THE INSHOT- ASSISTED INQUIRY LEARNING MODEL ON STUDENTS' SCIENCE PROCESS SKILLS ON THE MAIN MATERIAL OF WORK AND ENERGY IN GRADE X MIPA IN THE EVEN SEMESTER OF GAJAH MADA

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ABSTRACT

This study aims to determine the significant effect in the use of inshot-assisted inquiry learning model using the subject matter of effort and energy in class This kind of research is basically experimental. All students of class X MIPA even semester of SMA Gajah Mada Mandiri Medan from both classes constitute the majority of the population in the essay. Cluster random sampling was used to conduct sample collection, with X MIPA1 and X MIPA2 serving as the experimental and control groups, respectively, with a total of 32 participants each and a teaching model that emphasizes deep learning with short teaching. . The instrument used in this study was an essay test with approximately 10 topics that had been validated . Data analysis of Lcount-Ltabel and Fcount-Ftabel showed that both sets of data had normal and homogeneous distributions. Analysis of two similar government agencies will be conducted next. The results of both classes are normally distributed and uniform. Since tcount > ttable, the one-sided t-test results for alpha = 0.05 and dk 62 resulted in tcount = 21.27 and ttable 1.99. This shows that there is a significant benefit from the use of interdisciplinary learning inquiry model to support the process of students in the X MIPA semester in TP time period 2022/2023.

Keywords: Inquiry Learning Model, InShot, Science Process Skills.

INTRODUCTION

Education is the process of providing knowledge and skills to a person or group of people whose job is to educate and train humans.

The learning process is a crucial stage in determining student learning success. In carrying out teaching and learning activities, teachers generally use a direct learning model. Teachers simply convey knowledge to students without practicing it in everyday life. Starting a curriculum for learning ensures that teachers are trained to be innovative and creative when developing teaching methods in the classroom, so that students not only receive information from the teacher but also actively seek and understand the course material themselves. One of the challenges faced in improving the quality of learning

The low level of physics learning is caused by the underdevelopment of the physics presentation and students feeling

too uncomfortable to apply physics lessons to everyday life. This also causes students' confidence in the physical education curriculum to be less than ideal. Given the importance of physical knowledge to human existence, it is necessary to recognize the value of the physical education that each student receives. To gain an understanding of physics, a student must go through a better teaching and learning process. One problem that is always discussed is the low quality of learning, which results in students' learning methods also being poor.

During observations at school to interview Physics teachers, the physics lessons presented by teachers tended to be more memorization-based and reduced active student involvement during the teaching and learning process. In the learning process, most teachers did not use varied learning models that could improve students' abilities, both in terms of learning methods in understanding physics material and in terms of activeness in class. This made students only memorize formulas, in addition to the physics concepts tended not to understand so that students found it difficult to solve the questions given by the teacher. Therefore, it could affect the science process skills of students in teaching and learning, especially physics subjects that did not achieve the Minimum Completion Criteria (KKM). The results of the female physical education class at Gajah Mada Mandiri Private High School, Medan are listed below.

Table 1.1 Gajah Mada Mandiri Private High School, Medan

No.	Year Average Score	Minimum Competency (KKM)
1.	[2] 2019/2020 66.84	75
2.	2020/2021 62.48	75
3.	2021/2022 68.88	75

Source : List of final grades of Gajah Mada Mandiri Private High School Medan in 2023.

An educator must strive to resolve the problems that have arisen by using reliable teaching models while presenting the material. For private students, learning must be simple, engaging, and effective.

Through the use of an interactive learning paradigm, students are encouraged to actively ask questions about why something happens. They then seek ways to gather information and analyze it logically to develop intellectual strategies that can be used to answer their questions .

Students' science process skills are the techniques children use to acquire information in the first person through activities or projects that involve students in education. The single most effective type of learning is through practical work, or "practical activities."

In the learning process, teachers do not utilize the facilities provided by the school. For example, with students' science

process skills, teachers must use media to increase student enthusiasm for the learning process. This media is a tool to support students' science process skills in advancing science and technology. *InShot* is an *Android application that can be used by its users, among other* things , to present a theory. iOS is a mobile operating system developed and developed by *Apple* Inc.

Previous researchers who have studied the inquiry model on science process skills, including Rangkuti (2018: 84), stated that the average analytical ability shows a difference between inquiry classes and direct learning with an average higher for inquiry classes at 69 and direct learning classes at 65. With a ratio of 96 for inquiry classes and 82 for direct learning classes, the evaluation results show that there is a difference between the two types of schools.

LITERATURE REVIEW

A. Theoritical review

1. Basics of Learning and Teaching

According to Ibrahim (2010), learning about one's own humanity is a process carried out in a deliberate manner with the aim of improving one's own qualities and goals, which include cognition, motivation, and effectiveness.

