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AN ANALYSIS OF STUDENTS' LEARNING ACHIEVEMENT IN ECONOMICS AT A VOCATIONAL HIGH SCHOOL

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ABSTRACT
This study investigates students' learning achievement in Economics among Grade XI students at a vocational high school, where Economics functions as an adaptive subject within the curriculum. The study was motivated by preliminary observations indicating uneven achievement, particularly in calculation-based economic topics. A descriptive quantitative research design was employed, involving 68 students from the Accounting and Office Management programs selected through purposive sampling. Data were collected through documentation of students' daily assessment scores and a diagnostic test focusing on selected Economics topics. Supporting data were obtained through classroom observations and structured interviews with the Economics teacher. Data analysis was conducted using descriptive percentage techniques by classifying students' scores into achievement categories. The results indicate that the average learning achievement score was 76.4, categorized as "Good." However, 22% of students did not meet the Minimum Completeness Criteria (KKM). Further analysis shows that students performed better in theoretical topics than in calculation-based materials, and Accounting students achieved higher average scores than Office Management students. These findings suggest that although overall learning achievement is satisfactory, targeted instructional strategies are required to improve students' understanding of quantitative Economics concepts in vocational education contexts.

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INTRODUCTION

Economic education in vocational high schools plays a strategic role in preparing students to become competent, adaptive, and economically literate graduates who are ready to face the demands of the labor market and local industries (Sobari et al., 2023; OECD, 2014) As an adaptive subject in the vocational high school curriculum, Economics is designed to equip students with fundamental economic knowledge, analytical thinking skills, and basic decision-making abilities that are applicable both in daily life and in professional settings (Madya et al., 2022). Learning achievement in economics therefore reflects the extent to which students have mastered curriculum content and achieved instructional objectives established by the school.

Despite its strategic importance, learning achievement in Economics among vocational high school students often shows inconsistent results. Vocational students tend to prioritize productive subjects that are directly related to their fields of specialization, while adaptive subjects such as Economics receive less attention. This situation may affect students' learning motivation and engagement, particularly when Economics materials are perceived as abstract or less relevant to vocational competencies. Consequently, students' academic performance in Economics may not optimally reflect the intended learning outcomes (R & Meilani, 2020)

Previous studies indicate that learning achievement is influenced by both teacher-related and student-related factors. Teacher competence, which includes mastery of subject matter, pedagogical skills, and the ability to contextualize learning, has been shown to significantly affect students' academic achievement. In Economics learning, teacher competence is particularly important when explaining complex and calculation-based topics such as national income and taxation. Clear explanations, systematic problem-solving procedures, and the use of contextual examples are essential to support students' understanding of numerical economic concepts.

In addition to teacher competence, student motivation plays a crucial role in determining learning achievement. Motivation influences students' persistence, concentration, and willingness to engage actively in learning activities. Students with high learning motivation tend to demonstrate stronger effort and better problem-solving abilities. In contrast, students with low motivation often experience learning difficulties, especially in subjects that require sustained cognitive processing (Christiantia, 2022). In vocational education contexts, learning fatigue caused by intensive practical workloads may further reduce students' motivation to engage in adaptive subjects such as economics.

These theoretical and empirical findings are reflected in the learning conditions at SMKN 1 Berau. Preliminary observations and structured interviews with the Economics teacher revealed that Grade XI students frequently experience reduced concentration during Economics lessons. This condition is largely influenced by the heavy workload of vocational subjects, which require students to complete various practical assignments and projects. As a result, students often show lower enthusiasm and engagement during Economics classes, particularly when dealing with calculation-based materials.

Initial assessment data further support these observations. The average Economics learning achievement score of Grade XI students at SMKN 1 Berau was 76.4, slightly exceeding the Minimum Completeness Criteria (KKM) of 75. Although this result indicates that overall achievement can be categorized as "Good," a substantial proportion of students (22%) did not meet the KKM. This finding suggests that learning achievement is not evenly distributed and that certain groups of students continue to experience academic difficulties.

A more detailed analysis of students' performance shows that learning achievement varies across content areas. Students generally perform better in theoretical Economics topics than in calculation-based materials, such as national income and taxation. These findings indicate that learning difficulties are concentrated in topics requiring numerical reasoning and analytical skills. Differences in achievement are also observed between vocational programs. Students from the Accounting program tend to achieve higher average scores than those from the Office Management program. This difference is likely related to Accounting students' greater exposure to numerical and calculation-based subjects,

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which supports the concept of learning transfer, whereby prior knowledge facilitates the understanding of new learning materials.

Although previous studies have examined factors influencing learning achievement, empirical research that specifically describes learning achievement patterns in Economics within vocational high school contexts remains limited, particularly at the school level. Moreover, few studies have focused on identifying specific content areas that contribute to learning difficulties using actual assessment data. Therefore, a systematic and empirical analysis of Economics learning achievement in vocational high schools is needed. This study aims to describe the learning achievement of Grade XI students in Economics at SMKN 1 Berau using quantitative assessment data. By employing a descriptive quantitative research approach, this study seeks to provide an objective overview of students' learning achievement and to identify areas that require instructional improvement. The methodological procedures used to achieve these objectives are explained in the following section.

METHOD

This study employed a descriptive quantitative research design to provide an objective overview of students' learning achievement in Economics based on numerical assessment data. The descriptive quantitative approach was selected because the study did not aim to test hypotheses or examine causal relationships, but rather to systematically describe students' academic performance as it occurred in the natural learning context. Through this approach, learning achievement was analyzed in terms of score distribution, average performance, and differences across vocational programs.

