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Sharing and Knowing Learning Model: Is it Effective in Increasing Student Learning Activities and Understanding?

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Abstrak

Desain pembelajaran idealnya mendukung peningkatan aktivitas pembelajaran dan pemahaman mahasiswa, namun faktanya masih ada berbagai permasalahan dalam pelaksanaannya, misalnya mahasiswa kurang berkonsentrasi, kurang aktif bertanya, serta bermotivasi rendah dalam mencari informasi. Penelitian ini bertujuan untuk menganalisis peningkatan model pembelajaran Sharing and Knowing (SHARK) terhadap aktivitas belajar dan pemahaman mahasiswa pada materi "Gaya mengajar Musca Mosston dalam pembelajaran Penjas". Penelitian ini menggunakan metode kuantitatif eksperimental menggunakan post-test only control group design dengan melibatkan 41 orang partisipan. Instrumen penelitian menggunakan pedoman enam perilaku aktivitas belajar untuk mengukur aktivitas belajar dan lima soal esai untuk mengukur tingkat pemahaman mahasiswa. Data hasil penilaian dianalisis secara deskriptif dan independent sample test menggunakan Toolpack analysis Microsoft excel dan SPSS. Hasil penelitian membuktikan bahwa terdapat peningkatan yang signifikan aktivitas belajar dan pemahaman mahasiswa dari kelompok eskperimen model pembelajaran SHARK. Dengan demikian, model pembelajaran SHARK efektif untuk dosen gunakan dalam meningkatkan aktivitas belajar dan pemahaman mahasiswa. Implikasinya, kegiatan pembelajaran yang berpusat pada mahasiswa membantu mereka lebih antusias, interaktif, dan bertanggung jawab terhadap tugas kelompok, sekaligus menambah pengetahuan dan pemahaman mahasiswa dalam proses berpikir tingkat tinggi..

Kata Kunci: *Aktivitas belajar, pemahaman mahasiswa, gaya mengajar Musca Mosston, sharing and knowing model.*

Abstract

Learning design should ideally support increased learning activities and student understanding, but in fact there are still various problems in its implementation, for example students lack concentration, are less active in asking questions, and are low motivated in seeking information. This study aims to analyze the improvement of the Sharing and Knowing (SHARK) learning model on student learning activities and understanding of the material "Musca Moston's teaching style in Physical Education learning". This study used a quantitative experimental method using a post-test only control group design involving 41 participants. The research instrument uses guidelines for six learning activity behaviours to measure learning activities and five essay questions to measure student understanding levels. Assessment results data were analyzed descriptively and independent sample test using Microsoft excel and SPSS tool pack analysis. The results of the study proved that there was a significant increase in student learning activity and understanding from the SHARK learning model experimental group. Thus, the SHARK learning model is effective for lecturers to use in increasing student learning activities and understanding. The implication is that student-centered learning activities help them to be more enthusiastic, interactive, and responsible for group assignments, as well as increase students' knowledge and understanding in higher-order thinking processes.

Keywords: Student learning activities, students understanding, Musca Moston's teaching style, sharing and knowing model.

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1. INTRODUCTION

The learning model plays a strategic role in implementing learning activities, so some learning models constantly develop to increase student learning activity and success (Harmono, 2017; Widyani & Sukirno, 2019). For example, increasing student learning activities and learning outcomes using the jigsaw model, increasing student learning activities and outcomes using a lesson study-based comparative learning model and STAD-type cooperative learning in collaboration with the gallery work (Khasanah & Fitriyani, 2016;

Umar, 2018; Widyani & Sukirno, 2019). Then improving the students' activity and learning outcomes using round table and rally coach of cooperative learning model academic achievement, increasing student learning activities using the flipped learning model, increasing students' engagement, activeness and critical thinking skills by applying a problem-based learning model (Chivatá & Oviedo, 2018)(Fitriani et al., 2021). However, none of these models is operational for physical education students yet. Meanwhile, the background of the field of study also influences how students process information according to their learning preferences (Ningsih et al., 2017)(Motaei, 2014). It helps them manage information to support the creation of maximum learning activities and understanding of learning material (Evcim & İpek, 2013; Hanik & Harsono, 2016; Widayana & Balsono, 2023).

