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Effect of the Argument-Driven Inquiry (ADI) Learning Model on Improving Students Argumentation Abilities

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Abstract: The Argument-Driven Inquiry (ADI) learning model is designed to provide students with opportunities to improve their methods of data collection, investigation, writing, answering investigative questions, and critical thinking. The ADI model also allows participants to participate in scientific debates and peer review. This study used a quasi-experimental one-group pretest-posttest design. Data were collected through a pretest and posttest comprising 10 essay questions, which were validated by expert lecturers and tested for validity and reliability. The data obtained from the tests were analyzed using test statistics, namely the Kolmogorov-Smirnov normality test, hypothesis testing, and n-gain analysis. The results showed that the average posttest scores in the experimental class across replications 1 and 2 were 84.5 and 83.7, respectively. Analysis using a t-test confirmed that the argumentation ability of class XI MAN 1 Boalemo students on the sound wave material taught using the Argument Driven Inquiry (ADI) model was significantly higher than the KKM of 70. The magnitude of the influence of the use of the Argument Driven Inquiry (ADI) model was also shown by the course average normalized gain per class, with the magnitude of the gain of the three classes consistently being in the high category, namely 0.77 for the experimental class, 0.77 for replication class 1, and 0.76 for replication class 2. The statistical test in this study shows that the calculated t-value (t_{hitung}) exceeds the critical t-value (t_{tabel}) at the 5% significance level. This indicates a significant difference between students' pre-test and post-test argumentation skills. These findings are consistent with various previous studies.

Keywords: Argument Driven Inquiry (ADI); Argumentation Skills; Sound Waves.

Introduction

Education is an action carried out consciously and planned to enable students to actively increase their potential to become people with spiritual and religious strength, independence, intelligence, noble morals, and the skills needed for themselves, society, the nation, and the state [1].

Learning can be considered a mental (physical) activity that occurs as a result of active interaction between a person and their environment, producing comparable and consistent changes in the affective, psychomotor, and cognitive components. These changes can be entirely new, refinements, or improvements to existing learning outcomes. "Learning is a change in behavior that is demonstrated. The individual's state before and after the learning situation is different," said Gagne in his book entitled The Conditions of Learning (1977). The existence of experience or practice causes change. The definition of learning is a system of various interrelated components that produce behavioral changes; this is different from instant changes caused by reflexes or instinctive actions [2].

Essentially, the goal of scientific research is to improve and expand scientific knowledge by studying natural phenomena, interpreting findings, and disseminating the results [3]. The primary goal of studying science is for students to reason to solve problems and understand scientific explanations of natural phenomena. Furthermore, students must be able to understand the findings they learn from other sources. Physics is a branch of science that plays a significant role in everyday life, especially in science and technology. Learning physics through mere reading, imagining, and memorization is not enough. Physics, with all its phenomena, becomes meaningful when studied contextually, involving students in greater exploration to develop competencies by exploring various potentials and scientific truths, which in turn shape their competencies [4].

The branch of science known as physics studies natural phenomena and scientifically unravels the mysteries of the universe [5]. Physics enables humans to use scientific methods to understand their environment, investigate, discover the unknown, explain why things happen, and solve everyday problems [6]. As science continues to advance, understanding of a particular field can change. Changes can cause old ideas to be lost and replaced by new ones, or old ideas can develop into more complex and concrete ones. Human history has changed due to the advancement of science, especially physics, which is increasingly driven by new technologies that make it easier for humans to design and analyze research results. The development of physics as a science is certainly influenced by this development. Physics is a science that has developed from its beginnings, starting with the study of complex living things and their classification, and further developing when physics was recognised as a science that uses methods focused on the cellular level [7].

All efforts made to support students in the learning process are known as learning. Learning is a process that

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includes the stages of design, implementation, and assessment. In a learning environment, students engage with teachers and learning resources [8]. Effective learning is usually measured and characterized by the level of achievement of objectives. The level of achievement indicates the amount of internal experience that students receive [9].

