

THE CORRELATION BETWEEN ACADEMIC SELF-EFFICACY AND STUDENTS' HIGHER-ORDER THINKING SKILLS IN READING COMPREHENSION AT UNIVERSITAS LANCANG KUNING

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ABSTRACT

In contemporary English as a Foreign Language (EFL) education, students are required not only to understand texts linguistically but also to demonstrate higher-order thinking skills (HOTS) such as analyzing, evaluating, and synthesizing information. Alongside cognitive competence, psychological factors particularly academic self-efficacy play a critical role in shaping students' learning engagement and academic performance. However, empirical studies investigating the relationship between academic self-efficacy and HOTS in EFL reading contexts remain limited, especially in Indonesian higher education settings. This study aims to examine the correlation between academic self-efficacy and students' higher-order thinking skills in reading comprehension. A quantitative correlational design was employed involving 91 students from the English Education Study Program at Universitas Lancang Kuning. Data were collected through validated questionnaires measuring academic self-efficacy and HOTS and analyzed using Pearson Product Moment correlation via SPSS version 26. The findings revealed a strong positive correlation between academic self-efficacy and HOTS ($r = 0.716$, $p < .001$). The coefficient of determination ($R^2 = 0.513$) indicates that academic self-efficacy contributes 51.3% to students' higher-order thinking skills. These findings suggest that students' beliefs in their academic capabilities significantly influence their cognitive performance in reading comprehension. The study highlights the importance of integrating motivational and cognitive instructional strategies to enhance critical literacy in EFL contexts.

Keywords : Academic Self-Efficacy, Higher Order Thinking Skills, Reading Comprehension, Correlational Study

1. INTRODUCTION

In the context of 21st-century education, university students are expected not only to acquire linguistic knowledge but also to develop complex cognitive abilities that enable them to engage critically with academic information. Among these abilities, Higher Order Thinking Skills (HOTS) have become a central component of modern learning because they allow students to analyze, evaluate, and create knowledge based on information obtained from various sources (Anderson & Krathwohl, 2001). Within English as a Foreign Language (EFL) learning, these skills are particularly important in reading comprehension, where students must interpret ideas, evaluate arguments, and synthesize meaning from written texts rather than merely identifying literal information. As global academic communication increasingly requires critical literacy, the integration of higher-order thinking into reading instruction has become a fundamental goal of language education (Ghanizadeh & Etemadfar, 2024).

Reading comprehension itself is widely recognized as a complex cognitive process involving the interaction between linguistic knowledge, cognitive strategies, and readers' background knowledge. According to Grabe and Stoller (2021), effective reading requires readers to construct meaning actively by integrating textual information with prior knowledge and critical reasoning. This process becomes even more challenging in EFL contexts, where students must simultaneously deal with linguistic limitations and cognitive demands. Consequently, students are expected to apply higher-level cognitive processes such as analyzing relationships between ideas, evaluating the credibility of information, and creating new interpretations of texts. These processes correspond to the higher levels of Bloom's Revised Taxonomy analyzing, evaluating, and creating which together form the core components of HOTS (Anderson & Krathwohl, 2001).

Despite the importance of HOTS in reading comprehension, many EFL learners still experience difficulties in applying these cognitive processes during reading activities. Several studies have reported that students often rely on surface-level comprehension strategies such as identifying main ideas or translating vocabulary, while deeper analytical and evaluative processes remain underdeveloped (Rahimi & Katal, 2023). As a result, students may understand the explicit meaning of a text but struggle to interpret implicit messages, critique arguments, or synthesize information. This issue highlights the need to explore not only cognitive factors but also psychological aspects that may influence students' engagement in higher-order thinking processes.

One psychological factor that has been widely recognized as influencing students' learning behavior is academic self-efficacy. Academic self-efficacy refers to an individual's belief in their ability to organize and successfully complete academic tasks (Bandura, 1997).

