

The effect of the guided discovery learning model assisted with google workspace for education towards rhythmic gymnastics learning outcomes

Gede Yudi Septian Permana ^{1*}, Wahjoedi ², I Ketut Sudiana ³

^{1,2,3} Universitas Pendidikan Ganesha, Buleleng, Bali, 81116, Indonesia.

¹ gdeyudi86@gmail.com *; ² wahjoedi@undiksha.ac.id; ³ ketut.sudiana@undiksha.ac.id

*corresponding author

ABSTRACT

This study aimed at determining; 1) the learning outcomes difference between the students taught by the guided discovery learning model assisted with google workspace for education and the students who were taught by conventional learning, and 2) the interaction between the learning model and learning interest towards students' learning outcomes. True-experimental with a post-test-only control design was used as a research design of this study. The eighth-grade students of junior high school NO 1 Amlapura were involved as the population of this study. Simple random sampling was used to determine this study's sample from the total population. Test and questionnaire distribution were conducted to collect the data and the instruments used were tests and questionnaires. The collected data were analyzed inferentially statistically by using two ways anova with the assistance of the SPSS 26 program. The results showed that; 1) student learning outcomes using the guided discovery learning model assisted by google workspace for education were higher than those using the conventional model, 2) there was an interaction between the learning model and interest in learning on the learning outcomes of rhythmic motion activities, 3) the learning outcomes of the students who were treated by guided discovery learning model assisted by google workspace for education were higher than the students who were only taught by the conventional model in the high learning interest group, 4) the learning outcomes of the students who were treated by conventional learning were higher than the students taught by applying guided discovery learning model assisted by google workspace for education in a low learning interest group.

Keywords: *guided discovery learning, learning interest, learning outcomes, rhythmic gymnastics*

ARTICLE INFO

Article History:

Accepted : 20th October 2022
Approved : 22nd December 2022
Available Online May 2023

Correspondence Address:

Gede Yudi Septian Permana
Universitas Pendidikan Ganesha
Buleleng, Bali, 81116, Indonesia
E-mail: gdeyudi86@gmail.com



This work is licensed under a Creative Commons Attribution 4.0 International License.

INTRODUCTION

The covid-19 outbreak spreads quickly over the world. Covid-19 is a respiratory infection disease recently discovered in December 2019 in Wuhan, China. This virus has also spread in Indonesia which changes all sectors of life including the education sector. This pandemic also impacts the learning process in schools. People are faced with new habits based on Information Communication Technology (ICT). Unconsciously, people are persuaded to be ready in facing the digital era. Based on the circular letter published by the General Secretary of the Ministry of Education and Culture Number 15 of 2020 regarding guidelines for organizing distance learning in the emergency period of the spread of COVID- 19, The learning process in schools is held online with the assistance of various applications that can support learning activities.

Based on the published circular letter that demands the learning process to be conducted from home, students are not allowed to have conventional learning at schools. They are supposed to conduct an online learning process. During the online learning process, there are several challenges faced by the students and teachers, such as; not all of the students having a stable internet connection, most students do not have appropriate technological tools, and the lack of students' readiness in adapting to online learning as a new learning system. Considering those challenges, teachers are suggested to be more creative in providing an online learning process to achieve the learning objective optimally. An efficient teaching technique that can be used by teachers is using Google Workspace for Education as a supporting application during online learning.

The main goal of Google Workspace for Education is to streamline the process of sharing files between teachers and students. Google Workspace for Education combines Google Drive in creating and distributing students' tasks or assignments. It also involves or combines other tools such as; Google Docs, Google Sheets, dan Google Slides for writing, Gmail for communicating, and Google Calendar for scheduling. Students can be invited to join the online class through private code or by automatically being imported from the school domain. Every class will make a separate folder in Google Drive for each user. It eases more in managing the file. This application is also provided for smartphone users whether it is iPhone Operating Systems (iOS) or android which enables the users for capturing a picture and attaching the assignment shared from the file of other applications. It allows students to access the information offline. Therefore, this application can be used to make the online learning process run well and be easily accessed by students.

