

THE EFFECT OF AUDITORY INTELLECTUALLY AND REPETITION LEARNING MODEL ON STUDENTS' CRITICAL THINKING ABILITIES IN ELEMENTARY SCHOOLS

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ABSTRACT

21st century learning emphasizes the development of critical thinking, creative, collaborative, and communication skills. The learning model applied at school greatly influences students' critical thinking skills. This study aims to determine the effect of the Auditory Intellectually Repetition (AIR) model in improving students' critical thinking skills in grade V mathematics subjects at SDN Poja 2, with 29 students as respondents. The method used in this research is experimental quantitative research method with one group pretest-posttest design. The result of this research shows that the percentage of AIR model implementation on learning outcome is 90% in very good category, while the effect of AIR model on critical thinking ability is 72% in good category. The result of t test shows t count is 11.68 and t table is 1.071 because t count is more than t table, then H1 is accepted and H0 is rejected. In the implementation of AIR learning model, the teacher distributed pretest-posttest questions to determine the effectiveness of AIR model on students' critical thinking skills. Therefore, these result it shows that the AIR learning model has a significant effect on students' critical thinking skills.

Keywords Learning Model, Auditory Intellectually And Repetition Learning (AIR), Critical Thinking

A. INTRIDUCTION

Learning is defined as an effort to create an impression of learning in a person and its controlled implementation (Siregar & Widyaningrum, 2015). The statement emphasizes the same thing that adaptation of developments in education from a learning perspective is a challenge to the Industrial Revolution 4.0, known as 21st-century learning (Harapan, 2023). 21st-century learning is a continuation of the principles of learning, which reflect the pillars of education: learning to know, learning to do, learning to be, and living together (Laksana, 2021). Empowerment of these principles is applied to student-centered learning, developing critical skills, problem-solving, communication, collaboration, innovation, and literacy for the future, which is attempted through direct involvement with the community (integrated with society) (Zubaidah, 2016). Education in the Generation Z era is an induction of 21st-century learning. Three 21st-century competencies: thinking (critical, creativity), acting (communication, collaboration), and living in the world (initiative, social responsibility) (Lukum, 2019). This is realized with comprehensive learning components. In addition, (Adisel et al., 2022) also interpret the components that it is necessary to pay attention to objectives, sources, strategies, media, and evaluation in learning. One of the benchmarks for the components of learning success encompassing the implementation of learning is the learning model. The proper learning model selection is based on the ability or capacity, characteristics, needs, materials and learning objectives, and the level taken. Types of learning models, such as direct learning, discovery learning, cooperative, contextual, PBL, PjBL, and others, help students absorb material more easily (Sueni, 2019). However, this study only focuses on one cooperative learning model, namely the auditory,

intellectual, and repetition learning model, which influences students' critical thinking skills to determine the realm of perspective of students' understanding of the material studied.

The application of learning models like the previous review aims to reflect on improving students' critical thinking skills. Students can re-examine, integrate, associate, and re-analyze a concept or information obtained if it is still lacking. In addition, nuances or interests resulting from the imbalance in implementing learning models with materials, conditions, or student needs that are not appropriate are often found. Teachers or educators tend to be indifferent to this, resulting in less than-optimal learning outcomes. On the other hand, the lack of student participation does not give the impression of meaningful learning. Monotonous learning outcomes without a continuous supply instill a mindset or thought of understanding concepts by memorizing.

Therefore, the auditory, intellectual, and repetition (AIR) learning model is considered the most effective and efficient learning requiring high-level material consolidation and reasoning. The ability to solve problems and the realm of critical thinking will create a stimulus or impression of habits in students that refer to increasing their learning achievements, results, and achievements. Based on the results of the pre-observation conducted at SDN POJA 2 on December 20, 2023, it was described that the learning that had taken place was standard, namely by using a direct learning model or theoretical rationality that placed the teacher as the leading center in learning. In the data collection activity, several essential elements were involved in supporting the initial data collection of the study, such as tests, documentation, and interviews. The preliminary research in this study was also carried out by analyzing the assessment system, both formative and summative, in the scope of the material and the final semester summative on the material and related research objects. The results showed that 56% of students had scores below the achievement standard, and 44% had moderate qualifications slightly above the achievement value standard. Thus, from these data, it is known that the low cognitive abilities of students, especially in solving fundamental numeracy problems, are due to the lack of optimization of the competencies possessed by students in strengthening the material in depth. Therefore, students are considered less able to develop their intelligence abilities when facing learning simulations with the same or different questions. In learning activities using the lecture method in the direct learning model launched by the teacher, it is lacking due to the lack of preparation for the actualization of the learning model before learning takes place, so in learning activities, the teacher only teaches by answering questions and the teacher is also considered less capable of applying the correct learning syntax and coordinating fun, interactive, motivating learning, focusing concentration on developing thinking skills, especially in exact subjects, namely Mathematics for grade V as an output for theoretical functions. This is also in line with what was conveyed by (Hapsari et al., 2023), who emphasized that the lecture method is considered less effective because it lacks students' intuition about the learning that is taking place when compared to methods that emphasize direct learning practices.

In addition, in the class, some students cannot solve problems in the realm of thinking related to basic numerical calculations related to number operations. Thus, from the description of the ideas put forward by the informant, the critical thinking skills of class V at SDN Poja 2 are very lacking or categorized as low. To overcome this problem, preventive measures are needed, namely by applying a learning model that can improve students' critical thinking skills. Thus, the researcher chose the auditory, intellectual, and repetition (AIR) learning model to be applied because, in addition to developing communication skills, it also applies complex concepts and an in-depth understanding of the material. From the alignment between the model and the output of critical thinking, the researcher is

interested in the research title: "The Effect of the Auditory, Intellectually and Repetition (AIR) Learning Model on Students' Critical Thinking Skills in Mathematics Subjects for Class V at SDN POJA 2".

