The Influence of a Group Investigation Type Cooperative Learning Model with Performance Assessment on Understanding The Concept of Pancasila

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Abstract. The purpose of this study is to assess the effectiveness of the Group Investigation (GI) learning model on the outcomes of Pancasila education, which serves as Indonesia's national ideology. This research follows a quantitative approach using an Experimental Design with a Group Pretest-Posttest model. The study population consists of Affirmation students from Bali State Polytechnic for the academic year 2022/2023. Data collection involved test instruments, specifically questions evaluating students' conceptual understanding, with tested validity and reliability. The data were analyzed using descriptive and statistical methods. The students' conceptual understanding was measured using the N-Gain formula. A t-test of 0.05 significance level was used to compare the N-Gain between the experimental and control groups, after checking for normality and homogeneity of data variance. The results showed t-count = 1.143 > t-table = 0.055, leading to the rejection of H0 and acceptance of H1. Therefore, it can be concluded that the Group Investigation (GI) cooperative learning model has a positive effect on improving concept comprehension among students in the Tourism Department at Politeknik Negeri Bali, as evaluated through performance assessments.

Keywords: Group Investigation, Concept Understanding, Performance Assessment, Pancasila

1 Introduction

To enhance the quality of life and fully develop the potential of each individual, education must be well-balanced. (Hasibuan et al., 2022). Education has a very important role in developing the potential of each individual, including the mental potential of humans themselves (Hasibuan et al., 2020). Education is a bridge to developing positive character and being able to change behavior for the better (Isma et al., 2022). In addition, education plays a key role in fostering positive behavior within society through the learning process, especially in this era of globalization.

Various problems in the world of education need attention: First, demands for national education reform; Second, education management is very important to build a

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sustainable education system to achieve quality results; third, developments in information technology can influence the educational process; and fourth, the implementation of quality national education (Yuhasnil et al., 2020).

The success or failure of education depends on several key factors: educators, school principals, and educational supervisors. These three elements are the primary determinants and drivers in achieving quality education (Mulyasa, 2012). Education plays a strategic role in enhancing human quality and dignity, serving as a benchmark for a nation's values. The quality of a nation is often measured by the success of its educational system. The higher the quality of a country's society, the higher the level of education (Fitri et al., 2022).

Currently, the world of education is facing very tough challenges, where an educator must facilitate students to build competencies according to current needs (Nakiah & Hamami 2022). Educators frequently fail to guide students through the process of developing concepts, which leads to a sluggish progression from basic to more advanced thinking skills. Research consistently shows that students' grasp of concepts and their critical thinking abilities, which are key indicators of effective teaching and learning, remain insufficient (Husein, et al., 2015). Because after all, in learning, understanding concepts and critical thinking skills are much more important than learning achievement.

As a professional educator, you must be able to apply strategic approaches, methods, or learning models that are appropriate to the characteristics of the subject matter. One of the learning models that can be chosen for learning Pancasila is the Group Investigation (GI) model. Slavin states that the GI model is a model based on constructivism theory (Slavin, 2015). In the learning process, students must build their knowledge, while the lecturer is a facilitator and mediator in learning (Suastra, 2017). The cooperative learning model gives students the freedom to work together in groups to solve the problems they face by combining the ideas of each student so that an agreement is produced which is the solution to the problem. Apart from learning models, learning assessment is a very important component in determining the achievement of learning objectives. To develop a concrete understanding of understanding and thinking skills in learning Pancasila, it is necessary to develop performance assessments. Performance assessment is an assessment obtained from teacher observations of student activities which are carried out to assess student abilities such as using laboratory equipment that can be observed by lecturers (Laa et al., 2017). The use of performance assessments is important in the learning process because it can provide more information about students' abilities in processes and products, rather than just obtaining information about right or wrong answers (Wulan, 2020).

Education on a national scale does not seem to be enough just to make changes to special programs and curriculum changes, but these changes should be interpreted as changes in thinking and a commitment to self-development (Brandstätter & Opp, 2014). This change in thinking and attitudes refers to a paradigm shift in how to teach, how to learn, and how to stimulate learning and learning how to learn (Longworth, 2019).

2 Methodology

2.1 Design and Research Design

This research will be divided into two groups, namely groups A and B. This study is experimental research utilizing a pretest and posttest design (Sugiyono, 2012) as in Table 1.

