Innovations in Science Education and Practice, 1(1), 2024, 59-68

The effect of the Inside Outside Circle (IOC) learning model based on audiovisual media on IPAS learning outcomes

Halimatus Sakdiyah[1], Agustinus Agung Adi Nugroho[1], Farida Nur Kumala[1*], Nur Izzah Nabila Binti Zurkamen[2]

[1]Universitas PGRI Kanjuruhan, Malang, Indonesia,
[2]Universitas Sultan Zainal Abidin, Terengganu, Malaysia
*Corresponding author, email: faridankumala@unikama.ac.id

Article History
Received: 27 May 2024
Revised: 28 June 2024
Accepted: 30 June 2024

Keywords
IPAS
Audiovisual media
IOC

Abstract
The current implementation of IPAS (Integrated Science) learning in elementary schools lacks active student involvement in the learning proces, resulting in passive students and impacting their learning outcomes. This study aims to examine the effect of using the Inside Outside Circle (IOC) model, coupled with audiovisual media, on the learning outcomes of IPAS students. This research adopts a Quasi-Experimental Design with a quantitativ aproach. The population consists of all fourth-grade students, totaling 89 students. Sampling technique employed test of homogeneity, resulting in two homogenous classes: Class IV C (control group) and IV D (experimental group). Data from pre-tests and post-tests were analyzed using the t-test. The t-test results yielded a significance value (Sig. 2 tailed) of (0.000) < 0.05, indicated a significant difference in the average student learning outcome for the experimental class, with an average pre-test score of (67.27) and an average post-test score of (83.64). Thus, it can be concluded that the Inside Outside Circle (IOC) learning model with audiovisual media has a significant impact on the IPAS learning outcomes of fourth grade student at Taman Siswa Elementary School, Turen, in the academic year 2023/2024.

How to cite: Sakdiyah, S. H., Nugroho, A. A. A., Kumala, F. N., & Zurkamen, N. I. N. B. (2024). The effect of the Inside Outside Circle (IOC) learning model based on audiovisual media on IPAS learning outcomes. *Innovations in Science Education and Practice*, *1*(1), 59–68. https://doi.org/10.20961/isep.v1i1.1773

1. Introduction

There is an imbalance between the demands of the educational world for knowledge and skills and the ability of teachers to fully accommodate the needs and learning styles of students in the current era. Therefore, education needs to be grounded in a curriculum. The curriculum plays an essential role in the educational process (Batubara & Davala, 2022; Eka Retnaningsih & Khairiyah, 2022). IPAS is a new subject in the current curriculum, where students are directed to play an active role in preserving, maintaining, and conserving the natural resources around them (Azzahra et al., 2023). In the Independent Curriculum, the main focus of the learning process is on the students (Azzahra et al., 2023 Khoirurrijal, 2022), giving them ample time to deepen and strengthen learning concepts. Thus, teachers play an important role in facilitating students' learning, and they have the freedom to use learning tools (Esi et al., 2016; Wahyuni et al., 2023)

However, the reality is that IPAS learning in elementary schools faces various challenges in its implementation. This is because conventional learning models, where the learning process is teacher-centered, lead to passive students (Mardiani & Hermawan, 2020). The lack of student involvement results in underdeveloped students (Hanafy, 2014). This approach is inconsistent with the principles of IPAS learning, which emphasizes scientific products, processes, and attitudes, thereby affecting students' learning outcomes. Learning outcomes represent a form of appreciation for the efforts made by students in completing learning competencies. Learning outcomes are intended to evaluate and motivate students to improve their learning performance (Azmi, 2015). According to Ridho (2022), Tasya & Prasetyo (2021), there are two main factors that influence students' learning outcomes: internal and external factors. Internal factors include students' learning motivation and interest, while external factors involve the learning environment, peers, learning

doi: https://doi.org/10.20961/isep.v1i1.1773

ISSN:

facilities, classroom atmosphere, and the learning model or strategy used by the teacher during the learning process.

Based on initial observations, the researcher found that IPAS learning was conducted by simply explaining the material and assigning tasks to students. This approach made students bored and struggled to understand the material, causing them to become passive during the learning process, which potentially led to lower learning outcomes. Based on interviews conducted by the researcher with class teachers, many students scored between 60-70 in their IPAS learning outcomes, indicating that many students had low scores.