All lecturers expect ideal conditions to improve learning activities and student understanding. However, the fact is that in learning, they still encounter various obstacles and problems, such as students not concentrating on learning, not actively asking questions, and having low motivation in seeking information about lecture material (Arnitasari & Gaudiawan, 2020; Fook & Sidhu, 2015; Irsyad et al., 2020). In the case of this study, in recent years, students' understanding of the material and their social interaction skills were relatively the same after applying the conventional discussion learning model. This statement is clarified by the student's final score, which has yet to be maximized after the end of the lecture. Every midterm and final exam, students got C and even D, impacting their average grades. Dialogical, critical, and constructive student interaction with learning materials during the learning process is also minimal. Only 4-5 active students were recorded from the class 30-40 population. It shows that the conventional discussion learning model has not maximally accommodated the potential development of students, so it is necessary to pay attention to its use in current learning. Addressing this problem, previous study recommends that lecturers intensely create a learning environment so that all participants get the opportunity to learn and where the class explores issues and ideas in depth from various points of view (Triyanto, 2019).

Learning is a series of conscious creation of an environment and learning atmosphere that encourages the active participation of students to improve their academic knowledge and skills (Hanik & Harsono, 2016; Susanti & Nastuti, 2021). The learning atmosphere and its influence are interdependent from time to time on student learning experiences (Closs et al., 2022; Mulyadi, 2018). It is the reason why lecturers are responsible for designing interesting, critical, and innovative learning for their students to promote more meaningful learning by thinking about what and how they do it, including using conceptual and procedural knowledge to achieve learning objectives (Kragten et al., 2015; Melovitz-Vasan et al., 2018; Sriklaub & Wongwanich, 2014). Student learning activities can be assessed from their enthusiasm for attending lectures, student interaction with lecturers, student interaction with students, group collaboration, student activity in groups, and student participation in concluding learning outcomes as well as psychological motivation, peer collaboration, cognitive problem solving, interaction with instructors, community support, and learning management (Khasanah & Fitriyani, 2016; Lee et al., 2019; Zhao et al., 2023). Simply put, student learning activities also represent the involvement of affective, cognitive, and behavioral dimensions.

Learning is required to guide students' knowledge as well as create opportunities for them to work across disciplines and cultures by encouraging attention, control, curiosity, and self-confidence and life skills effectively prepare students to accelerate modernization and global challenges that are more complex, dynamic, and competitive through the process of adapting their professional skills (Pham & Tran, 2013; Södervik et al., 2022). As facilitators and navigators, lecturers must be able to realize the demands of future learning by

streamlining learning approaches, methods, and strategies with their expertise, personality, and social relations in order to explore the maximum potential of their students to prepare them to survive in the future (Blegur et al., 2021; Veine et al., 2020). One of the lecturers' efforts to overcome the gap in student activity and understanding is to apply the Sharing and Knowing (SHARK) learning model (Giang et al., 2022; Green et al., 2020; Tri Juniar et al., 2019). The SHARK model puts forward three main steps, namely the preparation stage (covering each group making interesting papers and videos according to the material), the implementation stage (including the group presenting material using video and the audience group assessing the presenter group), and the final stage (including listening and understand the results of the lecturer's evaluation and confirm material that has not been understood).

The SHARK learning model has accommodated the essential concepts of cooperative, scientific, problem-based, and jigsaw learning models, such as using group learning activities and encouraging higher-order thinking. On the other hand, the intended learning models have yet to explicitly develop student learning experiences by maximizing video presentations and integrating peer review in the evaluation and problem-solving process, even though these two things can contribute to students' activeness and high-level understanding. Therefore, this study aims to analyze the application of the SHARK model to increase learning activities and student understanding in learning.

2. METHODS

The research method used was quantitative experimental with a post-test-only control group design. Two groups were involved in the research: the experimental and the control groups. The experimental group received treatment using the SHARK learning model, while the control group was the other way around (using conventional learning models). The two groups' final test data (learning activities and student understanding) were compared to prove improvements or differences in applying the SHARK model to student learning activities and understanding.The research procedure begins by distributing the learning model to the two sample groups. The experimental group applied the SHARK learning model as show in Table 1.

