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THE EFFECT OF BLENDED LEARNING ON PROBLEM-SOLVING ABILITY IN ISLAMIC CULTURAL HISTORY LESSONS

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Abstract: Blended learning is one of the many learning models that can be applied to learning activities at this time. The study was conducted to determine the effect of blended learning on the ability to solve problems in the subject history of Islamic culture. The study used a quasi-experimental quantitative approach (nonequivalent control group design). The data collection technique used a test (essay) given at the pre-test and post-test; the data analysis used a prerequisite test, namely, the normality test and homogeneity test, followed by an independent sample t-test. The research location was at MTsN 1 Jombang, involving 120 students, 60 students as the experimental group applying blended learning and 60 as the control group applying conventional learning. The study's results based on the independent sample t-test showed that the pre-test scores of the two groups had no significant difference, namely $t_{count} < t_{table}$ (0.393 < 2.001) with sig. (2–tailed) 0.695 > 0.05, it can be ascertained that there is no difference between the pre-test data of the experimental and control groups. And the results of the independent sample t-test showed that the post-test scores of the two groups had significant differences, namely the results $t_{count} > t_{table}$ (12.370 > 2.001) with sig. (2-tailed) 0.000 < 0.05. So it can be ascertained that there is a difference between the post-test of the experimental and control groups. The conclusion is that blended learning significantly affects problem-solving ability in the subjects History of Islamic Cultural at MTsN 1 Jombang in the experimental group compared to conventional learning in the experimental group by reviewing the post-test results of the two groups. The pre-test of the two groups was conducted to determine students' initial ability before being given treatment.

INTRODUCTION

Education in the current era of technological development is slowly demanding all elements of educational institutions to develop learning activities that are integrated with technology. The use of technology has now been used in educational institutions as a supporting tool or a means of assisting in learning activities (Wahid et al., 2021). Technology can be used as an information tool or a

means of accessing and processing information and as a learning tool or a means of supporting and assisting learning activities (Lestari, 2018). The benefits of technology allow distance learning activities using the internet, viewing subject matter, reviewing grades obtained, sending assignment files, and consulting lessons between teachers and students (Mahmud, 2019).

The availability of information and communication technology changes the paradigm of learning activities that were previously only done face-to-face (offline) and developed again later into learning in the network (online) (Ramdlani et al., 2021). Online learning is a renewal of learning based initially on face-to-face learning, then developed using ICT as a medium with an internet connection. The subject matter can be distributed visually as engaging, dynamic, and flexible. Accompanied by various variations of learning methods that can increase students' interest and activeness in learning and achieve the desired learning objectives. One of the current learning models that utilize information and communication technology is the blended learning model (Dakir et al., 2021).

Blended learning is learning that integrates face-to-face learning with online learning. Blended learning is also mixed between face-to-face and online technology learning which is relatively cost-effective and easy to access. This is reinforced by the explanation of another source, namely new learning that combines face-to-face and online learning using a computer, tablet, smartphone, or other media to encourage student interest (Kurniawati et al., 2019). Another opinion explains that blended learning is a form of communication in education that uses alternative media sources, including multimedia, video, audio, print media, online, offline, and face-to-face, directly based on the lesson plans prepared (Suhairi & Santi, 2021).

The ability to solve problems is one of the abilities that must be possessed by students in the 21st-century era or the era of technological development; with the various issues obtained being so diverse; it is necessary to have problem-solving skills that offer various alternative assistance (Afacan & Kaya, 2022). For example, the help of searching for information on internet networks, in cyberspace, or in everyday life can be used as a way out to find answers to solve these problems. Problem-solving ability is an individual's ability to see or explore information through a process that involves obtaining, gathering, and organizing the data obtained. The purpose of this problem-solving ability is to provide a way out or a solution for students in dealing with a problem obtained by using their thinking skills; therefore, teachers are encouraged to provide learning that leads to a thinking activity (Anissuhada', 2022).

