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The Application of Audiovisual-Based Auditory Intellectual Repetition Model in Improving Learning Outcomes of Grade IV Natural Sciences

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Abstract: This study aims to analyze the increase in student learning outcomes in science learning by using audiovisual-based auditory intellectually repetition models. This class research was carried out in class IV of Public Elementary School No. 04 Hadipolo Kudus, totaling 20 students, and it lasted for two cycles. Each cycle consists of two meetings. The dependent variable is student learning outcomes, and the independent variable is audiovisual-based auditory intellectual repetition models. Data collection methods used include interviews, observation, tests and documentation with quantitative and qualitative analysis techniques. The results showed that after applying the audiovisual-based auditory intellectual repetition model in cycle I, students obtained a score of 74 and 55% of student completeness. The increase in the results of critical thinking skills in cycle II was 81, and the percentage of student completeness was 95%. So, the application of the audiovisual-based auditory intellectually repetition model can improve the science learning outcomes of class IV students at Public Elementary School No. 04 Hadipolo.

Keywords: Learning outcomes, auditory intellectually repetition, audiovisual

1. Introduction

Merdeka Belajar is 21st-century learning that is designed by coordinating various mastery abilities and learning visions into the learning process, which is illustrated in the 21st-century learning structure (Yamin & Syahrir, 2020). The framework or structure describes the knowledge, skills and expertise that are useful for the lives of learners. The principle of independent learning is expected to accelerate the process of education reform in Indonesia, which has been considered slowly withering. The Minister of Education and Culture even initiated the term education deregulation because education regulations have been considered to hinder the process of achieving education reform, leading to the low quality of education in Indonesia

Learning in the independent curriculum emphasizes the concentration of the learning process on students. This means that students are required to be active, creative, and able to think critically (Munte, 2022). However, the reality is that in the current curriculum transition, there are still many students who still need to be ready to face it. Such as the breakdown of thematic learning into independent learning content, one of which is IPAS learning.

One of the learning contents that needs to be taught in the implementation of the Merdeka curriculum is IPAS. IPAS content aims to understand the surrounding environment, and science and social studies subjects are combined as Natural and Social Sciences (IPAS) subjects (Septiana & Hanafi, 2022). This research will focus only on science learning. Science subject content is one example of a field of study that has a vital role in education, and students are required to study this content since elementary school.

For the realization of competent students, the proper learning process is needed. As with the learning process that takes place at Public Elementary School No. 04 Hadipolo, students tend to be passive in participating in IPAS learning. In the findings of preliminary data acquisition observation data, it can be understood that grade IV students at Public Elementary School No. 04 Hadipolo experienced a decrease in learning outcomes in science learning, with a percentage of 62% of students scoring below the threshold value with an average of 53.9. This is caused by students' low

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understanding of the material, which is indicated by students who are still passive and think that the IPAS subject could be more exciting. Given the importance of IPAS learning in elementary schools, of course, it needs special attention, such as improving student learning outcomes, especially in science subjects, in order to create a creative and innovative learning process and improve student learning outcomes.

Learning outcomes are essential for students in the course of learning activities. With learning outcomes, students are not only results-oriented but also in the course of the learning process. According to Ma et al. (2016), learning outcomes are the formation of concepts, namely the categories we give to stimuli in the environment. These provide an organized scheme for assimilating new stimuli and determining relationships within and between categories.

Overcoming these problems, researchers provide solutions by implementing innovative learning that improves student learning outcomes. The learning process is carried out using learning media that will attract students to be more eager to learn. Therefore, researchers use the audiovisual-based auditory intellectually repetition learning model so that students are more interested in the learning process and improve student learning outcomes.

The auditory intellectually repetition learning model is a type of teacher-and-student interaction learning in the classroom that involves strategies, approaches, methods, and learning techniques applied in the implementation of teaching and learning activities (Weinstein & Underwood, 2014). This model uses three stages, namely listening, thinking and repeating; these three stages make learning more effective. This is reinforced by the opinion (Satriawati & Irwan, 2019), that the AIR learning model considers that a learning process will be more effective if it pays attention to three things, namely auditory (hearing), intellectually (thinking) and repetition.