The researchers analyzed that the low learning outcomes in IPAS were due to students' lack of understanding of the material taught by the teacher in class. This was caused by the teacher's lack of skill in managing the class, resulting in the material not being well retained by the students. Therefore, teachers need to innovate and find solutions in determining appropriate strategies and learning models to achieve learning objectives (Fakhrurrazi, 2018; Sakdiyah et al., 2020).

From the problems mentioned above, students need engaging learning that can develop their thinking abilities. Teachers are responsible for creating a comfortable, conducive, innovative, and creative learning atmosphere, while ensuring that students can understand the material well (Ats-tsanny, 2020; Kumala, 2016). Therefore, the researcher concluded that there needs to be an improvement in the learning process for fourth-grade students at Taman Siswa Turen Elementary School to help students achieve the desired learning outcomes. For this reason, the researcher utilized the Inside Outside Circle (IOC) learning model with audiovisual media, with the hope of improving the learning outcomes of fourth-grade students at Taman Siswa Turen Elementary School.

In its implementation, the Inside Outside Circle (IOC) model (Azmi, 2015; Andhika et al., 2019; Manggala et al., 2022; Rahmah & Rafika, 2017) involves students playing an active role in the teaching and learning process, particularly in aspects of communication skills, cooperative attitudes, and the ability to convey ideas (Nurkhikmah, 2013; Rahmah & Rafika, 2017). According to (Kagan, 1994), the steps or syntax of the Inside Outside Circle (IOC) model are as follows: 1) Split the Class, 2) Questioning, 3) Share, and 4) Rotation.

Moreover, the Inside Outside Circle (IOC) learning model has both advantages and disadvantages (Andhika et al., 2019). The advantages of this model include making it easier for students to obtain diverse information at the same time. According to The advantages of this model include making it easier for students to obtain diverse information at the same time. According to Lie (2002), the Inside Outside Circle (IOC) model has the advantage of engaging students in actively exploring information and serving as a source of information. This model indirectly trains students in socializing with their peers and exchanging ideas about the topics taught by the teacher (Kumala, 2016; Tiwery & Souisa, 2019). The disadvantage of the Inside Outside Circle (IOC) model is that its implementation requires a large classroom or area. This is because of the need to arrange learning groups into inner and outer circles, consisting of two large groups, which takes considerable time. Therefore, the application of the Inside Outside Circle (IOC) learning model needs to be accompanied by learning media that can attract students' attention while the teacher explains the material (Andhika et al., 2019). Learning media can be a supporting factor in improving the quality of the learning process (Sofyan, 2016).

Media itself is a tool that can be utilized in the learning process (Sofyan, 2016). Accordig to Sadiman (Patmawati et al., 2018), media is a messenger between the sender and the receiver. (Ainina, 2014) states that media not only serves as a learning aid but also allows students to acquire new knowledge through its use. Audio-visual media are tools that are "audible" (can be heard) and "visible" (can be seen) (Hidayat et al., 2022; Mu'minin & Humaisi, 2021; Wahyu Wirawan et al., 2017). Learning media are tools and materials that can be used for educational purposes (Sanjaya, 2012). The use of media will make it easier for students to understand the learning topics (Parta, 2020) . By utilizing audio-visual media, students can see and listen, making the learning process more meaningful. The use of the Inside Outside Circle (IOC) learning model with audio-visual media provides a relaxed and free atmosphere while keeping students actively engaged in the information exchange process between groups. Besides helping teachers explain the material, it is also hoped that students will better understand the learning material, leading to improved learning outcomes (Ananda, 2017).

Many studies have examined the Inside Outside Circle (IOC) learning model, but each researcher has different characteristics and focuses on various problems. Additionally, the focus of problems related to "the influence of the Inside Outside Circle (IOC) model based on audio-visual media" on science learning outcomes is still underexplored.

In the study conducted by Manggala et al., (2022), it was explained that the cause of the lack of mastery in mathematics was the low motivation of students to learn. The researchers in this study assumed that applying the Inside Outside Circle (IOC) learning model could affect students' mathematics learning outcomes because students were starting to feel confident in sharing information with their peers, making the information exchange process more effective and efficient. Meanwhile, in this study, the researchers observed the passive role of students in science learning due to the use of conventional teaching models by teachers, which led to students becoming passive in the classroom learning process. This caused students to become easily bored and less focused, impacting their learning outcomes.

