



Supporting and Inhibiting Factors In The Application of The Jigsaw Method In Class V Science Subjects In Elementary School

¹Hendi Susanto, ²Heny Sulistyanningrum, et.al.

¹Universitas PGRI Ronggolawe Tuban

Email Correspondence: hendi.defenders1315@gmail.com

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Abstract

This research describes the supporting and inhibiting factors in implementing the Jigsaw method in science learning for class V elementary schools. The type of research used is a case study with a descriptive qualitative approach. Data collection techniques are interviews, observation and documentation. Miles and Huberman model data analysis techniques which include data reduction, data presentation, and data verification. The aim of this research is to determine the supporting and inhibiting factors for implementing the jigsaw method in science subjects. The results of the research show that the supporting factors are the fulfillment of school facilities and infrastructure, as well as the active role of the school, both by teachers and school principals through programs that are able to increase teacher competence in relation to learning at school and the inhibiting factor is that the jigsaw method requires a long time. old and smart students tend not to want to be put together. The application of the jigsaw method in grade V elementary school science learning begins with the preparation of learning tools such as lesson plans. The teacher carries out the implementation process in learning, including initial or opening activities, core activities and final activities.

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INTRODUCTION

The world of education in Indonesia is currently starting to change to a new curriculum, namely the 2013 curriculum. The 2013 curriculum aims to change old paradigms which in the world of education need to be changed. The old paradigms include teachers more often providing detailed knowledge so that students become lazy. Teachers tend to teach more often using the lecture method and teachers also expect students to be able to sit, be quiet, take notes, and memorize. In the 2013 Curriculum learning will be more contextual or real and the 2013 curriculum changes the pattern from teaching-centered learning (TCL) to student-centered learning (SCL) (Suroño et al., 2019)

The 2013 curriculum is oriented towards mastering holistic competencies using a learning model for elementary school level, namely integrative thematic learning, namely learning that integrates various subjects into one theme, which is then further developed into sub-themes. Meanwhile, competency orientation in learning in the 2013 Curriculum includes attitudes, knowledge, and skills (Yanmi & Wasitohadi, 2019).

Science learning generally contains narrative text which is very monotonous if only delivered using the lecture method without media, so methods are needed that are more active for students and concrete media that is suitable for boring science material to make it fun and easy for students to understand (Turmuzi et al., 2022). This is in line with Piaget's theory in

Isjoni that concrete learning media is adapted to the level of understanding of MI students aged 7-12 years who are still at the concrete operational stage. One method that activates students is the jigsaw method. Jigsaw is a cooperative learning category. The Jigsaw method itself is group learning involving a team of experts and a home team whose members consist of 5-6 heterogeneous people in completing and understanding the lesson material. This method has been researched by Elliot Arosan, and developed by Slavin (Ulwiyah & Mumayizah, 2020).

Jigsaw is the simplest type of cooperative learning model, students are divided into learning teams consisting of four people with different levels of ability, gender, and ethnic background (Kusuma, 2018).

In research Suryanita et.al (2019) the use of the cooperative category jigsaw model can increase the success of class V science learning in elementary school. The increase in success in science learning is caused by student learning activities. Students carry out various learning activities during the learning process. Students carry out learning activities, such as reading books, paying attention to teacher explanations, listening to other groups' presentations, asking questions, expressing opinions, giving suggestions, observing learning video media, and following each stage of the learning process. Students can carry out learning activities well so that they can increase the success of science learning (Suryanita SP & Kusmariyatni, 2019).

Based on the explanation above, researchers are interested in conducting further and in-depth research regarding the supporting and inhibiting factors for implementing the jigsaw method in fifth grade science subjects in elementary schools. Apart from that, this research also continues research from Suryanita et.al (2019) entitled application of the Jigsaw Cooperative Learning Model for science lessons. Based on the results of observations in class V at MI Nurul Huda Ketambul, researchers found supporting and inhibiting factors for science learning. The supporting factors are that MI Nurul Huda Ketambul has facilities to support learning that are quite complete, while the inhibiting factors are a lack of time allocation and students who have low cognitive abilities are difficult to combine with students who have high cognitive abilities.

This research compares with previous research in that researchers do not only focus on the application of the jigsaw method in science lessons, but this research wants to know the supporting and inhibiting factors for the application of the jigsaw method in elementary school science subjects, specifically at MI Nurul Huda Ketambul. This research has an important role in improving the quality of education and helping teachers overcome learning and education problems

METHODS

This type of research is descriptive qualitative. The type of research carried out in this research is a case study, namely research carried out on a unified system which can be a program, activity, event, or group of individuals who are bound by a certain place, time or ties. Case studies with a qualitative approach are field research. Field research is an inquiry to examine a contemporary phenomenon in its actual context (Daniel & Harland, 2017).