This auditory intellectual repetition model can be used to train students to communicate what they think and feel with audiovisual-based. Audiovisual media is used to make it easier for students to absorb the material provided by the teacher. According to Suryani et al. (2019), states that audiovisual technology is a way of producing or delivering material using mechanical and electronic machines to convey audiovisual messages.

The above statement is supported by previous research conducted by Abdul et al. (2022), with the results of this study showing that learning science with the learning model (AIR) can improve the learning outcomes of grade IV students of Public Elementary School Cangkringturi. Meanwhile, further research by Wedyawati & Gamilina (2018), who conducted similar research, obtained results in cycle I average results of learning activities at 86.96%—in cycle II, they obtained an average result of 91.30% in science learning.

Based on the description of the existing problems, the researcher aims to analyze how the application of the audiovisual-based auditory intellectual repetition model can improve learning outcomes in IPAS learning for fourth-grade students of Public Elementary School No. 04 Hadipolo. The focus of the problem, the subject matter, and the school where the research was conducted are things that distinguish this research from previous research. The author of this study focuses on the problem of low student learning outcomes.

2. Literature Review

According to Sutarno & Aisyah (2018), learning is the result of a sequence of activities that teachers and students carry out in educational settings in order to accomplish specific objectives. These actions are founded on reciprocal connections. It is crucial that educators become proficient in a variety of teaching modalities. In order to accomplish the learning objectives and finish the learning process as planned, a teacher will then believe that it is simple to implement learning in the classroom. One issue with theme learning in the classroom is that pupils don't always fully absorb and retain the information that is taught to them. Students can acquire relevant knowledge when teachers act as motivators and facilitators in the learning process. Learning that fosters creativity, improves ideas and concepts, and yields the best outcomes is considered meaningful learning.

One of the known learning models is AIR, the acronym for Auditory, Intellectually, Repetition. Learning by hearing is referred to as auditory learning. The learning technique known as auditory accesses all words and sounds, both produced and retained. Learning that requires using one's thinking to solve problems is referred to as intellectual learning. Elisa et al. (2019) highlighted that intellect is a tool for meaning-making, a way for people to think, connect concepts, and build brain networks. This process is undoubtedly aided by mental, physical, emotional, and intuitive components; it does not occur on its own. This is how experience and knowledge are converted into wisdom by the intellect. According to Zulham & Herdiana (2023), learning requires the use of cognitive skills such as problem-solving, identification, investigation, identification, discovery, creation, and construction. Repetition is what it is called. When used in reference to learning, it means that students are strengthened, deepened, and expanded through assignments and quizzes (Fazriani, 2022).

Palguna et al. (2020), describe of three components of the AIR learning model—learning by thinking, learning by hearing, and repetition—are highlighted. Meanwhile, Bonatua et al. (2021), state the AIR learning model satisfies one of the fundamental requirements of a conducive model, which is that knowledge will expand and deepen from firsthand experience. In conclusion, the AIR learning model can satisfy the fundamental requirements of a conducive model, which are that information will expand and develop via firsthand experience, by emphasizing three learning strategies: listening, thinking, and repetition. Students will find it simpler to complete test questions in this method. The goal of the AIR learning model is to help students retain the information they have learned by using their sense of hearing and their mental faculties to solve problems. This process is repeated over time.

