



Self-efficacy as a key psychological predictor of learning independence among students in an integrated Islamic elementary school

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ABSTRACT

As the foundation for lifelong learning, independent learning is an important psychological skill that must be developed from elementary school. The internal component of self-efficacy is crucial for enhancing independent learning. The purpose of this study was to investigate how self-efficacy influences elementary school students' ability to learn independently. A total of 87 fifth-grade students selected from the overall sample were included in a quantitative correlational design. Validated measures of independent learning and self-efficacy were used to collect data. Independent learning and self-efficacy were found to be significantly positively correlated based on Pearson correlation analysis ($r = 0.523$, $p < 0.01$). Simple linear regression analysis showed that self-efficacy explained 27.4% of the variation in independent learning ($R^2 = 0.274$). These findings indicate that students with higher self-efficacy tend to demonstrate greater ability to manage and regulate their learning independently. The study highlights the importance of strengthening self-efficacy as a psychological foundation for promoting learning independence from an early educational stage.

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INTRODUCTION

Learning independence has become an essential psychological competence in educational psychology, particularly within the framework of 21st-century education that emphasizes lifelong learning and self-regulated learning skills (Zimmerman & Schunk, 2024; Panadero & Broadbent, 2023). At the elementary school level, learning independence serves as an important foundation for the development of academic responsibility, self-regulation, and readiness to face increasingly complex learning demands at higher educational levels (OECD, 2023; Huang, 2023).

Empirical studies indicate that many elementary school students continue to demonstrate a high level of dependence on teachers and parents during the learning process. This dependence is reflected in difficulties managing study time, limited initiative in completing academic tasks, and low persistence when encountering learning challenges (Rahmawati & Setiawan, 2020; Yuliani et

al., 2020). These conditions suggest that learning independence has not yet developed optimally, despite students' cognitive capacity to manage basic learning behaviors (Garrison, 1997).

Previous research in educational psychology has shown that learning independence is influenced by both internal and external factors. External factors include instructional strategies, parental involvement, and classroom climate (Epstein, 2002; OECD, 2023), while internal psychological factors play a crucial role in shaping students' learning behaviors. Among these internal factors, self-efficacy has been consistently identified as a central determinant of students' motivation, persistence, and self-regulation in learning contexts (Bandura, 1997; Schunk & Greene, 2021).

Self-efficacy refers to individuals' beliefs in their ability to organize and execute actions required to achieve specific goals (Bandura, 1997). In educational settings, self-efficacy influences how students perceive academic tasks, set learning goals, persist when facing difficulties, and take responsibility for their learning processes (Usher & Weidner, 2022; Klassen & Tze, 2022). Self-efficacy has been shown to play a critical role in students' motivation, persistence, and self-regulated learning across educational levels (Cleary & Zimmerman, 2021; Usher et al., 2021; Talsma et al., 2021). Students with higher self-efficacy tend to demonstrate stronger engagement and greater autonomy in managing their learning activities (Jansen et al., 2023).

Although self-efficacy has been widely examined in educational research, most empirical studies have focused on secondary and higher education contexts. Research that explicitly positions self-efficacy as a key psychological predictor of learning independence among elementary school students remains relatively limited (Sari & Hidayat, 2021; Lauermaann & ten Hagen, 2024). Furthermore, studies on learning independence at the elementary level often prioritize external factors, while the contribution of internal psychological mechanisms has received comparatively less attention.

Another gap in the literature concerns studies conducted in integrated Islamic elementary schools, where academic learning is closely intertwined with character education and value formation. Such educational environments may create distinctive dynamics in the development of self-efficacy and learning independence, yet these contexts remain underrepresented in educational psychology research (OECD, 2023).

Based on these considerations, this study examines self-efficacy as a key psychological predictor of learning independence among elementary school students in an integrated Islamic school setting. The findings are expected to contribute theoretically to educational psychology literature and practically to the development of learning strategies that foster independent learning from an early age. Accordingly, the research hypothesis proposes that self-efficacy has a positive and significant effect on students' learning independence.

RESEARCH METHOD

A quantitative correlational design was used in this investigation. The dependent variable was learning independence, whereas the independent variable was self-efficacy. Using a complete sampling approach, 87 fifth-grade students from SDIT Humairoh Pekanbaru participated. This study was conducted at an Integrated Islamic Elementary School (Sekolah Dasar Islam Terpadu/SDIT) in Pekanbaru, Indonesia. The school implements a national curriculum integrated with Islamic values and character education, emphasizing structured teacher guidance, moral development, and students' responsibility for learning. Learning activities are generally teacher-guided while gradually encouraging students to develop independent learning habits. This educational setting provides a relevant context for examining the role of self-efficacy in fostering learning independence among elementary school students.