In the real life, a problem or challenge with online learning is still faced by many teachers. The preliminary observation shows that the crucial problem in the online learning process faced by the teachers in conducting online learning process during teaching Physical, Sports, and Health Education subjects. It is found that there are still many students who are not ready for the new learning process which is conducted in an online environment. It causes students' learning outcomes viewed from their average scores in Physical, Sports, and Health Education. The eighth-grade students in Junior High School 1 Amlapura who also join online learning during the academic year of 2021/2022 get low average scores shown at 75,1 from the passing grades 75,4. Furthermore, the identified problems shown from the observation indicate that; 1) students are not involved directly in the whole learning process, 2) students are not focusing on the teachers and joining the learning process seriously, 3) the Covid-19 pandemic situation

makes students face difficulty in joining the learning process and understanding the learning material of Physical, Sport, and Health Education.

Based on the scope of PJOK, rhythmic movement activity is one of the basic competencies that must be learned by students. In this rhythmic motion activity material, students are expected to have body flexibility, especially in swinging arms and footsteps that are adjusted to the tempo of the beat of the music. Rhythmic movement activities which are also called rhythmic gymnastics or rhythmic activities are very interesting to learn, because they contain many elements of beautiful motion, especially when accompanied by music. To perform the movements in rhythmic gymnastics, it is necessary to have precise movements with rhythm, flexibility, flexibility, balance, flexibility, continuity, and not to forget, must have a strong concentration (Lengkana et al., 2018).

The success of the learning process is determined by several factors, one of them is the use of a learning model that can improve students' active participation during the learning process. Discovery learning is one of the learning models that has been implemented in Indonesia in which it emphasizes the situation where the students can find information and understand the learning materials independently based on their abilities under teachers' guidance. It is argued that the discovery learning model is a way of delivering learning topics that guide students to find the steps or structure of the learning process from their past experiences (Maula, 2019).

Discovery learning is divided into two types; guided discovery learning and pure discovery learning. Pure discovery learning provides problem-solving as a learning concept where its process is determined by the students themselves. This model is perceived to be less relevant for the students, particularly for elementary and middle school students which emerges an alternative model known as guided discovery learning. As an alternative model, guided discovery learning is a learning model that allows students to have opportunities in arranging, process, and organizing the data given by teachers (Maula, 2019). Purwanto emphasizes that the guided discovery learning model enhances students to maximize their abilities critically, logistically, analytically, and systematically enabling students in formulating their findings confidently (Hastuti et al., 2022). Students are encouraged to apply their ideas and understanding to think independently in finding the principle or concept that they learn from the materials provided or facilitated by the teachers. It is relevant to the statement that the finding process in the guided discovery learning model needs the teachers as facilitators or guides (Kennedy et al., 2015).

The implementation of the guided discovery learning model assisted with Google Workspace for Education can increase or stimulate students' learning interest. It is expected to be able to improve students' understanding for achieving a better learning outcome considering that learning interest is one of the factors that influence students' learning outcomes. Interest is an impulse that comes from within a person (Risnanosanti, 2022). Mikasa reveals that interest can be inferred as a factor that generates people's attention selectively that ultimately affects their choices or selections towards a certain object (Risnanosanti, 2022). Students who have an interest in a particular learning subject will give a harder effort to achieve a better result in that subject. Therefore, students who have a high learning interest tend to have a higher learning desire and curiosity that leads them to participate actively during the learning process.

There are several relevant previous studies conducted in which those studies support this recent study. It is perceived that there is an interaction between the learning model and learning interest in students' gymnastic learning outcomes (Setiawati et al., 2020). It has been concluded that the guided discovery learning model affects the learning outcomes of basic soccer game techniques for elementary students (Arisdianto, 2016). It was pointed out that the guided discovery learning model is better than the application of conventional learning models to improve student learning outcomes in the Covid- 19 pandemic era (Rohmah, 2021). Another study shows that Google Workspace for Education has been used by teachers in South Sumatra well for the online learning process (Marlina, 2021). It was added that the use of Google Workspace for Education can improve student learning outcomes. It was stated that there is a significant influence between sports interest on student learning outcomes in Physical Education subjects (Ardianti, 2018). It is relevant to the conclusion that there is a significant relationship between learning interest and learning outcomes of tenth-grade students of SMA Integral Hidayatullah Batam (Rofiqah & Sunaini, 2017). On the other hand, it is argued that not all students who have a high interest in learning will get high learning outcomes as well (Suyantana, 2022).