Given the significance of this lesson, science education ought to be thoroughly integrated into the curriculum at school. If all of the predefined learning objectives—which are outlined in the thematic learning goals of the science content—can be met, then science learning is considered successful (Fazriani, 2022). In actuality, though, some institutions continue to have low science content thematic learning outcomes since their students haven't met the requirements for graduation. By conducting research that develops process skills related to how scientific products are discovered, the essence of science as a process is realized. But in practice, there are several challenges that come up while trying to help pupils enhance their skills, one of which is conceptual understanding (Putri et al., 2016). Youngsters typically think in tangible terms before moving on to abstract ones. He must therefore be fully aware of what he is going through. On the other hand, in practice, a lot of teachers still give lectures that cover the entire curriculum, and students are pushed to memorize and accept the information right away even if they are unable to verify it. Students' lack of passion in class is another issue that comes up.

Actively involving kids in the learning process is challenging. Examining this student inactivity is necessary because, in the actual world of the field, a lot of knowledge products are still produced without providing students with the chance to learn and engage in the process of obtaining knowledge (Purbarani et al., 2018). Results from a lack of teacher involvement in the learning process, time constraints, and inadequate instructional aids. There is no doubt that this issue affects students' learning outcomes.

3. Methodology

This research is a classroom action research conducted in August 2023. Nazari (2022), which consists of 4 cycles or stages of activity, including planning, action, observation and reflection. The subjects of this study were fourth-grade students of Public Elementary School No. 04 Hadipolo Kudus, totaling 20 students in the 2023/2024 school year. The independent variable of this research is the audiovisual-based auditory intellectually repetition learning model, and the dependent variable of this research is IPAS learning outcomes. The research data collection technique used observation methods, measurement of test scores, interviews and documentation. The data analysis used in this research is quantitative and qualitative.

4. Results

Research data were taken from Public Elementary School No. 04 Hadipolo students in the 2023/2024 school year, totaling 20 students. This research is a Classroom Action Research (PTK), which aims to determine the application of the audiovisual-based auditory intellectual repetition model to the learning outcomes of fourth-grade students in IPAS learning. Data from the pre-cycle, cycle 1 and cycle 2 test results are used to determine differences and improvements in the ability of grade IV students of Public Elementary School No. 04 Hadipolo.

4.1 Pre-Cycle Student Learning Outcomes

Pre-cycle activities are also used to request the value of learning outcomes in the IPAS content as initial data to carry out research; from the results of these values, it is known that the value of student learning outcomes is still low and has not reached the KKM.

Table 1 shows the learning outcomes of IPAS subjects in the knowledge aspect of class IV students with a total of 20 students; 4 students completed the Minimum Completeness Criteria (KKM), and 16 students did not complete the KKM. Learning outcomes in the knowledge aspect of pre-cycle students in IPAS subjects show results that are classified as low, namely a score of 68 with category D (Needs guidance).

Tabel 1- Pre-cycle learning outcomes.

No.	Interval	Learning outcomes	
		F	%
1.	90 – 100	-	-
2.	80 – 89	-	-
3.	70 – 79	4	20%
4.	< 70	16	80%
Total		**20**	**100%**
Completed ≤ 70		**4**	**20%**
Not completed< 70		**16**	**80%**
Highest		**73**	
Lowest		**60**	
Average		**68**	

No.	Interval	Learning outcomes	
		F	%

4.2 Student Learning Outcomes Cycle I

In this study, the calculation of student learning outcomes test scores was carried out to see whether the learning activities provided were effective in improving learning outcomes. In this study, the calculation of student learning outcomes in cycle I.

Table 2 shows the learning outcomes of IPAS subjects in the knowledge aspect of class IV students with a total of 20 students; 11 students completed the KKM, and nine students did not complete the KKM. Learning outcomes in the knowledge aspect of cycle I students in IPAS subjects show results that are classified as low, namely obtained a score of 74 with category C (Sufficient).

Tabel 2 - Cycle I learning outcomes.

