

## The Influence of Formative Tests on the Learning Outcomes of IPAS Students in Class V at SDN Benteng Jampea No.56, Selayar Islands

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#### ABSTRAK

This study aims to compare the learning outcomes of IPAS students using two forms of formative tests, namely written formative tests and oral formative tests, among fifth-grade students at SDN Benteng Jampea No. 56, Kepulauan Selayar. This research employs a quantitative approach with a simple experimental method. The subjects of the study were fifth-grade students. Data collection techniques were carried out thru the administration of two forms of formative tests, observation, and learning outcome tests. Data were analyzed using descriptive and inferential statistical techniques to determine the difference in the impact of the two forms of formative tests on students' learning outcomes. The research results showed that both forms of formative tests had a positive impact on students' IPAS learning outcomes, but the written formative test showed more effective results compared to the oral formative test. This was evident from the difference in the average learning outcomes of students after the implementation of the two forms of tests. In addition, students became more active, motivated, and found it easier to understand the learning material during the learning process. Based on the data analysis results, it was found that there is a significant difference between the use of written formative tests and oral formative tests on the learning outcomes of fifth-grade students in IPAS at SDN Benteng Jampea No. 56, Selayar Islands. Thus, both forms of formative tests can be used as learning evaluation strategies, but written formative tests are more effective in improving the learning outcomes of elementary school students in IPAS.

### 1. INTRODUCTION

Basic education plays a strategic role in shaping the intellectual, emotional, and skill abilities of students as a foundation for the next level of education. The success of learning at the elementary school level is greatly influenced by the quality of the learning process and the assessment system applied. In the modern education paradigm, assessment not only serves to measure learning outcomes but also as a means of reflection and continuous improvement of the learning process. Therefore, formative assessment has become one of the important components in learning because it can provide direct feedback to teachers and students during the learning process (Popham, 2017). Formative tests help teachers identify students' learning difficulties early on and enable students to improve their understanding of the learning material. Black and Wiliam (2009) explain that formative assessment functions as assessment for learning, supporting the continuous improvement of learning quality. In line with this, the implementation of the Merdeka Curriculum in Indonesia places formative assessment as an integral part of the learning process. Assessment is no longer solely focused on final results, but also on the learning process of students thru constructive and continuous feedback. In the teaching of Natural and Social Sciences (IPAS) in elementary schools, formative assessment plays an important role because this subject requires students not only to memorize concepts but also to understand and apply them in everyday life. However, conditions on the ground show that students' learning outcomes in IPAS are still

relatively low. Based on the initial observation at SDN Benteng Jampea No. 56 Kepulauan Selayar, the average daily test scores of fifth-grade students in the odd semester of the 2024/2025 academic year only reached 67.5, still below the Minimum Completeness Criteria (KKM) of 75. Additionally, students tend to learn mechanically by memorizing material without deeply understanding the concepts.

Students are able to answer factual questions, but have difficulty explaining the relationships between concepts and applying them in real-life contexts. The low learning outcomes indicate that the teaching process and the assessment system applied do not yet fully support the development of students' conceptual understanding. In the practice of teaching, teachers more often use summative assessments at the end of the learning process compared to formative assessments conducted continuously. As a result, teachers face limitations in early detection of students' learning difficulties and in providing follow-up that meets the learning needs of the students. This condition indicates the need for a more systematic implementation of formative tests to improve the quality of IPAS learning in elementary schools. Various previous studies have shown that formative tests have a positive impact on student learning outcomes. Idrus (2024) found that the form of formative tests significantly affects the civic education learning outcomes of junior high school students. Novrida (2010) also showed that learning strategies and the form of formative tests influence students' mathematics learning outcomes. Meanwhile, Maharani, Erlisnawati, and Alpusari (2023), Pamungkas and Raharjo (2024), as well as Andini et al. (2025) researched the use of digital-based formative assessments such as Quizizz and found an increase in student motivation and learning outcomes. Nevertheless, these studies still have several limitations. First, most of the research was conducted at the junior high school level or on subjects other than IPAS in elementary schools. Second, previous studies have focused more on the use of digital media in formative assessments rather than the pedagogical effectiveness of conventional formative tests in learning. Third, there has not been much research specifically examining the impact of formative tests on IPAS learning outcomes in elementary schools in island regions with limited educational facilities and infrastructure. Thus, there is still a research gap regarding the application of conventional formative tests in improving the learning outcomes of elementary school students in the field of IPAS in island regions. Based on the problems and research gaps, this study was conducted to examine the effect of implementing formative tests on the learning outcomes of fifth-grade students in IPAS at SDN Benteng Jampea No. 56, Selayar Islands. This research is expected to provide empirical contributions regarding the effectiveness of formative tests in improving student learning outcomes and to serve as an alternative adaptive and contextual assessment strategy for elementary schools, particularly in island regions.

