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The Effect of the Poster-Assisted AIR (Auditory Intellectually Repetition) Model on Sociology Learning Outcomes

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Abstract: *The aim of this research is to find out whether the AIR (Auditory Intellectual Repetition) mode1 assisted by poster media has an influence or not on sociology learning outcomes. Every student who is in class XI-IPS at SMAN 01 Wanasaba becomes the population in this study. Samples were taken by simple random sampling technique after class adjustment. The quasi-experimental type was used in this research method with a posttest only with nonequivalent control group design by utilizing two classes, namely the experimental class and the control class and giving a posttest without a pretest. The data collection method uses multiple choice objective tests that have been tested for validity, item difficulty level, reliability, effectiveness of the distractor and discriminating power. Two Independent Sample T test is used to analyze research data quantitatively. Based on the parametric test, it is evident that the poster-assisted AIR (Auditory Intellectually Repetition) model has an effect on sociology learning outcomes. Theoretically, this means that the use of the AIR (Auditory Intellectually Repetition) model will help strengthen learning theories, especially those based on constructivism and cognitivism.*

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Introduction

Education can be assessed based on changes in students' attitudes and behavior or the achievements of their learning outcomes. However, some teaching and learning activities do not achieve the teacher's goal of achieving the specified Minimum Completeness Criteria. In fact, student learning outcomes are not always up to standard (Nurhasanah & Sobandi, 2016). According to Utomo (2020) one component that affects student learning outcomes is below standard because the teacher continues to apply the monotonous lecture method and students do not respond to the learning process. On the other hand, the teacher continues to apply the monotonous lecture method, which results in low learning outcomes (Kirti, dkk., 2018). Furthermore,Aprilia dan Hoesein (2018) argued that the low student learning outcomes have become a problem. Besides that, Surya (2017) states the same thing that learning experiences problems with learning outcomes that do not meet the Minimum Completeness Criteria. Nonetheless, learning outcomes serve as a measure of the success of learning activities and are very important to improve (Muizaddin & Santoso, 2016) as well as the quality of education services for maximum learning outcomes (Sukardi, dkk., 2022).

The auditory intellectually repetition (AIR) model is an effective and appropriate effort to improve high school students' learning outcomes. The results of several studies show that the use of the review strategy with the AIR model increases student creativity and activity (Muhtarom, dkk., 2018). Besides that, other research shows that student learning outcomes are

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improved with the help of media images in the AIR learning model (Aryanthi, dkk., 2019). It is similar to Vicrom's research (2021) that the AIR model affects student learning levels.

The literature review above shows that there are similarities in the learning model, namely the AIR model. Then the difference is in the focus and media used. In line with what was stated by Shoimin (2014) that one of the weaknesses of the AIR model consisting of three combined elements is auditory repetition intellectually which requires a lot of time. However, it can be communicated more quickly and effectively through posters, which do not cost much to produce and can attract attention (Illic & Rowie, 2013). In addition, posters are also an exciting and creative learning tool (Dinica, Dinescu, & Miron, 2012) which can improve students' ability to think critically and create a new learning atmosphere (Zulhelmi, 2017). This research is aimed at learning outcomes of sociology assisted by poster media.

Research methods

This study uses a quantitative approach because the theory is tested on empirical facts and uses a quasi-experimental design (Nubhan, et al., 2022). According to Sugiyono (2013) that this quasi-experimental design uses a control group. As a result, it cannot control all external variables that affect the process of carrying out the experiment. Desain penelitian berupa posttest only with nonequivalent control group design. In this design, the experimental class received the treatment and received the posttest without a pretest, while the control class received the posttest without a pretest and received no treatment. These two classes received the same learning materials and teachers. This design pattern can be seen in Table 1 below

Table 1. Research design

Experiment class	X The AIR (Auditory, Intellectual, Repetition) learning model is supported by posters	**O** Posttest to measure sociology learning outcomes
Control class	Direct learning model (Conventional)	Posttest to measure sociology learning outcomes

