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The Effect of Learning Independence and Time Management on Students' Academic Achievement in Economics at MA Daarul Hikmah Pamulang

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Abstract

Penelitian ini bertujuan untuk menganalisis pengaruh kemandirian belajar dan manajemen waktu terhadap prestasi belajar Ekonomi siswa di MA Daarul Hikmah Pamulang. Penelitian dilatarbelakangi oleh rendahnya inisiatif siswa dalam membaca materi, menyelesaikan tugas, dan mengelola waktu belajar. Berdasarkan dokumentasi nilai ulangan harian, hanya 32,7% siswa mencapai ketuntasan belajar, sedangkan 67,25% belum memenuhi kriteria yang ditetapkan. Penelitian ini menggunakan pendekatan kuantitatif dengan metode asosiatif. Populasi penelitian berjumlah 113 siswa dengan sampel sebanyak 88 siswa. Analisis data meliputi uji prasyarat dan uji hipotesis menggunakan regresi linear sederhana dan berganda. Hasil penelitian menunjukkan bahwa kemandirian belajar berpengaruh signifikan terhadap prestasi belajar, dengan nilai F sebesar 58,509 dan signifikansi 0,000 < 0,05, serta kontribusi sebesar 40,5%. Manajemen waktu juga berpengaruh positif dan signifikan, dengan nilai F hitung sebesar 63,253 dan signifikansi 0,000 < 0,05, serta kontribusi sebesar 42,4%. Secara simultan, kedua variabel memberikan kontribusi sebesar 64,1%, dengan nilai R sebesar 0,800, R Square sebesar 0,641, dan Adjusted R Square sebesar 0,632. Sementara itu, 35,9% variasi prestasi belajar dipengaruhi oleh faktor lain di luar penelitian. Temuan ini menunjukkan pentingnya penguatan kemandirian belajar dan keterampilan manajemen waktu untuk meningkatkan prestasi belajar Ekonomi siswa.
Kata Kunci: Ekonomi; Kemandirian Belajar; Manajemen Waktu; Prestasi Belajar.

Abstract

This study aims to analyze the effect of learning independence and time management on students' academic achievement in Economics at MA Daarul Hikmah Pamulang. The study was motivated by students' lack of initiative in reading learning materials, completing assignments, and managing their study time. Based on daily test score records, only 32.7% of students achieved the required learning mastery standard, while 67.25% failed to meet the established criteria. This study employed a quantitative approach with an associative research method. The population consisted of 113 students, with a sample of 88 students. Data analysis involved prerequisite testing and hypothesis testing using simple and multiple linear regression analyses. The results showed that learning independence had a statistically significant effect on academic achievement, with an F-statistic of 58.509, a significance value of 0.000 < 0.05, and a contribution of 40.5%. Time management also had a positive and statistically significant effect, with an F-statistic of 63.253, a significance value of 0.000 < 0.05, and a contribution of 42.4%. Simultaneously, both variables accounted for 64.1% of the variation in Economics learning achievement, with an R value of 0.800, an

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R-squared value of 0.641, and an adjusted R-squared value of 0.632. The remaining 35.9% was attributable to other factors not examined in this study. These findings highlight the importance of strengthening learning independence and time management skills to improve students' academic achievement in Economics.

Keywords: Economics; Learning Independence; Time Management; Academic Achievement.

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INTRODUCTION

Academic achievement is an important indicator of students' learning outcomes and the extent to which educational objectives have been attained. It is commonly assessed through measurable indicators, such as examination scores, subject grades, and other evaluations of students' knowledge and skills (Costa et al., 2024; Steinmayr et al., 2014). Academic achievement is also a multidimensional outcome associated with personal characteristics, motivation, cognitive abilities, learning strategies, and contextual conditions (Costa et al., 2024). Therefore, differences in students' academic performance cannot be explained by a single factor alone. Previous research has emphasized the importance of examining both individual and environmental factors to obtain a more comprehensive understanding of students' educational outcomes (Costa et al., 2024; Ergen & Kanadlı, 2017).

In Economics education, students are expected not only to understand economic concepts and theories but also to analyze economic problems and apply their knowledge to real-life situations. Achieving these learning objectives requires appropriate instructional support, active student participation, and effective learning strategies. Research on academic achievement among secondary school students has identified motivation, self-regulation, cognitive abilities, study habits, family support, and school-related conditions as relevant factors associated with learning outcomes (Costa et al., 2024). In this context, learning independence and time management deserve particular attention because both concern how students take responsibility for their learning activities and organize their efforts to achieve academic goals (Panadero, 2017; Zimmerman, 2002).