The solution and novelty used by the researchers in this study is the implementation of the Inside Outside Circle (IOC) learning model using audio-visual media. By doing so, the researchers hope that students will be actively involved in the teaching and learning process, allowing them to understand the topics or learning materials better through the use of audio-visual media. Based on the problem description above, it can be concluded that the aim of this study is to determine the influence of using the Inside Outside Circle (IOC) model with audio-visual media on the science learning outcomes of fourth-grade students at SD Taman Siswa Turen

2. Method

This study uses a quantitative approach. The type of research is Quasi-Experimental Design. The researchers used a design proposed by Sugiyono (2013) called Nonequivalent Control Group Design (Table 1).

Table 1. Nonequivalent Control Group Design

	Pretest	Treatment	Posttest
Experimental class	O1	X	O2
Control class	O3		O4

Source: Sugiyono (2013)

Information:
O1: Pretest - Experimental class
O2: Posttest - Experimental class
O3: Pretest - Control class
O4: Posttest - Control class
X: Learning using the Inside Outside Circle (IOC) learning model based on audio-visual media.

The population in this study is the fourth-grade students of SD Taman Siswa Turen (Table 2), divided into four classes (A, B, C, D).

Table 2. Population Data of Fourth Grade Students at SD Taman Siswa Turen

Class	Number of Students
lV A	22_ Students
lV B	22_ Students
lV C	23_ Students
lV D	22_ Students
Total:	89_ Students

The sample for this study was selected using a homogeneity test with the assumption that if sig. > 0.05, the four classes have the same/homogeneous variance. If sig. < 0.05, the four classes have different variances. Before conducting the homogeneity test, the researcher first performed a normality test to determine the normality of the experimental class. To test data normality, the researcher used Microsoft Excel with the Lilliefors test. The assumption is that if the $L_{calculated} < L_{table}$ the data is normally distributed. Conversely, if $L_{calculated} < L_{table}$, the data is not normally distributed.

In this study, data collection was carried out using tests. The tests used were objective tests for both the pre-test and post-test, in the form of multiple-choice questions consisting of 15 items. Before being administered to students, the tests were first evaluated for difficulty level, validity, and reliability. Classification of difficulty levels in Table 3.

To calculate the difficulty level (P), SPSS 23 for Windows was used. The appropriate formula for calculating the difficulty level is presented below (Daryanto, 2007:181):

$$P = \frac{£B}{JS} \quad (1)$$

Information:
P : Difficulty level
JS : Total number of students
£B : Number of students who answered correctly
Berikut Disajikan pada TabeI 3 tentang taraf kesukaran butir soaI objektif

Table 3. Classification of Difficulty Levels

Correlation Classification	Criteria
0,00 ≤ P ≤ 0,29	Difficult
0,30 ≤ P ≤ 0,69	Moderate
0,70 ≤ P ≤ 1,00	Easy

The validity test technique used in this study was the Point Biserial Correlation or product-moment technique because the data is dichotomous (either correct or incorrect).

$$r_{pbis} = \frac{M_p - M_t}{SD} \sqrt{pq} \quad (2)$$

Information:
R_{pbis} : Point biserial correlation coefficient
M_p : Number of respondents who answered correctly
M_t : Number of respondents who answered incorrectly
SD : Standard deviation for all items
P : Proportion of respondents who answered correctly
Q : Proportion of respondents who answered incorrectly

The instrument is considered valid if the calculated r > r table. Each response on the student activity measurement tool can be categorized as either correct or incorrect. Correct answers are scored as 1, while incorrect answers are scored as 0.

The validity of the test items was analyzed using SPSS 23 for Windows. A question is considered valid if the T-calculated value > T-table value at a 5% significance level. The guidelines used to interpret the validity of test items are as follows (Table 4).

Table 4 Criteria for Determining the Validity of Test Items

Value of r	Interpretation
Between 0.800.and 1.000	High
Between 0.600.and 0.800	Moderate
Between 0.400.and 0.600	Fairly Low
Between 0.200 and 0.400	Low
Between 0.000 and 0.200	Very Low (No correlation)

(Arikunto, 2010:319)

If sig. (2-tailed) ≤ α (0.05), the test item can be considered valid.