Physics learning is considered capable of providing meaningful experiences for students, so it is hoped that they can apply them in everyday life and society. The ability required in physics learning, in addition to conceptual understanding, is the ability to argue, as we know that the concept of science as argument, and the view that engaging in scientific argumentation should play a key role in science education [10].

One of the important goals of science education is the ability to argue, as students must be able to provide scientific explanations for natural phenomena and solve problems using arguments. Argumentation can foster the development of several 21st-century skills, such as critical thinking and effective public speaking. Students who possess strong scientific argumentation skills can also help teachers achieve their learning objectives [11]. The argumentation learning process is very important for improving students' ability to learn and apply valid scientific discussion methods to explore the foundations of scientific knowledge. Students will be asked to consider and put forward possible responses to support their arguments based on evidence during the argumentation process [12].

During scientific argumentation, students describe their own ideas and learn from the ideas of others [13]. Argumentation is very important for physics learning because it gives students the opportunity to participate in group discussions and express opinions about their understanding of ideas, abilities, and scientific reasoning [14]. Students' low scientific argumentation skills during the learning process negatively impact their learning outcomes. Poor scientific argumentation skills also affect future lives; they will be unable to compete and may miss out on valuable job opportunities. Argumentation can measure students' level of understanding. Many students are gifted at understanding and expressing the meaning of learning experiences, but they still lack or do not understand their own knowledge [15].

The Argument-Driven Inquiry (ADI) learning model is designed to provide students with opportunities to improve their own methods of collecting data, conducting investigations, writing, answering investigative questions, and thinking more critically. The ADI model also allows students to participate in scientific debate and peer review.
The ADI learning model is inquiry-based and aims to provide students with opportunities to learn science through research. The ADI learning model consists of eight learning strategies: identifying tasks or investigative questions, collecting data, making tentative arguments, engaging in reflective, explicit discussions, writing investigative reports, conducting double-blind peer review, and revising student reports [16].

Research Methods

This study is a quantitative research employing an experimental research method. This method is used to determine the effect of the Argument-Driven Inquiry (ADI) learning model on students' argumentation skills regarding sound waves. The research design used in this study is the One-Group Pretest–Posttest Design. The pre-test was administered to both the experimental and replication classes before the treatment, and the post-test was administered to both classes after the treatment. The research design pattern is shown in Table 1.

Table 1. One Group Pretest–Posttest Research Design

Class	Pretest	Treatment	Posttest
Experiment	O_1	X	O_2
Replication 1	O_1	X	O_2
Replication 2	O_1	X	O_2

Data Analysis Techniques

Normality Test

In statistics, the Kolmogorov-Smirnov test (K-S test or KS test) is a nonparametric test of the equality of continuous, one-dimensional probability distributions that can be used to compare a sample with a reference distribution (one-sample K-S test) or two samples (two-sample K-S test). It is named after Andrey Kolmogorov and Nikolai Smirnov. The Kolmogorov-Smirnov test can serve as a goodness-of-fit test; in the special case of testing the normality of a distribution, the sample is standardised and compared with a standard normal distribution. This is equivalent to setting the mean and variance of the reference distribution equal to the sample estimates. This test assesses the goodness of fit between a sample distribution and another distribution, and compares a series of data in the sample against a normal distribution with the same mean and standard deviation [17].

$$Dmax = f o(x) - Sn(x)$$

Description:
$f o(x)$ = Theoretical cumulative frequency distribution based on H0 for each value of x
Sn(x) = Cumulative frequency distribution of n observations (n observations)
Dmax = Maximum deviation (difference)

Hypothesis Testing

After determining that the data obtained were normally distributed, the next step was to test the statistical hypothesis using the t-test. Because the focus of this research is on the treatment given to learning outcomes, the appropriate test is a one-tailed test. The formula used is:

$$t = \frac{\bar{x} - \mu o}{\frac{s}{\sqrt{n}}}$$

Description:
t = Calculated t value
$\bar{x}$ = Average value of x
$\mu 0$ = Hypothesized value (=70)

S = Standard deviation
n = Number of research subjects.[18]