The subject of this research is MI Nurul Huda Ketambul which is located on Jalan Krajan KM 2.5, Ketambul, Palang, Tuban in the even semester of the 2023/2024 academic year. Meanwhile, the research object is the supporting and inhibiting factors in applying the jigsaw method to science subjects. The sources taken in this research consisted of a headmaster, fifth-grade teacher, and 19 students. The sampling technique uses purposive sampling, where the sample is considered by the researcher to be most appropriate and able to represent a population. Data collection techniques use interviews, observation, and documentation. Researchers use interviews, observation, and documentation to find out the obstacles teachers and students have in carrying out local wisdom-based learning so that the data obtained is clear. Data validity uses triangulation of sources and techniques. For data analysis techniques, namely

data collection, data reduction, data presentation, and drawing conclusions (Purnamasari & Afriansyah, 2021). This research was carried out by conducting interviews first, then observing and documenting. This survey research was conducted over 7 days.

RESULTS AND DISCUSSION

Based on interviews with research results, the supporting and inhibiting factors for implementing the jigsaw method in science learning in class V at MI Nurul Huda begin with the planning process. Planning is carried out to arrange activity steps so that learning objectives can be achieved optimally. Next, the process of implementing the Jigsaw method is the implementation stage, implementing the implementation of this method by dividing students into original groups and then discussing with the expert group according to the material provided by the teacher, then presenting the results of the discussion and being given practice questions and closing with the final activity, namely evaluating learning activities. To measure the effectiveness of the method applied, the evaluation is carried out in the form of daily repeat tests presented in graphical, tabular, or descriptive form (Winarni, 2017).

Based on the results of interviews regarding the application of the jigsaw method in science lessons in class V at MI Nurul Huda Ketambul, there are supporting and inhibiting factors. Among the supporting factors for this method, the first is the provision of school facilities and infrastructure, as well as the active role of the school, both by teachers and school principals through programs that can increase teacher competence about learning in schools.

Apart from supporting factors, there are also factors inhibiting the implementation of this method, the first is that the jigsaw method requires a long duration of time so the time available is less (Fatimah et al., 2017). To overcome this, teachers only take the most important material/KD to convey to students. This is very effective for maximizing very little time (Nurdyansyah & Mutala'liah, 2018). The second inhibiting factor is that smart students do not want to be put together with less smart students. This is due to differences in the character of the students. To overcome this, teachers provide special direction and guidance to students so that students can follow the learning process well and are willing to work in groups (Fatmawati et al., 2021).

Based on observations, science learning in elementary schools can be carried out well if teachers plan/design learning systematically and carefully. One component that needs attention in learning planning is appropriate methods. Science learning will be interesting and easy for students to understand if the methods applied are appropriate to the situation and conditions of the learning place and the characteristics of the students.

One of the methods in question is the Jigsaw learning method. The jigsaw method is a type of cooperative learning. The jigsaw method itself is a type of group learning involving a team of experts and the original team in completing and understanding the lesson. As the researcher explained in the previous sub-chapter, based on observations that have been made, the initial condition of class V students at MI Nurul Huda Ketambul still has a low level of mastery of science learning material, students tend to be passive, the learning methods used by teachers have not varied, so students bored with the material being taught, learning is only focused on textbooks, so students have no encouragement to develop their knowledge in relating the material to those around them. Science learning is a collection of several subjects that are integrated with a certain theme, the large amount of lesson content and the teacher's lack of creativity in delivering learning makes science learning boring. This can be seen from the number of students who do not pay attention to the explanation of the material that has been delivered by the teacher, many students play alone and chat with friends during the learning process (Sri Astiti & Murda, 2017).

Several of these things result in many students still considering science learning as learning that is difficult for most to understand, resulting in the minimum completion criteria (KKM) not being achieved. This is what encourages teachers to apply the Jigsaw method. This method maximizes collaboration with other students (Nurmalasari & Erdiantoro, 2020).

The main aim of implementing learning methods is so that the learning process can run effectively so that it can improve learning outcomes (Tri Satyawati et al., 2022). Learning outcomes are changes in student behavior, which can be observed in the form of changes in knowledge, attitudes and skills. These changes mean that there is improvement and development that is better than before. Changes that arise in individuals must lead to positive changes in the form of attitudes, habits and understanding skills (Nasution, 2017).

Learning facilities are an important medium that can support students' interest in learning. The lack of direct learning facilities has created conditions for children to be lazy about learning (Miski, 2015).

