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Thematic Ethno-Edutainment Learning to Improve Student's Concept Understanding in Science

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A B S T R A C T

This study determined the enhancement of students' conceptual understanding in science through subject-based learning in ethno-edutainment and to identify aspects of ethno-edutainment that improve students' conceptual understanding of subject-based learning. It employed a mixed method with a sequential explanatory design variant that combines quantitative and qualitative data. Data gathering techniques in this study consisted of a quantitative data testing technique with analysis using normality gains tests and interviews and a qualitative data observation technique with qualitative descriptive analysis. The analysis of four primary schools in Kudus province showed that students' average conceptual comprehension ability rose from the starting value of 63.4 to 86.7, so the interpretation of learning improvement was moderate.The study concluded that there was moderate improvement among the four primary schools in Kudus Province and that students had average conceptual comprehension. Furthermore, respondents showed appreciation for gamification elements and already had knowledge of the local culture.

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INTRODUCTION

As one of the countries affected by the COVID-19 pandemic, Indonesia is experiencing learning losses in its education sector. 2020 Minister of Education, Culture, Sports, Science and Technology ordinance that educational units related to recovery of learning loss under special circumstances must develop diverse curricula according to the situation of educational units, regional possibilities, and student situations No. 56. Merdeka learning is an option developed in the world of Indonesian education today. The presence of independent learning can create learning in interesting ways, connect learning to everyday life, and should help students understand the concepts of learning. Elementary school students are generally 6 to 12 years old and have the ability to see the big picture. The development of thinking in elementary school children is integrative (Tristiantari & Sumantri, 2016). Learning for elementary school students is packaged into integrated subject learning. Thematic and blended learning is learning using themes in the delivery of learning materials. Learning materials for elementary school students are presented in thematic contexts along with other learning content designed to help students better understand their learning. The integration into integrated subject learning aims to make learning more meaningful, effective and efficient (D. Ardianti, 2015). When linked with other learning content within the topic, it is hoped that elementary school students will easily understand the concept.

Based on observations made in four primary schools in Kudus Regency, it found that students had a low average understanding of concepts. Her 56% of all students in grade 4 achieved low learning outcomes below the minimum completion standard (KKM). Observations also show that teachers do not diversify their use of learning models that are interesting and activating for students. Teachers do not try to incorporate the local advantages of the region into their learning materials. Also, teachers do not use the school environment as a learning resource for their students. As a result, students become less active in learning activities and get bored more easily while studying.

A characteristic of elementary school students who especially like playing and learning activities in the environment. One of his ways to overcome the problem of low student understanding of concepts is to create fun learning by leveraging local culture to keep students active and not bored while learning. That's it. Thematic ethno-edutainment learning is a fun, blended learning experience that integrates local culture into the learning material.

Ethno comes from the word ethnicity and means that it exists in a society and still refers to the prevailing local culture. The term ethno refers to a sociocultural context and is a type of language, jargon, code of conduct, myth and symbol (Wahyuni, 2013). The edutainment is derived from the words education and entertainment (Saepudin et al., 2016). Education means education, entertainment means entertainment. So when it comes to language, edutainment is education that aims to make learning fun and enjoyable. This means that ethnic edutainment learning is learning about the local culture which is fun learning.

In addition to ethno-edutainment learning, teachers can also use thematic learning. Subject learning is one of the integrated learning models in which learning uses themes and links multiple subjects with the aim of providing meaningful experiences for students (Trianto, 2010). One of the advantages of thematic learning is that the focus is on one topic, so the learning is easier to implement, the understanding is more memorable for students, and it saves them more time. Ethnoedutainment-based thematic learning aims to provide students with a more memorable understanding of learning the local culture through a fun learning concept. Thematic learning based on ethno-edutainment is also designed to improve students' conceptual understanding.
The purpose of this research is (1) to improve students' conceptual understanding through thematic learning in ethno-edutainment, and (2) to understand the aspect of improving students' conceptual understanding of thematic learning in ethno-edutainment.

LITERATURE REVIEW

Solving the difference students conceptual understanding

In this study it is hoped that there will be an effect or improve students's concept understanding in science with thematic ethno-edutainment learning. Based on research conducted by Utami (2015) explains that by using a thematic model, teachers can integrate students' attitudes, skills and knowledge. In addition, by using a theme the teacher can also combine various related basic concepts, so as to be able to provide meaningful learning for students. Ethno comes from the word ethnic which means related to the local culture that exists in society which is still general in nature. D'Ambrosio (in Wahyuni, et al, 2013) explained that the word ethno- refers to the socio-cultural context and this is a kind of language, jargon, code of conduct, myths and symbols.