N-gain analysis

In this study, the researchers used pretest and posttest instruments in the experimental and replication classes. To measure significant differences between pretest and posttest scores across the three samples, the researchers used n-gain analysis. The increase in pretest and posttest scores is expressed in gain. To determine the improvement obtained, this study used single student normalized gain analysis and the courage average normalized gain [19]. The single student normalized gain can be calculated using the following formula:

$$< g >= \frac{\%\ \text{Gain}}{\%\ \text{Gainmax}} = \frac{\%\text{Post} - \%\text{Pre}}{100\ - \%\text{Pre}}$$

Results and Discussion

Pre-Test and Post-Test Results of Argumentation Ability

Data on students' argumentative ability are presented in Appendix 11. To understand statistical tests in data processing, it is important to understand measures of central tendency, such as the mean and measures of data dispersion. The mean is calculated from each respondent's scores in the sample, providing a general overview of the data. After calculating the mean, we need to assess how the data are spread around it, which is done by measuring the standard deviation and variance. Standard deviation and variance are used to determine how far the data are spread from the mean, which is important in quantitative hypothesis testing. The results of the mean calculation are shown in Figure 1.

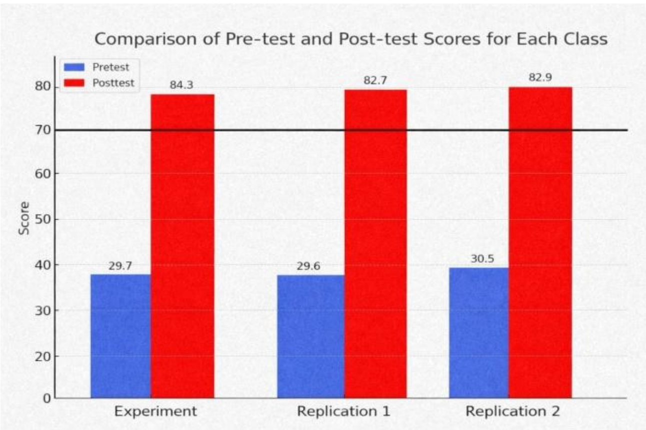

Figure 1. Diagram of the Improvement in Students' Argumentation Results in the Experimental and Replication Classes

Meanwhile, the standard deviation and variance are shown in Table 2.

Table 2. Standard Deviation

Class	Standard Deviation (SD)		Variance	
	Pretest	Posttest	Pretest	Posttest
Exp. XI A	4.52	5.42	20.43	29.34
Rep. 1 XI B	4.82	5.58	23.25	31.19
Rep. 2 XI C	4.39	5.12	19.23	26.21

Analysis of Pre-Test and Post-Test Argumentation Results Indicators for the Experimental Class

Descriptive statistics from the pre-test and post-test results in the experimental class showed a significant increase in each indicator of argumentation ability based on the Toulmin model: claim, ground, warrant, backing, qualifier, and rebuttal. The pre-test results show that the average (mean) for each indicator indicates that students' initial abilities are still relatively low. The claim indicator has an average value of 2.375, ground 0.923, warrant 2.5, backing 1.28, qualifier 0.73 and rebuttal 0.73. This indicates that, before being taught the Argument-Driven Inquiry (ADI) learning model, most students were unable to develop strong, complete arguments. Especially in the Ground, Qualifier, and Rebuttal indicators, the minimum value is 0, indicating that some students have included no reasons, limitations, or rebuttals in their arguments.

After the treatment, the post-test results showed significant improvement. The average Claim score increased to 10.2, Ground to 3.88, Warrant to 14.1, Backing to 5.25, Qualifier to 4.98, and Rebuttal to 7.25. This indicates that students are not only able to convey claims more strongly, but also able to strengthen them with reasons (ground), justification (warrant), supporting data (backing), argument limitations (qualifier), and rebuttal (rebuttal). Especially in the Warrant and Rebuttal indicators, the increases were very prominent, from 2.5 to 14.1 and from 0.73 to 7.25, respectively.

