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Islamic religious education learning outcomes of students at SMA Negeri 2 Wajo: a view from cognitive style

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ABSTRACT

This study aims to determine the differences in Islamic Religious Education learning outcomes between students who have a field-independent cognitive style and students who have a field-dependent cognitive style at SMA Negeri 2 Wajo. This type of research is experimental, with a quasi-experimental nature. The research design used was the nonequivalent posttest-only control group design. The population in this study was students of class XII IPA SMA Negeri 2 Wajo, which amounted to 118 people, while the sample in this study amounted to 48 people selected using purposive sampling techniques. The instruments used are the GEFT test to obtain data on the cognitive style of students and the test instrument to obtain data on student learning outcomes. The data analysis technique used is analysis of variance (ANOVA) one way.The results showed that there were significant differences in Islamic Religious Education learning outcomes between students who had a field-independent cognitive style and students who had a field-dependent cognitive style at SMA Negeri 2 Wajo, with a value of F = 4,085 and a significance value of < α (0.049 < 0.05).

Keywords: Cognitive style; learning outcomes

1. INTRODUCTION

Learning outcomes are abilities that must be possessed by students after passing a series of learning activities. Learning outcomes can also be said to be a benchmark for achieving learning objectives. As for the results obtained, they will be drawn after passing the assessment process. In Permendikbud 23 of 2016, it is described that assessment is the process of collecting and processing information to measure the achievement of student learning outcomes.[1] According to Yaumi, assessment is a series of activities to collect and process information from various sources after a learning experience with the

[1] Republik Indonesia, "Peraturan Menteri Pendidikan dan Kebudayaan Nomor 23 Tahun 2016 tentang Standar Penilaian Pendidikan" (Jakarta, 2016), h. 2.

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aim of getting an idea of what students know, understand, and can do with the knowledge they have.[2]

Assessment in Islamic Religious Education learning includes cognitive, affective, and psychomotor domains, as per the learning taxonomy initiated by Benjamin S. Bloom. It is based on the proximity of Bloom's taxonomy to the taxonomy of education in Islam. Cognitive aspects in the form of developing religious knowledge include memory and intelligence functions. The affective aspect is the formation of attitudes towards religion, including the functions of feelings and attitudes. The psychomotor aspect is in the form of cultivating religious skills, including the functions of will and behavior.[3]

To see the learning outcomes of Islamic religious education in educational units, researchers made observations in one of the schools, namely SMA Negeri 2 Wajo. Researchers found that there was a decrease in student learning outcomes, followed by a decrease in the standard of minimum completeness criteria in Islamic Religious Education subjects. From the results of the researcher's interview with one of the Islamic Education teachers at the school, it is known that the lowering of the minimum completeness criteria standard by the school is intended so that students are able to meet the targets to be achieved in a subject by considering the psychological condition of students during the pandemic.[4]

One of the psychological factors that also influences the achievement of student learning outcomes is cognitive style. Cognitive style is a difference in perception and the way a person receives, processes, and applies information in his environment. Cognitive styles affect how learners learn and how teachers and learners interact in learning.[5] This is important because education during a pandemic requires students to understand the material more, even though interaction with teachers and peers is limited.

According to Woolfook, cognitive style refers to how a person associates precisely the information received with the environment. [6] Nasution in Latif suggests that cognitive style is a consistent way for students to receive information from the stimulus given, including how to think, how to remember, and how to respond to a problem.[7]

According to Witkin, two types of cognitive styles are based on psychological differences, namely field-independent cognitive styles and field-dependent cognitive styles.

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[2] Muhammad Yaumi, *Prinsip-prinsip Desain Pembelajaran disesuaikan dengan Kurikulum 2013* (Cet. 5; Jakarta: Prenadamedia Group, 2017), h.221.

[3] Ramayulis, *Filsafat Pendidikan Islam: Analisis Filosofis Sistem Pendidikan Islam* (Cet.4; Jakarta: Kalam Mulia, 2015), 446.

[4] Ramayulis, *Filsafat Pendidikan Islam: Analisis Filosofis Sistem Pendidikan Islam* (Cet.4; Jakarta: Kalam Mulia, 2015), 446.

[5]Slameto, *Belajar dan Faktor-faktor yang Mempengaruhinya* (Cet. 6; Jakarta: Rineka Cipta, 2015), h. 160.