Table 1. Research Structure

Design Class	Treatment				Initial Test	End of test
Experiment	01	X1	02	X1	Yes	Yes
Control	03	X2	04	X2	Yes	Yes

Information:
X1= Group Investigation Model
X2= Conventional Model

Based on research procedures, the experimental design uses a 2 x 2 factorial following the pattern in Table 2. Using this design, it will be possible to identify both the main effect and the interaction effect of all variables.

Table 2. The 2 x 2 factorial experimental design pattern

Cooperative learning GI	Learning approaches	
	PPKT	PPKV
	RPS PPKT + Cooperative	RPS + Conv

Table 2 illustrates that the learning model applied in this research consists of two dimensions: 1) The cooperative learning approach (PPKT) and 2) the conventional learning approach (PPKV). Likewise, Pancasila education encompasses two dimensions: The cooperative model and the conventional model.

2.2 Research Population and Sample

The population in the research were students from the Tourism Department class of the 2022/2023 Academic Year at the Politeknik Negeri Bali. Meanwhile, the research sample was Affirmation students. In this study, a random sampling technique was employed. This method was used to select participants for group 1 and group 2. In determining which class used the cooperative learning model or conventional model and the Group Investigation type strategy using a lottery system.

2.3 Research Variables

The variables in this research are independent variables and dependent variables. The independent variable consists of two variables, namely 1) the group investigation type cooperative learning model with performance assistance and 2) the conventional model. The independent variables are pre-test and post-test initial knowledge. The dependent variable studied is concept understanding with performance assessment.

3 Result and Discussion

3.1 Result

This section will explain the data processing, which includes descriptive analysis, normality and homogeneity tests, and hypothesis testing. The instruments used in research must first be tested on the population, as explained below.

Validity Test. Validation tests are conducted to evaluate the validity of the instrument or the items in the questionnaire. In this study, the product moment formula was used for 30 multiple-choice questions, using an alpha level of $\alpha = 0.05$ and critical values of r-count = r-table = 0.433, with a sample size of N= 30. A question item is considered valid if the r-count is greater than the r-table; otherwise, it is deemed invalid. The validity calculation of the test instrument, which included 41 questions, revealed that 30 questions were valid while 9 were invalid. The invalid questions were determined to be ineffective as measurement tools. The critical values were r-count = r-table = 0.3061, with a sample size of N = 40. If r-count is greater than r-table, the question is considered valid; if r-count is less than r-table, the question is deemed invalid. According to the validation test results for the assessment instrument, which comprised a total of 39 questions assessing conceptual understanding, there were 30 valid questions and 9 invalid questions (specifically questions 4, 7, 10, 14, 18, 20, 22, 25, and 29), which are not suitable as measuring tools for the test.

Reliability Test. In this study, the test reliability index was calculated on 30 multiple choice test items which will be used to collect data. The test reliability index calculation is carried out on 30 test questions, where these questions will be used to collect data. If a variable shows a Cronbach's Alpha value > 0.60 then it can be concluded that the variable can be said to be reliable or consistent in measuring (Taherdoost, 2016).

Table 3. Summary of instrument reliability test

Testing criteria		
Value Reference	Value Cronbach's Alpha	Conclusion
0.6	0.882	Reliable

From Table 3, Cronbach's reliability index test value is 0.882, then the data is matched with the reliability correlation number at the reference value. Based on the results of the reference values, the results obtained show that the reliability value of this question item is included in the very high criteria and is worthy of being tested.

Test Difficulty Level. 30 questions were tested, then the level of difficulty was tested. The results of the analysis of the level of difficulty of the questions can be seen in Figure 1.

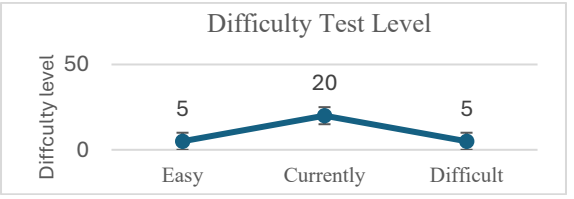

Figure 1. Instrument difficulty level test

Based on Figure 1, there is a difficulty index level of 5 questions with easy criteria, 20 questions with medium criteria, and 5 questions with difficult criteria.

Discriminating Power Test. The question discrimination test is designed to determine whether the test can effectively distinguish between students with high and low abilities. Figure 2 illustrates the outcomes of the discrimination power test.