B. RESEARCH METHOD

In this study, the researcher used a quantitative research method with a one group pretest-posttest design. The population in this study were all fifth grade students at SDN Poja 2 2024/2025. The sample in the study was fifth grade students as a class that used the auditory, intellectually and repetition (AIR) learning method (experimental class) with a simple random sampling technique. Data collection techniques in this study were documentation and tests. The research instruments were documentation, tests, and trials of research instruments. The data analysis technique in this study used the normalize gain test, normality test, and hypothesis testing using the t-test.

C. RESULT AND DISCUSSION

Before the test was tested, the instrument was tested for validity and reliability, discrimination power, and difficulty level. The test results were reviewed based on students' learning outcomes and critical thinking skills before and after being given treatment in the experimental class as described. The validity test was carried out using product moment correlation. As for the results of the validity test with $df = (N-2) = 27$, $\alpha = 0.05$, and $r_{table} = 0.312$, all questions are declared valid as in Table 1 below:

Table 1. Validity Test Results

Question Form	No	Correlation Coefficient	Criteria
Multiple choice	1.	0.63	Valid
	2.	0,59	Valid
	3.	0,75	Valid
	4.	0,39	Valid
	5.	0,41	Valid
	6.	0,6	Valid
	7.	0,45	Valid
	8.	0,43	Valid
	9.	0,4	Valid
	10.	0,45	Valid
Essay	1.	2,07	Valid
	2.	3,13	Valid
	3.	1,65	Valid
Description	1.	2,34	Valid
	2.	3,2	Valid
	3.	2,42	Valid

The reliability test in table 2 obtained a result of 0.747 with a moderate category with a reliability coefficient > 0.70 , meaning that the research test instrument is reliable. The calculation results are as follows.

Table 2. reliability test result

Reliability Statistics

Cronbach's Alpha	N of Items
,747	16

The difficulty level test used in this study uses the proportion of correct answers to pretest and posttest questions with the following formula:

Table 3. Difficulty Level Test Results

Problem Form	Question Item Number	Difficulty Level	Keterangan
Pilihan ganda	1.	0,76	Easy
	2.	0,83	Easy
	3.	0,62	Medium
	4.	0,76	Easy
	5.	0,66	Medium
	6.	0,76	Easy
	7.	0,69	Medium
	8.	0,62	Medium
	9.	0,69	Medium
	10.	0,31	Hard
Isian	1.	0,71	Easy
	2.	0,71	Easy
	3.	0,69	Medium
Uraian	1.	0,68	Medium
	2.	0,61	Medium
	3.	0,67	Medium

From table 3, it can be said that there are 6 questions with an easy level of difficulty, 9 questions in the medium category and 1 question in the difficult category. Based on the test, the results obtained were that there were 11 questions with a moderate discrimination power category and there were 5 questions with a good discrimination power category. The data interprets the escalation reviewed from the pretest and posttest learning outcomes and students' critical thinking, namely from 59.8 to 77.6 and 61.8 to 77.4. Thus, the AIR dissolution of activities instructs material consolidation in line with the results and necessary abilities. It can be assumed that students' critical thinking skills are still low because the percentage below the standard achievement value is 56%, as many as 16 students did not complete, and those who reached the standard achievement are 44%, as many as 13.

The results of the research data analysis show that the auditory intellectual repetition (AIR) learning model affects students' critical thinking skills. This is evidenced by the increase in the value, average, and percentage of the posttest and pretest. The research data shows the lowest pretest value is 22, while the highest value is 92 with an average value of 61.8, the lowest posttest value is 49, the highest value is 99 with an average value of 77.6, and the percentage of incomplete achievement scores of students from the original 45% to 28% and students who achieved completeness from 55% to 72%. Judging from the pretest-posttest comparison, it can be concluded that students' critical thinking skills have increased. The auditory intellectual repetition (AIR) learning model makes students more active, communicative, collaborative, and interested in following the lesson. In addition, using the auditory intellectual repetition (AIR) learning model is very effective in understanding the concept of learning materials in depth so that the material presented is easy for students to understand. Thus, applying this model is relevant in improving students' critical thinking skills. This is in line with the results of the study (Astuti et al., 2018), which explains that the auditory intellectually repetition (AIR) learning model influences magnetism lessons in grade IX because it can foster new enthusiasm in students so that it can improve the learning outcomes achieved well. In addition, learning using Wordwall media is better because this application is straightforward, and students are

considered more enthusiastic and confident in exploring information and better understanding the learning and material presented by the teacher.

D. CONCLUSION

The research and analysis results concluded that the learning model (AIR) significantly improved the critical thinking skills of fifth-grade students of SDN Poja 2 in Mathematics. This was shown by the t-test with $t_{count} (11.68) > t_{table} (1.701)$, so that H_1 was accepted and H_0 was rejected. Thus, the AIR (Auditory Intellectually Repetition) learning model significantly influenced students' critical thinking skills in the mathematics subject of decimal multiplication material for fifth-grade students of SDN Poja 2, Ambunten District. To improve the essential skills of thinking of fifth-grade students at SDN Poja 2, the researcher provided suggestions and input to SDN Poja 2 as a reference in modifying the class teacher program in actualizing the auditory intellectually and repetition (AIR) learning model as an option for one of the models in improving students' critical thinking skills, becoming one of the models that can be implemented in improving students' critical thinking skills and encouraging students in the learning process so that they can maximize essential thinking skills and learning outcomes by implementing the auditory intellectually and repetition (AIR) model.

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