Improving ASWAJA Students' Conceptual Skill through the Jigsaw Cooperative Learning Model at MA Bahrul Ulum Tambakberas Jombang

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Abstract : *This study aims to examine the effect of implementing the cooperative learning model, specifically the Jigsaw technique, on students' conceptual understanding in the Aswaja subject. The background of this research stems from the need for more interactive and collaborative learning methods to address the challenges of conventional Aswaja instruction, which tends to be textual and lacks student engagement. This research employed a quantitative approach using a quasi-experimental design with a pretest-posttest control group. The research subjects consisted of 32 tenth-grade students at MA Bahrul Ulum Tambakberas Jombang, divided into an experimental group (Jigsaw method) and a control group (conventional lecture method). Data were collected using pretest-posttest instruments and a Jigsaw implementation questionnaire. The results of data analysis showed a significant difference in conceptual skill between students taught using the Jigsaw method and those taught with conventional methods, with a significance value of 0,025 (< 0,05) based on the independent sample t-test. Additionally, a positive relationship was found between the implementation of the Jigsaw method and students' conceptual abil, as indicated by a Pearson correlation significance of 0,032 and a correlation coefficient of 0,554 (moderate category). It is concluded that the cooperative learning model using the Jigsaw technique is effective in enhancing students' conceptual skill.*

Keywords : *Cooperative Learning, Jigsaw Model, Aswaja, Conceptual Skill*

INTRODUCTION

Ahlusunnah wal Jamaah (Aswaja) is a theological school of thought with distinctive doctrines and represents the majority belief among Muslims, including those in Indonesia. According to Shobirin et al., Aswaja's doctrine encompasses three main dimensions—faith (iman), Islam (practice), and ihsan (spiritual excellence) which give rise to the sciences of Tauhid (theology), Fiqh (jurisprudence), and Tasawuf (mysticism)(Shobirin et al., 2023). The Nahdlatul Ulama (NU) constitution asserts that Aswaja is grounded in the theological perspectives of Abu Hasan al-Ash'ari and al-Maturidi, adheres to one of the four schools of Islamic law, and follows the spiritual teachings of Imam Junaid al-Baghdadi and Abu Hamid al-Ghazali (Kristeva, 2015). As an Aswaja-based organization in Indonesia, NU not only preserves the purity of Islamic creed but also emphasizes social and humanitarian

values, making the Aswaja worldview relevant in addressing theological and contemporary challenges (Ehwanudin et al., 2022).

The values of Aswaja are reflected in fiqh through formal legal practices such as 'ubudiyah (worship), mu'amalah (social transactions), and jinayah (criminal law), grounded in moderation, balance, and tolerance. Qoni'ah emphasizes that the principles of tawassuth (moderation), tawazun (balance), and tasamuh (tolerance) serve as essential foundations to prevent extreme interpretations (Maghfiroh, 2023). Research by Hayuman et al. shows that Aswaja education in schools can foster social awareness and mutual respect among students (Hayuman et al., 2023). However, implementing Aswaja learning faces several challenges. The material tends to be textual, and the teaching methods often limited to memorization or monotonous lectures, make students less engaged.

Findings by M. Tarwi et al. and Ari Abdi Widodo et al. reveal that teachers and ustadz often struggle to adapt to interactive learning methods (Tarwi & Naimah, 2022; Widodo & Husni, 2025). While Khamim Abdul Malik et al. highlight students' limited understanding when learning sources are confined to religious texts (Malik et al., 2023). Thus, the success of Aswaja learning requires interactive and collaborative methods. Cooperative learning, particularly the Jigsaw model, is considered effective in enhancing students' conceptual understanding. This model emphasizes group collaboration and individual responsibility for specific material (Pujiarti, 2023). Studies by Marthinu et al., Nur Putri, and Riza Pebrianti demonstrate that Jigsaw significantly improves learning outcomes compared to traditional lectures (Marthinu et al., 2023; Maulidia, 2016; Pebrianti, 2020). Based on this background, this research examines two main aspects: (1) the difference in Aswaja conceptual skill between students who are taught through the Jigsaw cooperative learning method and those who are taught through conventional method; and (2) the relationship between the implementation of the Jigsaw method and students' conceptual understanding.

This study aims to explore the effect of the Jigsaw model on the conceptual skill of tenth-grade students at MA Bahrul Ulum Tambakberas Jombang, complement previous theoretical findings, and offer more effective and engaging strategies for Aswaja instruction.