Table 1. SHARK Learning Model Syntax

Sintax	Lecture's Task	Student's Task
Preparation stage	Design a Semester Learning Plan (RPS)	Take the group number and material number provided by the lecturer.
	Form student groups consisting of 3-4 people per heterogeneous group by taking random numbers	The group coordinator must divide the tasks and roles of each group member.
	Determine the material for each group by taking the number of materials randomly.	Each group must make interesting papers and videos according to the material provided, with a maximum duration of 20 minutes.
	Create a lecturer and inter-group assessment format along with a clear assessment rubric.	The group that will perform the presentation must first send the material to be explained to other groups two days before the presentation.

Sintax	Lecture's Task	Student's Task
		Print out as many assessment formats between groups as there are groups.
Implementation stage	Observe the discussion during the process learning	The presenter group arranges all learning activities and distributes assessment formats between groups to each group.
	Give an assessment to students who ask, answer, add and refute.	The presenter group presented their material indirectly through an exciting video prepared made, which explains the role personally in the group.
	Grade papers and displayed videos presenter group.	Presenters group give opportunity for the audience to ask questions
	Receive assessment results between groups.	Each audience group must provide an individual assessment of the presenter group in the format provided.
		Implementation of the discussion is a maximum of 80 minutes, including the presentation of the video.
Final stage	Reexplain the results of the discussion considered not understood by all student.	Listen and understand the evaluation of the results from the lecturer.
	Provide complete evaluation of the results of the discussion.	Re-ask the material if it needs to be fully understood.
	Remind the next presenter about the material to be discussed to prepare the group.	
	Announce students who get the highest score reward	

While the control group applied the conventional learning model, the two sample groups jointly held two meetings to discuss the learning material "*Musca Mosston's Teaching Style in Physical Education Learning*". The lecturer observed student learning activities during the learning process and answered five essay questions about learning material. Data on student learning activities and understanding were then compared using the t-test to see changes in student learning activities and their understanding of learning material. Participants were active students in the third semester of the Physical Education Study Program, Teaching and Education Faculty, Universitas Siliwangi, a total of 41 people who were determined using a purposive side technique. Participants were distributed into two research groups; 20 students joined the experimental group, and the other 21 were in the control group.

Data on student learning activities during learning were taken using observation sheets adopted and modified from the Technical Guidelines for Affective Assessment, including six behavioural indicators, namely: 1) student enthusiasm in participating in learning, 2) interaction students and lecturers, 3) interaction between students, 4) group collaboration, 5) student activities in groups and 6) student participation in concluding

learning outcomes (α = 0.78). Each student activity is assessed based on 3 rating scales (active, moderate, and passive). Data on student understanding used five essay questions (α = 0.84) with 4 rating scales (high, sufficient, insufficient, and low). Data analysis on student learning comprehension results used descriptive analysis and inferential statistics namely data normality testing, data homogeneity and two average difference tests with the t-test (independent sample test). Researchers analyzed the data using toolpack analysis in microsoft excel and SPSS. If the value of α <0.05, then the application of the SHARK learning model has a significant effect on increasing student learning activities and understanding.

3. RESULTS AND DISCUSSION

Result

This study aims to examine the increase or influence SHARK application model on student learning activities and understanding. Therefore, the partial presentation of research results is as follows.

Increasing Student Learning Activities with the SHARK Model

Before carrying out parametric statistical tests, the research data must pass the prerequisite tests for normality and homogeneity. First, the test results on the learning activity variable prove that the Sig. for both sample groups is more significant than α = 0.05, namely 0.295 for the experimental group and 0.207 for the control group. Thus, the conclusion is that the data from the two groups met the parameters of normality. The result is show in Table 2.

Table 2. Data Normality Test Results

Group		Statistic	df	Sig.	Description
Students' learning activity	Experiment	0.945	20	0.295	Normal
	Control	0.939	21	0.207	Normal

Second, the data homogeneity test results with the Levene Statistical formula also prove that the data is homogeneous because of the Sig. greater than α = 0.05, which is equal to 0.351. Thus, the data on students' learning activity has guaranteed to come from a homogeneous population (both groups). The result is show in Table 3.