Based on the explanation above, it can be identified that the PJOK learning process, especially in the material for rhythmic motion activities has not met the target. It is caused by several identified problems, such as; 1) students 'difficulty in understanding the material by reading or observing pictures only, 2) not all students can move to the rhythm without direct guidance, 3) students prefer sports games such as; baseball, volleyball or soccer, and 4) there is no habituation in school to do gymnastics together before starting the learning process in the classrooms. Considering those identified problems based on the preliminary observation and

recent phenomenon, therefore this study is conducted to find out the learning outcomes difference between the students taught by the guided discovery learning model assisted with Google Workspace for Education and the students who were taught by conventional learning, and the interaction between learning model and learning interest towards students' learning outcomes.

METHODS

This study was designed in the form of a true experiment by using a post-test-only control design model. The research design used was treatment by level 2 x 2. This study was conducted at junior high school N 1 Amlapura, Karangasem, Bali during the second semester of the academic year 2021/2022. The data collection was conducted in March – April 2022. The population of this study was 297 eight grade students in which they were separated into 10 classes. The population was selected for the sample of this study by using a simple random sampling technique. There were four classes involved in the sample of this study which was divided into control and experimental group. The students of VIII B and VIII D were selected as experimental groups meanwhile the students of VIII A and VIII C were determined as control groups. The research variable of this study covered; the learning outcomes of rhythmic gymnastics activities as the dependent variable, the guided discovery learning model assisted with Google Workspace for Education and conventional learning model as an independent variable, and students' learning interest as the dependent variable.

The data on students' learning outcomes towards rhythmic gymnastics activity particularly related to students' cognition were collected through multiple-choice tests using Google Forms. Meanwhile, the psychomotor aspect of the students relevant to their skills was obtained through observation by using an observation sheet. The data on students learning interests was gained by surveying questionnaire distribution. The questionnaires were distributed using Google Forms. Instrument judgment was conducted before data collection which was conducted for validity and reliability test. Gregory Formula was used for this text as what had been displayed in Table 1.

Table 1. Validity Test Result Using Gregory Formula

<i>Research Instruments</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>Validity Coefficients</i>	<i>Note</i>
Learning Interest Questionnaires	0	1	0	24	0.96	Valid
Learning Outcomes Test	0	2	0	33	0.94	Valid
Observation Sheet	0	2	0	28	0.93	Valid

In addition, criterium validity and reliability test were also conducted on the research instruments by involving 50 students as the research sample. The result was displayed in Table 2.

Table 2. Validity And Reliability Test Result

<i>Research Instruments</i>	<i>Total Items</i>	<i>Total Valid Items</i>	<i>Total Invalid Items</i>	<i>The Number of Invalid Items</i>	<i>Reliability Coefficients</i>	<i>Note</i>
Learning Interest Questionnaires	25	24	1	9	0,284	Valid
Learning Outcomes Test	35	31	4	3, 7, 8, 30	0,284	Valid

RESULTS AND DISCUSSION

By processing the gained data of this research through the use of IBM SPSS 26 Statistic Application, the result of normality testing was presented in Table 3.

Table 3. Normality Test Result

	<i>Kolmogorov-Smirnov ^a</i>			<i>Shapiro-Wilk</i>		
	<i>Statistics</i>	<i>df</i>	<i>Sig.</i>	<i>Statistics</i>	<i>df</i>	<i>Sig.</i>
Standardized Residual for Y	.071	72	.200 *	.986	72	.586

Based on the data in Table 3, it could be seen that the p-value or significance value (Sig .) of the Shapiro-Wilk test was 0.586, where the value was more than $\alpha=0,05$, so it could be said that the research data was normally distributed.

Levene test was used for homogeneity testing of the gained data in this study which was also conducted through the assistance of IBM SPSS 26 Statistic Application. The result of the homogeneity test was presented in Table 4.