Two Likert-type psychological measures a learning independence scale and a self-efficacy scale were used to gather data. The self-efficacy scale was adapted from Bandura's (1997) academic

self-efficacy framework and consisted of 12 items measuring task completion confidence, persistence, and problem-solving efficacy. The learning independence scale was developed based on the concept of self-directed learning (Garrison, 1997; Zimmerman & Schunk, 2024) and consisted of 16 items measuring learning planning, time and strategy management, self-evaluation, and learning responsibility. All items were rated using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Both instruments demonstrated satisfactory internal consistency, with Cronbach's alpha coefficients of 0.874 for the self-efficacy scale and 0.882 for the learning independence scale. Prior to data analysis, a validity test was conducted to ensure that each item in the research instruments appropriately measured the intended constructs. Item validity was examined using item-total correlation analysis, in which each item score was correlated with the total score of its respective scale. Items with a correlation coefficient greater than 0.30 were considered valid and retained for further analysis. The results indicated that all items in both the self-efficacy and learning independence scales met the minimum validity criteria and were therefore suitable for use in this study. Once the normality and linearity criteria were satisfied, data analysis was carried out using SPSS utilizing Pearson correlation analysis and simple linear regression analysis.

RESULTS AND DISCUSSION

Before examining the relationship between variables, descriptive statistics were calculated to provide an overview of students' self-efficacy and learning independence. The results are presented in Table 1.

Table 1. Descriptive Statistics of Research Variables

Variable	N	Mean	SD	Min	Max
Self-Efficacy	87	42.36	6.18	28	58
Learning Independence	87	56.74	7.92	34	76

Table 1 presents the descriptive statistics of self-efficacy and learning independence among elementary school students. The mean score of self-efficacy ($M = 42.36$, $SD = 6.18$) indicates that students generally demonstrated a moderate to high level of confidence in managing their learning tasks. Similarly, the mean score of learning independence ($M = 56.74$, $SD = 7.92$) suggests that students showed a moderate level of independent learning behavior. The standard deviation values reflect reasonable variability among students, indicating differences in confidence and learning independence within the sample.

Following the descriptive statistics, Pearson correlation analysis was conducted to examine the relationship between self-efficacy and learning independence. The results are presented in Table 2.

Table 2. Pearson Correlation between Self-Efficacy and Learning Independence

Variables	r	Sig. (p)	Interpretation
Self-Efficacy - Learning Independence	0.523	0.000	Moderate positive correlation

The significant positive correlation between self-efficacy and learning independence ($r = 0.523$, $p < 0.01$) indicates that students who possess stronger beliefs in their learning capabilities tend to take greater responsibility for managing their learning activities. Substantively, this finding suggests that self-efficacy functions not only as a psychological belief but also as a practical foundation that enables elementary school students to plan, regulate, and evaluate their learning more independently. In classroom settings, students with higher self-efficacy are more likely to initiate learning tasks, persist when encountering difficulties, and rely less on external assistance, which supports the development of independent learning habits from an early age.

Simple linear regression analysis was performed to examine the predictive role of self-efficacy. The model summary is presented in Table 3.

Table 3. Model Summary of Simple Linear Regression

R	R ²	F	Sig.
0.523	0.274	31.57	0.000

The coefficient of determination ($R^2 = 0.274$) indicates that self-efficacy explains 27.4% of the variance in learning independence. Although other factors also contribute to learning independence, this proportion demonstrates that self-efficacy constitutes a meaningful internal psychological predictor.

The regression coefficients are presented in Table 4.

Table 4. Regression Coefficients

Predictor	B	Beta	Sig.
Self-Efficacy	0.684	0.523	0.000

These findings reinforce the theoretical position of self-efficacy as a central mechanism in the development of independent learning behaviors. In line with social cognitive theory, students with high self-efficacy are more likely to persist when facing academic challenges, regulate their learning strategies, and take responsibility for their learning processes. Recent studies have consistently emphasized that self-efficacy supports goal setting, persistence, and self-regulated learning (Schunk & Greene, 2021; Panadero & Broadbent, 2023; Usher & Weidner, 2022).

The magnitude of the relationship between self-efficacy and learning independence found in this study ($R^2 = 0.274$) is consistent with previous research in educational psychology, which generally reports moderate effect sizes for psychological predictors of learning behaviors. For example, Jansen et al. (2023) and Panadero and Broadbent (2023) reported similar contributions of self-efficacy to self-regulated and independent learning, ranging from approximately 20% to 35%, depending on educational level and learning setting. However, several studies conducted at secondary and higher education levels have reported higher explanatory power of self-efficacy (Schunk & Greene, 2021; Zimmerman & Schunk, 2024), suggesting that the predictive strength of self-efficacy may vary across developmental stages.

The relatively moderate R^2 value observed in the present study may be attributed to developmental factors, as elementary school students are still in the early stages of developing self-regulation and autonomous learning skills. At this level, learning independence is not yet predominantly driven by internal psychological factors alone, but remains strongly influenced by external elements such as teacher guidance, parental involvement, classroom structure, and school climate (OECD, 2023; Rahmawati & Setiawan, 2020). Previous studies also highlight the role of instructional support and teacher guidance in fostering self-regulated and independent learning, particularly at the elementary level (de Smul et al., 2022; Mega et al., 2022). In addition, learning independence represents a multidimensional construct that cannot be fully explained by a single psychological variable. Although self-efficacy plays an important role in shaping students' confidence, persistence, and engagement, other internal and contextual variables – such as learning motivation, emotional regulation, instructional practices, and peer support – also contribute to the development of independent learning behaviors.

