

THE ROLE OF SELF-EFFICACY IN THE EFFECTS OF CREATIVITY, COMMUNICATION, AND LEARNING INDEPENDENCE ON ECONOMICS LEARNING READINESS

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ABSTRACT

This study addresses the limited evidence on how creativity, communication, and learning independence jointly shape economics learning readiness and whether self-efficacy transmits these effects in secondary education. Grounded in Social Cognitive Theory and self-regulated learning theory, the study tested an integrated model among grade XI students at SMA Negeri 3 Bungo. A quantitative explanatory survey involved all 150 students through total sampling. Data were collected using a structured four-point Likert questionnaire and analyzed with Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS 4.0. The refined measurement model met convergent validity and reliability requirements, with Average Variance Extracted values above 0.50 and Cronbach's alpha values above 0.70. The model explained 76.3% of the variance in economics learning readiness and demonstrated predictive relevance. Communication and self-efficacy had positive and significant direct effects, whereas creativity and learning independence had no significant direct effects. The indirect effects through self-efficacy were significant for creativity and communication but not for learning independence. The novelty of this study lies in comparing direct and indirect pathways within an Indonesian secondary economics context, showing that self-efficacy is not a uniform mechanism for all learner attributes. Theoretically, the findings extend Social Cognitive Theory by demonstrating that social interaction and creative resources contribute to readiness when reinforced by efficacy beliefs. Practically, teachers should combine structured discussion, constructive feedback, mastery experiences, and scaffolded autonomous tasks to improve students' readiness to learn economics.

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INTRODUCTION

Learning readiness refers to the physical, cognitive, emotional, motivational, and resource conditions that enable students to engage effectively with instructional tasks. In economics, readiness is particularly important because students must understand abstract concepts such as demand, supply, inflation, market behavior, and development while relating them to everyday economic decisions. Indonesian studies show that readiness and motivation are closely linked to learning achievement, participation, and confidence in student-centered learning (Nurchayani et al., 2025; Septiawati & Trisnawati, 2023; Wahyuningsih et al., 2022). Meta-analytic evidence further shows that achievement emotions are systematically associated with academic performance, reinforcing the emotional dimension of readiness (Camacho-Morles et al., 2021). Economics and financial education also become more meaningful when students can connect conceptual knowledge with real decisions and downstream behavior (Kaiser et al., 2022).

Creativity, communication, and learning independence are frequently identified as resources for twenty-first-century learning. Creativity enables students to generate alternative explanations and solutions, communication enables them to ask questions, exchange feedback, and clarify misconceptions, and learning independence enables them to plan, monitor, and evaluate their learning. Evidence from Indonesian economics classrooms indicates that problem-based learning can develop communication and collaboration, although students may still display only moderate levels of these skills (Putri et al., 2023). Creative thinking is also associated with self-efficacy in online and module-assisted learning (Sukestiyarno et al., 2021), while self-directed learning develops more effectively when students receive supportive learning environments and appropriate scaffolding (Mirzawati et al., 2020; Prayogi & Prihatin, 2024).

The proposed model is grounded primarily in Bandura's Social Cognitive Theory, which explains learning through the reciprocal interaction of personal beliefs, behavior, and environmental conditions (Bandura, 1986). Within this framework, self-efficacy is a central personal belief that influences effort, persistence, emotional regulation, and the interpretation of feedback. Communication provides social persuasion, modeling, and feedback, whereas successful creative problem solving can provide mastery experiences that strengthen efficacy beliefs. Self-regulated learning theory further explains how learners set goals, select strategies, monitor progress, and adapt their behavior (Zimmerman, 2000; Theobald, 2021). Constructivist learning principles complement these theories by emphasizing that knowledge is developed through active inquiry, dialogue, and interaction rather than passive reception (Baber, 2021; Rapanta et al., 2021).

Despite extensive research on creativity, communication, learning independence, and self-efficacy, three gaps remain. First, these variables are commonly examined separately or in relation to achievement rather than learning readiness. Second, much of the recent evidence comes from university, online, or pandemic-related settings, leaving secondary economics classrooms underexplored. Third, prior studies have not consistently clarified whether self-efficacy functions as a mechanism through which different learner attributes become readiness. This gap is important because self-efficacy may strengthen some pathways but not others; for example, confidence may help students express creative ideas and communicate, whereas independent learning may still depend on routines, teacher scaffolding, and access to resources (Hamidy et al., 2023; Hartelt & Martens, 2024; Howard et al., 2021).