Table 4. Homogeneity Test Result

	<i>Levene Statistics</i>	<i>DF1</i>	<i>df2</i>	<i>Sig.</i>
<i>Based on Mean</i>	1.228	3	68	.306
<i>Based on Median</i>	1.149	3	68	.336
<i>Based on the Median and with adjusted df</i>	1.149	3	61.458	.337
<i>Based on trimmed mean</i>	1.192	3	68	.319

Table 4 showed that the significance value (Sig.) for Levene's test was 0.306. This value was more than the standard value $\alpha=0,05$. It meant that the student's learning outcomes data were homogenous. Since the two assumption tests; data normality and homogeneity test had been met, the data analysis was continued into Two Ways Anova Analysis.

Two Ways Anova Analysis was conducted as a hypotheses test through the assistance

of IBM SPSS Statistics 26 Application. The result was presented in Table 5.

Table 5. Two Ways Anova Analysis Result

<i>Learning Outcomes</i>	<i>Type III Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Corrected Model	2743,367 ^a	3	914,456	15,730	,000
Intercept	1334865,018	1	1334865,018	22961,094	,000
A	1662,518	1	1662,518	28,597	,000
B	267,459	1	267,459	4,601	0.036
A * B	759,959	1	759,959	13,072	.001
Error	3953,245	68	58,136		
Total	1350950,000	72			
Corrected Total	6696.611	71			

Based on the result displayed in Table 5, revealed that the significance value (Sig.) was 0.036. It was less than the significance level $\alpha=0,05$ which meant that the first hypothesis of this study was rejected. It was concluded that the learning outcomes of rhythmic gymnastics activities of the students taught by using guided discovery learning models assisted with Google Workspace for Education were higher than students taught by using conventional learning models. It also showed that the significance value (Sig.) related to the interaction between the learning model and learning interest toward students' learning outcomes was 0.01. It indicated that the value was less than the specified significance level of 0,05. It meant that there was an interaction between the learning model and interest in learning the learning outcomes of rhythmic gymnastics activities.

On another side, the average scores between the students in the group with high learning interest and low learning interest were also analyzed and presented in Table 6.

Table 6. Average Scores Result

<i>Learning Interest</i>	<i>Learning Model</i>	<i>Mean</i>	<i>Std. Error</i>	<i>Lower Bound</i>	<i>Upper Bound</i>
High Learning Interest	GDL Assisted with GWfE	146.368	1,749	142.878	149,859
	Conventional Model	136,000	1,749	132.509	139,491
Low Learning Interest	GDL Assisted with GWfE	130,235	1,849	126.545	133.925
	Conventional Model	132.882	1,849	129,192	136.572

Table 6, indicated that the students in the group had high learning interest which was taught by implementing guided discovery learning models assisted by Google Workspace for Education achieved higher average scores than the students taught by the conventional learning model. In addition, the low learning interest group showed that the average score of student learning outcomes taught by using the guided discovery learning model assisted with Google Workspace for Education in the group with low learning interest was 130.235. It was less than the average score of learning outcomes of students taught by using conventional models. that

is equal to 132,882. Therefore, it could be concluded that the group that had low learning interest the students taught by using conventional learning models were better than students who learn to use guided discovery learning models assisted by Google Workspace for Education.

The displayed findings revealed that the students who were taught by applying guided discovery learning assisted with Google Workspace for Education achieved higher learning outcomes than the students' taught by using conventional learning. It proved that guided discovery learning assisted with Google Workspace for Education affected students learning outcomes in the rhythmic gymnastic learning process in Physical, Sports, and Health Education. It supported the previous studies which also investigated the guided discovery learning model. It was found that a guided discovery learning model and an individual's self-efficacy increase students' learning outcomes. It was also revealed that guided discovery learning had a positive relationship with students' self-efficacy (Atiyah et al., 2020). It could be inferred that guided discovery learning had a significant effect on students' learning outcomes which had a relation with another learning factor as what had been found in this study. The findings also showed that students' learning interests interact with the guided discovery learning model and conventional learning model. The interaction impacted students' learning outcomes. It was relevant to the finding of a previous study which indicated that learning interest influenced students' learning outcomes (Rofiqah & Sunaini, 2017).