If sig. (2-tailed) ≥ α (0.05), the test item is considered invalid.

Reliability is an index that shows the extent to which an instrument can be trusted and relied upon. The reliability test in this study was performed using SPSS 23 for Windows. The reliability of the test was calculated using KR-20, with the following formula (Arikunto, 2010:231):

$$r_{11} = \left(\frac{n}{n-1}\right) \frac{(S^2 - £pq)}{S^2} \quad (3)$$

Information:
r_{11} : Instrument reliability
P : Proportion of subjects who answered the item correctly
Q : Proportion of subjects who answered the item incorrectly
PQ : Sum of the product of P and Q
N : Number of items
S^2 : Total variance

The reliability level can be determined by comparing the calculated r-value with the r-table. The calculated r-value for each test item can be seen in the Kuder and Richardson-20 (KR-20) column. The testing criteria are as follows: if KR-20 ≥ 0.60, it is considered reliable, and if KR-20 ≤ 0.60, it is considered unreliable.

The data analysis technique used in this study is Comparative Analysis (t-test) with a significance level of 5% (0.05). The results of the t-test are then compared with the table criteria as follows:

1. There is a significant influence between the independent variable and the dependent variable if the significance is < 0.05.

2. There is no significant influence between the independent variable and the dependent variable if the significance is > 0.05.

Before conducting data analysis using the t-test, there are two prerequisites that must be met, the normality test and the homogeneity test. The normality test is conducted to determine the normality of the experimental class. The researcher used SPSS 23 for Windows with the Lilliefors test for this. If the calculation yields (Sig.) > 0.05, the data is considered to be normally distributed. Conversely, if (Sig.) < 0.05, the data is considered not normally distributed. The homogeneity test of variance is conducted to determine whether the samples come from populations with the same or different variances. The statistical test used to calculate data homogeneity is Bartlett's method (Nuryadi et al., 2017).

This part should contain sufficient detail that would enable all procedures to be repeated. It can be divided into subsections if several methods are described. Authors should be as concise as possible in experimental descriptions. The experimental section must contain all of the information necessary to guarantee reproducibility. Previously published methods should be indicated by a reference and only relevant modifications should be described. For statistical analysis, please state the appropriate test(s) in addition to a hypothesized p-value or significant level (for example 0.05).

3. Results and Discussion

In the difficulty level test, the P values obtained are then classified according to the difficulty level classification table below (Table 5).

Table 5 Results of the Difficulty Level Test

Question	P Value	Criteria
1	0,813	Easy.
2	0,875	Easy.
3	0,875	Easy.
4	0,563	Moderate.
5	0,5	Moderate
6	0,563	Moderate
7	0,563	Moderate
8	0,688	Moderate
9	0,688	Moderate

10	0,875	Easy.
11	0,688	Moderate
12	0,313	Moderate
13	0,813	Easy
14	0,813	Easy
15	0,75	Easy
16	0,5	Moderate
17	0,75	Moderate
18	0,563	Moderate
19	0,813	Easy
20	0,938	Easy

Thus, after classifying the difficulty levels, 9 questions were categorized as easy and 11 questions as moderate. For the validity test, the researcher tested the questions in the fourth grade of SDN Turen 1. This test aimed to evaluate the validity of each question. The validity of the questions was tested using correlation. A question is considered valid if the calculated r > r table. From the 20 questions tested, 15 were found to be valid, and 5 were not valid (Table 6).

Table 6 Results of the Validity Test for Each Question

Question	R Calculated	R Table	Classification	Criteria
1	0,401	0.4973	Low	Invalid
2	1,265	0.4973	High	Valid
3	0,886	0.4973	High	valid
4	0,767	0.4973	Moderate	valid
5	0,727	0.4973	Moderate	Valid
6	0,728	0.4973	High	Valid
7	0,531	0.4973	Fairly Low	Valid
8	0,39	0.4973	Low	Invalid
9	0,896	0.4973	High	Valid
10	1,028	0.4973	High	Valid
11	0,601	0.4973	Moderate	Valid
12	0,842	0.4973	High	Valid
13	0,852	0.4973	High	Valid
14	1,102	0.4973	High	Valid
15	0,229	0.4973	Low	Invalid
16	0,355	0.4973	Low	Invalid
17	0,796	0.4973	Moderate	Valid
18	0,413	0.4973	Fairly Low	Invalid
19	1,002	0.4973	High	Valid
20	1,598	0.4973	High	Valid

Besides evaluating the validity of each question, a reliability test was conducted to ensure the questions were of good quality. The testing criteria were: if KR-20 ≥ 0.60, the test is considered reliable, and if KR-20 ≤ 0.60, it is not reliable. Since the result obtained was KR-20 (0.663) > 0.60, the questions were deemed reliable. Table 7 shows the results of the students' pretests.