Preliminary observation at SMA Negeri 3 Bungo indicated uneven readiness among grade XI students: some students were passive in discussion, hesitant when presenting, dependent on teacher explanations, and inconsistently prepared before class. The novelty of this study is the integration of creativity, communication, and learning independence in a single PLS-SEM model that distinguishes their direct effects from their indirect effects through self-efficacy in an Indonesian secondary economics context. Accordingly, the study tests seven relationships: the direct effects of creativity, communication, learning independence, and self-efficacy on economics learning readiness, and the indirect effects of creativity, communication, and learning independence through self-efficacy. This design positions self-efficacy as a mediator rather than a moderator.

METHOD

This study employed a quantitative explanatory survey design to test the proposed relationships among measurable constructs. The population comprised 150 grade XI social science/economics students at SMA Negeri 3 Bungo in the

2025/2026 academic year. Because the population was accessible and limited, total sampling was used and all 150 students were invited to participate. Primary data were obtained from questionnaire responses, and supporting information was obtained from school documentation.

The questionnaire used a four-point Likert scale ranging from strongly disagree to strongly agree. The constructs were creativity (X1), communication (X2), learning independence (X3), self-efficacy (Z), and economics learning readiness (Y). The operational indicators and initial number of items are presented in Table 1. The instrument was administered using standardized instructions, and responses were screened for completeness before analysis.

Ethical authorization was obtained through formal permission from SMA Negeri 3 Bungo before data collection. Each respondent received an explanation of the study purpose, procedures, voluntary nature of participation, confidentiality safeguards, and the right to withdraw without academic consequences. Participation proceeded only after respondents provided written informed assent or consent, as applicable. No separate university research-ethics approval number was issued; accordingly, the ethical basis reported in this study consists of school authorization and respondents' documented voluntary agreement. To reduce common method bias, the questionnaire used anonymous responses, neutral wording, standardized instructions, and separate sections for the constructs. A statistical full-collinearity VIF assessment was then conducted using the latent-construct correlation matrix from the SmartPLS results (Kock, 2015).

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0. The measurement model was evaluated using outer loadings, Average Variance Extracted (AVE), composite reliability, and Cronbach's alpha. The structural model was evaluated using R-square, Q-square, path coefficients, t-statistics, and p-values obtained through bootstrapping. A relationship was considered significant when $t > 1.96$ and $p < 0.05$ (Sarstedt et al., 2022). The model specified creativity, communication, and learning independence as exogenous variables, self-efficacy as a mediator, and economics learning readiness as the endogenous outcome. Direct and specific indirect effects were estimated as illustrated in Figure 1.

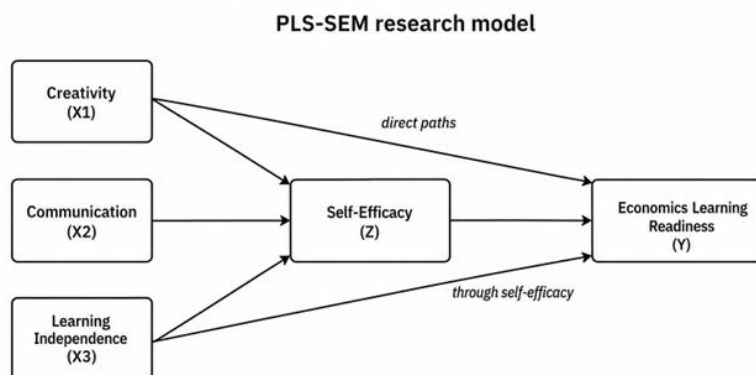


Figure 1. Proposed Mediation Model of Self-Efficacy, Creativity, Communication, Learning Independence, and Economics Learning Readiness

Table 1. Operationalization of Research Variables

Variable	Main indicators	Items	Scale
Creativity (X1)	Fluency, flexibility, originality, elaboration, and sensitivity	12	Likert
Communication (X2)	Who, says what, channel, to whom, and effect	15	Likert
Learning independence (X3)	Technical skill, interpersonal skill, and problem-solving skill	12	Likert

Variable	Main indicators	Items	Scale
Self-efficacy (Z)	Self-confidence, problem-solving ability, and control over learning	12	Likert
Learning readiness (Y)	Physical condition, psychological stability, motivation, prerequisite knowledge, and learning facilities	15	Likert

RESULT AND DISCUSSION

Result

Measurement Model

The measurement model was assessed before the structural relationships were interpreted. Several indicators with insufficient outer loadings were removed iteratively until the fourth refinement stage. The retained indicators met the convergent validity criterion. AVE values ranged from 0.602 to 0.742, exceeding 0.50, while composite reliability and Cronbach's alpha values were above 0.70. As summarized in Table 2, all constructs were therefore considered reliable and suitable for structural analysis.

