Journal of Islam and Science

pISSN 2307-5353, eISSN 2580-5355
Vol 10, No. 1, January-June 2023, pp. 49-54
Published by Institute of Research and Community Services (LP2M)
Universitas Islam Negeri Alauddin Makassar
Available online http://journal.uin-alauddin.ac.id/index.php/jis
https://doi.org/10.24252/jis.v10i1.34314

The influence of active knowledge-sharing learning model with assistance of learning animation videos on student activities and outcomes in cell division material class XII SMAN 5 Barru

Nurul Hikmah[1], Muhammad Khalifah Mustami[1*], Syahriani[1]
Department of Biology Education, Faculty of Tarbiyah and Teacher Training,
Universitas Islam Negeri Alauddin Makassar
Sultan Alauddin Street No.63, Gowa, Indonesia, 92113
*Email: mukhalifahmustami@uin-alauddin.ac.id

Abstract: The students' lack of enthusiasm for learning activities and the use of inappropriate learning models contribute to the low activity levels and learning outcomes. Utilizing the active knowledge sharing learning model with the assistance of learning animation videos is one approach to overcoming these issues. The purpose of this study (1) to identify and describe the implementation of learning by using the active knowledge sharing learning model assisted by animated learning videos, (2) to identify and describe student activities and learning outcomes by using active knowledge sharing assisted by animated learning videos, (3) to identify and describe the influence of the active knowledge sharing learning model assisted by animated learning videos on student activities and learning outcomes. This research is a quasi-experimental research using nonequivalent pretest posttest control group design. The sampling technique in this study used purposive sampling method. Class XII MIPA 1 as many as 22 students as the experimental class and class XII MIPA 2 as many as 22 students as the control class. The research instrument was in the form of observation sheets for learning activities and learning outcomes tests. The data analysis technique used descriptive statistics and inferential statistics. Based on the results of the analysis it is known that the use of the active knowledge sharing learning model assisted by video animation learning on cell division material for class XII MIPA SMAN 5 Barru has a significant effect on learning activities with t_hitung>t_tabel (9.923>2.018), as well as learning outcomes with t_tabel>t_(hitung) (12.15>2.018) so that H0 is rejected and H1 is accepted.

Keywords: active knowledge sharing, animation videos, learning activities, learning outcomes

Abstrak: Kurangnya antusiasme siswa dalam kegiatan pembelajaran dan penggunaan model pembelajaran yang tidak sesuai berkontribusi pada rendahnya tingkat aktivitas dan hasil belajar. Pemanfaatan model pembelajaran *active knowledge sharing* berbantu *learning animation videos* merupakan salah satu upaya untuk mengatasi permasalahan tersebut. Tujuan penelitian ini (1) mengetahui dan mendeskripsikan pelaksanaan pembelajaran dengan menggunakan model pembelajaran *active knowledge sharing* berbantu video animasi pembelajaran, (2) mengetahui dan mendeskripsikan aktivitas dan hasil belajar siswa dengan menggunakan *active knowledge sharing* berbantu video animasi pembelajaran, (3) mengetahui dan mendeskripsikan pengaruh model pembelajaran *active knowledge sharing* berbantu video animasi pembelajaran terhadap aktivitas dan hasil belajar siswa. Penelitian ini berupa penelitian quasi eksperimen dan menggunakan rancangan *nonequivalent pretest-posttest control group design*. Dalam penelitian ini, metode *purposive sampling* digunakan untuk pengambilan sampel. Jumlah siswa di kelas XII MIPA 1 sebanyak 22 siswa seperti di kelas eksperimen, dan di kelas XII MIPA 2 sebanyak 22 siswa seperti di kelas kontrol. Lembar observasi kegiatan pembelajaran dan tes prestasi belajar dijadikan sebagai instrumen penelitian. Lembar observasi kegiatan pembelajaran dan tes prestasi belajar dijadikan sebagai instrumen penelitian. Teknik analisis data menggunakan statistik inferensial dan deskriptif. Berdasarkan hasil analisis, materi pembelajaran sel kelas XII MIPA SMAN 5 Barru yang memanfaatkan model pembelajaran *active knowledge sharing* dan video *animation learning* berpengaruh signifikan terhadap aktivitas pembelajaran dengan t_hitung>t_(tabel)(9.923>2.018), serta hasil belajar dengan t_hitung>t_tabel(12.15>2.018) sehingga H0 ditolak da H1 diterima.