METHOD

This study was conducted at MA Bahrul Ulum Tambakberas Jombang using a quantitative approach. According to Sugiyono, the quantitative approach is rooted in the philosophy of positivism, which views reality as classifiable, relatively fixed, concrete, observable, and measurable (Sugiyono, 2013). The research method employed was experimental, specifically using a Quasy Experimental Design in the form of a Pretest-Posttest Control Group Design. In this design, both the control and experimental groups received a pretest before treatment and a posttest afterward. The subjects of this study were all tenth grade students of MA Bahrul Ulum Tambakberas Jombang, totaling 32 students, consisting of 17 students in Class A and 15 students in Class B. Since the number of students

in each class was fewer than 30, the researcher employed a Non-Probability Sampling technique, specifically Total Sampling, which is a sampling method in which all members of the population are used as samples.
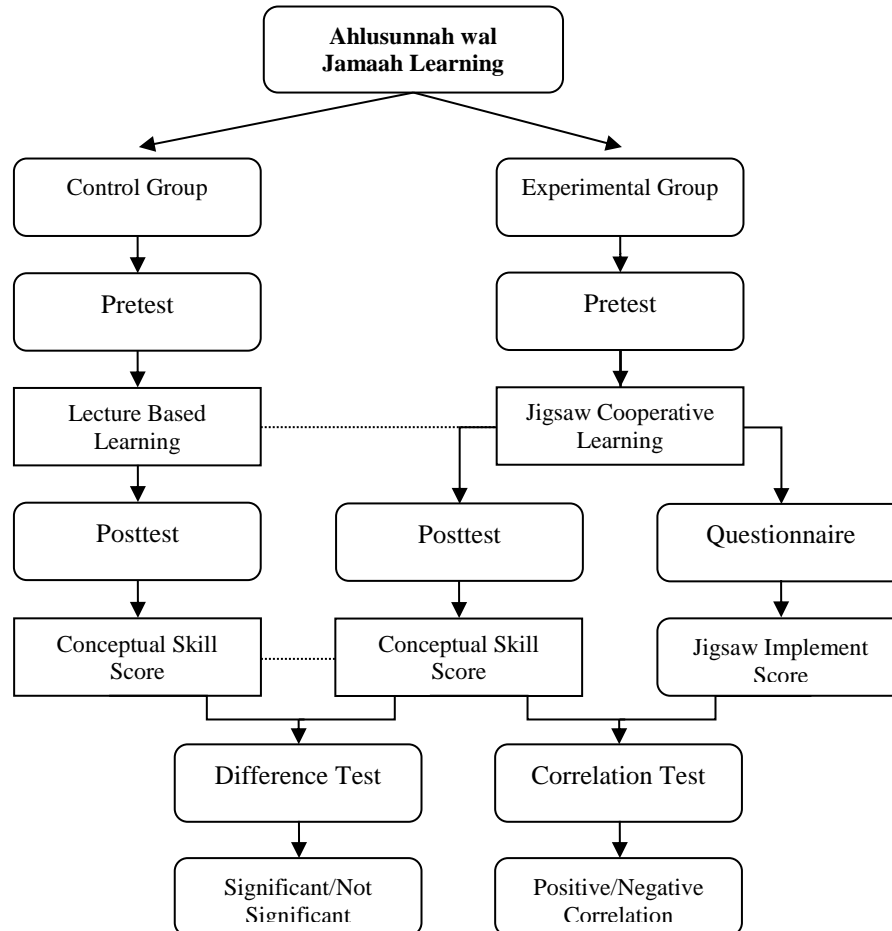

Figure 1. Research method stages

Data collection in this study was conducted through questionnaires and tests. The research instruments used were a questionnaire on the implementation of the Jigsaw method and Pretest-Posttest sheets containing multiple-choice questions. Before being used to measure the respondents, the instruments were first tested for validity, reliability, and item discrimination. According to Sugiyono, a valid instrument is one that can accurately measure what it is intended to measure (Sugiyono, 2015).

At the data analysis stage, the collected data were first tested for normality and homogeneity to determine the appropriate type of hypothesis testing to be applied. The hypothesis testing utilized an Independent Sample T-Test and Pearson Product-Moment Correlation, both at a significance level of 0,05. The T-test was used to analyze two independent samples with interval or ratio data that had been tested for normal distribution.

RESULTS DAN DISCUSSION

1. Results

The pretest–posttest sheets and questionnaires previously distributed by the researcher before and after the treatment were then accumulated and analyzed. Through these instruments, data analysis could be carried out, including the Normality Test, Homogeneity Test, and Hypothesis Test. The pretest and posttest scores of tenth-grade students at MA Bahrul Ulum Tambakberas Jombang are as follows:

Table 1. Pretest and Posttest Scores

No	Control Class		Experiment Class	
	PreTest	PostTest	PreTest	PostTest
1	25	25	70	90
2	55	70	55	80
3	35	35	60	65
4	60	50	60	70
5	60	80	60	70
6	60	50	35	55
7	40	45	50	65
8	35	65	50	65
9	45	50	65	65
10	55	30	25	50
11	70	70	40	60
12	35	30	60	80
13	70	80	65	80
14	35	40	45	55
15	55	75	45	65
16	70	70		
17	65	65		