Table 7 Pretest Results of Fourth Grade Students

No	Pretest Score			
	A	B	C	D
1	85	80	80	75
2	75	60	75	65
3	65	80	55	60
4	80	70	65	90
5	90	50	70	65
6	45	75	85	75
7	75	85	65	70
8	80	65	40	80
9	55	90	70	55
10	65	50	75	75
11	75	70	50	65
12	60	75	70	60
13	75	65	55	35
14	60	70	60	70
15	55	80	65	75
16	85	70	65	80

17	80	65	75	85
18	60	55	80	75
19	70	85	85	50
20	70	60	50	60
21	80	80	60	50
22	60	75	70	65
23			75	

In the calculation for the normality test of the pretest data of the four classes, $L_{calculated}$ (0.064) < L_{table} (0.094), so it was determined that the data was normally distributed. Next, the homogeneity test of the four classes was calculated using Bartlett's test in SPSS 23 for Windows. The results showed that the Sig. value of 0.937 > 0.05, meaning the assumption that the population has the same variance (homogeneous) is accepted. After conducting the homogeneity test for sampling using SPSS 23 for Windows, the following homogeneous classes were obtained (Table 8).

Table 8 Homogeneity Test Results

Class	Number of Students	Average Pretest Score
IV C (Control Class)	23 students	66,9
IV D (Experimental Class)	22 students	67,3
Total	45 students	

The normality test for the pretest and posttest data of both the experimental and control classes was conducted using SPSS 23 for Windows. If the calculated significance (Sig.) is greater than 0.05, the data is normally distributed. Conversely, if the significance is less than 0.05, the data is not normally distributed. Based on the output from the independent T-test using SPSS, a significance value (Sig. 2-tailed) of 0.046 < 0.05 was obtained, leading to the conclusion that there is a significant difference in the average learning outcomes for the post-test between the control class using the conventional model, which had an average score of 77.60, and the experimental class using the Inside Outside Circle (IOC) model, which had an average score of 83.63.

It can be interpreted that there is a significant difference in the science learning outcomes of students who participated in learning using the Inside Outside Circle (IOC) model based on audio-visual media compared to those using the conventional teaching model in the fourth-grade students of SD Taman Siswa, Turen, in the 2023/2024 academic year.

Based on the results of the independent T-test, a significance value (Sig. 2-tailed) of 0.046 < 0.05 was obtained, which allows us to conclude that there is a difference in the average post-test learning outcomes between the control class using the conventional model, which had an average post-test score of 77.60, and the experimental class using the Inside Outside Circle (IOC) model, which had an average score of 83.63. From the results of the paired T-test on the post-test and pre-test data, a significance value (Sig. 2-tailed) of 0.00 < 0.05 was obtained in both classes, whether experimental or control. It can be interpreted that there is a difference in the learning outcomes of students who participated in learning using the Inside Outside Circle (IOC) model based on audio-visual media.

This difference occurs because students who participated in the Inside Outside Circle (IOC) model had the opportunity to share information with their classmates without feeling awkward and could express their opinions to their peers and educators, which is another factor contributing to the difference in science learning outcomes. In this IOC model, students are positioned as seekers and sources of information. This can be an effective way to check understanding, review, process, practice, and interact with classmates (Wijaya, 2017). Innovative learning activities allow students to learn in a more relaxed manner. It also enhances students' sense of responsibility, cooperation, and self-confidence. Additionally, it provides a clear structure and allows students to regularly and briefly share with different partners (Wahyudi & Marwiyanti, 2017). Students also have many opportunities to improve their communication skills while collaborating with their peers in a cooperative atmosphere (Akhiruddin et al., 2021; Tiwery & Souisa, 2019).