Kata Kunci: *active knowledge sharing*, aktivitas belajar, hasil belajar, video animasi

Introduction

There is a paradigm shift in the 21st century where learning that was originally teacher-centered is now student-centered. This method is carried out to improve the quality of achieving superior learning objectives. The learner-centered learning process gives freedom to students to be actively involved in

Submitted: 18 December 2022; Accepted: 15 May 2023; Published Online: 30 June 2023
How to cite: Hikmah, N., Mustami, M. K., & Syahriani, S. 2023. The influence of active knowledge-sharing learning model with assistance of learning animation videos on student activities and outcomes in cell division material class XII SMAN 5 Barru. *Journal of Islam and Science*, 10(1), 49-54. https://doi.org/10.24252/jis.v10i1.34314

seeking and obtaining information about a matter related to learning material and having a responsible attitude toward learning activities during the learning process (Linda et al., 2015).

As for learning and delivering biology material, educators are expected to be more creative. So far in learning activities, the use of the previous method is still dominant, where educators in teaching or delivering material use the lecture method known as the conventional learning method which results in students being considered to play less of an active role in learning activities, as a result, some other students just silently accept and listen the lessons delivered (teacher centered) (Muhibbin, 2011).

The problem that is often experienced by teachers today is the lack of interest and enthusiasm of students in learning and receiving subject matter in class, which ultimately affects student learning outcomes. A good learning model is a learning model that is adapted to the material presented conditions of students, available facilities, and mastery of competence. Therefore a form of learning is needed that is not only materially capable but has formal abilities so that besides being expected to be able to improve student learning outcomes, it is hoped that it can make students more actively involved in the process of learning activities (Mujiningsih, 2018).

Therefore it is essential to use learning models that are appropriate for the conditions of students. By paying attention to this, it is hoped that students will be able to digest and absorb the material well which will support students in achieving the desired grades. Through the learning process using the right method, students can study and apply knowledge so that it can be relied upon to solve future problems that exist in their surroundings (Abdullah, 2017).

Learning model, active knowledge sharing emphasizes that there is good cooperation between group members in helping fellow group members and between groups by using an active knowledge sharing model with group members and outside group members, such as sharing information and asking about something that is lacking. understood, conveying knowledge to friends which are expected to be able to increase absorption and high memory power of learning material, and this is expected to make it easier for students to be able to solve problems well (Astuti et al., 2011).

Not only by using the active knowledge learning model sharing, but educators can also combine it with various interesting media. By using learning media educators can convey things that are considered abstract to be concrete so that students can easily understand the lesson. One of the right types of media is to use learning animation video media. Learning video media is media that contains meaning and messages in the form of delivery in the form of human awareness tools because learning video media is packaged using elements of sounds and images in the animated video (Arsyad, 2005).

Learning animation video media is suitable when used in science learning, especially in Cell Division material which is one of the dominant abstract materials because the process cannot be seen directly and it is difficult to memorize the stages of the process, especially in the mitotic and meiotic division sub-material so that it is expected to facilitate students in understanding the material provided.

Materials and Methods

With a non-equivalent pretest-posttest control group, this quasi-experimental study was carried out during the academic year 2022/2023. The stages of preparation, implementation, and data collection comprised the procedure in this study. A 30-question multiple-choice pretest and posttest were used for data collection. Forty-four (44) students from SMAN 5 Barru's MIA 1 and MIA 2 classes served as the study's subjects.

Result and Discussion

A. Descriptive Analysis of Activities and Learning Outcomes of Students

Descriptive analysis of activities and learning outcomes of students who are taught without using the *active knowledge sharing* assisted by learning animation videos.

1. Student learning activities

The data collected based on research findings conducted using observation sheets in MIPA 2 class at SMAN 5 Barru are shown in Table 1.