## 2. METHODS

This research is a quantitative study using a quasi-experimental design method. The quantitative approach was chosen because this research aims to reveal the effect of implementing two forms of formative tests on students' learning outcomes in the subject of Natural and Social Sciences (IPAS) in the fifth grade at SDN Benteng Jampea No. 56, Selayar Islands. The research data consists of numbers obtained thru learning outcome tests, which are then statistically analyzed to determine the differences in learning outcomes between the treatment groups. The quasi-experimental method was chosen because the researcher does not have full control over all external variables that can affect the learning process. Nevertheless, this method allows researchers to administer specific treatments to subject groups and measure the impact of those treatments on students' learning outcomes. The research design used is the pretest-posttest comparison group design or nonequivalent comparison group design, as the study involves two experimental groups

that are given different treatments without full randomization of subjects. In this design, both groups were first given a pretest to determine the initial abilities of the students in the IPAS subject. Subsequently, each group was given different treatments, with the first group using multiple-choice formative tests and the second group using essay formative tests during the learning process. The administration of formative tests is carried out periodically on each learning topic as a form of evaluation and feedback for both students and teachers. After the entire learning process is completed, both groups are given a final test (posttest) to determine the improvement in students' learning outcomes after the treatment is given.

### 3. RESULTS AND DISCUSSION

#### Learning Outcomes of IPAS for Fifth Grade Students at SDN Benteng Jampea No. 56, Selayar Islands, Taught with Multiple-Choice Formative Assessment

Based on the first problem formulation, this study aims to describe the learning outcomes of fifth-grade IPAS students at SDN Benteng Jampea No. 56 Kepulauan Selayar who received instruction with the application of formative assessment in the form of multiple-choice tests. The implementation of the research follows the design established in the proposal, namely using the one-group pretest-posttest pattern. In this design, the initial ability of the students is measured thru a pretest before the treatment is given. Next, students' learning progress is monitored thru four implementations of multiple-choice formative tests. The measurement of final learning outcomes is conducted thru a posttest using a minimum completeness criterion set at 75. To clarify this picture, descriptive statistics of student learning outcomes are presented in Table 1.

Table 1. Descriptive Statistics of Student Learning Outcomes in IPAS on the Multiple Choice Formative Test Group

Measurement Stage	N	Average	Median	SD	Min	Max	% Completed	Category
Pretest	30	52,17	52,50	15,29	25	85	10,0%	Poor
Formative 1	30	76,33	80,00	14,26	40	100	56,7%	Good
Formative 2	30	79,33	80,00	13,88	50	100	60,0%	Good
Formative 3	30	86,67	90,00	12,41	60	100	86,7%	Very Good
Formative 4	30	90,67	100,00	13,63	50	100	86,7%	Very Good
Posttest	30	92,17	95,00	8,68	70	100	93,3%	Very Good

The table shows a consistent trend of improvement in learning outcomes from the pretest stage to the posttest stage. The average student scores increased by 40.00 points from the initial condition to the final condition of the study. This improvement indicates that the treatment provided during the learning process contributed to the enhancement of students' academic achievements. Thus, the data suggest that there has been a development in students' learning abilities after participating in the series of lessons designed in this study. In addition to the increase in average scores, changes are also observed in the aspect of the distribution of student scores. The standard deviation decreased from 15.29 in the pretest stage to 8.68 in the posttest stage. This decrease in standard deviation indicates that the variation in student scores at the end of the learning process is generally smaller compared to the initial condition. This indicates that students' learning outcomes not only improved in general but also showed a better level of equity. To strengthen that interpretation, the distribution of student learning outcome categories at the pretest and posttest stages is presented in Table 2.

