depending on others. The indicators of the learning independence variable are as follows: (1) Having a competitive drive to advance; (2) Ability to make decisions; (3) Initiative; (4) Self-confidence; (5) Responsibility; (6) Self-control.

3. Results and Discussion

This research was conducted at SD Negeri 1 Muara Satu, located at Jl. Tgk. Yusuf Ali, Batu Phat Timur, Kec. Muara Satu, Lhokseumawe City, Aceh Province. The learning independence variable consists of 6 indicators: (1) Having a competitive drive to advance; (2) Ability to make decisions; (3) Initiative; (4) Self-confidence; (5) Responsibility; (6) Self-control. Based on the research data, descriptive analysis of the learning independence variable includes calculating the Mean, Median, Mode, Sum, Std. Deviation, Variance, Range, Minimum, and Maximum. The results of the descriptive analysis of the learning independence data can be seen in the following table.

Table 3. Description of Learning Independence Variable Data

Min	Max	Sum	Range	Mean	Median	Mode	STd. deviation	Variance
90	156	14520	62	123,4	122	119	12,355	163,482

Table 3 shows that the lowest (minimum) score for learning independence was 90, the highest (maximum) score was 156, the total score (sum) was 14520, the data range was 62, the average score (mean) was 123 .4, the middle value (median) is 122, the mode is 119, the standard deviation (Std.Deviation) is 12.355, and the data variance (Variance) is 163.482. The next stage is to categorize the sample based on the learning independence data that has been obtained which is presented in the trend table as below:

Table 4. Distribution of Trends in Learning Independence Data

Interval Skor	Category	Frequency	Percentage	Average Score	Score Category
82-100	Very good	46	40,3%	76,6	Baik
63-81	Good	63	55,3%		
44-62	Enough	5	4.4%		
25-43	Not enough	0	0%		
	Amount	114	100%		

Based on table 4, frequency data can be obtained as many as 46 students obtained scores in the score range of 82 – 100 in the very good category. A total of 63 students obtained scores in the range of 63-81 in the good category. And as many as 5 students obtained scores in the score range of 44 – 62 in the sufficient category. Meanwhile, the score range is 25-43 for the poor category, the frequency is 0 and the percentage is also 0%. So the average score obtained by students was 79.6 in the good category. Table 4 can be explained in more detail by a trend distribution diagram as follows:
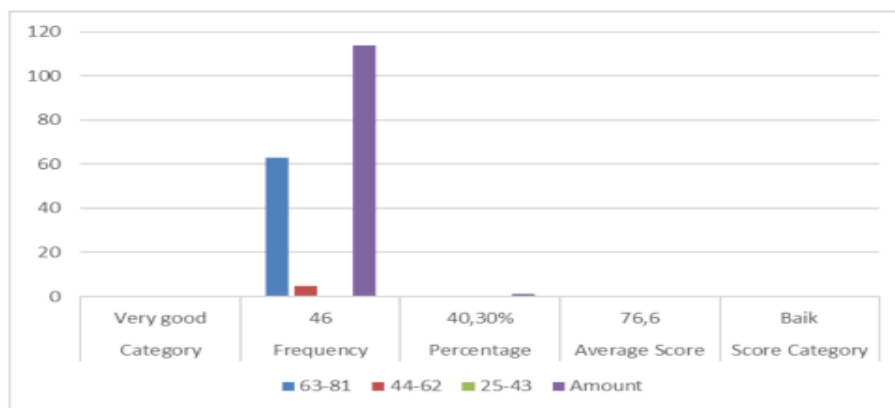
Figure 1. Frequency distribution diagram of Learning Independence

Contains the methods used in the research. Show briefly about the material and methods used in the research. all quantities are in standardized and consistent units; each equation must be numbered; methods or stages of research are described operationally, not explaining definitions/understandings.

The method consists of research design/stages, subject, location, experimental design or design used, sampling technique (if any), the sample used must be specific and clear in number, variables to be measured, research instruments, data collection techniques, data analysis techniques. (Adjust to the type of research. If the research is qualitative, you should use data triangulation)

Based on the diagram, it shows that independence has a level with a very good category of 40.3%, a good category of 55.3%, a sufficient category of 4.4% and no one has a poor category. In more detail regarding the learning independence variable can be seen from the description of each indicator as follows.

Table 5. Distribution of Learning Independence Variable Categories for Each Indicator

No	Indicator	Category				Average score
		Very good	Good	Enough	Not enough	
1	Have a Competitive Desire to Advance	64	41	9	0	83,2
2	Able to make decisions	50	54	10	0	78,8
3	Initiative	28	49	36	1	72,1
4	Self-confident	53	50	11	0	79,5
5	Responsibility	60	43	11	0	82
6	Able to adapt	62	43	8	1	81,7
	Amount			Good		79,55