The findings of this study also pointed out that the implementation of guided discovery learning for improving students' learning outcomes is influenced by other factors. It was proved by the findings that the students who were taught by guided discovery learning in the high learning interest group gained higher learning outcomes than the students who were also taught by using conventional learning in low learning interest. Meanwhile, a contrasting finding showed that the students with low learning interest achieved higher learning outcomes when they were taught by conventional learning than the students with low learning interest taught by the guided discovery learning model. These findings supported other previous studies which also revealed that guided discovery learning was implemented and related to other learning factors. It was found that guided discovery learning was also influenced by learning retention in increasing learning achievement (Shieh & Yu, 2016). Learning context also affected guided discovery learning as what had been revealed was that guided discovery learning improved students' problem-solving ability and self-efficacy when it was combined with the Batak context (Simamora et al., 2018).

The current finding of this study supported the previous studies which were also designed in quantitative research for investigating the effect of guided discovery learning. It was shown that guided discovery learning influenced students' conceptual understanding and critical thinking skills. It was proven by the higher mean scores gained by the experimental group than the control group's mean scores. This finding indicated that the guided discovery learning model had a significant influence on students' conceptual understanding and critical thinking (Muhali et al., 2021). That result was focused on the solubility learning process meanwhile the recent study covered Physical, Sports, and Health Education. This current study was relevant to the study that investigated guided discovery learning model implementation in the learning process of football basic technique. It presented the finding that the experimental group achieved higher learning outcomes than the control group and it was supported by the statistics result where the significant value was less than the standard value. However, the recent finding was relevant to the previous studies on the same topic in which it indicated that guided discovery learning was an appropriate teaching model that affects students' learning outcomes which were assisted with Google Workspace for Education which had not been discussed in other studies. It supported the concept that employing a learning or teaching model in the classroom is essential to help teachers in improving students' learning outcomes or achievement (Abdisa & Getinet, 2012).

CONCLUSION

Based on the results and discussion of this study, it can be concluded that; 1) the learning outcomes of rhythmic gymnastics activities of students taught by using guided discovery learning models assisted by Google Workspace for Education are higher than students taught by using conventional learning models, 2) there is an interaction between the learning model and learning interest towards students' learning outcomes of rhythmic gymnastics activities, 3) in the group of students who have high learning interest, the learning outcomes of rhythmic gymnastics activities of students who taught by using guided discovery learning models assisted by Google Workspace for Education are higher than students taught by conventional learning models, 4) in the group of students who have low learning interest, the learning outcomes of rhythmic gymnastics activities of students taught by using conventional learning models are higher than students who taught by using guided discovery learning models assisted by Google Workspace for Education. As a further response to this current study, several suggestions are given, such as; 1) The teachers of Physical, Sports, and Health Education are supposed to be more innovative in determining and implementing learning models, both offline

and online learning, 2) guided discovery learning models assisted by Google Workspace for Education can be applied in online learning activities to improve learning outcomes of students' rhythmic gymnastics activities, 3) principals, teachers, or education staff can use the Google Workspace for Education application in conducting online activities to support the learning process, and (4) other researchers use the results of this study as a reference in conducting other researches related to guided discovery learning models and Google Workspace for Education.