Table 2. Distribution of Student Learning Outcome Categories at Pretest and Posttest

Category	Value Range	Pretest	Posttest
Very Good	86–100	0	22
Good	76–85	2	5

Satisfactory	60–75	8	3
Poor	< 60	20	0
Total		30	30

Table 4.2 shows a significant change in the distribution of student learning outcomes between the pretest and posttest stages. At the pretest stage, most students were still in the poor category, with a total of 20 students, indicating that the initial learning achievements were relatively low. However, this condition was no longer found at the posttest stage, as no students remained in that category. Conversely, the distribution of learning outcomes at the posttest stage showed a dominance of the very good category, with a total of 22 students. This change in distribution indicates a significant improvement in learning outcomes after the learning process was conducted. Thus, these results suggest that the implementation of learning accompanied by the use of formative tests in the form of multiple-choice questions contributes to the enhancement of students' learning quality. To provide a clearer picture of the development of learning achievements at each stage, the main findings are visualized as follows.

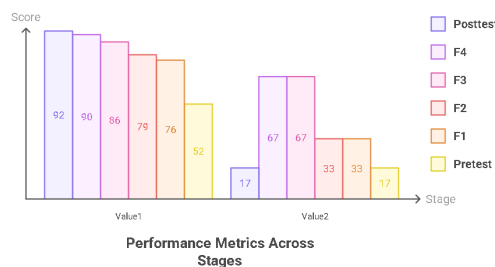


Figure 1. Performance Metrics Across Stages

The sequence shows a consistent trend of improvement over time. This pattern of increase indicates a development in students' learning achievements in line with the ongoing learning process and the implementation of formative assessment. The most significant improvement is observed in the range between the pretest and the first formative assessment, which indicates a fairly strong initial change in students' learning performance. This condition indicates that at the initial stage of implementation, students began to adjust to the formative assessment mechanism and received a direct impact from the feedback provided by the teacher on their learning process and outcomes.

## DISCUSSION

Based on the results of the research data analysis, it can be stated that the learning outcomes of IPAS students in grade V at SDN Benteng Jamea No. 56, Kepulauan Selayar, who received instruction with assessment in the form of multiple-choice formative tests, are categorized as very good. This statement is supported by an average posttest score of 92.17 with a learning completeness level of 93.3%. This achievement indicates that the majority of students have successfully exceeded the established minimum completeness criteria. Thus, these results demonstrate a very high level of mastery of the IPAS material after the implementation of the formative assessment strategy. If compared to the initial condition before the learning treatment, there is a very noticeable difference in student learning outcomes. The average pretest score of only 52.17 indicates that students' initial understanding of the IPAS material is still relatively low. The completeness level at the initial stage is also only 10.0%, which indicates that most students have not yet reached the expected competency standards. The comparison between the pretest and posttest results shows a very significant improvement in material mastery. The learning pattern that combines formative tests and discussion of test results allows students to identify mistakes made from the early stages of the learning process. Thus, students do not have to wait until the end of the

learning process to understand weaknesses in material mastery. The process of improving understanding can be carried out immediately after the mistakes are identified. This situation creates a more reflective and directed learning process for students. Research data shows that the improvement in student learning outcomes occurs gradually from one formative stage to the next. In the first formative test, the average student score increased to 76.33. This score then gradually improved in subsequent formative tests. In the fourth formative test, the average student score reached 90.67, indicating a better understanding of the material. The gradual increase in scores indicates that the learning process is progressing. Students are not only trying to remember the correct answers but are also beginning to understand the underlying concepts of each question. A better conceptual understanding allows students to answer questions more accurately. This shows that formative tests play a role in strengthening conceptual understanding, not just training the ability to answer questions. The results of this study show that when the function of formative assessment is carried out optimally, significant improvements in learning outcomes can occur. The learning process becomes more responsive to students' learning needs. Teachers can provide additional explanations on parts of the material that are not well understood. Meanwhile, students have the opportunity to continuously correct their mistakes.