Table 1. Descriptive analysis of class MIPA 2 learning activities

Parameter	Score
Maximum Score	60
Minimum Score	38
Average	49.05
Standard Deviation	6.835
Varians	46.835

According to the criteria for academic proficiency, 13 students fell into the less active category, with a percentage of 59.1%, and nine students fell into the moderately active category, with a percentage of 40.9% and an average score of 49.05 for the less active category. According to these data, participants whose instruction did not utilize the active knowledge sharing learning assisted by video animation learning method had less active learning outcomes.

2. Student learning outcomes

The following data (Table 2) are derived from the findings of research that was carried out using a learning achievement test in the MIPA 2 class at SMAN 5 Barru:

Table 2. Learning outcomes of control class pretest (MIPA 2)

Parameter	Score
Maximum Score	55
Minimum Score	25
Average	39.32
Standard Deviation	8.208
Varians	67.73

Table 3. Learning outcomes of control class posttest (MIPA 2)

Parameter	Score
Maximum Score	70
Minimum Score	35
Average	50.23
Standard Deviation	10.291
Varians	105.898

Ten (10) students fall into the low category with a percentage of 45 percent, 10 into the medium category with a percentage of 45.5%,2 into the high category with a percentage of 9.1%50, and the average score for the medium category is 50.23. Students whose instruction does not include active knowledge sharing assisted by video animation learning have medium learning outcomes, as evidenced by these data.

Descriptive analysis of activities and learning outcomes of students who are taught using active knowledge sharing assisted by learning animation video media

1. Student learning activities

The following data were gathered based on the findings of research that was carried out using observation sheets in the MIPA 1 class at SMAN 5 Barru, shown in Table 4.

Table 4. Descriptive analysis learning activities of class MIPA 1

Parameter	Score
Maximum Score	91
Minimum Score	51
Average	75.45
Standard Deviation	10.446
Varians	109.117

There were 4 students with a percentage of 18.2% who met the academic proficiency criteria, 14 students with a percentage of 63.6% who met the active category, and 4 students with a percentage of 63.6% who met the very active category. Additionally, the active category has an average value of 75.45. Based on these data, it can be concluded that students whose learning outcomes fall into the active category when taught with active knowledge sharing assisted by video animation learning.

2. Student learning outcomes

The following data (Table 5) are derived from the findings of research that was carried out using a learning achievement test in the MIPA 1 class at SMAN 5 Barru.

Table 5. Learning outcomes of experimental class prettest (MIPA 1)

Parameter	Score
Maximum Score	60
Minimum Score	25
Average	40.68
Standard Deviation	83.52
Varians	69.751

Table 6. Learning outcomes of experimental class posttest (MIPA 1)

Parameter	Score
Maximum Score	95
Minimum Score	50
Average	76.061
Standard Deviation	11.061
Varians	122.348

Five (5) students fell into the low category with a percentage of 22.7%, 9 into the high category with a percentage of 40.9%, and 8 into the very high category with a percentage of 36.4%, according to the academic proficiency criteria. In addition to a typical value of 76.061, which falls under the active category. Based on these data, it is possible to draw the conclusion that students whose learning outcomes fall into the active category are taught with active knowledge sharing assisted by video animation learning.

B. Inferential Analysis of Activities and Learning Outcomes of Students

Inferential statistical analysis was carried out to find out whether there was an effect on the use of the learning model of active knowledge sharing assisted by video animation learning on student learning activities and outcomes.

1. Normality test

Normality test results are shown in Table 7.

Table 7. The results of the normality test of learning activities

	Shapiro-Wilk			
Class Experiment	Statistic	Df	*Sign*	Information
	0.962	22	0.535	Normal Distribution

Based on the data in the normality test results with the Shapiro–Wilk using Statistical Product and Service Solution software program (SPSS version 25) on experimental class data (MIPA 1) (Tabel 7) which is taught using the *active knowledge sharing* assisted by video animation media obtained a sign of 0.535, this indicates that the sign is greater than the value of α, where the value of α is 0.05 so it can be concluded that the learning activities of the experimental class are normally distributed.