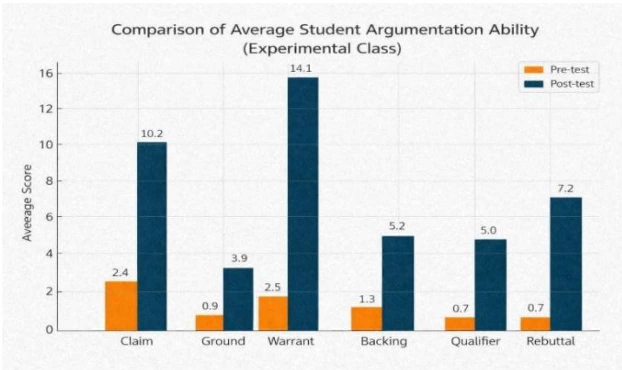

Figure 2. Diagram of the Comparison of Students' Average Argumentation Ability (Experimental Class)

Table 3. Statistical Analysis of Pre-test per Indicator

Statistics	Claim	Ground	Warrant	Backing	Qualifier	Rebutal
Mean	2.375	0.92	2.50	1.27	0.73	0.73
SD	0.74	0.28	1.51	1.01	0.65	0.47
Minimum	2.0	0.0	1.0	0.0	0.0	0.0
Maxsimum	4.0	1.0	5.0	3.0	2.0	1.0
N	20	20	20	20	20	20

Table 4. Statistical Analysis of Post-test per Indicator

Statistics	Claim	Ground	Warrant	Backing	Qualifier	Rebutal
Mean	10.2	3.88	14.1	5.25	4.98	7.25
SD	0.85	0.39	0.87	0.41	0.44	0.57
Minimum	9.0	3.0	12.5	4.5	4.0	6.0
Maxsimum	11.5	4.5	15.5	6.0	6.0	8.5
N	20	20	20	20	20	20

Normality Test

The purpose of data normality testing is to determine whether the data is normally distributed. In this study, normality testing was conducted on three classes: the experimental class, replication class 1, and replication class 2. The data collected from these three classes were posttest scores. The statistical test used in this study was the Kolmogorov-Smirnov test, performed in Microsoft Excel. The following table shows the results of the data normality test.

Table 5. Results of Data Normality Test

Uji Kolmogorov Smirnov			
Argument result data	D Count	D Table	Description
Class experiment	0.1926	0.294	Normally distributed
Replication Class 1	0.2020	0.294	Normally distributed
Replication Class 2	0.1513	0.294	Normally distributed

Hypothesis testing

The results of the hypothesis testing are obtained from the standard deviation, mean, and variance, which are listed in Table 4.1. Then, using the values in Table 4.1, the t-test formula from Chapter 3 is applied. The final results of the hypothesis testing are shown in Table 6.

Table 6. Results of Hypothesis Testing

Class	tcount	ttable	Status
Experiment	11.79	1.792	H_0 rejected
Replication 1	11.47	1.792	H_0 rejected
Replication 2	11.47	1.792	H_0 rejected

Based on Table 6, it can be seen that all sample classes obtained t values greater than the t table value at the α = 0.05 level. Therefore, it can be concluded that H0 is rejected and H1 is accepted. The results indicate that the average student argumentation score exceeds the KKM value of 70, suggesting that applying the ADI model to improve students' argumentation skills has a positive effect. For hypothesis testing, see Appendix 13.

N-gain analysis

Figure 3 shows the improvement in argumentation results seen from each student in the experimental class after receiving the treatment. 18 respondents experienced an increase in the high category, and 2 respondents were in the medium category. This means that the use of the Argument Driven Inquiry learning model has a quantitative effect on improving each student's argumentation results in the experimental class, indicating an increase in those results. The analysis of the single student normalized gain in the experimental class can be seen in Figure 3 [20].