Based on the description mentioned above, it can be concluded that learning is a process of someone changing over time so that they are no longer exactly the same as before. This happens because of various experiences and lessons learned, and the changes that occur are always relative or identical. Early educational models based on Piaget's or Vygotsky's constructivist theories are both valid. Piaget's Constructivist Theory was earlier. Piaget's Main Ideas are relevant by emphasizing his role as an active teacher, perception, and discovery. To strengthen their understanding of their subject, students must engage in social interactions with their peers or the wider community, according to Vygotsky. (Ilham, 2010). When it comes time to carry out the scientific process in science education, staff members work in a team environment . By using the 3 (three) M method (Observing, Asking, and Concluding), subordinates work in a scientific way. Bruner published under the title Back by Trianto (2010) lists several benefits associated with the use of the inquisitorial and discovery model, including: 1) longer retention of knowledge; 2) better transfer of learning from inquiry outcomes; 3) increased potential for student punishment; and 4) reduced cognitive limitations of students when investigating and solving problems.

B. Inquiry Learning Model

Survey learning is referred to as survey learning in English and refers to the study of questions or examination of written material.

Table 2.1 Syntax of the Inquiry Learning Model

Learning Phase	Activity	
	Teacher	Student
Preliminary Phase (Initial Observation)	• Convey learning objectives to students. • Help students form groups of 4-5 students. • Connect the material to be studied with the material from the previous meeting. • Raising problems related to the topic of the material but related to students' lives.	• Listen to the explanation given by the teacher. • Form heterogeneous groups. • Involved in apperception activities **(asking questions).** • Analyze the initial problem given by using life experiences **(reasoning).**
Problem Formulation Phase	• Guide students to formulate problems. • Explain how to carry out activities to find solutions to problems for students.	• Formulate the problem. • Listening and noting down the problems raised by the teacher **(observing and asking questions).** • Listen to the teacher's explanation about how to carry out discovery activities.
Hypothesis or Conjecture Making Phase	• Guide students to put forward temporary assumptions based on the problems formulated.	• Write down a hypothesis or temporary assumption .
Data Collection Phase (Follow-up Observation)	• Directing and guiding students to conduct experiments based on the prepared LKPD. • Discussion as a discovery activity. • Ask students to write down their discovery activities on a sheet of paper.	• Conduct experiments based on LKS **(trying),** while collecting data and analyze the data found **(reasoning).** • Write the results of the experiment on the LKS by making discoveries on a sheet of paper.
Disk age phas	• Guide students in activities to	• Discuss (give opinions

e	unify opinions (discussion). • Provide information/reinforcement, correction to students if necessary in discussion activities.	regarding the findings of the experiments conducted) between groups. • Ask questions if there is something you don't understand **(reasoning).**
Conclusion Phase	• Ask several students to present conclusions from the results of the discussion.	• Give students time to interact **(communicate).**

(Source from Syamsidah & Ratnawati, T. 2020)

C. Direct Learning Model

This type of passive learning is often described in terms of an active learning model. The teacher focuses on direct instruction, but must still ensure student engagement during the learning process.

D. InShot Media

Rapid technological advancements have resulted in numerous inventive and creative applications. This development is positive in various fields, including education. The use of applications as learning media can influence the development of media use in learning. With this new multimedia-based media, learning is expected to be easier and more engaging. One application that can be developed as a learning medium is the InShot video editing application . *This* will make it easier for students to use, which is already very popular and widely used by the general public and educational circles.

Another advantage is the ability to remove *the InShot watermark* for free by watching the provided videos. This app's advantages aren't limited to its features; it also has drawbacks, such as some settings that are still difficult to use in certain situations, such as *crashes* and the lack of *undo tools* when editing and trimming video duration.

3. RESEARCH METHODS

This research was conducted in class X of the even semester of Gajah Mada Mandiri Private High School Medan located at Jl. Bunga Kenanga No. 2 Pasar V Padang Bulan, Medan Selayang District, Medan City, Academic Year 2022/2023. The time of this research will be carried out on June 16 – July 22, 2023.

The population in this study was all grade X students of the Mathematics and Natural Sciences Department of Gajah Mada Mandiri Private High School, Medan, in the 2022/2023 academic year. The population of this study consisted of 2 classes with a total of 64 students.

The sample of this study is part of When we are ready to simplify the results of the study, we refer to the entire population as the sample population. The sample in this study is class X MIPA1 which consists of 32 people as an experimental class taught with the InShot assisted inquiry learning model and class X For this purpose, two classes were selected from the sample population using the Cluster Random Sampling technique, which is an appropriate sampling technique. This essay is written in a simple way without considering the size of the population; each member of the population has the same attitude and is aware of how to be used as a subject. In this technique, everyone in the population, whether they work together as a team or independently, adopts the same mindset.

Table 3.1 Research Design

Class	Pretest	Treatment	Posts
Experiment	T_1	X	T_2
Control	T_1	Y	T_2

(Discounted from Sugiyono 2017: 108

The test was used by two organizations to understand the collective abilities of the first students in each sample group .

$H_0 : \bar{x}_1 = \bar{x}_2$ Learning outcomes for teachers at the same experimental and control levels showed homogeneity.

$H_1 : \bar{x}_1 \neq \bar{x}_2$ This means that the results of the teacher's lessons for students in the experimental and control classes were not identical.

