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Analysis of Teaching Methods in the Classroom Inclusive For Increase Student Science Literacy Elementary school

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Abstract. Study This aims To analyze the effectiveness of various methods of teaching applied in class inclusive in increasing literacy of science students at the level of education base. Classroom inclusive is environment education where students need special Study together students regularly. Study This uses an approach qualitative with method studies involving cases in several schools the basis for applying it system class inclusive. Data is collected through observation class, interviews with teachers and students, and analysis document learning. Research results show that teaching collaborative and based projects effectively increases literacy science students in class. Approach This possible student with different abilities For Work the same and mutually helps understand scientific concepts. Additionally, the use tool visual aids and technology education has proven increase understanding student to the material science taught. Teachers who have understanding and skills manage class inclusive role important in successful method teaching them. This study concludes that combination method of teaching collaborative based projects and using technology can increase literacy science in a way significant among students in class inclusive. Recommendation for practitioners' education is to keep going develop and implement adaptive and inclusive teaching strategies To support diverse needs Study student.

Keywords: teaching methods; inclusive classes; scientific literacy

INTRODUCTION

Based on the 1945 Constitution, all citizens have the right to get education. Problem This is Then confirmed with Constitution Number 20 of 2003 concerning the National Education System. Top rights education is given all over society, including child need specifically (Moghtaderi et al., 2020). According to data from the Central Statistics Agency (BPS) in 2017, the number child needs specifically in Indonesia reached 1.6 million soul. Referring to the kemdikbud.go.id website, from 1.6 million child need specifically, only 18% got it service education inclusive (Wijaya and Anggriawan, 2022).

However, it's worth understanding that spectrum children need specifically two decades Lastly, including; Pervasive Developmental Disorder-Not Otherwise Specified (PDDNOS), Speech Delay, Learning Difficulties, Attention Deficit Disorder (ADD), Attention Deficit Hyperactivity Disorder (ADHD) (Yuwono and Mirnawati, 2021). To overcome the problem, the government has emitted a policy For support provider service education special for child needs specifically (Widiastuti, 2020). This is known by the term education inclusive. Inclusive education is understood as something system of purposeful education For realizing the concept of “Education for All ” (Wahyudi and Latif, 2023). Based on Minister of National Education Regulation Number 70 of 2009, education inclusive is interpreted as something system maintenance education for participants educate disabled person disabilities and participants educate disabled person those with disabilities potency intellectual and/ or talent specifically (Putra, Herningrum and Alfian, 2021). Inclusive education is held in accordance with practice education in general. That's what is expected in practice education put forward the principle of diversity and not discrimination. However, more Lots attention is required To apply education inclusion in school basics (Paramansyah, 2024). Service education that includes children with needs Special (ABK) learning together with Children in Need Special (ABK) age peer own Lots problem. School Still reject For accept students with need specifically (Mahandi et al., 2022). One of them is because teachers don't Ready For choose methods and sources study accordingly with heterogeneity class.

Not only students who have need especially those who receive it access to education inclusive. Inclusive education help development character students who don't own need special (regular) (Fauzan et al., 2021). In general, students own ability For instill a sense of acceptance love, tolerance and appreciation to difference. In general, students own ability For instill a sense of acceptance love, tolerance and appreciation to difference. There are many condition child need

special, incl condition physical, emotional, mental, social and behavioral. Various condition child need special influence consequences, esp implementation (Bancin, Corry and Haloho, 2023)

Literacy science is ability knowledge science, identify questions, and interesting conclusion based on evidence in frame understand as well as make decision regarding with nature and the changes it makes to natural through activity man. According to Norris and Philips (Abidin, 2017: 141) stated term literacy science used For a number of aspects that include matter following, (1) Knowledge about content substantive science and ability For differentiate from nonscience ; (2) Understanding science and application ; (3) Knowledge about science That Alone ; (4) Freedom in Study science ; (5) Ability think scientific ; (6) Ability use knowledge science in solve problem ; (7) Required knowledge For participate intelligent in issues based science and (8) Understanding about traits science, incl connection with culture. Study This aims To analyze the effectiveness of various methods of teaching applied in class inclusive in increasing literacy of science students at the level of education base.

METHODS

Research methods used in the study This is a method study qualitative. Approach Qualitative chosen To get an understanding deep about the benefit collaboration between student regular and child need special (ABK) in science learning as well For dig experience and perspective participant in a way holistic. Participants study consists of student regular and crew members involved in collaboration in science learning. Data collection was carried out through observation classes, questionnaires between friends, and interviews related to inclusion programs and guidelines learning.

At the class observation stage, researchers observed interactions between regular students and special needs students during science learning activities. Observation was done with notice dynamics group, communication, collaboration, and level participation from group student. Next, interview individual or group small done with student regular and crew members for get more understanding in about perception they to collaboration in science learning. The interview focused on the experience students had in collaborate, their benefits, the challenges faced, as well perspective they to inclusion and participation.