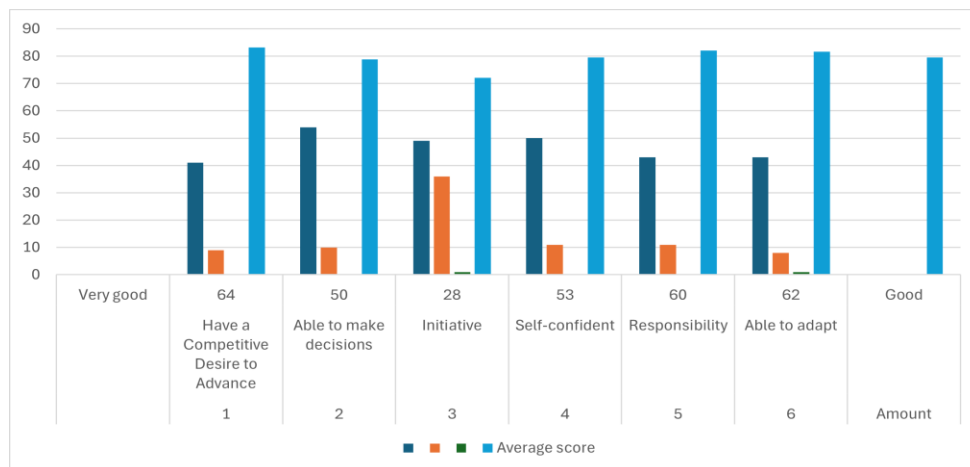The graph can be described as follows:

Figure 2. Distribution of learning independence variable categories for each indicator

Based on research data on the learning independence variable on the indicator of having a competitive desire to advance, the sample as a whole obtained an average score of 83.2 in the very good category. On the indicator of being able to make decisions, the sample as a whole obtained an average score of 78.8 in the good category. on the initiative indicator, the sample as a whole obtained an average score of 72 in the good category. on the self-confidence indicator, the sample as a whole obtained an average score of 79.5 in the good category. on the responsible indicator, the sample as a whole got an average score of 82 in the very good category and on the learning independence variable on the indicator of being able to adapt, the sample as a whole got an average score of 81.7 in the very good category.

Based on the research findings, it can be concluded that learning independence aligns with Humanistic theory, which suggests that learners should be given the opportunity to direct their own learning activities, choose what they want to learn, and determine when and how they will learn it, enabling them to guide their own learning and become self-reliant in their studies (Rifa'I & Anni, 2016). Additionally, Fatihah (2008) asserts that independence is an individual's attitude acquired cumulatively during development, and individuals continue to learn to be independent in facing various situations in their environment, enabling them to eventually think and act independently. Learning emphasizes the maximization of human potential, such as independence, in each individual, encouraging them to develop and actualize themselves. This also indicates that ethnopedagogical modules have been successfully applied in primary school learning if implemented through innovative learning activities such as locally-based media, and the results of this research are embodied in ethnopedagogical module approaches based on local wisdom in thematic learning.

4. Conclusions And Suggestion

The research conducted in a primary school in Aceh, Indonesia, aimed to investigate the impact of using ethnopedagogical modules based on local wisdom in science education within the context of thematic learning. However, the implementation of ethnopedagogical modules, which smoothly integrate local wisdom and cultural contexts into science education, resulted in enthusiastic student engagement and contextualized learning experiences. This is evidenced by the highest scores obtained in the student learning independence test indicators, particularly in the indicator of having a competitive drive to advance, where the overall sample obtained an average score of 83.2, categorized as "Very Good." This underscores the importance of relevant contextual teaching materials and approaches, emphasizing how the integration of local knowledge and cultural elements can greatly benefit students' understanding and engagement in scientific concepts.

Thank you

Author's Involvement

The author's involvement includes: Surveying the location, Managing permits from the Department of Education, Discussing activities with the sample schools, Scheduling activities, Preparing research activities, Conducting research, Assisting in publishing research outputs, Compiling the final report.

References

Ali, M., & Asrori, M. 2018. Adolescent Psychology: Development of Learners. Jakarta: Bumi Aksara.

Desmita. 2017. Developmental Psychology: Guide for Parents and Teachers in Understanding Child Psychology in Elementary, Junior High, and Senior High School Ages. Bandung: Rosdakarya Offset.

Fatihah, M. A. 2016. The Relationship Between Learning Independence and Religious Education Learning Achievement of Third Grade Students at Panularan Surakarta Elementary School. At-Tarbawi, 1(2), 197–208.

Intan Budiarti et al. 2019. Implementation of Problem-Based Learning Model Based on Local Wisdom to Improve Critical Thinking Skills. Journal of Research on Technology and Educational Innovation, 2(1), 167–183.

Kulsum, Umi. 2017. Improvement of Learning Independence and Learning Outcomes on Textile Course through Hybrid Learning Model. IOSR Journal of Humanities and Social Science, 22(8), 23–30.

Nafia Wafigni et al. 2018. Thematic Learning Model Based on Local Wisdom. Journal of Islamic Elementary Education, 10(02), 13–19.

Rifa'i, Achmad, & Catharina Tri Anni. 2016. Educational Psychology. Semarang: Center for Development of CU / CU-LP3 Semarang State University.

Sugiyono. 2016. Educational Research Methods. Bandung: Alfabeta.

Widoyoko, Eko Putro. 2017. Techniques for Developing Research Instruments. Yogyakarta: Pustaka Pelajar.