All students in class XI-IPS SMAN 01 Wanasaba are considered as a population. After carrying out class matching of the selected XI-IPS 2 and XI-IPS 3, a simple random sampling technique was used for sampling. Data was collected using observation sheets of learning activities and multiple choice. There are several test criteria used to evaluate validity, item difficulty level, reliability, effectiveness of the distractor, and discriminating power (Fachreza, et al., 2023). 25 questions out of a total of 35 multiple-choice questions are considered valid. Then the reliability test uses the Cronbach alpha formula, with the result r11 = 0.927, which shows that the question criteria are very high. The test results show that 15 questions are easy and 10 questions are moderate. There are 18 questions that are categorized as good and 7 questions that are categorized as very good, according to the calculation of the differential power of the questions. Furthermore, the results of the test for deception power on option A are 18 accepted and 7 are not taken, option B is 18 accepted and 7 are not accepted, option C is 13 accepted and 12 not born, and option D is 10 received and 15 not accepted.

This study uses an average value (mean) in descriptive statistical analysis (Karwati, et al., 2019). Before carrying out the analysis, the normality test was carried out using the Kolmogorov-Smirnov test. In this study, the T-test was juxtaposed with hypothesis testing at a significant level of 5%.

Research results and discussion

Results

Test requirements analysis and hypotheses will be discussed in this section.

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Test requirements analysis

Before carrying out the analysis, the researcher conducted normality and homogeneity tests (Mudena, et al., 2017). The normality test is used as a requirement for hypothesis testing and only uses the final or posttest scores from both the experimental and control classes, using Kolmogorov-Smirnov to determine whether the two samples come from normally distributed data. Table 2 below shows the results of the normality test.

Table 2. Normality Test Results

One sample kolmogorov-smirnov test

		Unstandardized resudual
N		22
Normal parameters	Mean	, 000000
	Sd .	6,09449400
Most extreme differences	Abslt	, 115
	Positif	, 082
	Negatif	-, 115
Test statistic		,115
Asy. Sig. (2-tailed)		, 200[c,d]

The results show a normal distribution for data from both classes, indicating that the requirements for parametric analysis are met. Furthermore, a homogeneity test was carried out to ascertain whether the two samples were obtained from the same data. The results are shown in table 3 below.

Table 3. Homogeneity Test Results

Tes of homogenity of Variance

		Levene Statistik	Df 1	Df 2	Sig.
Student learning outcomes	Mean	3 ,134	1	42	,084
	Median	3 ,065	1	42	,087
	Median and with adjusted df	3 ,065	1	40,400	,088
	Trimmed mean	2,931	1	42	,094

The homogeneity results show a statistical level value of 3.134 with sig. 0.084 > 0.05. Therefore, it can be concluded that the data is homogeneous. Thus, parametric statistical tests can be continued.

Hypothesis testing

The hypothesis will be tested using two independent sample tests assisted by the Windows SPSS 23.0 program. The results of the analysis are seen in table 4.

Table 4. Hypothesis test results

Group Statistic

Class	mean	sd.	Max	min	nilai t	sig	ket.
posttest eksperimen	79,45	6,208	79,45	6,208	11,709	0,000	Ho was rejected
Posttest control class	60,73	4,211	60,73	4,211	11,709	0,000	

Table 3 shows the sig. 0.00<0.05. From this value, it shows that the learning outcomes of both the control class which uses the lecture model, and the conventional class with the experimental class which uses the AIR model assisted by posters are different. On the other hand, the average of the experimental class (79.46) is higher than the average of the control

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class (60.73). Therefore, the poster-assisted AIR model is effective. Thus, there is an influence of the poster-assisted AIR model on sociology learning outcomes with social conflict and conflict resolution material.

Discussion

Based on the results of this study, the Two Independent Samples T-test with a significant level of 5% yielded a sig value of 0.00 for both control and experimental classes. So it shows that the poster-assisted AIR learning model has an influence on sociology learning outcomes. In the AIR model students are asked to listen, train and investigate information that has been obtained through case studies, the aim is to improve abilities and improve student learning outcomes. Sociology learning outcomes are improved using the AIR learning model because students become more active (especially in listening, speaking, and giving ideas or arguments verbally), become better at solving (cognitive) problems, and are able to strengthen their understanding of the material through repetition. There will be changes if this activity is carried out.