According to social cognitive theory, students who possess strong self-efficacy tend to demonstrate higher levels of motivation, persistence, and strategic effort when facing challenging learning situations (Schunk & DiBenedetto, 2020). In reading contexts, this belief affects how students approach complex texts, regulate their comprehension strategies, and persist in understanding difficult material. Students with high academic self-efficacy are more likely to attempt challenging reading tasks and apply critical thinking strategies, while those with low self-efficacy may avoid complex texts and rely on minimal comprehension strategies.

Previous empirical studies have demonstrated that self-efficacy plays an important role in students' academic performance, particularly in reading comprehension. Tarigan, Hasibuan, Damanik, and Tambunan (2025) found a strong positive relationship between reading self-efficacy and students' reading achievement among Indonesian EFL learners. Similarly, Shaona (2025) reported that students with higher self-efficacy showed greater persistence and deeper analytical engagement when working with academic texts. These findings suggest that students' confidence in their learning abilities may influence how actively they engage in higher-order thinking processes during reading.

In addition to psychological factors, cognitive abilities such as HOTS also contribute significantly to students' reading comprehension. Research conducted by Yuliasih (2023) revealed that students with stronger critical thinking abilities tend to achieve better reading comprehension outcomes. Likewise, Akbar (2025) demonstrated that the implementation of HOTS-based reading tasks significantly improved students' analytical and evaluative reading performance. These findings indicate that the development of higher-order thinking skills is closely associated with deeper comprehension and critical engagement with texts.

However, despite the growing body of research on self-efficacy and HOTS, several limitations remain in the existing literature. First, many previous studies tend to examine these variables separately, focusing either on the influence of self-efficacy on reading achievement or on the role of HOTS in comprehension development. As a result, the relationship between students' psychological beliefs and their higher-order cognitive abilities has not been sufficiently explored. Second, most previous research has been conducted in secondary school settings, leaving limited empirical evidence regarding how these variables interact among university students. Third, research examining the relationship between academic self-efficacy and HOTS within Indonesian EFL higher education contexts remains relatively scarce.

Another limitation lies in the methodological approach of many prior studies, which often emphasize instructional interventions or experimental designs rather than examining the natural relationship between psychological and cognitive variables. Consequently, there is still a need for correlational studies that investigate how students' beliefs about their academic

abilities relate to their engagement in higher-order thinking processes, particularly in authentic university learning environments.

Considering these gaps, the present study aims to investigate the relationship between academic self-efficacy and students' Higher Order Thinking Skills in reading comprehension among English Education students at Universitas Lancang Kuning. This study is expected to provide empirical evidence on how students' confidence in their academic abilities relates to their cognitive engagement when processing English texts.

The novelty of this research lies in its integrative perspective that simultaneously examines psychological and cognitive constructs within the context of EFL reading comprehension. While previous studies have explored self-efficacy or HOTS individually, this research focuses on the correlation between these two variables at the tertiary education level in Indonesia. By doing so, the study seeks to contribute to a more comprehensive understanding of how students' beliefs about their learning capabilities interact with their higher-order cognitive skills during reading activities.

Furthermore, the findings of this research are expected to provide both theoretical and practical contributions to the field of English language education. Theoretically, the study may enrich the existing literature on the interaction between motivational and cognitive factors in language learning. Practically, the results may offer insights for lecturers and educators in designing reading instruction that not only develops students' cognitive abilities but also strengthens their academic self-confidence. Such an approach is essential for fostering independent, critical, and reflective readers in higher education.

Based on the background and research gaps described above, the objective of this study is to examine whether there is a significant correlation between academic self-efficacy and students' Higher Order Thinking Skills (HOTS) in reading comprehension among English Education students at Universitas Lancang Kuning.

2. METHOD

This study employed a quantitative correlational research design to investigate the relationship between academic self-efficacy and students' Higher Order Thinking Skills (HOTS) in reading comprehension. A correlational approach was selected because the purpose of the study was not to manipulate variables but to examine whether a relationship existed between the two constructs. Through this design, the researcher was able to measure the degree and direction of the association between students' beliefs about their academic abilities and their higher-order cognitive engagement when dealing with reading tasks.