Learning independence refers to students' capacity to take responsibility for their learning by initiating activities, setting learning goals, selecting appropriate strategies, using learning resources, and evaluating their progress with limited dependence on external guidance. This concept is related to, but not identical to, self-regulated learning. Zimmerman (2002) explains that self-regulated learners actively participate in regulating their thoughts, motivation, and behaviors to achieve learning goals. Similarly, Panadero (2017), in a review of six influential self-regulated learning models, explains how goal setting, strategic planning, monitoring, and self-evaluation contribute to the regulation of learning. These perspectives suggest that students' active involvement in planning and monitoring their learning may help them respond more effectively to academic demands (Panadero, 2017; Zimmerman, 2002).

The relationship between self-regulated learning and academic achievement has also been examined empirically. Ergen and Kanadlı (2017) conducted a meta-analysis of self-regulated learning strategies and academic achievement, providing evidence of the relevance of learning strategies to students' academic performance. In a more recent meta-analysis, Zhao et al. (2025) synthesized 42 studies from 37

articles involving 11,014 participants. Their results showed a statistically significant but small overall correlation between self-regulated learning strategies and academic performance in online and blended learning environments (r = .14). The authors also examined several learning strategies, including time management, effort regulation, organization of learning materials, and metacognitive strategies. These findings indicate that self-regulation is relevant to academic achievement, although its association with performance should not be overstated and may differ across learning contexts (Ergen & Kanadlı, 2017; Zhao et al., 2025).

Learning independence may be particularly relevant when students are expected to complete assignments, review learning materials, and prepare for assessments beyond classroom instruction. Students who take greater responsibility for learning may be more likely to identify what they need to understand, seek additional learning resources, and evaluate their own progress (Panadero, 2017; Zimmerman, 2002). Nevertheless, learning independence does not necessarily mean learning without teachers' guidance. Rather, it involves students' active participation and responsibility within a learning environment that can still provide appropriate instructional support (Panadero, 2017). Therefore, examining learning independence in relation to academic achievement may help clarify how students' learning behaviors are associated with their performance in Economics.

In addition to learning independence, time management is another factor that may be associated with academic achievement. Time management involves planning activities, establishing priorities, allocating time appropriately, and organizing tasks to meet academic and other responsibilities. Macan et al. (1990) examined college students' time-management behaviors in relation to academic performance and stress, establishing an important foundation for research on time management in educational settings. Claessens et al. (2007), in a review of the time-management literature, also discussed the conceptualization and measurement of time management and its relationship with work-related outcomes. From a self-regulated learning perspective, time management is connected to students' ability to organize learning activities, maintain progress toward goals, and make decisions about competing tasks (Panadero, 2017; Romero et al., 2022).

Effective time management may help students allocate sufficient time to reading, completing assignments, reviewing material, and preparing for examinations. It may also help them prioritize important tasks and reduce unnecessary interruptions. Trentepohl et al. (2022) examined time-management knowledge and practice in relation to students' time-management skills and academic performance, highlighting the importance of translating knowledge about time management into practical behavior. Their study supports the relevance of examining both what students know about time management and how they apply it in their daily activities. However, the relationship between time management and

achievement should be interpreted in the context of the particular student population and the way these variables are measured (Trentepohl et al., 2022).

Empirical findings also support further investigation of time management and academic achievement. Romero et al. (2024) investigated time management, fluid intelligence, and academic achievement among 120 university students using objective measures of time management and fluid intelligence. Their findings indicated positive relationships between time management and grades in mathematics, physics, and chemistry. In a study involving secondary school students in Palu, Indonesia, Pathuddin et al. (2025) examined time management and interest in learning mathematics in relation to academic achievement. The authors reported that time management and learning interest were significantly associated with achievement, both individually and jointly. Although the subject area and educational context differ from the present study, these findings provide relevant empirical support for investigating time management in relation to students' academic performance (Pathuddin et al., 2025; Romero et al., 2024).

More recently, Liu et al. (2026) conducted a systematic review and meta-analysis of 31 studies involving 13,506 college students. Their results indicated a statistically significant, moderately positive overall correlation between time management and learning outcomes ($r = .250$). However, the analysis also revealed substantial variation among the included studies, suggesting that the relationship may depend on educational level, measurement instruments, and other contextual characteristics. This finding reinforces the importance of investigating time management in specific educational settings rather than assuming that results from university students will apply equally to secondary school students (Liu et al., 2026). Taken together, these studies provide a rationale for examining time management alongside learning independence as potential correlates of academic achievement.