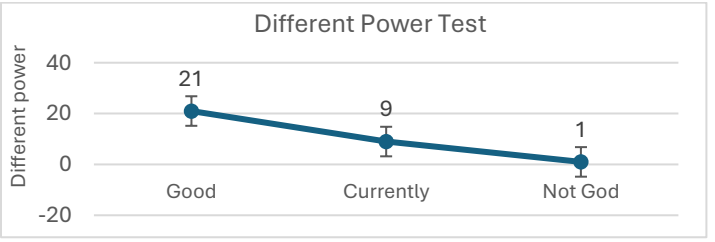

Figure 2. Instrument discriminating power test

According to Figure 2, the calculations for the discrimination power of the students' test results were as follows: out of 30 questions, 21 questions were good, 9 questions were fair and 1 question was not good.

According to Arikunto, the discriminating power of a question is the ability of a question to differentiate between smart (high-ability) students and stupid (low-ability) students (Arikunto, 2013). The question discrimination test aims to find out whether the test can differentiate students with higher and lower abilities. From the results obtained, the differential power of the conceptual understanding test shows that of the 30 valid questions, all questions are in the very good category.

3.2 Discussion

In this section, the results of research to be carried out at the Bali State Polytechnic will be discussed. This research aims to determine the effectiveness of the Group Investigation (GI) type model in improving concept understanding. In achieving an educational goal, deliberate and planned efforts need to be made in selecting content, strategies in activities, and learning models.

Learning fundamentally involves selecting, defining, and developing methods or models to achieve intended outcomes. The GI cooperative learning model promotes a positive learning environment, boosts student interaction and collaboration within their groups and with the instructor, and helps create a favorable teaching and learning atmosphere. Bali State Polytechnic was selected for this study because it implements a cooperative learning model in its classes; however, many affirmative students continue to face challenges in conceptual understanding, often prioritizing general comprehension over individual abilities, especially in Pancasila courses. To address this, the researchers conducted a study over approximately half a semester. Before the research, they created a validated multiple-choice test instrument to serve as a measurement tool, specifically targeting the cognitive domain. The sample comprised 40 Affirmation students majoring in tourism, divided into a control group of 20 students and an experimental group of 20 students.

The Semester Learning Plan (RPS) for the Pancasila course includes the following topics: 1. Pancasila as the foundation of the state in regulating governance and state administration; 2. Pancasila as the nation's way of life; and 3. Pancasila is the source of all laws. The course was conducted over six sessions in both the experimental and control groups, with one session dedicated to a pretest and another for a final evaluation or posttest. Data for the research was gathered through multiple-choice questions across six sessions, employing the GI cooperative model for Class A and a conventional model for Class B.

After administering the pretest and posttest, the researcher collected data in the form of pretest and posttest scores. A descriptive analysis of the learning outcomes for students in the control class, Group A, revealed that the average pretest score was 6.5, while the average posttest score was 8.6, indicating a difference of 2.1 points, or a 24% improvement.

The hypothesis was formulated, and prerequisite tests were conducted, including normality, homogeneity, and hypothesis testing. After performing the normality and homogeneity tests, it was concluded that the sample was drawn from a normally distributed population with equal variance. The hypothesis test resulted in a t-value of t-count = 1.143, which is greater than t-table = 0.055, leading to the rejection of H0 and acceptance of H1. Based on this, it can be concluded that the GI cooperative learning model positively influences the improvement of concept understanding among Affirmation students when using performance assessments.

4 Conclusion

Based on the collected data and facts, the following conclusions can be drawn: First, well-structured and appropriately designed learning activities significantly impact various aspects of education. Second, the teaching and learning process in higher education plays a crucial role in enhancing educational quality, as it contributes to achieving national education goals and improving human resources. Third, for learning to be effective, efficient, and enjoyable, lecturers must actively manage class time, provide materials aligned with the syllabus and semester plan, and select teaching methods or models that suit the content, such as the Group Investigation (GI) cooperative model.

The GI-type cooperative learning model is suitable for learning Pancasila, because of this learning model students must be active and play a role in the learning process to explore, search for information, and learn independently. In the GI cooperative model, students collaborate in small groups, allowing everyone to grasp the concept with the support of their peers. Additionally, each student plays a significant role in their group, promoting positive interactions that enhance cooperation within each group.

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