The research was conducted at Universitas Lancang Kuning, specifically within the English Education Study Program, Faculty of Education and Vocational Studies. The university

setting was considered appropriate because students in this program regularly engage in reading courses that require analytical and critical interpretation of English texts. The data collection process took place during the odd semester of the 2025/2026 academic year, when students had already completed several reading-related courses. At this stage of their study, students were expected to demonstrate both their confidence in handling academic reading tasks and their ability to apply higher-order thinking skills in interpreting texts. Conducting the research in this academic environment allowed the researcher to obtain authentic responses that reflect students' actual learning experiences and perceptions.

The population of the study consisted of all regular students enrolled in reading courses within the English Education Study Program during the 2025/2026 academic year. These students represented different academic levels in which reading comprehension and critical thinking are actively developed through coursework and assignments. The total population consisted of 118 students distributed across three levels of reading courses. Since it was not practical to involve the entire population, a sample was determined using Slovin's formula with a 5% margin of error. This sampling technique is commonly applied in quantitative survey research to determine a representative sample size when the population is known. Based on this calculation, the minimum sample required for the study was 91 students, which was considered sufficient to represent the population and provide reliable data for statistical analysis.

The research focused on two main variables. The first variable was Academic Self-Efficacy (X), defined as students' belief in their ability to perform academic tasks related to reading comprehension. The second variable was Students' Higher Order Thinking Skills (Y) in reading comprehension, which refer to students' ability to analyze, evaluate, and generate ideas from written texts. To measure these variables, the study used two structured questionnaires that had been previously developed and validated in earlier studies.

The first questionnaire measured academic self-efficacy in reading comprehension and was adapted from the instrument developed by Li and Wang (2010). This instrument evaluates students' confidence in completing reading tasks, their persistence when encountering difficulties, their ability to regulate learning efforts, and their expectations regarding academic outcomes. The second questionnaire measured students' Higher Order Thinking Skills in reading comprehension and was adapted from Witdianti (2023). This instrument focuses on learners' self-perception of their ability to engage in higher-level cognitive processes such as analyzing ideas, evaluating arguments, solving problems, and making decisions based on information obtained from texts.

Both instruments used a four-point Likert scale consisting of Strongly Disagree, Disagree, Agree, and Strongly Agree. The use of a four-point scale without a neutral option encouraged respondents to provide more definite responses and reduced the tendency to select a midpoint answer. Each statement in the questionnaire represented specific indicators related to the constructs being measured. In total, the instruments consisted of 32 statements, covering several indicators such as confidence, effort and persistence, task management, creative thinking, critical thinking, problem-solving, and decision-making abilities.

Data were collected through an online survey distributed using Google Forms. The researcher shared the questionnaire link through the students' WhatsApp class groups to ensure accessibility and convenience. Participants were informed about the purpose of the research and were asked to complete the questionnaire voluntarily. Using an online survey allowed the researcher to reach all participants efficiently while ensuring that the data were automatically recorded in digital form for further processing. After the response period ended, all collected data were compiled and organized in a spreadsheet format before being transferred to statistical software for analysis.

The collected data were analyzed using Statistical Package for the Social Sciences (SPSS) version 26. Descriptive statistics such as mean scores were first calculated to determine the general level of students' academic self-efficacy and Higher Order Thinking Skills in reading comprehension. To examine the relationship between the two variables, the researcher applied the Pearson Product Moment Correlation test. This statistical technique was selected because it is widely used to measure the strength and direction of the relationship between two continuous variables in correlational studies.

The Pearson correlation coefficient (r) ranges from -1 to $+1$, where values closer to $+1$ indicate a strong positive relationship, values closer to -1 indicate a strong negative relationship, and values around zero indicate no significant relationship. In this study, the significance level was set at 0.05. If the obtained significance value (p -value) was lower than 0.05, the correlation between academic self-efficacy and students' Higher Order Thinking Skills was considered statistically significant. Through this analytical procedure, the researcher was able to determine whether students who possess higher academic self-efficacy also tend to demonstrate stronger higher-order thinking skills in reading comprehension.