If compared to previous research that has been discussed earlier, these findings show several similarities. This study aligns with Idrus's research, which shows that the form of formative tests has an impact on students' learning outcomes. Additionally, the results of this study are also in line with Novrida's findings, which emphasize that formative tests make an important contribution to improving students' academic achievements. Both studies place formative assessment as an instrument that plays a role in improving the learning process. This research also has similarities with the studies of Maharani, Erlisnawati, and Alpusari, Pamungkas and Raharjo, as well as Andini et al. Their research results show that formative assessment has a positive relationship with the improvement of student learning outcomes. In various studies, formative assessment has proven to enhance student participation and learning motivation. Thus, the findings of this research strengthen the empirical evidence regarding the effectiveness of formative assessment in learning. Overall, the results of this study indicate that the implementation of multiple-choice formative tests can significantly improve the learning outcomes of fifth-grade IPAS students. The improvement is not only evident in the average class scores but also in the equitable distribution of learning outcomes among students. The improvement process takes place gradually thru a mechanism of continuous feedback. This condition shows that formative assessment serves as an effective means to support a higher quality learning process. This synthesis is also reinforced by observational data showing that the quality of lesson implementation has improved from one session to the next. Teachers are becoming increasingly effective in utilizing formative assessments as part of the learning process. Meanwhile, students are showing increasing engagement in teaching and learning activities. Thus, the overall findings of the research provide evidence that assessment in the form of multiple-choice formative tests can significantly support the improvement of students' IPAS learning outcomes.

### **Learning Outcomes of IPAS for 5th Grade Students at SDN Benteng Jamea No. 56 Kepulauan**

According to the second problem formulation, this study aims to describe the IPAS learning outcomes of fifth-grade students at SDN Benteng Jamea No. 56, Kepulauan Selayar, who received instruction with assessment in the form of descriptive formative tests. In the research proposal, it is emphasized that the focus of the study is directed toward the cognitive learning outcomes of elementary school students in the subject of IPAS. Formative tests in this research are positioned as an integral part of the ongoing learning process. Thus, assessment not only serves as a

tool to measure final achievements but also as a means of providing feedback that supports the continuous improvement of students' learning processes. Furthermore, the use of essay-type tests is considered relevant to the characteristics of learning objectives that emphasize higher-order thinking skills. This form of assessment allows students to articulate reasoning, explain concepts in greater depth, and demonstrate the interconnections between ideas in the material being studied. Thru descriptive answers, students are not only asked to choose the correct answer but also to construct logical and systematic arguments. Therefore, descriptive formative tests are considered capable of providing a more comprehensive picture of students' cognitive understanding of the IPAS material. Based on data analysis, students' learning outcomes show a tendency to improve from the initial condition to the end of the learning treatment. At the initial stage, the students' abilities were still in the relatively low category. The pretest results show an average score of 55.33 with a median of 55.00 and a standard deviation of 8.58. The minimum score recorded was 37.50 and the maximum score was 75.00. Out of a total of 30 students, only 1 student (3.3%) achieved mastery, while the other 29 students (96.7%) did not meet the mastery criteria, indicating that the majority of students had not adequately mastered the IPAS material before the treatment was given. After the learning process was carried out with the implementation of formative assessments in the form of gradual essays, an increase in scores was observed in each implementation of the formative tests. The average score on Essay 1 was recorded at 63.83, then increased to 69.83 on Essay 2. Subsequently, the average score continued to rise on Essay 3 to 73.50 and reached 78.83 on Essay 4. This pattern of improvement indicates that the implementation of descriptive formative tests provides students with the opportunity to reflect on their understanding, improve their thinking processes, and organize their answers more systematically at each stage of learning. At the end of the learning treatment, the posttest results showed better achievements compared to the initial condition. The average score of the students reached 80.83 with a median of 80.00 and a standard deviation of 11.47. The minimum score recorded was 57.50 and the maximum score reached 97.50. Out of the 30 students who took the posttest, 20 students (66.7%) achieved learning completeness, while 10 students (33.3%) were still below the completeness criteria. Based on these descriptive findings, it can be concluded that the IPAS learning outcomes of students who received instruction with descriptive formative assessment are categorized as good. To provide a clearer picture of these findings, the descriptive statistics of student learning outcomes are presented in Table 4.3.