The problems encountered based on observations at Madrasah Tsanawiyah Negeri 1 Jombang and interviews with teachers of Islamic Cultural History subjects found that: 1). In general, the process of learning activities on the subject of Islamic Cultural History found students bored and bored. 2). Students have weaknesses in expressing answers when asked questions in the question and answer session related to the material being taught, 3). Students prefer teachers to tell stories related to Islamic Cultural History material, 4).

Teachers often use lecture and discussion methods while teaching Islamic Cultural History material on Islamic Cultural History subjects. This problem also has similarities with other literature sources that the issue of Islamic Cultural History is less attractive to students (Wahyuni & Fajri, 2020), and other problems, it was found that the delivery of Islamic Cultural History material that the teacher brought was still dull, there were too many memorizing names of figures and places, years, and various coherent events (Al Anshory et al., 2020).

This research has similarities, differences, and uniqueness to previous research, including research conducted by Anggraini et al (2020). This study has similarities with researchers in terms of research approach, namely a quantitative approach, examining the effect of blended learning on problem-solving abilities. There are differences in the object of research carried out at SMAN level students. The subjects focus on Newton's law of motion, and the focus is on studying problem-solving skills and learning motivation.

Research conducted by Kang & Kim (2021) This study has similarities with researchers in terms of research approach, namely quantitative, examining the effect of blended learning on problem-solving abilities. There are differences in the location, the object of research, terms of subjects, and focus, namely Anggraini's research on Newton's law of motion and one of the Hee Young research objects for undergraduate nursing students, materials related to public health courses, and research focus on learning outcomes (knowledge, problem-solving ability, learning satisfaction). While this research, the object of the study is students at the MTsN level applied to the subject of Islamic cultural history, and the focus is on students' problem-solving abilities.

The uniqueness of previous research is that blended learning can improve problem-solving skills, be applied in various scientific disciplines or subjects, and be used at different levels of education from school to university. The research update that researchers will carry out is to test the effect of blended learning on students' problem-solving abilities in the subject of Islamic Cultural History at MTsN 1 Jombang.

Based on the description that has been described above, the urgency of this study aims to determine the effect of the ability to solve problems on the subject of Islamic Cultural History. By knowing whether or not there is an effect of blended learning, it is hoped that it can improve problem-solving skills in Islamic Cultural History subjects, making it an alternative that teachers of Islamic culture history can use in teaching and achieve the desired learning goals.

RESEARCH METHOD

This study uses a quantitative approach, with quasi-experimental research (nonequivalent control group design) and data collection techniques to obtain data using an essay test given to the experimental and control groups at the pre-test and post-test.

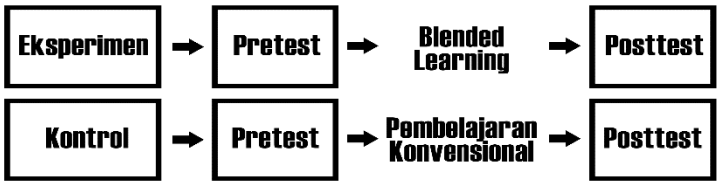

Figure 1. Research Implementation Flow

The population of this study was 2 class VIII MTsN totaling 120 people. Samples were taken from the two classes to be divided into two groups, the experimental group amounted to 60 people, and the control group consisted of 60 people. The experimental group used blended learning, and the control group used conventional education. The sample selection technique in this study used a non-random sampling method. The researcher did not randomly select participants to participate in the study; participants were naturally formed into groups (class, organization, or a family) and volunteers. Researchers used four classes to be made into two groups, the experimental group and the control group.

Table 1. Research sample for class VIII at MTsN 1 Jombang

No	Sample		Class Description
	Class Quantity	Jumlah	
1	8 A	30	Experiment
2	8 B	30	Experiment
3	8 C	30	Control
4	8 D	30	Control
Amount		120	

Analysis of the data in the study, namely the prerequisite test and the hypothesis test using the independent sample t-test. Before testing the hypothesis, the data needs to be tested for prerequisites, namely normality using the Kolmogorov-Smirnov test and homogeneity test to show the data are typically distributed and homogeneous as a prerequisite for the parametric test, then perform hypothesis testing using an independent sample t-test to determine whether or not there is an effect on each pre-test and post-test in one group.