Field facts show that students are more actively involved in learning when using the Inside Outside Circle (IOC) model supported by audio-visual media. The application of this model can reduce the teacher's tendency to use lecture methods in class, thus giving students a greater opportunity to develop their own understanding and become more effective sources of information.

This finding aligns with research conducted by Sarah et al., (2021), which shows that the use of the Inside Outside Circle (IOC) model that relies on audio-visual media in science learning enables students to collaborate with their partners. This collaboration facilitates diverse and rapid information exchange among students, allowing them to gain knowledge through discussions with teachers and interactions with classmates (Slavin, 2012). This finding is consistent with research conducted by which concluded that the application of the Inside Outside Circle (IOC) model can improve social studies learning outcomes. Additionally, a study by Sakdiyah et al., (2020) shows that the use of audio-visual media also positively impacts students' learning outcomes. Thus, these results confirm that the Inside Outside Circle (IOC) learning model, which utilizes audio-visual media, is an effective choice for achieving the desired learning objectives (Dewi, 2017).

They should be combined. The study results should be clear and concise. Restrict the use of tables and figures to depict data that is essential to the message and interpretation of the study. The results should be presented in a logical sequence in the text, tables and illustrations. The part of result exposes the findings obtained from research data which is related to the hypotheses. The results should summarize (scientific) findings rather than providing data in great detail. The discussion should explore the significance of the results of the work. Explains the findings obtained from research data along with theory and similar research comparison. Make the discussion corresponding to the results, but do not reiterate the results. The following components should be covered in discussion: How do your results relate to the original question or objectives outlined in the Introduction section (what/how)? Do you provide interpretation scientifically for each of your results or findings presented (why)? Are your results consistent with what other investigators have reported (what else)? Or are there any differences?. Include in the discussion the implications of the findings and their limitations, how the findings fit into the context of other relevant work, and directions for future research.

4. Conclusion

From the findings of this study, it can be concluded that the use of the Inside Outside Circle (IOC) learning model with the support of audio-visual media has a positive impact on students' learning outcomes in science subjects. This is due to the active involvement of students in the learning process through the Inside Outside Circle (IOC) model, where students are given a greater role as sources of learning for their peers. The IOC learning process emphasizes direct interaction between students, allowing them to gain diverse information simultaneously and interact actively with the learning material. Based on these findings, teachers have the option to adopt the Inside Outside Circle (IOC) learning model as an alternative for teaching science in the classroom. It is hoped that this approach can contribute to improving the learning process in schools by encouraging teachers to use more varied and creative methods, media, and materials, as well as increasing student engagement in learning.

References

Ainina, I. A. (2014). Pemanfaatan Media Audio Visual Sebagai Sumber Pembelajaran Sejarah. *Indonesiam Journal of History Education*, *3*(1), 40–45.

Akhiruddin, A., Sukmawati, S., Jalal, J., Sujarwo, S., & Ridwan, R. (2021). Inside-Outside Circle Instructional Model For Multicultural Education. *Jurnal Pendidikan Dan Pengajaran, 54*(2), 399. https://doi.org/10.23887/jpp.v54i2.33191

Ananda, R. (2017). Penggunaan Media Audio Visual Untuk Meningkatkan Hasil Belajar Pendidikan Kewarganegaraan Siswa Kelas Iv Sd Negeri 016 Bangkinang Kota. *Jurnal Basicedu, 1*(1), 21–30. https://doi.org/10.31004/basicedu.v1i1.11

Ats-tsanny, D. F. (2020). Penerapan standar kompetensi dan kualifikasi guru terhadap pengelolaan pendidik dan tenaga kependidikan di TK Negeri 2 Yogyakarta. *Jurnal Pendidikan Islam Anak Usia Dini, 2*(1), 102–121. http://jurnal.stpi-bim.ac.id/index.php/QURROTI/article/view/126

Azmi, N. (2015). Model Pembelajaran Inside Outside Circle (Ioc)) Untuk Meningkatkan Hasil Belajar Siswa Dalam Proses Pembelajaran. *Al Ibtida: Jurnal Pendidikan Guru MI, 2*(1), 1–19. https://doi.org/10.24235/al.ibtida.snj.v2i1.180

Azzahra, I., Nurhasanah, A., & Hermawati, E. (2023). Implementasi Kurikulum Merdeka Pada Pembelajaran IPAS di SDN 4 Purwawinangun. *Didaktik : Jurnal Ilmiah PGSD STKIP Subang, 9*(2), 6230–6238. https://doi.org/10.36989/didaktik.v9i2.1270

Batubara, N. F., & Davala, M. (2022). International Journal of Students Education. *International Journal of Students Education*, 29–34.