The relationship between learning independence and time management also warrants attention because the two constructs concern different but potentially complementary aspects of learning. Learning independence emphasizes students' responsibility and initiative in directing their learning, whereas time management focuses on how they organize and allocate time to learning activities. Self-regulated learning theory connects goal setting, strategic action, monitoring, and the management of learning resources within a broader process of achieving academic goals (Panadero, 2017; Zimmerman, 2002). Accordingly, students may demonstrate initiative in learning but still experience difficulty allocating sufficient time to academic tasks. Conversely, students may follow a schedule without consistently taking responsibility for the depth and quality of their learning. Examining both variables in one model may therefore provide a more comprehensive understanding of their statistical relationships with academic achievement.

Similar concerns regarding learning independence, time management, and academic achievement have been identified among students at MA Daarul Hikmah Pamulang. Preliminary information obtained through unstructured interviews with the Economics teacher and several students indicated that some students demonstrated limited initiative in reading learning materials and completing assignments. Difficulties in managing study time were also reported. These observations were accompanied by daily test records showing that 32.7% of students had achieved the required learning mastery standard, whereas 67.25% had not met the established criteria. The initial information provides a contextual basis for conducting the present study. However, these observations do not establish that learning independence or time management explains the reported academic outcomes. The relationship between the research variables and academic achievement must be examined through systematic empirical analysis.

Although previous research has examined self-regulated learning strategies and academic achievement (Ergen & Kanadlı, 2017; Zhao et al., 2025), as well as time management and academic performance (Macan et al., 1990; Pathuddin et al., 2025; Romero et al., 2024; Trentepohl et al., 2022), further investigation is warranted in the context of Islamic senior secondary education. In particular, findings from university students and online or blended learning environments may not fully represent the learning conditions of students studying Economics at an Islamic senior secondary school. The present study addresses this contextual need by examining learning independence and time management simultaneously among students at MA Daarul Hikmah Pamulang.

Accordingly, this study investigates the effects of learning independence and time management on students' academic achievement in Economics at MA Daarul Hikmah Pamulang. Specifically, it examines the individual relationships of learning independence and time management with academic achievement and the combined relationship of both variables with academic achievement. By providing empirical evidence from a specific secondary-school context, this study is expected to contribute to the literature on students' learning behaviors and academic performance. The findings may also inform efforts to encourage learning independence and improve time-management practices as part of supporting students' learning in Economics.

METHODS

This study employed a quantitative approach with an associative research design to examine the relationships between learning independence and time management and students' academic achievement in Economics at MA Daarul Hikmah Pamulang. The study involved two independent variables, namely learning independence (X1) and time management (X2), and one dependent variable, namely academic achievement in Economics (Y). A quantitative approach was

appropriate because the study examined relationships among variables using numerical data and statistical analysis (Creswell & Creswell, 2018).

The study population consisted of 113 students enrolled in Economics at MA Daarul Hikmah Pamulang. The sample size was determined using Slovin's formula with a 5% margin of error, resulting in 88 respondents. The sample was then proportionally distributed across three grade levels: 33 students from Grade X, 25 students from Grade XI in the Social Sciences track, and 30 students from Grade XII in the Social Sciences track. Proportional allocation was used to ensure that the sample represented the different grade-level groups in accordance with their respective population sizes (Creswell & Creswell, 2018).

Data were collected through observation, unstructured interviews, questionnaires, and documentation. The questionnaires were used to collect data on learning independence and time management, while documentation was used to obtain information on students' academic achievement in Economics. Learning independence was measured using several indicators, including learning initiative, motivation, learning goals, the use of learning resources, the ability to perceive difficulties as challenges, the application of learning strategies, and the evaluation of the learning process. These indicators are conceptually related to self-regulated learning, which emphasizes learners' active involvement in planning, monitoring, and evaluating their learning (Zimmerman, 2002). Meanwhile, time management was assessed through the indicators of prioritization, schedule preparation, distraction management, goal setting, and task delegation. These aspects are consistent with research examining time-management knowledge, practices, and students' academic performance (Trentepohl et al., 2022).

The quality of the research instruments was assessed through validity and reliability tests. A pilot test involving 34 respondents showed that 19 of the 24 questionnaire items met the validity criteria, while the remaining five items were considered invalid. The reliability test yielded a Cronbach's alpha coefficient of 0.884, indicating high internal consistency for the instrument. Instrument validity and reliability testing is important to evaluate whether questionnaire items adequately measure the intended constructs and whether the measurements demonstrate consistency (DeVellis & Thorpe, 2021).