[6]Slameto, *Belajar dan Faktor-faktor yang Mempengaruhinya* (Cet. 6; Jakarta: Rineka Cipta, 2015), h. 160.

[7]Nila Sari Latif, "Pengaruh Metode Mengajar dan Gaya Kognitif terhadap Hasil Belajar Matematika Siswa Kelas VIII MTsS Kabupaten Maros" *Tesis* (Makassar: Pascasarjana Universitas Negeri Makassar, 2013), h. 90

1. Field Independent Cognitive Style

Field independence is the cognitive style of a person who tends to be free to learn something without being affected by his tasks or environmental conditions. [8] Someone who has a field-independent cognitive style tends to understand things even without paying attention to the background. They can look at the surrounding environment analytically so that they are able to distinguish something from their environment.[9] The characteristics of someone who has a field-independent cognitive style are: a) being able to analyze and distinguish an object from its environment so that the environment does not affect its perception; b) being able to arrange objects that have not been organized or that have been organized; c) having a nature that tends to be sensitive, cold, and individualistic; d) tending to choose a profession that can be done individually and requires analysis; e) being able to formulate his own goals; and f) requiring intrinsic motivation and reinforcement to support his work.[10]

2. Field-dependent cognitive style

Field dependent is a person's cognitive style that tends to have dependence on tasks and environmental conditions when learning something. [11] A person with a field-dependent cognitive style has difficulty separating something from his environment because he better understands something globally. They tend to understand themselves as part of a group and tend to be more perspective-oriented and sensitive. [12] The characteristics of someone who has a field-dependent cognitive style are: a) global thinking; b) tending to accept existing structures because they have limitations in restructuring; c) having social skills; d) tending to choose socially oriented professions; e) focusing more on existing goals; and f) requiring external motivation and reinforcement in supporting their work. [13]

Attention to the cognitive style of learners is not limited to one subject. According to Suyono in Yusnidah, all subjects will achieve good results if teachers can understand the characteristics of students' cognitive styles, because this can be used as a reference in determining methods, media, learning models, and other things related to learning.[14]

[8]Nila Sari Latif, "Pengaruh Metode Mengajar dan Gaya Kognitif terhadap Hasil Belajar Matematika Siswa Kelas VIII MTsS Kabupaten Maros" *Tesis* (Makassar: Pascasarjana Universitas Negeri Makassar, 2013), h. 90

[9]Nila Sari Latif, "Pengaruh Metode Mengajar dan Gaya Kognitif terhadap Hasil Belajar Matematika Siswa Kelas VIII MTsS Kabupaten Maros" *Tesis* (Makassar: Pascasarjana Universitas Negeri Makassar, 2013), h. 90

[10]Samsidar Tanjung, "Pengaruh Media Pembelajaran dan Gaya Kognitif terhadap Hasil Belajar Sejarah", *Paramita* 25, no.2 (2015): h. 263.

[11]Herry Agus Susanto, *Pemahaman Pemecahan Masalah Berdasar Gaya Kognitif,* h. 37.

[12]Slameto, *Belajar dan Faktor-faktor yang Mempengaruhi*, h. 161.

[13]Samsidar Tanjung, "Pengaruh Media Pembelajaran dan Gaya Kognitif terhadap Hasil Belajar Sejarah", *Paramita* 25, no.2 (2015): h. 263.

[14]Slameto, *Belajar dan Faktor-faktor yang Mempengaruhi*, h. 161.

Based on the background above, researchers are interested in studying further the differences in learning outcomes caused by differences in the cognitive styles of students, especially in Islamic Religious Education lessons.

2. METHODS

This type of research is experimental, with a quasi-experimental nature. The research design used was the nonequivalent posttest-only control group design. This research was conducted from August 2022 to September 2022 at SMA Negeri 2 Wajo. The population in this study was 118 students in class XII, IPA SMA Negeri 2 Wajo. The sample in this study amounted to 48 people selected using purposive sampling techniques.

Data on the learning outcomes of Islamic Religious Education were obtained through a multiple-choice learning outcome test on the material on "Worship and Thank Allah swt. and Doing Good to Others (QS. Lukman: 13–14 and QS. al-Baqarah: 83)". Data on the cognitive style of students are obtained through the GEFT (Group Embedded Figure Test) test. The test was developed by Witkin, Oltman, and Raskin (translated into Indonesian by Degeng) and aims to group learners into field-independent and field-dependent groups. Furthermore, all the data collected were analyzed using a one-way analysis of variance (ANOVA) through the SPSS application.