Saepudin (2016) explains that edutainment comes from the words education and entertainment. Education means education, while entertainment means entertainment. So, in terms of language, edutainment is education that aims to entertain or make learning fun. In this study, researchers combined local culture and fun learning by using ethno-edutainment learning. In ethno-edutainment-based learning, students are invited to get to know local culture through fun learning

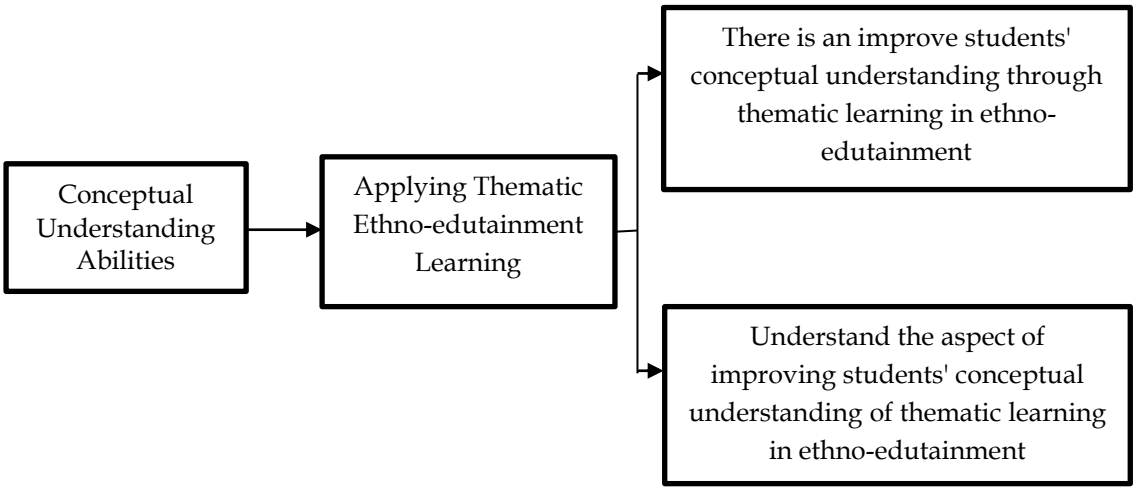
H1: There is an improve students' conceptual understanding through thematic learning in ethno-edutainment

Testing the aspect of improving students conceptual understanding

Fadhli (2014) said that through thematic learning, teachers can instill character values and student learning outcomes increase. Nuraini (2020), students need to develop their abilities so that their understanding of the material becomes better. Goovaerts et all (2019) show that students expect interesting teaching materials to be accompanied by lots of illustrated stories with fun activities related to the surrounding environment. After paying attention to the characteristics and learning difficulties of students, teachers can start developing innovations that can help students. Schibeci (2000) said

teachers need to develop creative and innovative teaching materials to develop their competence. Galih (2016) discovered that culture-based learning elicited a positive response from students.

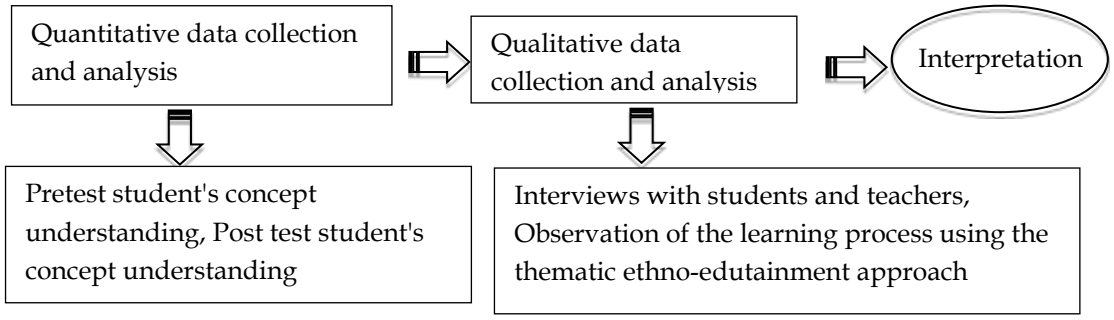
H2: Understand the aspect of improving students' conceptual understanding of thematic learning in ethno-edutainment.