The data analysis techniques included descriptive statistical analysis, regression assumption testing, and hypothesis testing. The assumption tests comprised normality, linearity, multicollinearity, heteroscedasticity, and autocorrelation tests, as appropriate to the characteristics of the regression models. Simple linear regression was employed to examine the relationship between each independent variable and academic achievement in Economics separately, whereas multiple linear regression was used to assess the combined relationship of learning independence and time management with academic achievement. Regression analysis provides a statistical framework for examining the relationships between an outcome variable and one or more explanatory variables (Field, 2018).

Statistical decisions were made at a significance level of 5% ($\alpha = 0.05$). In addition, the correlation coefficient (R) was used to assess the strength of the relationship between variables, while the coefficient of determination (R^2) was used to estimate the proportion of variation in academic achievement statistically explained by learning independence and time management in the regression model (Field, 2018).

RESULTS AND DISCUSSION

Descriptive Statistical Analysis

The descriptive statistical analysis was conducted on 88 students of MA Daarul Hikmah Pamulang. The results indicated that learning independence had an average score of 32.00 and a standard deviation of 7.297, with scores ranging from 13 to 53. Time management obtained a mean score of 23.55, with a standard deviation of 5.232 and a score range of 12–37. Meanwhile, academic achievement in Economics had a mean score of 75.30 and a standard deviation of 6.536, with the lowest score of 59 and the highest score of 91.

These descriptive findings illustrate the distribution of scores for each variable among the participating students. Nevertheless, determining whether the variables fall into low, moderate, or high categories requires predefined classification criteria. The observed score variations provide an initial overview of students' learning independence, time management, and academic achievement before further analysis is conducted to examine the relationships between these variables.

The Relationship Between Learning Independence and Academic Achievement

The simple linear regression results demonstrated a positive and statistically significant relationship between learning independence and students' academic achievement in Economics. The analysis yielded an F-statistic of 58.509, with a significance level of $p < 0.001$. The correlation coefficient (R) was 0.636, while the coefficient of determination (R^2) reached 0.405. This means that learning independence accounted for 40.5% of the variation in academic achievement, whereas the remaining 59.5% was related to factors beyond the scope of this regression model.

The resulting regression equation was ($Y = 57.057 + 0.570X_1$). The coefficient indicates that a one-point increase in the learning independence score was associated with a predicted increase of 0.570 points in academic achievement. Therefore, the findings support the hypothesis that learning independence is positively associated with students' achievement in Economics.

Learning independence reflects students' capacity to take responsibility for their own learning, establish learning objectives, select suitable strategies, and assess their progress. Students who actively manage their learning activities may be

better prepared to understand instructional materials, complete assignments, and respond to academic challenges.

This interpretation is consistent with Diseth (2026), who investigated academic self-regulation, teacher autonomy support, and academic achievement among upper secondary school students in Norway. The study reported positive relationships between identified regulation, perceived autonomy support, and grade point average. These findings emphasize the relevance of autonomous motivation and students' internal acceptance of learning goals to academic achievement.

In the context of Economics education at MA Daarul Hikmah Pamulang, learning independence can be fostered by encouraging students to study materials before classroom discussions, explore additional learning resources, complete assignments independently, and review their understanding of economic concepts. However, because the present study relies on regression analysis, the results indicate a statistically significant relationship rather than definitive evidence of causation.

The Relationship Between Time Management and Academic Achievement

The simple regression analysis also identified a positive and statistically significant relationship between time management and students' academic achievement in Economics. The analysis produced an F-statistic of 63.253, with $p < 0.001$. The correlation coefficient was 0.651, and the coefficient of determination was 0.424. Accordingly, time management explained 42.4% of the variation in academic achievement in the simple regression model, while the remaining 57.6% was associated with other factors not examined in that model.

The regression equation was ($Y = 56.149 + 0.813X_2$). This coefficient suggests that a one-point increase in the time management score was associated with a predicted increase of 0.813 points in academic achievement. The results therefore support the hypothesis that time management is positively associated with academic achievement in Economics.

Effective time management involves organizing study schedules, determining task priorities, minimizing distractions, setting clear objectives, and completing academic responsibilities within the available time. These practices may help students maintain regular study habits and prepare more systematically for examinations. In Economics lessons, for example, students can allocate specific periods to reviewing theoretical material, analyzing economic issues, completing exercises, and preparing for assessments.