RESULT AND DISCUSSION

The research was carried out in class VIII at MTsN 1 Jombang, which was divided into two groups the experimental and control groups. The experimental group blended learning while the control group did conventional wisdom in Islamic Cultural History learning. The practical class that carries out blended learning begins before entering the classroom; the students are given links/learning videos related to Islamic Cultural History subject matter to be studied and understood independently and then reviewed and learned in class

later. The control class that carries out conventional learning begins discussing learning materials in class with the teacher.

The implementation of the research begins by giving an essay test (pre-test) on Islamic Cultural History before entering the material being taught; the aim is to determine the initial abilities of students in the experimental and control groups. Furthermore, each group was given treatment, including the experimental group carried out blended learning while the control group carried out conventional education. After being given medicine to the two groups, the researcher gave an essay test (post-test) on Islamic Cultural History. The post-test results are then tested, and then it is known whether or not blended learning affects the ability to solve problems in Islamic Cultural History subjects.

The essay test questions were adapted and developed following the problem-solving ability indicators used by Krulik and Rudnick, which consisted of reading, exploring, choosing a strategy, solving problems, reviewing, and analyzing. From these indicators, questions are made in the form of essay questions related to Islamic Cultural History, which are given in the pre-test and post-test.

The results of the prerequisite test, namely the normality test and homogeneity test in the experimental group and control group, are explained as follows:

One-Sample Kolmogorov-Smirnov Test

		Pretest_B	Posttest_B	Pretest_A	Postest_A
N		60	60	60	60
Normal Parameters[a,b]	Mean	49.08	65.0833	49.58	79.3333
	Std. Deviation	6.919	5.85790	7.028	6.73132
Most Extreme Differences	Absolute	.156	.166	.163	.150
	Positive	.156	.141	.160	.140
	Negative	-.137	-.166	-.163	-.150
Kolmogorov-Smirnov Z		1.207	1.286	1.262	1.162
Asymp. Sig. (2-tailed)		.109	.073	.083	.134

a. Test distribution is Normal.

b. Calculated from data.

Figure 2. Normality Test Results of Experimental Group (A) and Control Group (B) data

A = Experimental Group
B = Control Group

Based on the results of the normality test in Figure 2 using the Kolmogorov-Smirnov, it is found that the mean value in the pre-test of students in the experimental group (A) is 49.58 and the control group (B) is 49.08. These results indicate that the initial ability of these two groups is still low. In the normality analysis of the data using SPSS 17 results for the experimental group (A) Sig. 0.83 > 0.05 and the control group (B) Sig. 0.109 > 0.05. If the value of sig. Exceeds 0.05, then this indicates that the data are both normally distributed. So, both pre-test data are normally distributed.

The mean value/average of the students' post-test scores in the experimental group (A) was 79.33 and the control group (B) 65.08. In the normality analysis of the data using SPSS 17, the results for the experimental group (A) Sig. 0.134 > 0.05 and the control class group (B) Sig. 0.073. If the value

of sig. Exceeds 0.05, then this indicates that the data are both normally distributed.

The homogeneity test of the data on the pre-test and post-test in the experimental group and control group is described in Figures 3 and 4 as follows:

Test of Homogeneity of Variances

Pretest

Levene Statistic	df1	df2	Sig.
.030	1	118	.862

Figure 3. Results of Homogeneity of Pretest Data Experiment Group and Control Group

The data's homogeneity test results in the experimental and control groups' pre-test and post-test results obtained a significance of 0.862 > 0.05. Then the information on the pre-test of the two groups was homogeneous.