Table 3. Descriptive Statistics of IPAS Student Learning Outcomes in the Descriptive Formative Test Group

Measurement Stage	N	Average	Median	SD	Min	Max	% Completed	Category
Pretest	30	55,33	55,00	8,58	37,50	75,00	3,3%	Poor
Essay 1	30	63,83	65,00	9,80	45,00	90,00	16,7%	Fair
Essay 2	30	69,83	70,00	10,30	50,00	90,00	36,7%	Fair
Essay 3	30	73,50	70,00	10,52	50,00	95,00	43,3%	Fair
Essay 4	30	78,83	77,50	11,12	55,00	95,00	73,3%	Good
Posttest	30	80,83	80,00	11,47	57,50	97,50	66,7%	Good

Table 3 shows an increase in the average score of 25.50 points between the pretest and posttest results. The increase indicates that the implementation of descriptive formative tests significantly contributes to the improvement of students' learning achievements. This result suggests that the evaluation process thru formative tests can support the gradual and continuous development of students' understanding. However, the pattern of improvement observed does not show a drastic surge, but rather develops progressively along with the ongoing learning process. To obtain a more comprehensive picture of the changes in student learning outcomes, the distribution

of grade categories at the pretest and posttest stages is presented in Table 4.4. The presentation of this data aims to show the shift in student achievement levels before and after the implementation of formative tests. Thru the comparison of these two stages, changes in the proportion of students in each grade category can be identified. Thus, the analysis of the distribution of grade categories provides more in-depth information regarding the dynamics of student learning outcomes after the teaching process has been carried out.

Table 4. Distribution of Student Learning Outcomes Categories in Pretest and Posttest Descriptive Group

Category	Value Range	Pretest	Posttest
Very Good	86–100	0	11
Good	76–85	0	8
Satisfactory	60–75	11	10
Poor	< 60	19	1
Total		30	30

Table 4 shows that before the treatment was given, most students were in the low category, with a total of 19 students. This condition illustrates that the students' learning achievement levels at the initial stage were still relatively low. The results indicate that the majority of students have not yet been able to achieve the expected competency standards before the learning intervention was conducted. Thus, the distribution of pretest results shows a need for assessment and learning strategies that can improve the quality of student learning outcomes.

### Improvement in Student Learning Outcomes

If we examine the comparison between the pretest and posttest results, it can be seen that there has been a quite significant improvement in students' learning achievements. The average score difference achieved by the students reached 25.50 points. This range of improvement shows a fairly wide variation, with the lowest increase being 10.00 points and the highest increase reaching 40.00 points. This variation indicates that the effectiveness of learning does not only occur in general, but also shows differences in the level of development among each student. On the other hand, the analysis of the N-gain value shows an average of 0.59, which falls into the moderate category. These results indicate that the use of descriptive formative tests contributes positively to the improvement of students' learning outcomes. However, the level of improvement is not considered very high because students still need time to adapt to the characteristics of questions that require open-ended answers. Additionally, the type of questions that require students to provide reasons and written explanations demand more complex thinking and idea organization skills compared to closed-ended questions. Based on the results of the research analysis, it can be stated that the IPAS learning outcomes of the fifth-grade students at SDN Benteng Jampea No. 56, Selayar Islands, who received instruction with assessment in the form of descriptive formative tests, are categorized as good. This statement is supported by the average posttest score, which reached 80.83. In addition, the level of student learning completeness was recorded at 66.7%. This achievement indicates that the majority of students have met the completeness criteria after participating in learning accompanied by descriptive formative assessments. When compared to the initial learning conditions, the improvement appears quite significant. At the pretest stage, the average student score only reached 55.33 with a very low mastery level of 3.3%. This condition illustrates that at the beginning of the learning process, most students had not yet adequately mastered the material. Thus, the difference between the pretest and posttest results indicates a significant improvement in learning outcomes. The increase in learning outcomes indicates that the implementation of descriptive formative tests has a positive contribution to the development of