The research was conducted at SMKN 1 Berau, located in Tanjung Redeb, Berau Regency, East Kalimantan, during the 2025/2026 academic year. The school was selected because it represents a public vocational high school where Economics functions as an adaptive subject alongside productive vocational subjects . The population consisted of all Grade XI students, while the sample was determined using purposive sampling by selecting Grade XI Accounting and Grade XI Office Management classes, resulting in a total of 68 students. These classes were chosen because they followed the same Economics curriculum, were taught by the same teacher, and were assessed using identical evaluation standards, thereby minimizing instructional variability (Sugiyono, 2019).

Data were collected using documentation and a diagnostic test. Documentation involved collecting students' daily Economics assessment scores from official school records, which reflected students' continuous academic performance throughout the semester. In addition, a diagnostic test consisting of 20 multiple-choice questions was administered to measure students' mastery of selected Economics topics, particularly national income and taxation. These topics were chosen because they represent calculation-based materials that require numerical reasoning and had been identified as areas of learning difficulty. The diagnostic test instrument was reviewed by the Economics teacher to ensure content validity and alignment with curriculum objectives. To support data interpretation, classroom observations and structured interviews with the Economics teacher were also conducted to obtain contextual information regarding learning conditions and instructional practices (Sudjana, 2016).

Data analysis was carried out using descriptive percentage analysis. Students' scores were classified into four achievement categories: Very Good (>85), Good (70–84), Fair (55–69), and Poor (<55). Frequencies, percentages, and mean scores were calculated to describe overall learning achievement and to compare performance across vocational programs. This research was conducted in accordance with basic research ethics. Permission was obtained from the school authorities, students' identities were kept confidential, and all data were analyzed and reported in aggregate form for academic purposes only.

RESULTS AND DISCUSSION

Results

The results of data analysis show variations in students' Economics learning achievement across achievement categories. Based on the frequency distribution of students' scores, most Grade XI students were classified in the

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"Good" achievement category. The overall mean score was 76.4, which exceeded the Minimum Completeness Criteria (KKM) of 75, indicating that, in general, students achieved the minimum expected learning outcomes in Economics.

To provide a clearer overview of learning achievement, students' scores were classified into predetermined achievement categories. The distribution of frequencies and percentages for each category is presented in **Table 1.**

Table 1. Distribution of Students' Economics Learning Achievement

Achievement Category	Score Range	Frequency (F)	Percentage (%)
Very Good	>85	10	14.7
Good	70-84	43	63.2
Fair	55-69	10	14.7
Poor	<55	5	7.4
Total		68	100

Source: Processed research data, 2025.

As shown in **Table 1**, the majority of students (63.2%) achieved a "Good" level of learning achievement, while 14.7% reached a "Very Good" level. However, approximately 22.1% of students were classified in the "Fair" and "Poor" categories, indicating that a considerable proportion of students had not yet fully mastered the learning objectives, despite the overall average score exceeding the KKM.

Differences in learning achievement were also observed across vocational programs. Students from the Accounting program obtained higher average scores than students from the Office Management program (Direktorat Pembina SMK, 2018). A comparison of average Economics scores between the two programs is presented in **Table 2**.

Table 2. Average Economics Scores by Vocational Program

Vocational Program	Number of Students	Mean Score
Accounting	34	78.6
Office Management	34	74.2

Source: Processed research data, 2025.

Table 2 indicates that students from the Accounting program achieved higher average scores than those from the Office Management program. This pattern points to differences in learning achievement that may be related to variations in vocational background, particularly in topics requiring numerical reasoning and calculation skills.

Further analysis of topic mastery reveals that students generally performed better in theoretical Economics topics than in calculation-based materials. Diagnostic test results show lower achievement in topics such as national income and taxation, which require the application of formulas and numerical calculations. These results indicate that quantitative Economics materials remain a challenging area for many students (Uno. H. B., 2019).

Discussion

Students' learning achievement in Economics at SMKN 1 Berau can generally be categorized as "Good," as reflected by the average score exceeding the KKM. This indicates that the instructional process implemented during the semester supported students' basic understanding of Economics concepts. However, the presence of students who did not meet the KKM suggests the need for more focused instructional support.

Variations in achievement between vocational programs can be interpreted through the concept of learning transfer. Students in the Accounting program are more frequently exposed to numerical reasoning and structured problem-solving in their vocational subjects, which may support their understanding of quantitative Economics

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materials. In contrast, students from the Office Management program experienced greater difficulty with calculation-based topics.

Classroom observations and interviews with the Economics teacher indicate that students often encountered challenges in interpreting formulas and applying numerical concepts during problem-solving activities. These difficulties were more evident in calculation-based materials than in theoretical topics, suggesting that students were more accustomed to conceptual explanations than to numerical analysis.

These patterns are consistent with the learning context at SMKN 1 Berau, where students manage intensive vocational workloads. Such conditions may reduce concentration during adaptive subjects and limit students' engagement with complex numerical tasks.

CONCLUSION

Based on the results of the study, it can be concluded that the overall learning achievement of Grade XI students in Economics at SMKN 1 Berau is generally satisfactory. The average score exceeded the Minimum Completeness Criteria, indicating that most students achieved the expected learning outcomes. However, learning achievement was not evenly distributed, as a proportion of students were still categorized in the "Fair" and "Poor" achievement levels.

The analysis also shows differences in learning achievement across vocational programs. Students from the Accounting program achieved higher average scores than students from the Office Management program, suggesting that vocational background may influence students' ability to understand Economics materials, particularly those requiring numerical reasoning. Furthermore, students demonstrated better mastery of theoretical topics compared to calculation-based materials, indicating persistent challenges in quantitative problem-solving.

Overall, these findings highlight the importance of implementing Economics instruction that is more contextualized and aligned with vocational learning characteristics. Emphasizing practical examples and structured problem-solving activities may help improve students' understanding of calculation-based materials and reduce learning disparities in vocational high schools.

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