3. RESULTS

This section presents the findings of the study and the discussion of the results related to the relationship between students' academic self-efficacy and their Higher Order Thinking Skills (HOTS) in reading comprehension. The findings were obtained from the analysis of the

questionnaire responses collected from students of the English Education Study Program at Universitas Lancang Kuning. The analysis focused on three main aspects: the level of students' academic self-efficacy, the level of students' Higher Order Thinking Skills in reading comprehension, and the correlation between these two variables.

3.1 Academic Self-Efficacy in EFL Learning

Academic self-efficacy has been widely recognized as a significant psychological factor influencing students' academic engagement and learning performance, particularly in English as a Foreign Language (EFL) contexts. Rooted in Social Cognitive Theory proposed by Albert Bandura, self-efficacy refers to individuals' beliefs about their capability to organize and execute actions required to achieve specific academic outcomes. These beliefs influence how students approach learning tasks, regulate effort, and maintain persistence when encountering difficulties.

In language learning environments, academic self-efficacy contributes not only to motivational readiness but also to cognitive strategy use. Students with strong efficacy beliefs are more likely to apply deeper comprehension strategies, including inference-making, monitoring understanding, and evaluating textual meaning. Recent empirical studies support this view. Schunk and DiBenedetto (2021) emphasize that self-efficacy strengthens students' strategic learning behavior and academic resilience, while Graham (2022) reports that learners with higher efficacy levels demonstrate stronger engagement in reading comprehension tasks.

Within EFL reading contexts, these findings suggest that psychological readiness serves as a foundation for activating complex cognitive processes. When students feel confident about their academic ability, they tend to invest greater cognitive effort in interpreting texts and solving comprehension challenges.

3.2 Higher-Order Thinking Skills in Reading Comprehension

Higher-order thinking skills (HOTS) represent advanced cognitive processes that enable learners to interpret, analyze, evaluate, and synthesize information. These processes align with the revised Bloom's taxonomy framework introduced in *A Taxonomy for Learning, Teaching, and Assessing*, which categorizes cognitive development into hierarchical levels ranging from remembering to creating.

In EFL reading, HOTS plays a crucial role in helping students move beyond literal comprehension toward deeper interpretation of meaning. Students are required not only to understand vocabulary and sentence structure but also to evaluate arguments, identify implicit messages, and construct logical conclusions. According to Brookhart (2021), instructional

practices emphasizing HOTS significantly improve students' analytical reasoning and academic literacy.

Recent classroom-based studies also indicate that integrating HOTS-oriented tasks such as critical questioning, text evaluation, and problem-based reading activities enhances students' engagement and reflective thinking. These findings reinforce the idea that cognitive development in reading comprehension requires both instructional support and internal cognitive readiness.

3.3 Correlation between Academic Self-Efficacy and HOTS

To examine the relationship between academic self-efficacy and higher-order thinking skills, descriptive and inferential statistical analyses were conducted using SPSS version 26. The results are presented below.

Table 1 Descriptive Statistics of Research Variables

Variable	N	Mean	Std. Deviation	Category
Academic Self-Efficacy	91	3.25	0.37	Very High
Higher Order Thinking Skills	91	3.14	0.43	Very High

The descriptive statistics indicate that both academic self-efficacy and higher-order thinking skills fall within the "very high" category, suggesting that the participants generally demonstrated strong psychological confidence and cognitive engagement in reading comprehension tasks.

Table 2 Pearson Correlation Result

Variables	r	Sig. (2-tailed)	R ²	Interpretation
Academic Self-Efficacy and HOTS	0.716	0.000	0.513	Strong Positive Correlation

The Pearson correlation analysis shows a correlation coefficient of 0.716 with a significance value of 0.000, indicating a strong and statistically significant relationship between academic self-efficacy and higher-order thinking skills.

