



## ESP, metacognition, and financial reporting practice: The moderating role of learning motivation

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**Abstract.** This study examines the influence of English for Specific Purposes (ESP) learning and metacognitive learning strategies on accounting students' financial reporting practices, thereby strengthening language-based professional competencies in vocational higher education. The population consisted of 612 third- and fifth-semester accounting students at Politeknik Negeri Kupang, and 239 were selected using proportional stratified random sampling. Data were collected through structured questionnaires and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results show that ESP learning does not significantly affect students' financial reporting practice ( $\beta = 0.121, t = 1.763$ ), indicating that linguistic improvement alone does not translate into better technical reporting performance. Conversely, metacognitive learning strategies have a strong positive effect ( $\beta = 0.367, t = 4.580$ ), indicating that students who plan, monitor, and evaluate their learning are more able to apply accounting concepts accurately.

Learning motivation does not moderate the effect of ESP learning ( $\beta = 0.020, t = 0.196$ ) nor the effect of metacognitive strategies ( $\beta = -0.037, t = 0.477$ ), suggesting that motivation does not alter these relationships. The model explains 41.6% of the variance in students' financial reporting practice, underscoring the dominance of cognitive and self-regulatory processes in shaping competence. The study recommends integrating ESP instruction with strategy-based and practice-oriented learning approaches and suggests future research employing longitudinal or experimental designs.

## Introduction

In an increasingly globalized economy, mastery of English for Specific Purposes (ESP) has become more crucial, especially in professional and academic fields that demand technical accuracy and discipline-specific understanding (Akopova, 2023). One such field is finance and accounting, which requires not only general English proficiency but also a deep understanding of specialized terminology and discourse structures used in financial documentation (Aburous & Kamla, 2022). The ability to interpret and compile financial statements in English is a vital skill for students and professionals working in international environments (Dunakhir & Osman, 2023). In particular, ESP in accounting helps bridge the gap between linguistic competence and the professional communication skills required in practice. It enables students to interpret complex financial

information accurately and produce reports that meet global standards. Consequently, developing ESP-based learning strategies has become essential for preparing future accountants to operate effectively in multicultural and multilingual workplaces.

The Accounting Department of Politeknik Negeri Kupang offers an English for Specific Purposes course as part of its curriculum. This course not only helps students master technical terminology in accounting and finance but also trains them to read, interpret, and prepare financial reports in accordance with international standards. The program is increasingly relevant as Politeknik Negeri Kupang expands its partnerships with several institutions in Timor Leste. Geographic proximity and strong socio-cultural ties create opportunities for students to apply their English skills in authentic contexts through academic exchanges, joint training, and collaborative research. As a vocational institution, Politeknik Negeri Kupang also emphasizes practice-oriented teaching methods, including project-based learning, laboratory practice, financial report simulations, and industry case studies. Through this learning-by-doing approach, students not only grasp theoretical concepts but also develop the practical skills required for professional application. The integration of ESP courses, international collaboration, and vocational teaching methods provides a strong foundation for accounting students to become adaptive, competent, and globally competitive graduates.

In 2021, we developed and implemented the ADDIE model for practical learning in English reading for accounting to enhance vocational students' professional literacy. The ADDIE approach is recommended for learning models that adopt an active student-centered approach ([Handayani et al., 2024](#)). The process followed the five interrelated stages of the ADDIE framework: Analysis, Design, Development, Implementation, and Evaluation. The analysis stage focused on identifying students' specific needs in reading English accounting texts, particularly those relevant to professional practice. This included understanding technical terms such as assets, liabilities, equity, revenue, and depreciation, as well as interpreting international financial statements. Based on these findings, the design stage involved formulating clear learning objectives, selecting authentic reading materials, and creating task-based strategies supported by digital modules and case-based worksheets. During the development stage, a comprehensive module titled "Reading English for Accounting" was developed. It included pre-reading, while-reading, and post-reading activities to improve comprehension skills, along with a glossary of accounting terminology and instructional videos to support independent learning. The implementation stage was conducted with third-semester students in the Accounting Study Program at a Polytechnic using a blended learning approach. Through this method, students practiced reading, discussing, and interpreting financial texts within professional accounting contexts. Lastly, the evaluation stage involved both formative and summative assessments to measure the effectiveness of the learning process. The results indicated significant improvement in students' reading comprehension and understanding of accounting terminology in professional settings. Overall, integrating the ADDIE model made the English for Accounting course more structured, contextual, and aligned with the competency requirements of vocational students in the global era.

However, we identified stakeholder dissatisfaction regarding graduates' ability to read or prepare reports in English, as revealed in a joint curriculum development meeting. This raised questions about the effectiveness of the learning model implemented thus far. In line with [Alhassan et al. \(2021\)](#), we recognize that many accounting students still face challenges in mastering the linguistic and analytical skills required in ESP. These difficulties are often exacerbated by traditional teaching approaches that emphasize memorization rather than contextual, purpose-driven language use ([Kohn et al., 2018](#)). In this context, cognitive engagement and learner autonomy, which can be strengthened through metacognitive learning strategies, are increasingly important for mastering complex ESP content ([Thongwichit & Buripakdi, 2021](#)). Therefore, a more integrative pedagogical

approach is needed, one that not only focuses on language mastery but also promotes strategic learning behavior, particularly in reading and preparing financial statements.