Picture 1. Conceptual Framework

RESEARCH METHODS

This research uses a mixed method approach with descriptive sequential design variants that combine quantitative and qualitative data. The type of applied research in the form of mixed methods aims to generate understanding and strength of varying breadth and depth (Creswell & Creswell, 2018). Explanatory sequential designs start with the collection of quantitative data and then interpret the qualitative results to explain the quantitative results. An illustrative sequential design can be seen in the figure below.



Picture 2. Sequential Explanatory Design (Creswell & Creswell, 2018)

A quantitative phase was conducted to test the learning model using a one-group pretest-posttest design. Students are given an initial test before participating in learning using a thematic approach to ethnographic education. In addition, students are asked post-test questions to determine progress in conceptual understanding.

The questions on the pretest and posttest are similar. Summarizing, Ruseffendi (2010) describes the design as follows:

O X O

Information:
O : Pretest and posttest students' concept understanding
X : Learning using ethno-edutainment thematic learning

The population for this research consisted of fifth grade primary school students in the Kudus Regency. The sample used consisted of fifth graders from four primary schools in the Kudus Regency. Study samples were drawn using targeted sampling techniques by selecting classes according to specific objectives. Class V students were used as a research sample because they tend to enjoy learning with gamified elements and already have knowledge of the local culture.

The data collection method in this study consists of a quantitative data verification method and a qualitative data interview/observation method. The tools used consist of quantitative and qualitative data tools. The types of instruments used can be found in the table below.

Table 1. Research Instrument

No	Data	Data Collection Technique	Instrument	Technique Validity and Reliability
1.	Quantitative	Tes	Soal Pretest Soal Posttest	Validation through trial: 1. Validity 2. Reliability
2.	Qualitative	Interview, Observation, Documentation	Semi Structured Interview Sheet Learning Process Observation Sheet	Face Validity by expert

Data analysis was performed quantitatively and qualitatively. Quantitative data were analyzed using an understanding based on pre-test and post-test results can be calculated using the normalized gains normalized reinforcement test. A normalized gains test was conducted to determine how much conceptual understanding increased before and after learning. Qualitative data were analyzed descriptively and qualitatively. A student's improvement in conceptual formula ⟨g⟩. the normalized gains formula ⟨g⟩ is:

$$\langle g \rangle = \frac{Spost - Spre}{Smaks - Spre} x100\%$$

Information:
Spost = Skor postest
Spre = Skor pretest
Smaks= Skor maksimal (100)

Furthermore, the value of normalized gain $\langle g \rangle$ obtained is translated according to the criteria for obtaining normalized gain $\langle g \rangle$ as presented in Table 2

Table 2. Criteria for Obtaining Normalized Gain $\langle g \rangle$ for patriotism (love motherland).

Normalized gain $\langle g \rangle$	Kriteria
$\langle g \rangle < 0{,}3$	Low
$0{,}3 \leq \langle g \rangle < 0{,}7$	Medium
$\langle g \rangle \geq 0{,}7$	High

RESEARCH RESULT

Recapitulation Students Concept Understanding

This Research was conducted with 5th grade students at a primary school in Kudus Regency. Findings were presented to provide an overview of the different types of data collection in this area. Students are given a pre-test at the beginning of their study to determine the increase in students' conceptual understanding with the application of ethno-edutainment topic learning. The results of her 5th grade pre-test and post-test at Primary School in Kudus Regency are shown in the table below (Table 3).

Table 3. Recapitulation of Students' Concept Understanding Score

Komponen	SD 1 Muhammadiyah Kudus		SD 5 Bae		SD 4 Dersalam		SD 4 Karangbener		**Average**	
	Pre test	Post test	Pre test	Post test	Pre test	Post test	Pre test	Post test	Pretest	Post test
Average	60,3	85,9	64,5	86,7	65,2	87,4	63,7	86,8	63,4	86,7
Highest Skor	82	94	80	98	84	94	80	96	81,5	95,5
Lowest Skor	50	80	60	78	56	82	58	80	56	80

Students' average conceptual comprehension scores after learning are generally higher than their pre-learning scores. This is reflected in the students' average pretest score of 63.4 and average posttest score of 86.7. It was then statistically analyzed the results using a normalized gains test to determine how well students' conceptual understanding improved before and after learning.

Results of Increasing Students Concept Understanding

The Table 4 below shows the results of calculations for enhancing students' conceptual understanding using normalized reinforcement tests.