The results of the questionnaire on the implementation of the Jigsaw model in the experimental group are as follows:

Table 2. Results of the Questionnaire on the Implementation of the Jigsaw Model

No	P 1	P 2	P 3	P 4	P 5	P 6	P 7	P 8	P 9	P 10	P 11	P 12	P 13	P 14	P 15	P 16	P 17	P 18	P 19	P 20	Total	%
1	3	2	3	3	3	3	4	4	4	4	4	3	4	3	4	4	4	4	3	4	70	88
2	3	4	2	3	4	3	3	3	3	2	3	3	3	2	3	3	1	3	3	1	55	69
3	3	3	3	4	4	3	3	3	4	4	3	3	4	3	3	4	3	4	3	4	68	85
4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	60	75
5	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	58	73
6	3	4	4	1	3	4	3	1	2	3	2	3	3	3	2	3	2	3	2	2	53	66
7	3	3	3	3	3	3	3	4	4	3	1	3	4	3	3	3	3	4	3	4	63	79

8	3	3	3	3	3	3	2	3	3	3	2	3	3	3	3	2	3	3	3	3	57	71
9	3	2	3	3	4	3	3	3	4	3	2	4	4	3	4	4	3	3	3	3	64	80
10	3	2	2	4	4	3	4	1	2	2	4	2	1	3	1	3	4	1	3	1	50	63
11	3	1	4	3	3	4	1	3	3	4	4	1	3	4	1	2	3	3	3	3	56	70
12	3	2	3	4	3	2	3	3	3	2	4	3	3	2	4	3	2	2	3	3	57	71
13	3	3	4	3	3	4	3	3	3	4	4	4	4	4	3	4	4	4	4	4	72	90
14	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	60	75
15	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	60	75

Note :

P   = Items of Question

a. Data Normality Test

The data normality test in this study used the Shapiro–Wilk model because it is more relevant for small samples. This test was applied to the pretest data to examine whether the initial scores of the participants were normally distributed before the implementation of the learning intervention. The results of the calculation using the IBM SPSS software are as follows :

Table 3. Results of the Data Normality Test

	Class	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	df	Sig.
Result	Pretest Control	0,191	17	0,099	0,908	17	0,092
	Posttest Control	0,182	17	0,139	0,922	17	0,160
	Pretest Experimental	0,197	15	0,123	0,944	15	0,429
	Posttest Experimental	0,196	15	0,126	0,944	15	0,429

Based on the predetermined decision rule, the data are normally distributed if the significance value (Sig.) of all data is greater than 0,05. In the table, all data are declared to be normally distributed.

b. Data Homogeneity Test

The homogeneity test in this study used the Levene Test model through IBM SPSS software. This test was conducted on the pretest data to determine whether the variance of the participants' initial scores was homogeneous across groups, and the results of the calculation are shown in Table 4.

Table 4. Results of the Data Homogeneity Test

		Levene Statistic	df1	df2	Sig.
Score	Based on Mean	1,192	1	30	0,284
	Based on Median	0,506	1	30	0,482
	Based on Median and with adjusted df	0,506	1	29,465	0,483
	Based on trimmed mean	1,117	1	30	0,299

Based on the predetermined decision rule, the data are considered homogeneous if the significance (Sig.) value is greater than 0,05. Since the table shows a significance value of 0,284 the data are categorized as homogeneous.

c. Hypothesis Testing

The hypothesis testing in this study used the Independent Sample T-Test model for the difference test and the Pearson Product Moment Correlation model for the correlation test. Both tests were carried out using IBM SPSS software.

1) Independent Sample T-Test

Table 5. Results of the T-Test

		t	df	Significance One-Sided p	Significance Two-Sided p	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	95% Confidence Interval of the Difference Upper
Score	Equal variances assumed	-2,367	30	0,012	0,025	-12,961	5,475	-24,143	-1,779
	Equal variances not assumed	-2,441	26,524	0,011	0,022	-12,961	5,309	-23,863	-2,058

Based on the predetermined decision rule, if the significance value (2-tailed) is less than 0,05, it is stated that there is a significant difference. In the appendix of the T-test results, a significance value of 0,025 was obtained. This result is smaller than 0,05 and can therefore be stated as a significant difference. Thus, it can be concluded that H_0 is rejected = There is no significant difference in Aswaja conceptual skill between groups of students who learn using the Jigsaw Cooperative method compared to those who learn using the Conventional method. Meanwhile, H_a is accepted = There is a significant difference in Aswaja conceptual skill between groups of students who learn using the Jigsaw Cooperative method compared to those who learn using the Conventional method.