Relevant evidence is provided by Trentepohl et al. (2022), whose study examined time-management knowledge and practices among university students. Their findings indicated that time-management interventions could improve students' time-management skills, with practice-oriented activities showing benefits beyond knowledge-based instruction alone. This suggests that applying

time-management strategies in everyday academic activities is an important complement to understanding the underlying principles

Additional evidence can be found in a study entitled The Effect of Time Management and Interest in Learning Mathematics: A Case Study of Senior High School Students in Palu Indonesia on Students' Learning Achievement. The research reported a significant contribution of time management to mathematics achievement among senior high school students in Palu. Although the study focused on a different subject, its findings offer a relevant comparison regarding the role of time management in secondary education.

Taken together, these findings underscore the relevance of time-management skills in students' academic activities. Teachers can support their development by establishing clear assignment deadlines, guiding students in preparing study schedules, and encouraging them to prioritize tasks according to urgency and difficulty.

The Combined Relationship of Learning Independence and Time Management with Academic Achievement

The multiple linear regression analysis revealed that learning independence and time management jointly had a statistically significant relationship with students' academic achievement in Economics. The calculated F-statistic was 75.784, with $p < 0.001$. The multiple correlation coefficient (R) reached 0.800, indicating a strong collective relationship between the two independent variables and academic achievement. The coefficient of determination (R^2) was 0.641, while the adjusted R^2 was 0.632.

These results indicate that the two independent variables collectively accounted for 64.1% of the variation in students' academic achievement. The remaining 35.9% was associated with factors not included in the model. Potential factors may include prior knowledge, learning motivation, teaching approaches, family support, and the learning environment, although these factors were not directly examined in this study.

The multiple regression equation was expressed as follows:

$$[Y = 46.391 + 0.436X_1 + 0.635X_2]$$

The regression coefficient for learning independence was 0.436, while the coefficient for time management was 0.635. When time management was held constant, a one-point increase in learning independence was associated with a predicted increase of 0.436 points in academic achievement. Similarly, when learning independence was held constant, a one-point increase in time management was associated with a predicted increase of 0.635 points.

The standardized coefficients were 0.487 for learning independence and 0.508 for time management. Within this model, time management had a slightly higher standardized coefficient. Nevertheless, this numerical difference alone is

insufficient to establish that time management has a statistically stronger effect than learning independence.

The findings suggest that learning independence and time management may support complementary aspects of students' learning processes. Learning independence enables students to determine their learning goals and take responsibility for achieving them, whereas time management helps them organize the activities required to reach those goals. Students may have strong motivation and clear objectives but experience difficulties if they cannot allocate their time effectively. Conversely, maintaining a study schedule may be less productive if students lack initiative and responsibility for their own learning.

This interpretation is consistent with the meta-analysis conducted by Zhao et al. (2025), which examined the relationship between self-regulated learning strategies and academic performance in online and blended learning environments. Based on 42 studies involving 11,014 students, the authors reported a statistically significant, although small, overall correlation between self-regulated learning strategies and academic performance. Although the learning environments differed from the setting of the present study, the findings provide broader evidence of the relevance of students' learning regulation to academic outcomes.

In practical terms, the findings suggest that efforts to improve Economics achievement at MA Daarul Hikmah Pamulang could incorporate both independent learning activities and time-management practices. Examples include setting individual learning targets, completing assignments independently, preparing weekly study plans, monitoring learning progress, and reflecting on the effectiveness of learning strategies.

CONCLUSION

Overall, the findings indicate that learning independence and time management are statistically significant predictors of academic achievement in Economics among students at MA Daarul Hikmah Pamulang. Each variable demonstrated a positive and statistically significant relationship with academic achievement in its respective simple regression analysis. When examined together, the two variables explained 64.1% of the variation in academic achievement.

These results highlight the importance of developing students' capacity to take responsibility for learning and organize their academic activities effectively. Such skills may be supported through clear learning objectives, opportunities for independent exploration, structured assignment schedules, and regular feedback on learning progress.

Several limitations should be considered when interpreting the results. The sample consisted of 88 students from a single school, which may limit the generalizability of the findings to other educational settings. Furthermore, the regression-based design does not establish a causal relationship between the variables. The coefficient of determination represents the proportion of observed variation explained by the statistical model, not the percentage of academic achievement directly caused by the independent variables. Future research could

involve students from multiple schools, examine additional relevant variables, or apply longitudinal and intervention-based designs to provide a more comprehensive understanding of the factors associated with academic achievement in Economics.

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