Test of Homogeneity of Variances

Posttest

Levene Statistic	df1	df2	Sig.
1.608	1	118	.207

Figure 4. Results of the homogeneity test of the post-test data for the experimental group and the control group

The results of the data's homogeneity test on the experimental and control groups' post-test obtained a significance of 0.207> 0.05. Then the data in the post-test of the two groups are homogeneous.

The hypothesis test of the research results used the independent sample t-test in the experimental and control groups as described in Figures 5 and 6:

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Pretest	Equal variances assumed	.030	.862	.393	118	.695	.500	1.273	-2.021	3.021
	Equal variances not assumed			.393	117.971	.695	.500	1.273	-2.021	3.021

Figure 5. Independent Sample T-Test Results in the Experimental and Control Group Pre-test

The independent sample t-test analysis for the pre-test data in the experimental and control groups was tcount < t table (0.393 < 2.001) with sig. (2–tailed) 0.695 > 0.05, it can be concluded that there is no difference between the experimental and control group pre-test data.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Posttest	Equal variances assumed	1.608	.207	12.370	118	.000	14.250	1.152	11.969	16.531
	Equal variances not assumed			12.370	115.792	.000	14.250	1.152	11.968	16.532

Figure 6. Independent Sample T-Test Results in the Posttest Experiment and Control Group

The results of the analysis of the independent sample t-test for post-test data in the experimental and control groups are tcount > t table (12.370 > 2.001) with sig. (2-tailed) 0.000 < 0.05. So it can be concluded that there is a difference between the post-test of the experimental and control groups.

This makes the problem-solving ability in the experimental group higher than the problem-solving ability in the control group by looking at the post-test average. The difference was due to the difference in treatment (treatment) between the experimental group and the control group. The experimental group used blended learning, and the control group used conventional education.

The results of this study have similar effects to other studies showing that blended learning can significantly impact students' problem-solving abilities in learning activities, including the results of Anggraini's research (2020) showing that the application of blended learning can dramatically affect students' problem-solving skills. The research results by Kang & Kim (2021) show that blended learning can improve problem-solving skills more than traditional learning. And supported by the results of Khine's (2021) research showing that blended learning can improve problem-solving skills for industry 4.0 (Khine et al., 2021).

Positive research results related to the effect of blended learning are not far from the benefits it offers. The combination and integration of Islamic Cultural History learning with the means of information and communication technology brought by blended learning significantly impact learning activities in the classroom. Learning becomes more attractive, flexible, and innovative and attracts students' interest in learning about the Islamic Cultural History material. This is supported by various advantages of blended learning, including more time and cost-saving, education is not limited by time and space, effective and efficient learning, easy access to the subject matter, free-to-understand lessons online, teacher and student interactions can be done outside class hours, teachers can add material online, learning outcomes are more optimal, and increase the attractiveness of learning (Nadeak et al., 2021).

CONCLUSION

The conclusion is that blended learning significantly affects problem-solving abilities in the subjects of Islamic Cultural History at MTsN 1 Jombang in the experimental group compared to conventional education in the control group. Reviewing the post-test results of the two groups, namely, tcount > ttable

(12.370 > 2.001) with sig. (2-tailed) 0.000 < 0.05, it can be concluded that there is a difference in the post-test data of the experimental and control groups. The pre-test of the two groups was carried out to determine students' initial ability before being given treatment, and the results obtained tcount < t table (0.393 < 2.001) with sig. (2–tailed) 0.695 > 0.05, it can be concluded that there is no difference between the pre-test data of the experimental and control groups; in other words, the initial ability of the two groups is still low.

It is hoped that further researchers can examine more deeply the effect of blended learning on the focus of competencies possessed by other students outside of the problem-solving abilities that researchers do and can examine more deeply the application of blended learning in Islamic Cultural History subjects or other subjects even at various levels education.

REFERENCES

Afacan, Ş., & Kaya, E. E. (2022). Investigating Problem-Solving Skills of Students Having Professional Music Training in Terms of Multiple Variables. *International Journal of Educational Methodology*, *8*(1), 117–127.