Table 3. Data Homogeneity Test Results

Levene Statistic	df1	df2	Sig.	Description
0.893	1	39	0.351	Homogenous

Descriptive data analysis of the two sample groups found a mean difference between the learning activities of students from the experimental group (2.31±0.32) and students from the control group (1.79±0.24). Furthermore, the independent sample test (t-test) results proved a significant increase after implementing the SHARK learning model, where the t value was 5.955 with a Sig. value 0.000 (<0.05). When traced per item of learning activity, the activity "Interaction of students and lecturers" and the activity "Student participation in concluding learning outcomes", there is no difference and a significant increase because it has a Sig. value greater than 0.05 (0.815 and 0.167). It means that the two behavioral items did not experience an increase because the two sample groups still guaranteed interaction between fellow students and interactions with lecturers. In addition, the two sample groups

also guarantee student participation in concluding learning material. Descriptive analysis and t-test of student learning activities is show in Table 4.

Table 4. Descriptive Analysis and T-Test of Student Learning Activities

No	Observed Activity	Group		Independent Sample Test	
		Experiment	Control		
		M±SD	M±SD	t	p
1	The enthusiasm of students in participating in learning	2.45±0.60	1.62±0.50	4.814	0.000
2	Interaction between students and lecturers	1.95±0.76	1.90±0.44	0.235	0.815
3	Interaction among students	2.40±0.68	1.67±0.58	3.727	0.001
4	Groupwork	2.60±0.60	1.86±0.73	3.563	0.001
5	Student activity in groups	2.35±0.67	1.86±0.65	2.381	0.022
6	Student participation in concluding learning outcomes.	2.10±0.72	1.81±0.60	1.407	0.167
	Total	**2.31±0.32**	**1.79±0.24**	**5.955**	**0.000**

Increasing Student Understanding with the SHARK Model

As has been carried out in previous tests on student learning activity variables, student understanding research data must also pass the prerequisite test protocol for normality and homogeneity. Testing the requirements analysis proved that the student understanding of data from the two sample groups distributed a normal with a Sig. greater than 0.05 (0.569 for the experimental group and 0.337 for the control group). Thus, the data from the two sample groups has a skewness ratio value in the range of -2 to 2; in other words, the data distribution pattern is bell-shaped and symmetrical. The normality test result is show in Table 5.

Table 5. Data Normality Test Results

Group	Statistic	df	Sig.	Description	Group
Students'	Experiment	0.961	20	0.569	Normal
understanding	Control	0.950	21	0.337	Normal

Furthermore, testing the homogeneity of the data with the Levene Statistical formula also confirmed that the student understanding of data from the two sample groups was homogeneous because of the Sig. of 0.438 (>0.05). Thus, the data of students' understanding guarantees that it comes from a homogeneous population (both groups). Homogeneity test results is show in Table 6.

Table 6. Data Homogeneity Test Results

Levene Statistic	df1	df2	Sig.	Description
0.615	1	39	0.438	Homogenous

The descriptive analysis results found that the experimental group's mean value (3.19±0.48) was greater than the mean value of the control group (2.62±0.42). A similar decision was also confirmed in the results of the independent sample test (t-test), namely a t value of 4.068 with a Sig. smaller than 0.05 (0.000). Therefore, there is an increase in student understanding of learning material after applying the SHARK learning model. Descriptive analysis and T-test is show in Table 7.

Table 7. Descriptive Analysis and T-Test of Student Understanding

No	Questions	Group		Independent Sample Test	
		Experiement	Control		
		M±SD	M±SD	t	p
1	Why is Mosston's teaching style needed in Physical Education learning?	3.60±0.60	3.19±0.68	2.044	0.048
2	Explain the stages of Mosston's teaching style in Physical Education learning.	3.45±0.60	3.00±0.55	2.499	0.017
3	How to apply Mosston's teaching style in Physical Education learning?	3.20±0.70	2.57±0.75	2.786	0.008
4	Argue how Mosston's teaching style differs from any other teaching style you know.	3.00±0.56	2.29±0.64	2.777	0.001
5	Of the eight Mosston teaching styles, which style is most relevant to today's Physical Education learning? Explain?	2.70±0.86	2.05±0.86	2.415	0.021
	Total	3.19±0.48	2.62±0.42	4.068	0.000