This study reinforces Anwar's research (2018) which states that the AIR model emphasizes auditory, repetition, and intellectual understanding which encourages students to participate actively in learning. This finding is reinforced by the research of Hasnawati et al. (2016) that the Auditory, Intellectual, and Repetition models increase learning efficiency. Thus, the AIR learning model can enable students to take an active part in the learning process. Another study conducted by Suryani et al. (2017) stated that students' responses to the application of the AIR model were very good because students had the ability to understand the material easily. Supported by other research by Manurung and Sagita (2019) also stated that the results of the analysis of observation sheets and student answers in the questionnaire showed that the AIR model could improve student learning outcomes because it made them active and interested in what they were learning. From the results of the description above, it can be concluded that the AIR model improves learning outcomes and makes the learning process more active so that the learning outcomes of students who use the AIR model and those who do not apply the AIR model are different..

The AIR learning model has advantages in improving student outcomes. According to Fathurrahman, (2018), the first is to train students' hearing and the courage to express opinions (auditory); second, to teach students creative ways to solve problems (intellectual); third helping students remember what they have learned (repetition); and fourthly helping students to be more creative and active.

The AIR learning model is supported by behavioral psychological theory based on constructivism by Edward L. Thorndike and Ausubel. Ausubel's theory of meaningful learning and the importance of repetition before learning is well known, and Thorndike created the law of practice also known as the "law of practice" which states that drives and reactions are related to one another (Rahayuningsih, 2017). Social constructivism emphasizes social construction as the main process in students' knowledge discovery. Sukardi (2017) states that the application of social constructivist-based learning models is also effective in influencing student learning outcomes, especially the level of student innovativeness. Thus the AIR model is designed to improve student learning outcomes.

The results of another study conducted by Kuswanto et al. (2021) found that the effect of the AIR model on history learning outcomes for students had a positive impact. Another study, conducted by Ekasari and Trisnawati (2020) found that the AIR model had a positive impact on class X learning outcomes. The results of another study conducted by Suwarman (2017) show that the use of the AIR model affects the ability to solve students' mathematical

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problems. In addition, this study shows that the AIR model aims to improve student learning outcomes. However, this finding has a weakness, namely that there are three components that must be integrated into the AIR model, and one of them is the auditor's cognitive repetition which requires a long time. However, posters can grab someone's attention and convey ideas more quickly and effectively.

The results of Megawati's study (2017) describe that the effect of posters as a teaching tool on students' learning abilities is better. The same thing was expressed by Rahmah et al. (2019) that poster media assisted with the STAD cooperative model for student learning activities and outcomes. More fully disclosed by Parmawatika et al. (2018) the effectiveness of applying poster media with the CORE model on student learning outcomes is compared to using the direct learning model. Based on this research, shows that posters are effective in improving student learning outcomes as supporting media in the use of the AIR model.

The previous description shows that the AIR model can improve learning outcomes and make the learning process more active. Therefore, the learning outcomes of students who use this model are not the same as students who do not use it. Then this poster-assisted AIR learning model applies freedom of conveying ideas, ability to solve problems, and repetition in constructing student knowledge and makes it easier for students to explore the material provided by educators without the distraction of gadgets by integrating the three elements, namely repetition, intellectually, auditory, this learning looks takes a long time. However, using poster media can help convey ideas more quickly and effectively, attract someone's attention and interest, and not spend a lot on production costs.

Conclusion

Based on research conducted at SMAN 01 Wanasaba by taking into account the results of the hypothesis that there is an effect of the poster-assisted AIR model on the learning outcomes of high school students who study sociology. In implementing the AIR model assisted by posters, learning becomes more contextual, creative, and innovative. Posters also give students the freedom to speak, argue, and repeat and are time efficient with poster media. therefore, this model can improve sociology learning outcomes in high school..

Suggestion

As a result of this study, researchers can make the following suggestions: (1) It is hoped that the application of the poster-assisted AIR model can be applied to other materials in sociology subjects; **(**2) It is hoped that further research can measure not only learning outcomes, but can also measure critical thinking, conceptual understanding, learning creativity, creative thinking skills and several other skills; (3) The application of the AIR model can be collaborated with other variables, not only using poster media.

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