The collected data was analyzed thematically, by identifying patterns, themes, and relationships between data obtained from observations, questionnaires between friends, and interviews. The results of the analysis are then interpreted to gain a comprehensive understanding of the benefits of collaboration between regular students and ABK in science learning. This qualitative research method is expected to provide in-depth insight and a holistic understanding of the collaborative contribution of regular students and special needs students in science learning, as well as encourage the development of better inclusive practices in the educational context.

RESULTS AND DISCUSSION

Table 1. Percentage of Collaboration Skills groups

No	Indicator	Information Analysis 1	Collaboration Skill Group Percentage			
			1	2	3	4
1	Contribute actively	Observer	68	56	82	77
		Between Friends	60	70	68	80

This indicator is measured when students contribute to the group. Observed student activities include asking, giving opinions, responding, and giving ideas or solutions to solve problems. There are 3 statements used as a reference to measure student contributions, namely the statements: 1) Contribute by participating or providing ideas in group discussions; 2) Participate in trying to find and provide answers to the problems being worked on; 3) Use more than one learning source (not focusing on one source) and record the necessary information.

Student-centered learning is designed to provide a learning system that suits students' learning styles so that they can play an active and independent role in the learning process, find sources of information to answer their needs, and build knowledge based on sources that have been found (Millah, 2015). This is related to the 3 statements used to observe indicators of actively contributing.

Based on the percentage results in Table 1, the indicators actively contribute to getting more than sufficient value. In the first statement, namely "Contribute by participating or providing ideas in group discussions", results were obtained when

regular students were able to provide explanations in language that were easy to understand so that ABK could understand the explanation in question. Learning will be achieved if there is good interaction between the teacher, students, and the material presented (Utami, 2019). So regular student treatment of ABK will help teachers in delivering material again, this collaboration is included in the principle of collaboration which contains the delivery of messages.

The statement "Participate in trying to find and provide answers to the problems being worked on" is observed when regular students become facilitators in group discussions so that ABK becomes enthusiastic about solving problems. In communicating, teachers must take a humanist approach by developing students' positive feelings by developing positive personalities such as by giving praise even for doing small things. So that a positive personality will support the learning process so that it runs well (Nuryani et al., 2016). With positive feelings, students will be able to accept lessons more easily and become enthusiastic about learning them. Apart from ABK, the development of positive feelings is also needed for regular students by being directed to respect other people regardless of their shortcomings (Anisah & Azizah, 2016).

The project-based learning model can train students to be active in learning as in the statement "Using more than one learning source (not focusing on one source) and recording the necessary information", the results obtained are that regular students are able to use more than 1 learning source and record the information necessary so that crew members become enthusiastic about helping to collect this information (Nainggolan & Daeli, 2021). In this statement, students will try to solve the problem by collecting information from relevant sources, and by recording this information, students can obtain a wide range of information and can conclude the advantages of the chosen solution. The benefit of many learning resources is to expand knowledge so that students get a lot of information and more concrete learning experiences so that students will develop further into positive things (Anisah & Azizah, 2016).

Based on the data from the 4 groups in Table 1, collaboration skills in the indicators actively contribute to obtaining good results. A related theory, namely Piaget's theory, argues that individuals who are actively involved in learning, such as participating in discussions, asking questions, and interacting with subject matter will have the opportunity to deepen their understanding through critical thinking, reflection, and collaboration with others (Nainggolan & Daeli, 2021). Even though they come from different classes and different categories of students, students can still collaborate well in groups. Students who don't contribute enough usually because they can't concentrate, there are several factors that can cause students to lose concentration on learning according to Aviana & Hidayah (2015), including not having self-motivation, students not getting along with friends, and an uncomfortable learning environment. The combination of project-based collaborative teaching methods and the use of technology can significantly increase scientific literacy among students in inclusive classes. The recommendation for educational practitioners is to continue to develop and implement adaptive and inclusive teaching strategies to support students' diverse learning needs.

CONCLUSION

The conclusion of this research is that regular students and children with special needs (ABK) have succeeded in actively contributing to science learning. They are able to participate in group discussions, find solutions, use various learning resources, and record necessary information. Good interaction between regular students, ABK, and teachers, as well as a humanist approach to developing students' positive feelings, has an important role in building motivation and enthusiasm for learning. Project-based learning models are also effective in engaging students in active learning. Overall, collaboration between regular students and ABK in science learning can increase student contributions in groups and create an inclusive environment that allows all students to participate actively in achieving learning goals. The combination of project-based collaborative teaching methods and the use of technology can significantly increase scientific literacy among students in inclusive classes.

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