Table 3 Normality and Linearity Test

Test	Sig. Value	Decision
Normality Test	0.088	Normal
Linearity Test	0.140	Linear

The results confirm that the data are normally distributed and the relationship between variables is linear, indicating that the dataset meets the assumptions required for Pearson correlation analysis.

So, the statistical findings reveal a strong positive relationship between academic self-efficacy and students' higher-order thinking skills in reading comprehension. The correlation coefficient ($r = 0.716$) suggests that students who possess stronger academic confidence tend to demonstrate more advanced analytical and evaluative reading abilities. This finding aligns with theoretical perspectives emphasizing the interaction between motivational and cognitive dimensions in learning.

Furthermore, the coefficient of determination ($R^2 = 0.513$) indicates that academic self-efficacy contributes 51.3% to the variance in students' higher-order thinking skills. This result highlights that psychological belief systems play a substantial role in shaping students' cognitive engagement. Students with strong efficacy beliefs are more likely to persist when encountering complex texts and to apply higher-level reasoning strategies such as interpretation, comparison, and evaluation.

These findings are consistent with recent research showing that self-efficacy influences students' use of metacognitive strategies and deep learning approaches. When learners believe in their capability to complete academic tasks successfully, they tend to regulate their learning more effectively and engage more critically with textual information.

From a pedagogical perspective, the results suggest that strengthening students' academic self-efficacy may serve as an effective approach to improving higher-order thinking in EFL reading instruction. Lecturers can foster this development through scaffolded reading tasks, reflective learning activities, and constructive feedback that reinforces students' confidence. Integrating motivational reinforcement with HOTS-based instructional design may therefore enhance both psychological readiness and cognitive performance in language learning contexts.

4. DISCUSSION

The findings of this study indicate that academic self-efficacy plays an important role in students' development of Higher Order Thinking Skills in reading comprehension. Students who possess stronger beliefs in their academic abilities are more likely to engage actively in cognitive processes such as analyzing, evaluating, and interpreting texts.

This result supports the theoretical perspective that self-efficacy influences how students approach learning tasks. Students with high self-efficacy tend to view challenging tasks as opportunities to learn rather than obstacles to avoid. As a result, they are more motivated to apply complex thinking strategies when working with academic materials.

Furthermore, the positive correlation between academic self-efficacy and Higher Order Thinking Skills suggests that psychological factors can significantly influence students' cognitive performance. Confidence in one's academic ability can encourage students to participate more actively in learning activities that require critical and analytical thinking.

In the context of reading comprehension, students with higher self-efficacy are more likely to use effective reading strategies such as identifying key ideas, making inferences, evaluating arguments, and synthesizing information from different sources. These strategies are essential components of higher-order thinking skills.

The results of this study also imply that educators should pay attention not only to cognitive instruction but also to students' beliefs about their abilities. Creating a supportive learning environment, providing constructive feedback, and encouraging students to take intellectual risks can help strengthen their academic self-efficacy.

By fostering both confidence and critical thinking skills, educators can help students become more effective readers who are capable of engaging deeply with academic texts. Developing these abilities is particularly important in higher education, where students are expected to analyze complex information and generate well-reasoned interpretations.

5. CONCLUSION

This study aimed to examine the relationship between students' academic self-efficacy and Higher Order Thinking Skills (HOTS) in reading comprehension among students of the English Education Study Program at Universitas Lancang Kuning. The findings showed that both academic self-efficacy and HOTS were generally at a moderate level. Most students were able to complete reading tasks, understand texts, and demonstrate analytical and interpretive thinking, although some still experienced difficulties in more complex processes such as critically evaluating arguments and synthesizing information. More importantly, the results revealed a positive and statistically significant relationship between academic self-efficacy and HOTS in reading comprehension. This suggests that stronger beliefs in academic capability may encourage deeper analysis, more critical evaluation, and more effective reading strategies. Overall, the study highlights that strengthening students' academic self-efficacy can meaningfully support the development of higher-order thinking skills in reading

comprehension and provides useful pedagogical insight for reading instruction in higher education.

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