students' understanding. Formative tests not only function as evaluation instruments but also as learning tools that support students' thinking processes. Thru the form of essay questions, students are encouraged to express their ideas more openly. This allows students to express their understanding more deeply. The findings of this research also reinforce the view that descriptive formative tests can serve as a means of cognitive practice. In the process of answering questions, students not only choose the correct answer but also explain the reasoning behind their answer. This process requires students to engage in reasoning and connect the concepts they have learned. Thus, the activity of answering questions becomes part of the learning process itself.

This finding has high urgency in the context of IPAS learning. The IPAS subject requires students to understand natural and social phenomena logically. Students cannot simply memorize facts or concepts. They must also be able to explain the cause-and-effect relationships that occur in various phenomena. If learning only relies on closed-form assessments, then students' reasoning abilities may not be optimally revealed. Students can achieve high scores thru the recognition of correct answers. However, this does not necessarily reflect a deep understanding. Therefore, essay tests play an important role in revealing students' substantive understanding. The research results show that this form of assessment can be effectively implemented in island school environments. Teachers can still conduct meaningful evaluations without relying on digital technology. This shows that the quality of assessment is more determined by pedagogical design than by the technology used. Thus, even simple assessments can have a positive impact. Observation findings also indicate an improvement in the quality of learning implementation. The observation score increased from 2.62 at the initial stage to 3.88 at the final stage. This improvement indicates that the implementation of descriptive formative tests is getting better over time. Teachers are becoming increasingly skilled in managing the assessment process and discussing the results. When compared to previous research, the results of this study show some similarities. These findings are in line with Idrus, who stated that the form of formative tests is related to the improvement of learning outcomes. In that view, formative tests are not merely administrative activities. Instead, formative tests are part of the learning strategy. Similarities are also evident in Novrida's research, which shows that the form of formative tests affects students' learning outcomes. The research emphasizes the importance of selecting a test format that aligns with the learning objectives. The results of this study reinforce those findings in the context of IPAS learning. Thus, the findings of this research are consistent with previous studies. In addition, this research is also in line with the theoretical framework proposed by Black and Wiliam regarding formative assessment. In that framework, formative assessment is viewed as a mechanism for collecting evidence of student learning. This evidence is then used to improve the learning process. This approach is known as assessment for learning. The findings of this research also highlight the importance of feedback in the formative assessment process. Feedback serves as a bridge between the teaching process and the learning process. Thru feedback, students become aware of aspects that need improvement. Thus, the learning process becomes more effective. Although it has similarities with previous research, this study also shows some differences. Some previous studies extensively used digital media such as Quizizz or Quizizz Paper Mode. Meanwhile, this study uses paper-based formative descriptive tests. This difference shows that effective assessment does not always rely on technology.

### The Difference in IPAS Learning Outcomes of Fifth Grade Students at SDN Benteng Jampea No. 56 Kepulauan Selayar between Those Taught Using Multiple Choice Tests and Those Taught Using Essay Tests

In accordance with the third problem formulation, this analysis is directed to identify differences in IPAS learning outcomes among fifth-grade students at SDN Benteng Jampea No. 56, Kepulauan Selayar, between the group assessed thru multiple-choice formative tests and the group assessed using descriptive formative tests. The focus of this comparative analysis is not only to examine the differences in learning outcomes but also to assess the effectiveness of each form of assessment in supporting the improvement of student learning achievements. The research proposal has emphasized that the comparison of these two forms of tests is intended to identify the most effective form of assessment in the context of IPAS learning in elementary schools. This is particularly important in the context of island regions that still largely utilize conventional paper-based formative assessments in the learning evaluation process. Thus, although most students in both groups have met the completion standards, the proportion of students who achieved completion in the multiple-choice group was recorded to be much higher compared to the essay group. The findings are then presented in detail in the following Table 4.5.