This study hypothesizes that "there are significant differences in Islamic Religious Education learning outcomes between students who have field-independent learning styles and students who have field-dependent learning styles at SMA Negeri 2 Wajo." Statistically, it is formulated as follows:

H0 : Sig ≥ α (0.05)

H1 : Sig < α (0.05)

3. RESULTS AND DISCUSSION

1. Research Results

Before conducting a hypothesis test, several prerequisite tests were carried out, including normality tests and homogeneity tests. The following is the description of the prerequisite test results:

a. Normality Test

The data is said to satisfy the normality assumption test if the significance value is > α (0.05).

The results of the variant normality assumption test can be seen in the table below:

Table 1: One-Sample Kolmogorov-Smirnov Test

		Learning outcomes
N		48
Normal Parameters[a,b]	Mean	82.8125
	Std. Deviation	6.26594
Most Extreme Differences	Absolute	.194
	Positive	.194
	Negative	-.116
Kolmogorov-Smirnov Z		1.345
Asymp. Sig. (2-tailed)		.054

a. Test distribution is Normal.
b. Calculated from data.

Based on the table above, it can be seen that the significance value = 0.054 > α = 0.05, so it can be concluded that the data meets the assumption of normality.

b. Homogeneity Test

The test results of the assumption of homogeneity of variants can be seen in the table below:

Table 2: Test of Homogeneity of Variances

Learning Outcomes

Levene Statistic	df1	df2	Sig.
.156	1	46	.694

Based on Levene's Test of Equality of Error Variances table, a significance value of 0.694 > α = 0.05 is obtained, so it can be concluded that the data comes from homogeneous variance; in other words, the data meets the assumption of homogeneity.

After the prerequisite test is met, a research hypothesis test is carried out. There are two types of data in this study: data on the cognitive styles of students, which are divided into two categories, namely field-independent and field-dependent, and data on the learning outcomes of students at SMA Negeri 2 Wajo. Both data were then subjected to descriptive statistical analysis and hypothesis testing using the Anova One-Way type of analysis. The following are presented for each analysis result using the SPSS Statistics 22 application:

Table 3. Descriptive Statistical Test Results

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
FI	24	84.5833	5.69452	1.16239	82.1787	86.9879	75.00	95.00
FD	24	81.0417	6.42332	1.31115	78.3293	83.7540	75.00	100.00
Total	48	82.8125	6.26594	.90441	80.9931	84.6319	75.00	100.00

Based on the SPSS output table above, it can be seen the difference in the average learning outcomes of students based on their cognitive style categories, which are as follows: (a) The average learning outcomes of students who have a field-independent cognitive style of 84.5833 (b) The average learning outcomes of students who have a field-dependent cognitive style are 81.0417. Thus, descriptively, it can be concluded that the average learning outcomes of students who have a field-independent cognitive style are higher than the average learning outcomes of students who have a field-dependent cognitive style at SMA Negeri 2 Wajo, which is 84.5833.

Table 4. Anova One-Way Analysis Results

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	150.521	1	150.521	4.085	.049
Within Groups	1694.792	46	36.843		
Total	1845.312	47			

Based on the results of the analysis above, we obtained the values of F count = 4.085 and F table = 4.047, with a significance value of 0.049. This means that F counts > F tables (4.085 > 4.047) and < α significance values (0.049 < 0.05) so that it can be concluded that H0, which states that there is no difference in the learning outcomes of students who have field-independent cognitive styles with the learning outcomes of students who have field-dependent cognitive styles at SMA Negeri 2 Wajo, is rejected, in other words that there are significant differences in Islamic Religious Education learning outcomes between students who have field-independent cognitive styles and students who have a field dependent cognitive style at SMA Negeri 2 Wajo.

Discussion

Each learner has special characteristics that cannot be equated with those of other learners. In terms of how students process information, this is called cognitive style.