Discussions

The results of the study prove that there is an increase in the average value of learning activity variables and student understanding after the application of the SHARK learning model. In the experimental group the average value of 2.31 is greater than the control group's average value of 1.79. The results of the independent sample test (t-test) were 0.351 with Sig. of 0.000. Furthermore, on the student understanding variable, the experimental group's average value was 3.19 which was greater than the control group's average value of 2.62. The independent sample test (t-test) also confirmed that there was a significant difference between the two study groups, the t-test value was 4.068 ($\alpha = 0.000$).

The increase in learning activities after applying the SHARK model is motivated by a shift in the role of lecturers in learning. The SHARK concept is still guided by cooperative learning theory to familiarize students with being active, interactive, communicative, and always working together in groups to construct an understanding of material content (Chiriac, 2014; Suyono & Hariyanto, 2016). 70-90% of learning activities are under the “control” of students while dynamiting their study groups. Lecturers are present as mediators and stimulators. For example, in the preparatory stage, students are distributed into heterogeneous groups to help them develop teamwork, social interaction, and organizational skills, learn about various backgrounds, cultures, beliefs, and attitudes (Burke, 2011; Payne et al., 2006). At the same time, the group coordinator divides the tasks into each member's roles. The division of tasks and roles started with communication and interaction between students as an integral part of group collaboration, up to student participation in concluding the tasks and roles of each member.

At the implementation stage, students could freely organize learning activities, including distributing assessment formats and rubrics to other colleagues from different groups to carry out assessments. It is a trend that not only empowers students in developing their learning activities, but the SHARK model can also create a learning environment that encourages students' ability to think critically and trains academic integrity through peer assessment (Blegur et al., 2021; Concina, 2022; Iglesias Pérez et al., 2022). It was proven valid and reliable by lecturer assessment, as well as giving and receiving constructive feedback to promote quality learning for students (Falchikov & Goldfinch, 2000; Halim, 2021; Stenberg et al., 2021).

Another advantage that increases students' learning activities and understanding is that they also have to present their presentation material in an interesting short video. Learning materials are not solely packaged in papers or power points and posters but are enriched by video presentations to enhance conventional (face-to-face) interactions (Mendoza et al., 2015; Robertson & Flowers, 2020). Once again, at this stage, the involvement and, enthusiasm and high-level understanding of students in participating in learning increases, learning becomes more effective, and influences student learning outcomes (Friskawati & Supriadi, 2020; Zhu et al., 2022). There is a need for short video media to be used as part of the presentation. To ensure that the video works optimally, students must be able to interact well and work well under the tasks and roles previously distributed.

At the end of the session, students review the overall evaluation results from the lecturer, both related to peer assessments and regarding student performance in presenting material and providing rebuttals during the discussion. In this session, students get a vast opportunity to discuss and clarify material they have not understood yet. The success of increasing learning activities is not based on the application of learning models alone but on the characteristics of learning activities students go through when a learning model is applied. For this reason, setting learning objectives should be the primary reference for lecturers in choosing the application of their learning model. The results of this study have assured that if lecturers want to increase student activity and understanding, then the SHARK learning model can be used as an alternative application.

The empirical test results confirm linear support for the previous study, where the SHARK model can increase student learning activities and understanding (Tri Juniar et al., 2019). The results of this study also complement previous studies on the application of learning models in supporting activity, understanding, and participation in the learning process (Mawardi, 2015; Sumiwa, 2015). Other study applying the jigsaw learning model (Hanik & Harsono, 2016). Other studies applying the lesson study-based comparative learning model (Khasanah & Fitriyani, 2016; Umar, 2018; Widyani & Sukirno, 2019). Other study applying the STAD type cooperative learning model in collaboration with the work gallery (Chivatá & Oviedo, 2018). Other study applies a reverse learning model a problem-based learning model (Fitriani et al., 2021). However, the difference in this research from previous studies is in the student learning experience, where this study has activated video presentations and peer reviews in evaluating and problem-solving. Integration of the use of videos and peer reviews has an impact on students' activeness in developing learning experiences as well as affirming higher-order thinking processes (Green et al., 2020; Lin et al., 2021) and student performance (Serrano-Aguilera et al., 2021; Silva et al., 2016).