Dewi, C. (2017). Peningkatan Keterampilan Berbicara Dalam Bermain Drama Melalui Model Pembelajaran Kooperatif Tipe Inside-Outside Circle. *JINoP (Jurnal Inovasi Pembelajaran), 3*(2), 567. https://doi.org/10.22219/jinop.v3i2.4575

Edi Andhika, I. M., Rinda Suardika, I. W., & N.Wiyasa, I. K. (2019). Pengaruh Model Pembelajaran Kooperatif Tipe Inside Outside Circle terhadap Hasil Belajar IPS. *Jurnal Penelitian Dan Pengembangan Pendidikan, 3*(3), 190. https://doi.org/10.23887/jppp.v3i3.18251

Eka Retnaningsih, L., & Khairiyah, U. (2022). Kurikulum Merdeka pada Pendidikan Anak Usia Dini. *Jurnal Program Studi PGRA, 8*(1), 143–158.

Esi, Purwaningsih, E., & Okianna. (2016). Peranan guru sebagai fasilitator dan motivator dalam meningkatkan hasil belajar di kelas XI SMK. *Jurnal Pendidikan Dan Pembelajaran, 5*(10), 1–14. http://jurnal.untan.ac.id/index.php/jpdpb/article/view/17132/14624

Fakhrurrazi. (2018). Hakikat Pembelajaran Yang Efektif. At-Tafkir, 11(1), 85–99. https://doi.org/10.32505/at.v11i1.529

Hanafy, M. S. (2014). Konsep Belajar Dan Pembelajaran. *Lentera Pendidikan : Jurnal Ilmu Tarbiyah Dan Keguruan, 17*(1), 66–79. https://doi.org/10.24252/lp.2014v17n1a5

Hidayat, H., Arifin, A., & Akbar, I. W. (2022). Pengaruh Media Audio Visual terhadap Hasil Belajar IPA Terpadu Siswa Kelas V SDN 01 Pajo. *DIKSI: Jurnal Kajian Pendidikan Dan Sosial, 3*(2), 36–43. https://doi.org/10.53299/diksi.v3i2.200

Kumala, F. N. (2016). Pembelajaran IPA Sekolah Dasar. *In Journal of Chemical Information and Modeling*, *8*(9).

Lie, A. (2002). Anita Lie.pdf. In cooperative Learning (pp. 1–32). PT Grasindo. https://books.google.co.id/books?hl=en&lr=&id=D06wE99Ne6wC&oi=fnd&pg=PA1&dq=%22anita+lie%22+inside&ots=Lk3BM40j2w&sig=bDUhhy3Iu3Qrt55dGsr9m0CsxHA&redir_esc=y#v=onepage&q&f=true

Manggala, N. H. P., Zainal, Z., & Lukman, H. (2022). Penerapan Model Pembelajaran Kooperatif Tipe Inside Outside Circle (IOC) Untuk Meningkatkan Hasil Belajar Matematika Siswa Kelas IV UPT SD Negeri 229 Pinrang. *J-HEST Journal of Health Education Economics Science and Technology, 4*(2), 180–186. https://doi.org/10.36339/jhest.v4i2.96

Mardiani, N., & Hermawan, B. (2020). Perbandingan model pembelajaran berbasis portofolio dengan model pembelajaran konvensional. *Jurnal Kesehatan, 7*(1), 798–807. https://doi.org/10.38165/jk.v7i1.122

Mu'minin, M. I., & Humaisi, M. S. (2021). Pemanfaatan Media Pembelajaran Audio Visual Dalam Mengembangkan Motivasi Belajar Siswa Pada Mata Pelajaran Ips Terpadu. *JIIPSI: Jurnal Ilmiah Ilmu Pengetahuan Sosial Indonesia, 1*(1), 1–12. https://doi.org/10.21154/jiipsi.v1i1.45