No.	Interval	Learning outcomes	
		F	%
1.	90 – 100	-	-
2.	80 – 89	5	25%
3.	70 – 79	6	30%
4.	< 70	9	45%
Total		**20**	**100%**
Completed ≤ 70		**11**	**55%**
Not completed < 70		**9**	**45%**
Highest		**86**	
Lowest		**67**	
Average		**74**	
Category		**C**	

4.3 Cycle II Student Learning Outcomes

The results of the cycle were outside of the desired objectives. In cycle II, students participated in follow-up activities designed to improve their learning outcomes. Table 3 shows the learning outcomes of IPAS subjects in the knowledge aspect of class IV students with a total of 20 students; 19 students completed the KKM, and there was one student who did not complete the KKM. Learning outcomes in the knowledge aspect of pre-cycle students in IPAS subjects show results that are classified as low, namely obtained a score of 81 with category B (Good).

Tabel 3 - Cycle II learning outcomes.

No.	Interval	Learning outcomes	
		F	%
1.	90 – 100	1	5%
2.	80 – 89	9	45%
3.	70 – 79	9	45%
4.	< 70	1	5%
Total		20	100%
Completed ≤ 70		19	95%
Not completed < 70		1	5%
Highest		92	
Lowest		69	
Average		81	
Category		B	

The results of the cycle II student knowledge test obtained results above the predetermined success criteria of 81 with a good category with a classical completeness of 95% with a high category, so that it has reached the specified minimum limit of ≥ 80 in the excellent category, with high classical completeness at least the percentage obtained is ≥ 80% in the high improvement category. A comparison of student learning outcomes from the preliminary study, cycle I and cycle II.

Table 4 shows that the results of the cycle II student knowledge test obtained results above the predetermined success criteria of 81 in the excellent category with 95% classical completeness in the high category, so that it has reached the specified minimum limit of ≥ 80 in the excellent category, with high classical completeness at least the percentage obtained ≥ 80% in the high improvement category.

Tabel 4 - Analysis of student learning outcomes.

Stages	Student Completed	%	Average	Cat.
Pre-cycle	4	20%	68	D
Cycle I	11	55%	74	C

Cycle II	19	95%	81	B

5. Discussion

Based on the results, the application of the auditory intellectual repetition model based on audiovisual media provides an increase in learning outcomes in the knowledge aspect of the IPAS content of grade IV students of Public Elementary School No. 04 Hadipolo. Similar research supported by Dewi & Kamaludin (2022), stated that the results of learning implementation using the audiovisual-based auditory intellectually repetition learning model were able to improve student learning outcomes. Through the audiovisual-based auditory intellectually repetition learning model, students will be more motivated and more active in the learning process, get the opportunity to teach the material they know to their peers, and can improve their critical thinking skills so that they can do problem-solving on their own (Anwar & Pramukantoro, 2013).

The auditory intellectually repetition learning model is a new concept in learning that can stimulate students to learn independently and creatively and be more active in participating in learning activities. It can also help solve the needs that are often faced in the use of traditional learning models (Masfuah et al., 2022). In addition to using the auditory intellectually repetition model, student learning outcomes increase, namely by using learning media. One of the media that can be used is audiovisual media. According to Sari et al. (2020), audiovisuals can have a positive impact on students because the game is considered fun and student learning motivation, thus encouraging students to improve learning outcomes in the knowledge aspect.

The improvement of student learning outcomes is inseparable from the ability of students to understand the material provided by the teacher. According to Hidayati & Darmuki (2021), the auditory intellectually repetition learning model not only helps comprehend reading but also provides opportunities for students to monitor their own learning and thinking processes. The purpose of the auditory intellectually repetition model is to facilitate students to communicate and help each other in their respective groups to understand the material provided by the teacher. Pratiwi (2019), explains that if students are more active in discussion and the results of their work are explained well, creative thinking skills and student enthusiasm for learning can be improved.

6. Conclusion

Based on the reflection of the results of the actions of cycle I and cycle II that researchers have carried out, it can be concluded that the application of the audiovisual-based auditory intellectualy repetition learning model can improve learning outcomes in IPAS learning Class IV Public Elementary School No. 04 Hadipolo seen from the results of the second cycle student knowledge test obtained results below the predetermined success criteria of 81 with a good category with 95% classical completeness with a high category.