Table 2. Validity and Reliability Summary

Construct	AVE	Composite reliability	Cronbach's alpha	Decision
Creativity (X1)	0.602	0.913	0.890	Valid and reliable
Communication (X2)	0.605	0.958	0.953	Valid and reliable
Learning independence (X3)	0.742	0.888	0.828	Valid and reliable
Self-efficacy (Z)	0.653	0.957	0.949	Valid and reliable
Learning readiness (Y)	0.662	0.937	0.924	Valid and reliable

Source: Processed SmartPLS data (2026)

Common method bias assessment. Full-collinearity VIF values calculated from the latent-construct correlation matrix were 1.563 for learning independence, 4.210 for learning readiness, 4.791 for communication, 3.898 for creativity, and 3.900 for self-efficacy. The values ranged from 1.563 to 4.791. All were below the general collinearity threshold of 5.0, indicating that critical multicollinearity was not present. Nevertheless, four constructs exceeded the conservative 3.3 criterion proposed for full-collinearity common-method diagnostics; therefore, common method bias cannot be completely ruled out and the structural estimates should be interpreted cautiously (Kock, 2015).

Structural Model and Hypothesis Testing

The structural model produced an R^2 value of 0.405 for self-efficacy, indicating that creativity, communication, and learning independence explained 40.5% of its variance. The R^2 value for economics learning readiness was 0.763, meaning that the model explained 76.3% of the variance in the outcome. The Q^2 value of 0.6507 was greater than zero, confirming predictive relevance. The explanatory and predictive statistics are presented in Table 3.

Table 3. Structural Model Summary

Endogenous construct	R^2 / Q^2	Interpretation
Self-efficacy	0.405	Moderate explanatory power
Economics learning readiness	0.763	Substantial explanatory power
Predictive relevance	0.6507	Relevant prediction because $Q\text{-square} > 0$

Source: Processed SmartPLS data (2026)

Table 4. Hypothesis Testing Results

Relationship	β	t	p	Decision
Creativity -> learning readiness	-0.077	0.974	0.330	Not supported
Communication -> learning readiness	0.716	7.962	<0.001	Supported
Learning independence -> learning readiness	0.025	0.392	0.695	Not supported
Self-efficacy -> learning readiness	0.726	13.398	<0.001	Supported
Creativity -> self-efficacy -> learning readiness	0.293	3.939	<0.001	Supported
Communication -> self-efficacy -> learning readiness	0.179	2.553	0.011	Supported
Learning independence -> self-efficacy -> learning readiness	0.017	0.335	0.738	Not supported

Note. A relationship is significant when $t > 1.96$ and $p < 0.05$.

Source: Processed SmartPLS data (2026).

Table 4 shows that communication ($\beta = 0.716$, $t = 7.962$, $p < 0.001$) and self-efficacy ($\beta = 0.726$, $t = 13.398$, $p < 0.001$) had positive and significant direct effects on economics learning readiness. Creativity ($\beta = -0.077$, $p = 0.330$) and learning independence ($\beta = 0.025$, $p = 0.695$) did not have significant direct effects. The specific indirect effects through self-efficacy were significant for creativity ($\beta = 0.293$, $t = 3.939$, $p < 0.001$) and communication ($\beta = 0.179$, $t = 2.553$, $p = 0.011$), but not for learning independence ($\beta = 0.017$, $p = 0.738$).

Discussion

Creativity did not have a significant direct effect on economics learning readiness. This result suggests that the ability to generate original or flexible ideas does not automatically produce preparation, persistence, emotional stability, or task organization. The finding differs from studies reporting positive associations between creative learning activities and engagement or motivation (Li et al., 2024; Sukestiyarno et al., 2021). A plausible contextual explanation is that students in a relatively teacher-directed environment may possess creative potential but have few opportunities to convert it into preparatory behavior. Creativity may therefore require structured tasks, mastery experiences, and confidence before it contributes to readiness.