Cognitive style refers to how typical learners go through processing and solving problems, not how well the process is solved.[15]

According to Eunjoo and Doohun, cognitive style is a difference in a person's perspective on processing the information he receives.[16] Kagan in Susanto suggests that cognitive styles are variations in the way individuals receive, understand, recall, and use information.[17] Woolfook further explained that cognitive style refers to how a person relates precisely the information received to the environment. [18]The cognitive style, according to Ormrod, is a typical way of thinking about a task and new information that is automatic or unplanned. [19]

To understand more about cognitive styles, the following characteristics are explained, including:

1. It is behavioral, with both cognitive and affective aspects.
2. The cognitive style is stable all the time. The type of cognitive style of students will remain the same over time; even the older the students, the more stable the cognitive style shown.
3. The cognitive style is bipolar. This characteristic distinguishes between cognitive styles, intelligence, and other abilities. Although it has two poles, there is no superior pole between them. Each cognitive style has its characteristics and has the potential to perform at its best. [20]

Given how important cognitive styles are in influencing the learning process of students, knowing the impact they have on student learning outcomes is no less important, especially about students' understanding of Islamic Religious Education subjects.

Based on the results of the research that has been described, it is known that there are significant differences in Islamic Religious Education learning outcomes between students who have a field-independent cognitive style and students who have a field-dependent cognitive style at SMA Negeri 2 Wajo. This difference can be seen in the average learning outcomes of students based on their cognitive style categories, where descriptive statistical tests show that the average learning outcomes of students who have field-independent cognitive styles are higher than the average learning outcomes of students who have field-dependent cognitive styles at SMA Negeri 2 Wajo.

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[15]Samsidar Tanjung, "Pengaruh Media Pembelajaran dan Gaya Kognitif terhadap Hasil Belajar Sejarah", *Paramita* 25, no.2 (2015): h. 263.

[16]Ramadhani Dewi Purwanti, Dona Dinda Pratiwi, dkk. "Pengaruh Pembelajaran Berbantuan Geogebra terhadap Konsep Matematis ditinjau dari Gaya Kognitif" *Al-Jabbar: Jurnal Pendidikan Matematika* 7, no. 1 (2016): h. 117.

[17]Herry Agus Susanto, *Pemahaman Pemecahan Masalah Berdasar Gaya Kognitif* , h. 34-35.

[18]Herry Agus Susanto, *Pemahaman Pemecahan Masalah Berdasar Gaya Kognitif*, h. 35.

[19]Herry Agus Susanto, *Pemahaman Pemecahan Masalah Berdasar Gaya Kognitif*, h. 35.

[20]Herry Agus Susanto, *Pemahaman Pemecahan Masalah Berdasar Gaya Kognitif*, h. 35.

The existence of differences in learning outcomes is very likely to occur due to differences in the characteristics of each cognitive style. Both have different characteristics, but no one outperforms the other because it is a characteristic found in each individual. However, it is undeniable that the differences in the characteristics of the two cognitive styles have implications for the differences in learning outcomes shown.

By knowing these differences, the teacher, as the person in charge of teaching in the classroom, is expected to be able to use the right strategy following the needs of each cognitive style so that students who have a field-independent cognitive style and students who have a field-dependent cognitive style can achieve maximum learning results.

CONCLUSION

Based on the results of the analysis and discussion that have been carried out, it can be seen that there are significant differences in Islamic Religious Education learning outcomes between students who have a field-independent cognitive style and students who have a field-dependent cognitive style at SMA Negeri 2 Wajo. This is based on the results of inferential statistical analysis using the SPSS application, which shows that the average learning outcomes of Islamic Religious Education students who have a field-independent cognitive style are 84.5833, while the average learning outcomes of Islamic Religious Education students who have a field-dependent cognitive style are 81.0417. Thus, it can be concluded that the average learning outcomes of Islamic Religious Education students who have a field-independent cognitive style are higher than the average learning outcomes of Islamic Religious Education students who have a field-dependent cognitive style at SMA Negeri 2 Wajo.

The implications posed in this study are as follows:

1. The principal is expected to provide policies to map the types of cognitive styles to students, where the implementation is carried out at the beginning of the school period so that it becomes the basis for each teacher in developing learning strategies.

2. For teachers of Islamic religious education, it is expected to be possible to understand the differences in student characteristics based on their cognitive styles to meet the needs of students and support the achievement of optimal learning outcomes.

For other researchers, if you want to do similar research, it is advisable to use other types of cognitive styles to see how they affect the learning outcomes of Islamic religious education.

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