The results of this study are also inversely proportional to the previous study which found that the indicator of group collaboration in student activities was relatively low (second order) compared to the other six indicators in the application of the STAD (Student Teams Achievement Division) learning model (Khasanah & Fitriyani, 2016). This study proved that group collaboration activities get the highest score compared to the other six indicators after applying the SHARK model (Karo Karo et al., 2020). Meanwhile, the confirmed data is the same on student and lecturer interaction; the two studies agree as the lowest indicator of student learning activity. In connection with these differences in data, in the STAD model, the role of the lecturer in student activities is still prominent because during group learning, the lecturer still intervenes in guiding the study group to carry out assignments (see the fourth stage). In the SHARK model, the authority lies entirely with the students, so they think and work more intensely, interactively, and communicatively in their discussion groups. Finally, the results of this study (SHARK model) become an alternative learning model that can be promoted to facilitate the achievement of learning objectives (such as active learning and student understanding). More learning objectives are achieved, indicating that learning is

highly organized and effective (Ahmad, 2021; Mahmoud Raba, 2017; Paolini, 2015). Lecturers must always take the initiative and be critical in developing learning models to ensure that the learning activities offered are always relevant to the needs of student learning developments every year. Trends in the development of learning models in tertiary institutions must constantly be updated so that students become active participants in developing their potential. At the same time, lecturers are seen more as facilitators of this process. The shift in the role of lecturers is expected to positively correlate with increased learning activities and students' understanding of learning materials. Increased learning activities can stimulate the development of students' psychic neo-information through organizing information, completing learning tasks, developing analysis, reflection, and mental planning (Clarindo et al., 2020; Gozalo-Delgado et al., 2020). Learning is a "social engineering" which is zoomed in from real life. Therefore, the learning model must be able to accommodate the skills students need in order to help them survive in real life. Further research should consider investigating the impact of the SHARK learning model in a broader range of life skills attributes. Remembering cognitive skills (critical thinking, problem-solving, perception of consequences, decision making, creativity, self-awareness, goal setting, value confirmation), emotional coping (motivation, sense of responsibility, commitment, stress management, emotional control, self-management, self-monitoring, and self-regulation), and social skills (communication skills; despondency; negotiation/rejection skills; active listening, cooperation, understanding, recognizing the sympathies of others). Previous studies were accepted widely as an essential attribute for student success in the academic and non-academic world (Giang et al., 2022). The results of research confirming the impact of applying the SHARK model to the life skills attribute will strengthen the acceptance of the SHARK model as one of the lecturers' choices in organizing their learning.

The implication is that this model can help increase student participation and learning activities in the learning process. If the research results show that this model is effective in increasing student understanding, then the use of this learning model can help improve student academic achievement. The limitations of this study may only apply to certain environments or contexts and cannot be directly generalized to other environments or contexts. Then other factors outside the learning model studied can influence the results, such as the ability of the teacher, the level of student involvement, or the characteristics of the school.

4. CONCLUSION

The sharing and knowledge learning model (SHARK) increases student learning activities and understanding so lecturers can use it as a reference in university learning. The improvement is based on the SHARK concept oriented towards learning activities encouraging group learning and sharing understanding and knowledge between students. The increase in student learning activities and understanding occurs because each study group is given high authority to clinically manage group activities, including distributing materials and work assignments to each member. In addition to providing paper material, each group makes interactive video visualization media. Throughout the learning session, each student assesses the group presenting the material so that students play an important role in presenting, discussing, and even evaluating the performance of the presentation and peer discussion. The student-centered learning activity makes students more enthusiastic, interactive, and responsible for group assignments, increasing their knowledge and understanding. The SHARK model successfully fills in communicative, interactive, critical, and accountable student learning experiences. However, to ensure wider acceptance, further discussions about the SHARK model can be piloted in different research contexts.

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