Table 5. Comparison of Descriptive Statistics of Learning Outcomes of Both Groups

Group	N	Mean Pretest Standard	Mean Posttest Standard	Mean Gain	SD Posttest	Min Posttest	Max Posttest	% Mastery
Multiple Choice	30	51,80	92,36	40,55	8,90	70,83	100,00	93,33
Essay	30	55,14	80,56	25,42	11,39	58,33	95,83	66,67

Table 5 shows that the group using descriptive instruments started the learning process with a relatively higher initial average score compared to the multiple-choice group. However, after the learning treatment was given, the group using multiple-choice instruments showed better learning outcomes at the final stage. This is evident from the higher average posttest scores and greater gain compared to the descriptive group. Additionally, the level of learning completeness in the multiple-choice group was also recorded as higher, indicating that this instrument contributed more effectively to supporting the improvement of students' learning outcomes. Thus, the form of the evaluation instrument used can make a significant contribution to the differences in students' learning achievements.

Table 6. Results of Difference Test and Magnitude of Influence

Test	Statistic	Value	Interpretation
Independent t-test Posttest Standard	t	4,474	Significant
Independent t-test Posttest Standard	p-value	0,000	$p < 0,05$
Independent t-test Gain Standard	t	5,140	Significant
Independent t-test Gain Standard	p-value	0,000	$p < 0,05$
Cohen's d Posttest	d	1,155	Large
Cohen's d Gain	d	1,327	Large

Thus, the results of the inferential analysis indicate a significant difference in IPAS learning outcomes between students who received instruction with formative assessment in the form of multiple-choice tests and students who received formative assessment in the form of essay tests. These findings indicate that the group of students evaluated thru multiple-choice formative tests achieved higher learning outcomes compared to the group using descriptive formative tests. This difference suggests that the form of formative assessment contributes to the variation in

students' learning outcomes in IPAS education. Therefore, the application of inferential analysis, such as t-tests and effect size calculations, has been planned since the proposal stage as part of a comprehensive analytical approach to measure the effectiveness of the treatment provided in the research. The research results show a significant difference in IPAS learning outcomes between students who received formative assessment in the form of multiple-choice tests and students who received formative assessment in the form of essay tests. The difference was consistently observed in both descriptive analysis and inferential testing. Quantitative data show a tendency that the group assessed with multiple-choice tests demonstrates higher academic performance. Thus, the form of formative assessment used in the learning process contributes to the variation in students' learning outcomes. In addition to the final scores, differences are also evident in the improvement in learning outcomes measured thru mean gain. The multiple-choice group showed a mean gain of 40.55. This value indicates a relatively significant improvement in ability from the initial to the final learning condition. In contrast, the essay group only showed a mean gain of 25.42, resulting in a relatively lower improvement. The difference in achievement is also reflected in the students' learning completeness level. The percentage of completeness in the multiple-choice group reached 93.33%. This figure indicates that almost all students in that group successfully met the established completeness standard. Meanwhile, the essay group only achieved a mastery level of 66.67%, which means there are still a number of students who have not reached the expected standard. These descriptive findings are reinforced by the results of inferential statistical analysis. The difference test shows a significance value of less than 0.05 both in the posttest scores and in the gain values. This result indicates that the observed differences are not merely coincidental. Thus, it can be statistically concluded that the two groups indeed have significantly different learning outcomes.

#### 4. CONCLUSION

Based on the research results, formative assessment affects the learning outcomes of IPAS students in Class V at SDN Benteng Jampea No. 56, Selayar Islands. The multiple-choice formative test shows very good learning outcomes because it helps students obtain quick feedback and facilitates learning evaluation. Meanwhile, the essay formative test also yields good results as it can train students' critical thinking skills and concept understanding. This research found a difference in learning outcomes between the two types of tests, where the multiple-choice test produced higher achievements compared to the essay test. Overall, formative assessment plays an important role in improving student learning outcomes, so teachers need to choose the type of test that aligns with the learning objectives and the characteristics of the material.

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