Table 8. Results of the normality test of learning outcomes

	Shapiro-Wilk			
	Statistic	Df	Sign	Information
Experimental class (pretest)	0.973	22	0.75	Normal Distribution
Experimental class (posttest)	0.935	22	0.190	

Based on the data in the normality test results table above using the Shapiro–Wilk using Statistical Product and Service Solution software program (SPSS version 25) on experimental class data (MIPA 1) which is taught using the *Active Knowledge Sharing* assisted by Video Animation Media value sign of the pretest was 0.75 and the sign of the posttest was 0.190. This shows that the sign of the pretest and posttest

is greater than the value of α, where the value of α is 0.05 so it can be concluded that the learning outcomes of the pretest and posttest are normally distributed.

2. Homogeneity test

Homogeneity test results are shown in Table 8.

Table 8. Results of the homogeneity test of learning activities

Levene Statistic	Df1	Df2	Sign	Information
2.653	1	42	0.111	Homogen

Based on the data from the homogeneity test results in the Table 8 using the Statistical Product and Service Solution (SPSS version 25) software value of 0.111 is obtained sign while the α value is 0.05, where if the sign value > α, the data for the two groups come from the population homogeneous.

Table 9. Results of the homogeneity test of learning outcomes

Levene Statistic	Df1	Df2	Sign	Information
1.660	1	84	0.182	Homogen

Based on the data from the homogeneity test results in the Table 9 using the Statistical Product and Service Solution (SPSS version 25) software value of 0.182 is obtained sign while the α value is 0.05, where if the sign value > α, the data for the two groups come from the population homogeneous.

3. Hypothesis testing

Hypothesis test results are shown in Table 10.

Table 10. Results of the hypothesis test of learning activity

	Levene's Test for Equility of variances		t-test for Equility of Means		
	F	**Sign**	**T**	**Df**	**Sign (2tailed)**
Equal variances assumed	0.653	0.111	9.923	42	0.000
Equal variances non assumed			9.923	36.195	0.000

Data in Table 10 shows that the significance value is = 0.00. this value indicates that sign < α = 0.00 < 0.05 so that H0 is rejected and H1 is accepted, or by looking at 9,923 while it is 2,018. Thus, it can be concluded that H0 is rejected and H1 is accepted, this means that there is a significant influence on the use of *Active Knowledge Sharing* on student learning activities in cell division material for class XII MIPA SMAN 5 Barru

Table 11. Results of the hypothesis test of learning outcomes

	Levene's Test for Equility of variances		t-test for Equility of Means		
	F	***Sign***	**T**	**Df**	***Sign* (2tailed)**
Equal variances assumed	2.854	0.099	12.152	42	0.000
Equal variances non assumed			12.152	12.152	0.000

Data in Table 11 shows that the significance value is = 0.000. this value indicates that sign < α = 0.00 < 0.05 so that H0 is rejected and H1 is accepted, or by looking at 12.152 while it is 2.018. Thus, it can be concluded that H0 is rejected and H1 is accepted, this means that there is a significant effect of using active knowledge sharing on student learning outcomes in cell division material for class XII MIPA SMAN 5 Barru.

Conclusion

Based on the results and discussion of the research, the following conclusions are obtained: (1) Learning activities of students without using active knowledge sharing assisted by video animation learning on cell division material for class XII MIPA 2 SMAN 5 Barru are in the less active category; (2)

Learning outcomes of students without using the active knowledge sharing assisted by video animation learning on cell division material for class XII MIPA 2 SMAN 5 Barru are in the moderate category; (3) Student learning activities using active knowledge sharing assisted by video animation learning on cell division material for class XII MIPA 1 SMAN 5 Barru are in the active category; (4) Learning outcomes of students using the active knowledge sharing assisted by video animation learning on cell division material for class XII MIPA 1 SMAN 5 Barru are in the high category; (5) There is an influence of the learning model active knowledge sharing assisted by video animation learning on activities in cell division material for class XII MIPA SMAN 5 Barru with a sign $< \alpha = 0.00 < 0.05$ so that H0 is rejected and H1 is accepted; and (6) There is an influence of the learning model active knowledge sharing assisted by video animation learning on the results in cell division material for class XII MIPA SMAN 5 Barru with a sign $< \alpha = 0.00 < 0.05$ so that H0 is rejected and H1 is accepted.

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