Al Anshory, M. L., Marhumah, & Suyadi. (2020). Problematika Pembelajaran SKI di Madrasah Tsanawiyah Yapi Pakem. *Jurnal Penelitian Keislaman*, *16*(1), 76–86.

Anggraini, N., Suana, W., & Sesunan, F. (2020). Pengaruh Penerapan Blended Learning pada Materi Hukum Newton Tentang Gerak terhadap Motivasi Belajar dan Kemampuan Pemecahan Masalah. *Tarbawi: Jurnal Ilmu Pendidikan*, *16*(1), 22–36. https://doi.org/10.32939/tarbawi.v16i01.520

Anissuhada'. (2022). Penerapan Model Pembelajaran Teams Games Tournament dalam Meningkatkan Cara Berfikir Siswi. *Palapa: Jurnal Studi Keislaman Dan Ilmu Pendidikan*, *10*(1), 14–31.

Dakir, Sholihin, M. W., & Faisol, M. (2021). Learning Effectiveness Improvement Through Mobile Learning. *Turkish Online Journal of Qualitative Inquiry*, *12*(4), 1661–1665.

Kang, H. Y., & Kim, H. R. (2021). Impact of Blended Learning on Learning Outcomes in The Public Healthcare Education Course: A Review of Flipped Classroom with Team-Based Learning. *BMC Medical Education*, *21*(1), 1–8. https://doi.org/10.1186/s12909-021-02508-y

Khine, P. T. T., Win, H. P. P., & Naing, T. M. (2021). Towards Implementation of Blended Teaching Approaches for Higher Education in Myanmar. *International Journal of Education and Management Engineering*, *11*(1), 19–27. https://doi.org/10.5815/ijeme.2021.01.03

Kurniawati, M., Santanapurba, H., & Kusumawati, E. (2019). Penerapan Blended Learning Menggunakan Model Flipped Classroom Berbantuan Google Classroom dalam Pembelajaran Matematika SMP. *Edu-Mat: Jurnal Pendidikan Matematika*, *7*(1), 8–19. https://doi.org/10.20527/edumat.v7i1.6827

Lestari, S. (2018). Peran Teknologi dalam Pendidikan di Era Globalisasi. *Edureligia; Jurnal Pendidikan Agama Islam*, *2*(2), 94–100.

https://doi.org/10.33650/edureligia.v2i2.459

Mahmud, M. E. (2019). E-Learning Dalam Pembelajaran Pendidikan Agama Islam. *Edureligia; Jurnal Pendidikan Agama Islam*, *3(1)*, 73–80. https://doi.org/https://doi.org/10.33650/edureligia.v3i1.989

Nadeak, T. E. Y., Mustari, D., & Ningsih, R. (2021). Model Pembelajaran Blended Learning dengan Pendekatan Knowledge Management System untuk Sekolah Dasar XYZ. *Jurnal Ilmiah Wahana Pendidikan*, *7(7)*, 78–86.

Ramdlani, M., Najah, F., Azizah, N., Niswa, H., & Abdillah, M. (2021). Distance Learning and Independent Learning of Students in Higher Education. In *Journal of Physics: Conference Series*, 1899(1), 012177. https://doi.org/10.1088/1742-6596/1899/1/012177

Suhairi, S., & Santi, J. (2021). Model Manajemen Pembelajaran Blended Learning pada Masa Pandemi Covid-19. *Syntax Literate; Jurnal Ilmiah Indonesia*, *6*(4), 1977-1996.

Wahid, A. H., Hidayati, W., & Bon, A. T. (2021). Information Technology in The Development of Language Aspects of Early Childhood. In *Proceedings of the 11th Annual International Conference on Industrial Engineering and Operations Management*, 6(1), 1-7.

Wahyuni, A. D., & Fajri, U. H. N. (2020). Implementasi E-Learning Sejarah Kebudayaan Islam Pada Masa Pandemi COVID-19 Di MTsN 4 Gunungkidul. *Nuansa Akademik: Jurnal Pembangunan Masyarakat*, *5*(2), 131–140.