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Conflict of Interest

The author declare no conflict of interest.

References

Abdul, K., Rukli, R., & Sukmawati, S. (2022). Comparison of Auditory Intellectually Repetition Approach and Student Teams Achievement Division Approach to Mathematics Learning Outcomes of Elementary School Students. *Pedagogik Journal of Islamic Elementary School*, *5*(2), 243-256. https://doi.org/10.24256/pijies.v5i2.2750

Anwar, M. R., & Pramukantoro, J. A. (2013). Perbandingan Hasil Belajar Antara Siswa yang Menggunakan Model Pembelajaran Reciprocal Teaching dengan Model Pembelajaran STAD oada Standart Kompetensi Menerapkan Dasar-Dasar Kelistrikan Kelas X TAV di SMK Negeri 7 Surabaya. [Comparison of Learning Outcomes Between Students Using the Reciprocal Teaching Learning Model and the STAD Learning Model or Competency Standards for Applying the Basics of Electricity Class X TAV at SMK Negeri 7 Surabaya]. *Jurnal Pendidikan Teknik Elektro*, *2*(02), 493-500.

Bonatua, D. S., Mulyono, D., & Febriandi, R. (2021). Penerapan model pembelajaran AIR (auditory, intellectualy, repetition) menggunakan media gambar pada pembelajaran tematik sekolah dasar. [Application of the AIR (auditory, intellectual, repetition) learning model using image media in elementary school thematic learning]. *Jurnal Basicedu*, *5*(5), 3850-3857.

Dewi, A. M., & Kamaludin, A. (2022). Development of audiovisual-based powtoon animation video on chemical bonds for tenth grade. *Jurnal Penelitian Pendidikan IPA*, *8*(1), 222-229.

Elisa, L., Hadiyanto, H., & Fitria, Y. (2019). Application of learning model auditory, intellectually, repetition (air) to increase student activity and learning outcomes in 2013 curriculum integrated thematic learning in class IV SDN 06 Hand of Padang. *International Journal of Educational Dynamics*, *1*(2), 156-162.

Fazriani, S. (2022). Model Pembelajaran Auditory Intellectual and Repetition (AIR) dalam Meningkatkan Hasil Belajar Siswa Sekolah Dasar. *Nusantara: Jurnal Pendidikan Indonesia*, *2*(2), 225-240.

Hidayati, N. A., & Darmuki, A. (2021). Penerapan Model Auditory Intellectually Repetition (AIR) untuk Meningkatkan Kemampuan Berbicara Pada Mahasiswa. [Application of the Auditory Intellectually Repetition (AIR) Model to Improve Students' Speaking Ability]. *Jurnal Educatio Fkip Unma*, *7*(1), 252-259.

Ma, X., Shen, J., Krenn, H. Y., Hu, S., & Yuan, J. (2016). A meta-analysis of the relationship between learning outcomes and parental involvement during early childhood education and early elementary education. *Educational psychology review*, *28*, 771-801.

Masfuah, S., Fakhriyah, F., & Hilyana, F. S. (2022, December). Blended learning based on science literacy in science concept learning. In *AIP Conference Proceedings* (Vol. 2600, No. 1). AIP Publishing.

Munte, A. (2022, August). Philosophy of Giorgio Agamben-Homo Sacer's on the Independent Curriculum for Learning in Indonesia: Critical Reflection. In *International Seminar Commemorating the 100th Annniversary of Tamansiswa* (Vol. 1, No. 1, pp. 464-468).

Nazari, M. (2022). Plan, act, observe, reflect, identity: exploring teacher identity construction across the stages of action research. *RELC Journal*, *53*(3), 672-685.

Palguna, I. M. A., Parwati, N. N., & Divayana, D. G. H. (2020). Pengaruh model pembelajaran Auditory, Intellectually, Repetition berbantuan media pembelajaran I-Spring terhadap motivasi dan kemampuan pemecahan masalah matematika siswa SMA. *Jurnal Teknologi Pembelajaran Indonesia*, *10*(2), 56-75.