2) Pearson Product Moment Correlation

Table 6. Results of the Correlation Test

		Pembelajaran Jigsaw	Kemampuan Konseptual
Pembelajaran Jigsaw	Pearson Correlation	1	0,554[*]
	Sig. (2-tailed)		0,032
	N	15	15
Kemampuan Konseptual	Pearson Correlation	0,554[*]	1
	Sig. (2-tailed)	0,032	
	N	15	15
Correlation is significant at the 0.05 level (2-tailed).			

Based on the predetermined decision rule, if the significance value is less than 0,05, it is stated that the variables are correlated. In the appendix of the correlation test results, a significance value of 0,032 was obtained, and it can be stated that there is a correlation. It was also found that the Pearson Correlation value is 0,554, which means that the result can be categorized as having a moderate correlation (Pearson Correlation value 0,41 to 0,60).

2. **Discussion**

a. Differences in conceptual skill between tenth-grade students of MA Bahrul Ulum Tambakberas Jombang who learn using the jigsaw cooperative method and those who learn using the conventional method

Based on the results of data analysis using the Independent Sample T-Test, a significance value of 0,025 was obtained. This value is smaller than the determined significance level of 0,05, so it can be concluded that there is a significant difference in conceptual ability between students taught using the Jigsaw Cooperative learning model and those taught using the conventional (lecture) method.

This analysis result is consistent with the study by M. Mariati, who also applied a similar learning method to Social Science subjects, and with the research by Intan Arini on conceptual mastery in Natural Science subjects (Arini, 2024; Mariati, 2021). However, it differs from the study by Yessi Sarnia, which showed no significant difference in critical thinking skills between groups of students who learned using the Jigsaw Cooperative learning model and those who learned using the direct learning model (Sarnia, 2022).

This pattern shows that the use of the Jigsaw Cooperative learning model has a positive influence on improving students' conceptual understanding, although it seems to be less effective for issue-based learning that requires creativity and critical reasoning. Although the Jigsaw model requires each group member to study and explain a portion of the material to other members, this is not its primary focus. The main target is the process of encouraging students to be actively engaged in discussion, take responsibility individually and as a group, and develop social and academic skills simultaneously.

Conversely, conventional learning, which tends to be one-directional, does not provide sufficient space for student participation. As a result, their understanding of the material tends to be lower compared to classes that apply the Jigsaw model. This difference, both statistically and pedagogically, confirms that cooperative learning approaches are more suitable for achieving the goal of improving conceptual ability.

b. The relationship between the application of the jigsaw cooperative learning method and the conceptual skill of tenth-grade students of ma bahrul ulum tambakberas jombang

Based on the results of the Pearson Product Moment correlation analysis, a significance value of 0,032 was obtained, indicating a significant relationship between the application of the Jigsaw Cooperative learning method and students' conceptual ability. In addition, the correlation value (Pearson Correlation) of 0,554 shows that the relationship is moderate and positive.

This means that the better the implementation of the Jigsaw model in the learning process, the higher the students' conceptual ability. This correlation reflects that the Jigsaw method not only provides variation in teaching techniques but also creates a collaborative and in-depth learning atmosphere. It encourages students to understand concepts comprehensively, as they are required not only to master the material but also to be able to explain it back to their groupmates.

Another cooperative learning method that is often compared with the Jigsaw model is the STAD model, as shown in Hildiana's research on Islamic Education subjects, which revealed differences in students' learning outcomes before and after the application of the STAD model (Hildiana, 2021). On the other hand, recent research by Nadia Khaifa showed that the scores obtained by students learning through the STAD model were higher than those learning through the Jigsaw model (Khaifa, 2025).

These findings are also consistent with constructivist theories, which emphasize the importance of the active role of students in constructing knowledge through social interaction. Therefore, the application of cooperative learning methods in general is appropriate as an alternative learning strategy to improve conceptual understanding, particularly in subjects such as Aswaja, Natural Sciences, or Mathematics that require a strong mastery of concepts.

CONCLUSION

Based on the research entitled "The Effect of Cooperative Learning with the Jigsaw Model on Students' Conceptual Understanding of Aswaja at Grade X MA Bahrul Ulum Tambakberas Jombang," the following conclusions can be drawn:

1. There is a significant difference in conceptual ability between students taught using the Jigsaw cooperative model and those taught using conventional methods. The Independent Sample T-Test yielded a significance value of 0,025 (< 0,05), indicating that the Jigsaw model is more effective in improving conceptual understanding than the lecture method.

2. There is a positive relationship between the application of the Jigsaw cooperative model and students' conceptual understanding. The Pearson correlation test produced a significance value of 0,032 (< 0,05) and a correlation coefficient of 0,554 (moderate level), meaning that the better the Jigsaw model is implemented, the greater the students' conceptual mastery.

Overall, the Jigsaw cooperative learning model is proven effective in enhancing students' conceptual understanding in Aswaja subjects among tenth-grade students at MA Bahrul Ulum Tambakberas Jombang.

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