REFERENCES

- Abdisa, G., & Getinet, T. (2012). *The effect of guided discovery on students' Physics achievement*.
- Ardianti, S. E. (2018). Pengaruh Minat Olahraga Terhadap Hasil Belajar Siswa Kelas V Pada Mata Pelajaran Penjaskes Di Mi Kresna Mlilir Dolopo Madiun Tahun Pelajaran 2017/2018. *Skripsi. Institut Agama Islam Negeri Ponorogo*.
- Arisdianto, K. (2016). *Pengaruh Metode Pembelajaran Guide Discovery Terhadap Hasil Belajar Permainan Sepak Bola pada Siswa Putra SD Negeri Jambewangi 02 Selopuro Blitar Tahun Pelajaran 2015/2016*. Universitas Nusantara PGRI Kediri.
- Atiyah, U., Miarsyah, M., & Sigit, D. V. (2020). The Effect of Using E-Learning-Based Guided Discovery Learning Model Based on Self-Efficacy Towards Student Learning Outcomes In Biology Class in Reproductive System Subject in High School. *International Journal for Educational and Vocational Studies*, 2(9), 789–796. <https://doi.org/10.29103/ijevs.v2i9.2732>
- Hastuti, M., Sri Anggoro, B., & Intan Suri, F. (2022). Kemampuan Komunikasi Matematis Ditinjau Dari Dampak Pembelajaran Guided Discovery Learning Dan Minat Belajar. *PHI: Jurnal Pendidikan Matematika*, 6(1), 77. <https://doi.org/10.33087/phi.v6i1.189>
- Kennedy, J., Baxter, P., & Belpaeme, T. (2015). Comparing Robot Embodiments in a Guided Discovery Learning Interaction with Children. *International Journal of Social Robotics*, 7(2), 293–308. <https://doi.org/10.1007/s12369-014-0277-4>
- Lengkana, A. S., Tangkudung, J., & Asmawi, M. (2018). the Effect of Power Limbs, Speed Reaction, Flexibility and Self Confidence on the Achievement of Elite Athletes Athletic West Java in the Track Number. *Jipes - Journal of Indonesian Physical Education and Sport*, 4(2), 20–25. <https://doi.org/10.21009/jipes.042.03>
- Marlina, B. (2021). Pemanfaatan Google Workspace For Education pada Pembelajaran Daring. *Prosiding Seminar Nasional Pendidikan Program Pascasarjana Universitas PGRI Palembang*, 87–92.
- Maula, I. (2019). *Pembelajaran Matematika Guided Discovery*. Ar-Ruzz Media.
- Muhali, M., Prahani, B. K., Mubarak, H., Kurnia, N., & Asy'ari, M. (2021). The Impact of Guided-Discovery-Learning Model on Students' Conceptual Understanding and Critical Thinking Skills. *Jurnal Penelitian Dan Pengkajian Ilmu Pendidikan: E-Saintika*, 5(3), 227–240. <https://doi.org/10.36312/esaintika.v5i3.581>
- Risnanosanti. (2022). *Pengembangan minat & bakat belajar siswa*. Literasi Nusantara Abadi.
- Rofiqah, T., & Sunaini, S. (2017). Hubungan Antara Minat Belajar Dengan Hasil Belajar Pada Siswa Kelas X Sma Integral Hidayatullah Batam. *KOPASTA: Jurnal Program Studi Bimbingan Konseling*, 4(1), 41–46. <https://doi.org/10.33373/kop.v4i1.1122>
- Rohmah, N. (2021). Pengaruh Model Pembelajaran Guided Discovery Learning (GDL) Terhadap Hasil Belajar Siswa Kelas IV Sekolah Dasar Pada Mata Pelajaran IPA Materi Gaya di Era Pandemi Covid-19. *Penelitian Pendidikan Guru Sekolah Dasar*, 3369–3383.
- Setiawati, K. S., Parwata, I. G. L. A., & Suratmin, S. (2020). Pengaruh Model Pembelajaran

- Dan Minat Belajar Terhadap Hasil Belajar Senam Lantai. *Jurnal Penjakora*, 7(1), 17.
<https://doi.org/10.23887/penjakora.v7i1.24444>
- Shieh, C. J., & Yu, L. (2016). A study on information technology integrated guided discovery instruction towards students' learning achievement and learning retention. *Eurasia Journal of Mathematics, Science and Technology Education*, 12(4), 833–842.
<https://doi.org/10.12973/eurasia.2015.1554a>
- Simamora, R. E., Saragih, S., & Hasratuddin, H. (2018). Improving Students' Mathematical Problem Solving Ability and Self-Efficacy through Guided Discovery Learning in Local Culture Context. *International Electronic Jour. International Electronic Journal of Mathematics Education*, 14(1), 61–72.
- Suyantana, I. N. (2022). Analisis Hasil Belajar Siswa Ditinjau dari Minat Belajar pada Materi Himpunan. *Linear : Jurnal Ilmu Pendidikan*, 6(1), 15–34.
<https://doi.org/10.53090/jlinear.v6i1.288>