Pratiwi, M. P. (2019). Pengaruh Model Pembelajaran Air Terhadap Hasil Belajar Matematika Siswa. *Edumath*, *7*(2), 29-33.

Purbarani, D. A., Dantes, N., & Adnyana, P. B. (2018). Pengaruh Problem Based Learning Berbantuan Media Audio Visual Terhadap Kemampuan Berpikir Kritis Dan Hasil Belajar Ipa Di Sekolah Dasar. *PENDASI: Jurnal Pendidikan Dasar Indonesia*, *2*(1), 24-34.

Putri, R. Y., Hamid, A., & Murdiana, I. N. (2016). Penerapan Langkah-Langkah Polya untuk Meningkatkan Hasil Belajar Siswa pada Materi Soal Cerita Sistem Persamaan Linear Dua Variabel di Kelas VIII SMP Negeri 19 Palu. *Jurnal Elektronik Pendidikan Matematika Tadulako*, *4*(1).

Sari, N. M., Masfuah, S., & Ardianti, S. D. (2020). Model Teams Games Tournament Berbantuan Media Permainan Pletokan Untuk Meningkatkan Kemampuan Berpikir Kritis Siswa Sekolah Dasar. [Teams Games Tournament Model Assisted by Pletokan Game Media to Improve Primary School Students' Critical Thinking Abilities]. *Jurnal Educatio FKIP UNMA*, *6*(2), 219-224.

Satriawati, S., & Irwan, R. (2019). Improving Natural Science Learning Activities Through Auditory, Intellectually, Repetition (Air) Learning Model to the Fifth Grade Students of SD. *JKPD (Jurnal Kajian Pendidikan Dasar)*, *4*(2), 717-730.

Septiana, A. R., & Hanafi, M. (2022). Pemantapan Kesiapan Guru dan Pelatihan Literasi Digital pada Implementasi Kurikulum Merdeka. [Strengthening Teacher Readiness and Digital Literacy Training in the Implementation of the Independent Curriculum]. *Joong-Ki: Jurnal Pengabdian Masyarakat*, *1*(3), 380-385.

Suryani, N., Setiawan, A., & Putria, A. (2019). Innovative learning media and its development. *Bandung: PT Remaja Rosdakarya*.

Sutarno, H., & Aisyah, N. S. (2018, May). The development of interactive multimedia based on auditory, intellectually, repetition in repetition algorithm learning to increase learning outcome. In *Journal Of Physics: Conference Series* (Vol. 1013, No. 1, p. 012102). IOP Publishing.

Wedyawati, N., & Gamilina, P. (2018). Penerapan Model Auditory Intellectually Repetition (Air) Terhadap Aktivitas Dan Hasil Belajar Kognitif Siswa Sekolah Dasar. [Application of the Auditory Intellectually Repetition (Air) Model to the Activities and Cognitive Learning Outcomes of Elementary School Students]. *Keguru: Jurnal Ilmu Pendidikan Dasar*, *2*, 155-162.

Weinstein, C. E., & Underwood, V. L. (2014). Learning strategies: The how of learning. In *Thinking and learning skills* (pp. 241-258). Routledge.

Yamin, M., & Syahrir, S. (2020). Pembangunan pendidikan merdeka belajar (telaah metode pembelajaran). [Development of independent learning education (study of learning methods)]. *Jurnal ilmiah mandala education*, *6*(1).

Zulham, M., & Herdiana, B. (2023). Keefektifan Model Pembelajaran Air (Audiotory Intellectually Repetition) dalam Pembelajaran Menyimak. [The Effectiveness of the Water Learning Model (Audiotory Intellectually Repetition) in Listening Learning]. *Jurnal Onoma: Pendidikan, Bahasa, dan Sastra*, *9*(1), 689-698.