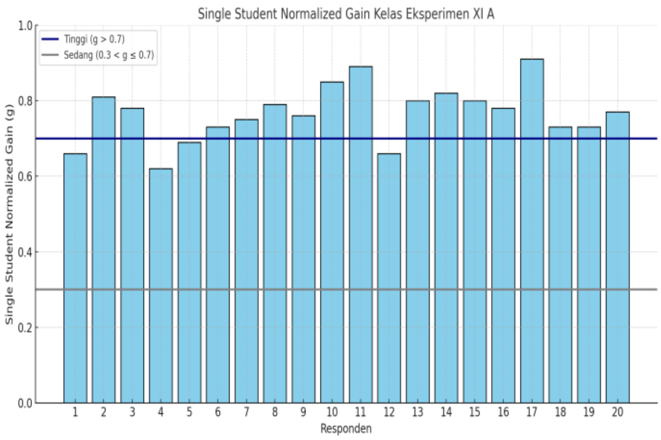

Figure 3. Single Student Normalized Gain of the Experimental Class

Student Response

Based on the results of the questionnaire given to students in the experimental class, data was obtained regarding their responses to the application of the Argument-Driven Inquiry (ADI) learning model, which were categorized into four aspects, namely: (1) student understanding and involvement, (2) argumentation skills, (3) collaboration and discussion, and (4) difficulties in applying the ADI model. Regarding understanding and involvement, 53% of students strongly agreed, and 47% agreed that the ADI model helped them understand the material and increased their involvement in learning. No students responded that they neither agreed nor disagreed. This shows that ADI-based learning encourages students to think actively and be involved in the learning process.

Furthermore, regarding argumentation skills, 58% of students strongly agreed, and 42% agreed that learning using the ADI model improved their ability to construct and present logical arguments. This aligns with the primary objective of the ADI model, which emphasizes the importance of evidence-based argumentation in science learning. Regarding collaboration and discussion, 64% of students strongly agreed, and 36% agreed that the ADI model encouraged them to engage in more active discussion and group collaboration. No students expressed disagreement or disagreement, indicating that the model successfully created a positive collaborative environment in the classroom.

Overall, student responses to the implementation of the ADI model were very positive. This model not only increased student understanding and engagement in learning but also developed their argumentation and collaboration skills. The low level of difficulty also indicates that this model can be effectively implemented in the classroom with appropriate support.

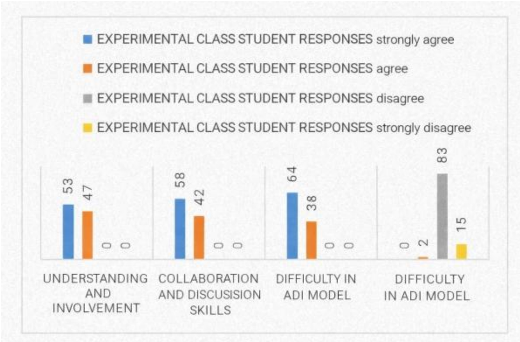

Figure 4. Students' Responses in the Experimental Class Observation Sheet

The results of the observation sheet on student activities during the learning process using the Argument-Driven Inquiry (ADI) model show variations in engagement across the three classes studied: the experimental class, replication 1, and replication 2. In the excellent category, replication 1 achieved the highest percentage at 80%, followed by replication 2 at 50%, and the experimental class at 30%. In the good category, replication 2 achieved the highest score at 90%, while the experimental and replication 1 classes both achieved 70%. Meanwhile, in the adequate category, the experimental class ranked highest with 90%, followed by replication 2 at 60%, and replication 1 at 50% [21].