Supporting Factors

The governance of educational facilities and infrastructure also influences student satisfaction. It should be noted beforehand that active and effective learning is learning in which students acquire specific skills, knowledge and attitudes and is learning that students enjoy. To achieve active and effective learning, management of school facilities and infrastructure is required. The importance of managing facilities and infrastructure to support the teaching and learning process, this has been regulated by Law of the Republic of Indonesia No. 20 of 2003 concerning the National education system (Ariawan & Putri, 2020).

Facilities and infrastructure are one of the important elements in education. Schools that have adequate educational infrastructure really support the teaching and learning process in schools. According to KBBI 2008, the definition of facilities is equipment to achieve learning objectives. Meanwhile, the definition of infrastructure is the main support for the implementation of an educational process (Puspasari et al., 2019).

Educational facilities and infrastructure also have an impact on student learning motivation and student achievement. Educational success is influenced by internal and external factors, one of these internal factors is learning motivation, namely internal and external encouragement in individuals which causes changes in behavior. Apart from internal factors, infrastructure as an external factor also has an impact on student learning activities. For example, a study room with Good conditions will make students feel at home and enthusiastic about learning (HS Sudarto, 2014).

Creating a comfortable classroom atmosphere in the learning process is very helpful in instilling character education (Riyanti, 2020). The teacher's application of a disciplined and orderly attitude in class rules has an influence on the learning process in order to create a comfortable learning atmosphere in the classroom. Creating a comfortable atmosphere in the teaching and learning process is very important. Through a comfortable learning atmosphere, it makes it easier for students to receive learning material and can help achieve learning goals (Jumrawarsi & Suhaili, 2021).

Inhibiting Factors

Apart from the factors that support the implementation of the Jigsaw method in class V science learning at MI Nurul Huda Ketambul, there are also factors that hinder it. The jigsaw method requires a long duration of time because there are several stages to this method. The teacher overcomes the lack of study time by implementing learning by only taking the material that is important (essential KD). This is quite effective because in a very short time it is able to represent the material as a whole (Alfiana & Fathoni, 2022).

Smart students tend not to want to be put in a group with less intelligent students. For some children, of course there are still those who have a selfish nature, including smart students

who tend not to want to be put together with less intelligent students because they feel capable. According to Isjoni, Jigsaw cooperative learning has obstacles or shortcomings. Jigsaw method teaching and learning activities require a long time. For teachers, this method requires different handling because each group has different student characteristics (Heri et al., 2019).

Tabel 1. Research findings

No	Research Focus	Research Findings
1	Implementation of the Jigsaw method in science learning at MI Nurul Huda	<p>1. Planning Teachers prepare lesson plans, prepare teaching materials/materials, prepare media/tools, prepare observation sheets</p> <p>2. Implementation The teacher opens the class, explains the material, groups students, explains about Jigsaw, then students discuss with a team of experts, present the results, strengthen answers, work on group questions.</p> <p>3. Final Activities, making conclusions, giving awards, holding reflections, informing about the next material, closing with prayers and greetings</p>
2	Supporting and inhibiting factors in implementing the Jigsaw method in science learning at MI Nurul Huda	<p>1. Supporting Factors</p> <p>a. Availability of adequate facilities and infrastructure, such as buildings, classrooms, laptops, internet networks, and materials.</p> <p>b. There is an active role from the school in its efforts to increase the effectiveness of learning in schools, both by teachers and school principals. This is demonstrated by the existence of supervision activities, learning evaluation, provision of learning tools/media and training activities that support the learning process.</p> <p>2. Inhibiting Factors</p> <p>a. The lack of time allocated for implementing the Jigsaw method is because the jigsaw method requires a long time. The solution is that teachers only take the most important KD material (essential KD) to convey so that not all material is taught in its entirety.</p> <p>b. Smart students tend not to want to be put together with less smart students. For students with learning characteristics as above, the teacher gives special attention to these students, so that students are slowly able to follow the learning process well.</p>

CONCLUSION

The conclusion of research on supporting and inhibiting factors in implementing the jigsaw method in class V science lessons at MI Nurul Huda Ketambul is that there are supporting and inhibiting factors. Among the supporting factors for this method, the first is the provision of school facilities and infrastructure, as well as the active role of the school, both by teachers and school principals through programs that are able to increase teacher competence in relation to learning in schools. Apart from supporting factors, there are also factors inhibiting the implementation of this method, the first is that the jigsaw method requires a long duration of time so that the time available is less. The lack of time for students to study means that teachers have to be creative in implementing learning by only taking the material that is important. The second inhibiting factor is that smart students do not want to be put together with students who are less smart. This is due to differences in the character of the students.

SUGGESTION

As a follow-up to the research that has been conducted, the researcher provides the following suggestions: (1) to find out the supporting and inhibiting factors for the jigsaw method in science learning, (2) students should be more active and enthusiastic when participating in science learning

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