Within the educational environment of an integrated Islamic elementary school, the emphasis on character education, structured teacher support, and value-based instruction may further moderate the relationship between self-efficacy and learning independence. Such learning environments tend to prioritize guided learning and moral development, which may strengthen external regulation and reduce the proportion of variance explained solely by individual psychological factors. Therefore, an R^2 value of 27.4% should be interpreted as a meaningful yet partial contribution of self-efficacy, which is theoretically reasonable in the context of elementary education.

Previous studies conducted in non-religious or general elementary school settings have also reported a significant relationship between self-efficacy and learning independence, although the magnitude of the relationship may vary depending on instructional practices and school culture (Jansen et al., 2023; Panadero & Broadbent, 2023). In non-religious schools, learning independence is often fostered through student-centered learning approaches and autonomy-supportive teaching strategies. In contrast, integrated Islamic elementary schools tend to emphasize structured guidance and character education, which may shape students' learning independence differently. Despite these contextual differences, the present findings suggest that self-efficacy remains a consistent psychological predictor of learning independence across both religious and non-religious school settings.

The findings of this study should also be interpreted within the Indonesian cultural context, which is characterized by collectivist values, respect for authority, and strong teacher-student relationships. In such a cultural environment, students' learning behaviors are often influenced by social expectations, parental involvement, and teacher guidance. As a result, learning independence among Indonesian elementary school students may develop alongside, rather than in opposition to, external support. This cultural characteristic may help explain why self-efficacy accounts for a moderate proportion of variance in learning independence, as students' autonomy is shaped by both internal beliefs and sociocultural factors.

This study has several limitations. The sample was drawn from a single educational institution, which limits the generalizability of the findings. Additionally, other relevant variables—such as parental involvement, teacher characteristics, peer influence, and classroom climate—were not examined simultaneously. Future research is encouraged to involve broader and more diverse samples across different school types and educational levels, as well as to incorporate additional psychological and contextual variables. Employing more advanced analytical approaches, including mediation or moderation models, may provide a more comprehensive understanding of the factors influencing learning independence among elementary school students.

CONCLUSION

This study demonstrates that self-efficacy is a significant psychological predictor of learning independence among students in an integrated Islamic elementary school. Students who possess stronger beliefs in their learning capabilities tend to show greater responsibility, persistence, and autonomy in managing their learning activities. The findings of this study contribute to the field of educational psychology by extending empirical evidence on the role of self-efficacy in fostering learning independence at the elementary school level. Specifically, this study enriches the literature by highlighting the relevance of self-efficacy within the context of integrated Islamic education, a setting that has received limited attention in previous research. The results confirm that self-efficacy functions as a consistent psychological foundation for independent learning across different educational contexts. From a practical perspective, the findings imply that efforts to enhance learning independence among elementary school students should prioritize the development of self-efficacy. Teachers are encouraged to design learning activities that provide mastery experiences, constructive feedback, and gradual opportunities for autonomy. Schools, particularly integrated Islamic elementary schools, may integrate self-efficacy enhancement strategies within character education programs to support students' independent learning development. Future research is encouraged to involve larger and more diverse samples across different types of schools, including non-religious educational settings, to improve the generalizability of the findings. Further studies may also examine additional psychological and contextual variables—such as learning motivation, emotional regulation, peer support, parental

involvement, and instructional practices—to provide a more comprehensive understanding of learning independence. Employing more advanced analytical approaches, such as mediation or moderation models, is recommended to explore the mechanisms underlying the development of learning independence among elementary school students.

SUGGESTIONS

In elementary education, teachers play a crucial role in fostering learning independence by designing learning activities that provide mastery experiences and gradual autonomy. Creating supportive learning environments that reinforce students' self-efficacy through constructive feedback and opportunities for independent decision-making is therefore essential. Building on these general recommendations, more structured self-efficacy-based intervention strategies are outlined below. Based on the findings of this study, it is recommended that schools and teachers implement a self-efficacy-based intervention model to strengthen students' learning independence. Such interventions should focus on enhancing students' beliefs in their learning capabilities through systematic and developmentally appropriate classroom practices. In classroom implementation, teachers may design learning activities that provide mastery experiences, such as breaking learning tasks into manageable steps, allowing students to experience repeated success, and gradually increasing task difficulty. These experiences help students build confidence in their ability to complete academic tasks independently. Teachers are also encouraged to apply verbal persuasion strategies, including providing positive and specific feedback, encouraging effort rather than outcomes, and reinforcing students' belief that they are capable of overcoming learning challenges. Additionally, opportunities for vicarious experiences, such as peer modeling and collaborative learning, may be incorporated to allow students to observe successful learning strategies demonstrated by their peers. Schools may integrate these self-efficacy-enhancing practices into daily instructional routines and character education programs to foster independent learning habits among elementary school students. Future intervention-based studies are recommended to evaluate the effectiveness of structured self-efficacy programs in improving learning independence across different school contexts.

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