If the data from the analysis is normally distributed and homogeneous, then the following method should be used to make a hypothesis: $t = \frac{\overline{x_1} - \overline{x_2}}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$… .(Sugiyono, 2016: 197)

Where S^2 is the combined variance calculated using the formula:

$S^2 = \frac{(n_1 - 1)s_1^2 + (n^2 - 1)s_2^2}{n_1 + n_2 \quad -2}$…(Sugiyono, 2016: 128)

Selection criteria include: Thank you If data mining shows that the calculated t value is not present in both -t_1-12 and -t_1-12, the H0 analysis may reveal that the abilities of entry-level students in the experimental classroom are different from those in the control classroom. The test is used by one organization to understand the implications of a particular activity, namely the problem-based student learning model with its results.

The hypothesis tested takes the form:

$H_a : \overline{x_1} > \overline{x_2}$

$H_0 : \overline{x_1} \leq \overline{x_2}$

To understand the hypothesis, the following single organizations with rumors are used:

$$t=\frac{\overline{x_1}-\overline{x_2}}{\sqrt{\frac{s_1^2}{n_1}+\frac{s_2^2}{n_2}}}$$... .(Sugiyono, 2016: 197)

The criteria for hiring are as follows : The qualification criterion is "Accept Ha," which means that if the value of the parameter t1 - alpha is greater than the value of its parameter t1- alpha obtained from the t distribution table with an angle (1 - alpha), where alpha = 0.05 and dk = n1 + n2 - 2 for the parameter T1 - Alpha, then the hypothesis HO is confirmed. For the price If the data analysis reveals that Ho is to blame for other problems. There is evidence that the skills of entry-level students have in the laboratory class are equivalent to those they have in the lab class under control. Ho can be rejected and accepted if the data analysis shows that the calculated t value is not between tcount > t1 - alpha and t1 - alpha. This shows that the initial abilities of students in the experimental class are different from those in the control class.

4. RESEARCH RESULTS AND DISCUSSION

The current study is a quasi-experimental study that includes two schools that provide instruction using two different instruction models: a class for the experiment using the Inshot Assisted Inquiry model, and a class for the control using the Direct model. The selection was carried out using a cluster random sampling technique, a population of 4 classes totaling 128 students, the samples were class X MIPA1 totaling 32 students and class X.

Table 4.1 Pretest Score Data for Experimental Class and Control Class

Experimental Value			Control Value		
Pretest Score	Fi	X	Pretest Score	Fi	X
33.33	2	36.90	49.33	11	53.17
34.67	5		53.33	7	
35.33	4		54.00	6	
36.67	9		56.67	3	
38.67	4		58.00	4	
39.33	8		59.33	1	
Amount	32		Amount	32	

According to the table above, the control rate-to-rate ratio is higher than the rate-to-rate ratio in the classroom experiment.

Both sample groups In the experimental and control classes, instruction was provided using the Inquiry-Assisted-Inshot instruction model, while in the other class, a final ability test (post) of instruction was conducted. Posts were made to understand the differences between the in-depth, long-form, and in-shot instruction models for Student Science Process. A mean post score of students' science process skills based on data from Appendix 13 of the assessment was found to be approximately 82.17 . In

contrast, data from the Appendix 14 survey exposed a proportionally higher post rate than that for the sixth control group, amounting to 60.04. The following post-test value data for the Inquiry-Assisted *Inshot learning model* and the Direct Learning model can be seen in Table 4.2.

Table 4.2 Post-test Score Data for Experimental and Control Classes

Experimental Value			Control Value		
Posttest Score	Fi	X	Posttest Score	Fi	X
75.33	4		54.00	4	
78.00	5		56.67	6	
81.33	6		60.00	6	
82.00	7	82.17	62.67	5	60.04
87.33	6		64.00	5	
88.00	4		65.33	6	
Amount	32		Amount	32	

Table 4.3 Calculation of Normality Test for Pretest and Posttest Data

Data	Group	L_{count}	L_{table}	Conclusion
Pretest	Experiment	0.132	0.156	Normal
	Control	0.013	0.156	Normal
Posts	Experiment	0.010	0.156	Normal
	Control	0.069	0.156	Normal

In the table above, it can be seen that $L_{count} < L_{table}$. This result indicates that the normality test for pretest and posttest data is normally distributed. The normal rule must be implemented if $L_{count} < L_{table}$ at the significance level, $\alpha = 0.05$.

Table 4.4 Homogeneity Test of Pretest and Posttest Data

Data	Clogspok	Varianswer	F_{count}	F_{table}	Kesimhome
Pretest	Class Experimen	3,888	2.77	1.82	Homogenes
	Class Control	10,781			
Posts	Class Experimen	18,523	1.03	1.82	Homogenes
	Class Control	19,238			

In the table above, with the F test model, the calculated $F < F_{table}$ is obtained from the list of F allocations with $\alpha = 0.05$.

5. CONCLUSION

The conclusions that can be drawn from the data analysis carried out during this research are as follows:

Future researchers should adapt the use of learning media in schools, particularly in physics, to achieve improved student science process skills. For teachers, especially physical education teachers, it is recommended to use teaching methods that can help students become more involved in their studies, one of which is using the inquiry instruction model.

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