Table 4. Results for Increasing Students' Concept Understanding

Kriteria	**Persentase**				**Average**
	SD 1 Muhammadiyah Kudus	SD 5 Bae	SD 4 Dersalam	SD 4 Karangbener	
Low	4,16 %	7,69 %	7,14%	13,64%	8,49%
Medium	66,67 %	80,77%	78,58%	68,18%	75,34%
High	29,17 %	11,54%	14,28%	18,18%	18,33%

Based on the table, we can see that the improvement in science students' conceptual understanding results in low improvement of 8.49%, medium improvement of 75.34% and high improvement of 18.33%. Overall, the normalized gain value is 64% or 0.64, placing the interpretation of improvement in learning performance in the moderate category.

DISCUSSION

Students' average conceptual comprehension scores after learning are generally higher than their pre-learning scores. The improvement of students' conceptual understanding is due to the application of thematic ethno-edutainment learning. Therefore, there is a need to develop metacognitive strategies in students to improve their understanding of basic science concepts based on their metacognitive experience (Misu & Arviaty, 2022). Contextual learning is a learning concept that helps teachers relate the material being taught to real-world situations (Santoso, 2017). Moreover, Tanghal and De Leon (2022) penned that the principle of contextualization always goes hand and hand with learner centeredness approach. Most essential learning competencies have to jive with the needs of the learners. It is supported by the opinion (Sagala et al., 2019) that learning in the 21st century requires the integration of learning into the processes of everyday life. Indicators of concept understanding are by repeating concepts, giving factual examples, presenting concepts from various fields of sciences, and solving problems based on concepts (Wondo et al., 2020). The real-life, ethnic-based learning helps students understand concepts (Supriadi et al., 2021). According to opinion Ardianti et al. (2019), the integration of local cultures helps teachers create interesting learning and helps improve the character of love for the motherland. Local wisdom education can train students to become accustomed to care and responsibility in caring for, using and preserving their environment and culture (Wafiqni & Nurani, 2018). A related science activity is the process of abstracting actual everyday experience into a science model, or vice versa. The activities in question are those found in everyday life, such as the use of science concepts in children's games (Rachmawati, 2012); (Ardianti et al 2021)).

Understand and apply cultural concepts, thematic learning can be used to apply these science concepts. Thematic learning provides breadth and depth of curricular implementation by providing many opportunities for students to be active and have deeper learning experiences.

Thematic ethno-edutainment learning as theme-embedded learning by integrating local cultures into learning materials and packaging them into fun activities. Furthermore, Tanghal and De Leon (2022) stated that the contextualization principle always coincides with the learner-centeredness approach. The most important learning competencies must conform to the needs of the learners. Elementary school learning takes place on specific topics according to the characteristics of the elementary school students (Desyandri et al., 2019). According to Anisah & Holis (2020), a characteristic of elementary school students is that they have a perspective of the whole. The elementary school students have an integrative mindset (Ain, 2017). This means that elementary school students understand and integrate knowledge as a whole. There are four phases in implementing thematic learning activities according to the Curriculum Socialization Material 2013 of the Ministry of Education and Culture (Puspita, 2016). Curriculum by prioritizing the dimensions of attitudes, knowledge, and skills; (3) designing lesson plans covering subject areas; and (4) conducting active learning activities for students. To achieve thematic learning, teachers also play a role in determining the learning resources used to support learning activities (Dindin, 2014). The learning resources selected must meet the characteristics of thematic learning: holistic, meaningful, authentic and active. From this thematic learning, each student receives this conceptual insight that provides theoretical and practical implications (Caskurlu et al., 2021); (Mudiono et al., 2016). Its use highlights the excitement they experience in their day-to-day work, the overwhelming workload, and the importance of independence in the classroom (Barnard et al., 2022); (Ramdhani, 2019) .

In this study, integrative subject learning is considered important as it enables students to acquire different knowledge and develop different basic skills across subjects with the same topic. In line with existing research, we also support the view that there are positive outcomes that occur after using local culture-integrated subject learning (Mukniah, 2020);(Syamsuddin et al., 2021);(Utami, 2022);(Mudiono et al., 2016).

CONCLUSIONS AND RECOMMENDATIONS

Based on a comparison of normality gain tests obtained from a dataset of 5th grade students from 4 primary schools in Kudus Regency. Class V students were used as a research sample because they tend to enjoy learning with gamified elements and already have knowledge of the local culture. Of the four primary schools in Kudus Regency, all of them, including the middle criteria, recorded an increase, interpreting it as an increase in learning.

ADVANCED RESEARCH

The researcher's recommendation for applying thematic ethno-edutainment learning to students' conceptual understanding abilities in science is that researchers adequately prepare themselves, facilities and infrastructure

in the form of mobile phones or laptops, local cultural materials, learning concepts that are fun and easy for students to remember.

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