This study was conducted to determine the effect of the Argument-Driven Inquiry learning model on the scientific argumentation skills of 11th-grade students at MAN 1 Boalemo. This research found that learning through the Argument-Driven Inquiry model significantly improved students' scientific argumentation skills. This is because learning using the Argument-Driven Inquiry model provides students with opportunities to analyze data, evaluate evidence, and construct logical arguments through consideration of multiple perspectives. Students are encouraged to construct arguments based on evidence and scientific reasoning by communicating their ideas clearly and logically in writing, thereby becoming effective communicators and presenting their ideas convincingly. Furthermore, research conducted by states that this model is designed to create classes that help students understand how to construct scientific explanations, generalize scientific facts, use data to answer scientific questions, and ultimately, reflect on the results of their work [22]. The argument-driven inquiry (ADI) learning model is effective in improving argumentation skills. The results of the study, which stated that the argument-driven inquiry model learning tool is valid, practical and effective in improving students' argumentation results, support several previous studies that examined the argument-driven inquiry learning model [23]. His research found a significant increase in students' scientific argumentation skills after using the Argument-Driven Inquiry learning model. The results of their research stated that student activity in Argument Driven Inquiry learning was higher when compared to student activity in guided inquiry learning [24].

Researchers chose the Argument-Driven Inquiry learning model in physics subjects because it is a student-centered model that focuses more on students' active participation during learning. The Argument-Driven Inquiry learning model in science subjects was chosen because it is a student-centered approach that focuses on students' argumentative activities.[25]

Conclusion

Based on the research results presented in the previous chapter, it can be concluded that the Argument-Driven Inquiry (ADI) learning model has the effect of improving students' argumentative skills on sound waves in class XI MAN 1 Boalemo. This is demonstrated by the average score for students' argumentative results, which exceeds the Minimum Competency (KKM) at 70. The significant influence of the ADI model on argumentative skills is also demonstrated by the course average normalized gain per class, with the three classes consistently in the high category: 0.77 for the experimental class, 0.77 for replication class 1, and 0.76 for replication class 2.

Author Contributions

I. Tahir: Collected data and drafted the article; D. D. Paramata and A. H. Odja: Responsible for and Compilers of the article

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References

[1] D. Pristiwanti, B. Badariah, S. Hidayat, and R. S. Dewi, "Pengertian pendidikan," *Jurnal Pendidikan dan Konseling*, vol. 4, no. 6, pp. 1707–1715, 2022.

[2] C. T. Anni, *Psikologi Belajar*. Semarang: UPT UNNES Press, 2024.

[3] I. Aryani, "Seminar Nasional Pendidikan Sains II UKSW 2017," in *Prosiding Seminar Nasional Pendidikan Sains II UKSW 2017*, pp. 41–47, 2011.

[4] F. M. Indrawati and A. G. A., "Model pembelajaran berbasis proyek (project-based learning) disertai media audio-visual dalam pembelajaran fisika," *Jurnal Pembelajaran Fisika FKIP Universitas Jember*, vol. 4, pp. 181–186, 2015.

[5] C. B., "Pengembangan perangkat pembelajaran fisika berbasis inquiry pada materi alat optik dan indikator dampaknya terhadap kompetensi siswa kelas X SMA," *Jurnal Riset Fisika Edukasi dan Sains*, vol. 1, no. 2, pp. 80–91, 2015, doi: 10.22202/jrfes.2015.v1i2.1403.

[6] M. M., "Implementasi model pembelajaran argumentasi dialogis dalam pembelajaran fisika untuk meningkatkan kemampuan argumentasi ilmiah siswa SMA," *Jurnal Penelitian dan Pengembangan Pendidikan Fisika*, vol. 1, no. 2, pp. 13–18, 2015, doi: 10.21009/1.01203.

[7] P. Sari, "Pengaruh penggunaan metode pembelajaran resitasi terhadap hasil belajar fisika pada materi pokok bunyi di SMA Negeri Padangsidimpuan," *Jurnal Penerapan Fisika*, vol. 4, no. 3, pp. 17–22, 2022, doi:

10.37081/physedu.v4i3.4631.
[8] R. Hurit, *Belajar dan Pembelajaran*, 2021.
[9] P. S., "Menciptakan pembelajaran yang efektif dan berkualitas," *Jurnal Inovasi dan Teknologi Pembelajaran*, vol. 1, no. 1, pp. 20–30, 2014.
[10] M. E. Emiwati and J. I., "Penerapan model pembelajaran Argument Driven Inquiry (ADI) untuk meningkatkan hasil belajar dan keterampilan argumentasi ilmiah peserta didik," *Jurnal Penelitian Pendidikan Fisika*, vol. 4, no. 4, p. 178, 2019, doi: 10.36709/jipfi.v4i4.9744.
[11] F. N., K. N., A. P. L., P. R., and B. P. A., "Profil keterampilan argumentasi siswa kelas X dan XI MIPA di SMA Batik 1 Surakarta pada materi keanekaragaman hayati," *Jurnal Pendidikan Biologi*, vol. 7, no. 3, p. 174, 2018, doi: 10.24114/jpb.v7i3.10122.
[12] O. Jiménez-Aleixandre, E. S. Erduran, and S. S., "Enhancing the quality of argumentation in school science," *Journal of Research in Science Teaching*, vol. 41, no. 10, pp. 994–1020, 2004, doi: 10.1002/tea.20035.
[13] H. S., "Membentuk keterampilan argumentasi siswa melalui isu sosial ilmiah dalam pembelajaran sains," in *SNIPS*, pp. 545–548, 2015.
[14] D. T. and U. S., "Investigating the effect of argument-driven inquiry in laboratory instruction," *Educational Sciences: Theory & Practice*, vol. 15, no. 1, pp. 267–283, 2015, doi: 10.12738/estp.2015.1.2324.
[15] S. S., S. A., E., and M. D. N., "Argumentasi ilmiah dan keterampilan berpikir kritis melalui metode debat," *Jurnal EDUSAINS*, vol. 11, no. 2, 2019, doi: 10.15408/es.v11i2.10479.
[16] M. S. O., N. I., and S. I., "Penerapan model Argument-Driven Inquiry (ADI) dalam meningkatkan kemampuan berargumentasi siswa pada konsep pencemaran lingkungan di kelas X SMA N 1 Ciawigebang," *Jurnal Pendidikan dan Biologi*, vol. 9, no. 2, p. 45, 2017, doi: 10.25134/quagga.v9i02.747.
[17] S. Syofian, *Statistik Terapan untuk Perguruan Tinggi*. Jakarta: Prenada Media Group, 2015.
[18] Sudjana, *Metode Statistika*. Bandung: Tarsito, 2005.
[19] R. R. Hake, "Interactive-engagement versus traditional methods: A six-thousand-student survey of mechanics test data for introductory physics courses," *American Journal of Physics*, vol. 66, no. 1, pp. 64–74, 1998, doi: 10.1119/1.18809.
[20] Q. A., "Normalitas data menggunakan uji Kolmogorov–Smirnov dan Shapiro–Wilk," *Journal of Health Economics Science Technology*, pp. 8–9, 2020.
[21] R. V., H. Y., and P. W., "The effect of Argument-Driven Inquiry (ADI) on argumentation skills and students' concept mastering of human excretory system materials," *Journal of Science Learning*, vol. 1, no. 2, pp. 57–62, 2018.
[22] U. S., R. A. S., and A. I., "Application of the Argument-Driven Inquiry learning model in stimulating students' scientific argumentation skills on acid–base material," *Jurnal Pendidikan Kimia Indonesia*, vol. 6, no. 1, pp. 32–39, 2022, doi: 10.23887/jpk.v6i1.39162.
[23] A. N., K. C. N., A. R. H., S. A., and A. Mufida, "Rancang bangun alat praktikum resonansi bunyi dengan menentukan cepat rambat bunyi di udara pada pipa kecil dan pipa besar," *Jurnal Ilmiah Wahana Pendidikan*, vol. 9, no. 14, pp. 546–552, 2023.
[24] G. W., S. Utari, and Muslim, "Penerapan model Argument-Driven Inquiry dalam pembelajaran IPA untuk meningkatkan kemampuan argumentasi ilmiah SMP," *Jurnal Pengajaran MIPA*, vol. 6, no. 1, pp. 32–39, 2015, doi: 10.18269/jpmipa.v20i1.559.
[25] Sugiyono, *Metode Penelitian & Pengembangan (Research and Development)*. Bandung: Alfabeta, 2015.