Communication had a strong positive effect on learning readiness. Social Cognitive Theory explains this pattern because classroom dialogue provides modeling, social persuasion, corrective feedback, and cues for regulating behavior. Through communication, students can clarify instructions, compare interpretations, reduce uncertainty, and receive encouragement from teachers and peers. This interpretation is consistent with evidence that interaction and teacher presence strengthen participation and cognitive engagement (Baber, 2021; Rapanta et al., 2021; Shi et al., 2021) and with Indonesian findings that problem-based economics learning supports communication and collaboration (Putri et al., 2023).

Learning independence had a positive but insignificant direct effect. Self-regulated learning theory does not assume that autonomy emerges merely because students are asked to work independently; students must learn to set goals, choose strategies, monitor progress, and seek help. Grade XI students may still rely on teacher routines and external structure, so independent behavior may not yet be sufficiently stable to predict readiness. This interpretation aligns with studies showing that self-directed learning develops through supportive environments, digital resources, scaffolding, and sustained practice (Mirzawati et al., 2020; Prayogi & Prihatin, 2024; Theobald, 2021; Zhao et al., 2021).

Self-efficacy had a positive and significant effect on learning readiness. According to Social Cognitive Theory, students who believe they can complete academic tasks invest greater effort, persist when difficulties arise, manage anxiety more effectively, and interpret feedback as information for improvement rather than as evidence of failure (Bandura, 1986; Zimmerman, 2000). The result is consistent with Indonesian evidence linking self-efficacy to learning motivation and readiness (Isjoni et al., 2025; Kurniawati et al., 2022) and with research showing that metacognitive instruction can strengthen efficacy beliefs and reduce cognitive load (Hartelt & Martens, 2024).

The indirect-effect pattern provides a more specific explanation of the role of self-efficacy. Creativity showed an indirect-only effect: creative resources became relevant to readiness when they strengthened students' confidence to apply ideas. Communication showed complementary partial mediation because it affected readiness both directly and through self-efficacy; dialogue not only provides information but also builds confidence. Learning independence showed no significant indirect effect, indicating that autonomy alone may not generate efficacy beliefs without explicit strategy instruction, feedback, and successful practice. Thus, self-efficacy is a selective mediator rather than a universal mechanism across all learner attributes. This finding clarifies why the present model should be interpreted as mediation, not moderation.

CONCLUSION

Economics learning readiness in this sample was driven most clearly by communication and self-efficacy. Creativity did not directly predict readiness but contributed through self-efficacy, whereas communication operated through both direct and indirect pathways. Learning independence did not show a significant direct or indirect effect, indicating that autonomy requires stronger scaffolding before it becomes a stable readiness resource. The study therefore concludes that self-efficacy is a selective mediator that helps convert creative and communicative resources into readiness. Improving economics learning readiness requires classrooms that combine dialogue, feedback, mastery experiences, structured problem solving, and gradual development of self-regulated learning routines.

Theoretically, the findings refine Social Cognitive Theory in the context of economics learning readiness by showing that personal, behavioral, and social resources do not operate identically. Communication contributes through both a direct social-interaction pathway and an efficacy-building pathway, whereas creativity contributes primarily through efficacy beliefs. The results also qualify self-regulated learning theory: learning independence may remain weak when students have not yet internalized planning, monitoring, and help-seeking strategies. The integrated model therefore adds evidence that self-efficacy is a differentiated psychological mechanism rather than a general explanation for every predictor.

This study has several limitations. The respondents came from one school, which limits generalization to other regions, school types, and socioeconomic contexts. The cross-sectional design does not establish temporal or causal ordering, and all variables were measured through self-report. The full-collinearity assessment ranged from 1.563 to 4.791 and exceeded the conservative 3.3 criterion for four constructs, so common method bias and social-desirability effects cannot be completely excluded. The removal of low-loading indicators may also narrow construct coverage, while the model did not include teacher support, achievement emotions, prior achievement, family context, or access to learning resources.

Future studies should involve multiple schools and regions, use longitudinal or experimental designs, and combine student questionnaires with teacher ratings, classroom observations, or achievement records. Item-level Harman tests, marker-variable procedures, or directly exported full-collinearity diagnostics should be used to provide stronger evidence regarding common method bias. Researchers should also replicate the mediation model, compare it with an interaction-based moderation model, and examine whether teacher support, classroom climate, digital competence, prior achievement, or socioeconomic conditions alter the observed relationships.

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