Nurkhikmah. (2013). Keefektifan Penerapan Model Problem Based Learning (PBL) Terhadap Peningkatan Kualitas Pembelajaran IPA. *Journal of Elementary Education, 2*(2), 19–24. http://journal.unnes.ac.id/sju/index.php/jee

Nuryadi, Astuti, T. D., Utami, E. S., & Budiantara, M. (2017). Bab 7 Uji Normalitas Data dan Homogenitas Data. Dasar - Dasar Statistik Penelitian, 81, 90–91. http://lppm.mercubuana-yogya.ac.id/wp-content/uploads/2017/05/Buku-Ajar_Dasar-Dasar-Statistik-Penelitian.pdf

Patmawati, D., WS, R., & Halimah, M. (2018). Pengaruh Media Audio Visual Terhadap Hasil Belajar Siswa Pada Materi Jenis-Jenis Pekerjaan Di Sekolah Dasar. *PEDADIDAKTIKA: Jurnal Ilmiah Pendidikan Guru Sekolah Dasar, 5*(2), 308–316. https://ejournal.upi.edu/index.php/pedadidaktika/article/view/7256

Rahmah, N., & Rafika. (2017). Model Pembelajaran Kooperatif Tipe Inside-Outside Circle Dalam Pembelajaran Matematika. *Kelola: Journal of Islamic Education Management, 2*(1), 1–14. https://doi.org/10.24256/kelola.v2i1.442

Sakdiyah, S., Rahayunita, C., & Setiawan, B. (2020). Pengaruh Media Audio Visual Terhadap Hasil Belajar Siswa Materi Usaha dan Kegiatan Ekonomi Kelas V SDN Karanganom 02 Lumajang. *Seminar Nasional PGSD UNIKAMA, 4*, 115–122.

Sarah, K., Mursalin, M., Muliana, M., Nuraina, N., & Rohantizani, R. (2021). The Influence of the Inside Outside Circle Cooperative Learning Model on Students' Mathematical Communication Ability. *International Journal for Educational and Vocational Studies, 3*(3), 177. https://doi.org/10.29103/ijevs.v3i3.4981

Slavin, R. E. (2012). Cooperative Learning and Achievement: Theory and Research. Handbook of Psychology, Second Edition. https://doi.org/10.1002/9781118133880.hop207008

Sofyan, R. (2016). Pengembangan Media Pembelajaran Tematik Berbasis Multimedia Interaktif Pada Subtema Ayo Cintai Lingkungan. *PEDADIDAKTIKA: Jurnal Ilmiah Pendidikan Guru Sekolah Dasar, 3*(2), 272–280.

Sugiyono, D. (2013). Metode Penelitian Kuantitatif, Kualitatif, dan Tindakan.

Tiwery, D. S., & Souisa, T. R. (2019). Inside-outside circle as the way in building students' motivation and interaction in speaking classroom activities. *International Journal of Language Education, 3*(1), 33–45. https://doi.org/10.26858/ijole.v1i1.6703

Wahyu Wirawan, A., Indrawati, C. D. S., & Rahmanto, A. N. (2017). Pengembangan media pembelajaran kearsipan digital untuk meningkatkan hasil belajar siswa SMK Negeri 3 Surakarta the Development of Learning Media Archives To Improve Student Learning Outcomes Smk Negeri 3 Surakarta. *Jurnal Pendidikan Vokasi, 7*(1), 78–86. http://journal.uny.ac.id/index.php/jpv

Wahyudi, D., & Marwiyanti, L. (2017). Penerapan Model Pembelajaran Inside Outside Circle Dalam Mata Pelajaran Akidah Akhlak. Jurnal *MUDARRISUNA: Media Kajian Pendidikan Agama Islam, 7*(2), 267. https://doi.org/10.22373/jm.v7i2.2369

Wahyuni, D., Sasomo, B., & Rahmawati, A. D. (2023). Pengaruh model inside outside circle berbantu media audio visual terhadap hasil belajar matematika. *Jurnal Jendela Matematika, 1*(2), 69–76.

Wijaya, S. (2017). Inside Outside Circle: Teaching Students' Speaking Skill. *ELT Echo : The Journal of English Language Teaching in Foreign Language Context, 2*(2), 114. https://doi.org/10.24235/eltecho.v2i2.2171