ESP is increasingly applied in finance-based education (Nartiningrum & Nugroho, 2020; Prasongko, 2023), yet gaps remain in equipping learners with the linguistic and cognitive skills needed to interpret and produce financial documents. Often, ESP implementation is not integrated with learning strategies that enhance comprehension and practical application (Suharyanto, 2024). Students frequently struggle to navigate the linguistic structures and conventions of accounting and finance, which hinders both reading comprehension and task performance (Hackemann et al., 2022). This challenge is further exacerbated by the lack of implementation of metacognitive strategies such as planning, monitoring, and self-evaluation that have been shown to improve learning outcomes but are still rarely used in ESP learning. Moreover, while learning motivation has long been recognized as an important factor in academic success, its moderating role in the relationship between teaching strategies and language proficiency has not been extensively explored.

Given these gaps, it is essential to examine how the interaction among ESP learning, metacognitive strategies, and learning motivation shapes students' ability to practice financial reporting, specifically in reading and preparing financial statements. This integrated examination forms a novel contribution by combining linguistic, cognitive, and motivational dimensions in a single framework for financial literacy development.

This study aims to examine the combined influence of ESP learning and metacognitive strategies on students' ability to understand and prepare financial statements. In addition, it assesses the extent to which intrinsic and extrinsic learning motivation moderates these relationships. By integrating these three variables into a single research framework, this study seeks to provide a comprehensive understanding of the pedagogical and psychological factors that support financial literacy in an academic context.

Based on the research background, the following hypotheses are proposed: H1: ESP learning has a significant effect on students' ability to practice financial reporting. H2: Metacognitive learning strategies have a significant effect on students' ability to practice financial reporting. H3: Learning motivation moderates the relationship between ESP learning and students' ability to practice financial reporting. H4: Learning motivation moderates the relationship between metacognitive strategies and students' ability to practice financial reporting.

## Method

### Research Method and Design

This study employed a quantitative research design using the Structural Equation Modeling Partial Least Squares (SEM-PLS) approach. This design was selected because it enables simultaneous testing of direct and moderating effects among variables measured on a continuous scale. The research model examines the influence of English for Specific Purposes (ESP) learning and metacognitive strategies on students' financial literacy, with learning motivation functioning as a moderating variable.

### Participants and Sampling Technique

The participants in this study were third- and fifth-semester students from the Department of Accounting at Politeknik Negeri Kupang who had completed the English for Specific Purposes (ESP) course. The sampling technique used was purposive sampling, with a total of 239 participants selected based on the recommended sample size for SEM-PLS analysis (Cheah et al., 2021). A

majority of the participants were women (n = 201), and most were enrolled in the D4 Public Sector Accounting program (n = 148). The questionnaires were distributed directly to the students without any intervention from course lecturers. The students were instructed to provide accurate responses, as the data would be used for institutional evaluation, particularly regarding the use of English within the accounting department. The inclusion criteria were: (1) active student status during the data collection period; (2) having completed the ESP course; and (3) willingness to participate voluntarily.

### Research Setting and Timeline

The study was conducted within the Accounting Department environment at Politeknik Negeri Kupang. Data collection was conducted at the end of the semester in July 2025 to ensure optimal participant accessibility and achieve a high response rate. The research activities, including instrument preparation, validation, data collection, and analysis, were executed over a three-month period from August to October 2025.

### Research Procedures

The research was carried out in several stages: (1) adapting and refining the questionnaire items based on previous studies; (2) conducting expert validation to ensure content clarity and relevance; (3) distributing questionnaires directly to eligible students; (4) screening and cleaning the returned data; and (5) analyzing the dataset using PLS-SEM through SmartPLS. Ethical considerations were observed by ensuring participants' anonymity and voluntary participation.

### Data Collection Techniques and Research Instruments

Data were collected using a structured questionnaire adapted from prior research and revised to match the study context. Table 1 menampilkan variabel-variabel penarikan kesimpulan, indikator, dan contoh item.

**Table 1.** Variables, indicators, and sample items

Variables	Indicators	Sample Item
ESP Learning	Mastery of technical terms; Understanding financial texts; Document preparation skills (Wang et al., 2023)	“I can understand technical explanations of accounting in English.”
Metacognitive Strategies	Planning; Monitoring; Self-evaluation (Singh & Diefes-Dux, 2023)	“I check whether I fully understand the concepts while studying.”
Financial Literacy (Reading & Preparing Financial Statements)	Identifying financial statement structure; Compiling statements from transactions	“I can prepare financial statements in accordance with accounting standards.”
Learning Motivation	Intrinsic & extrinsic motivation based on Self-Determination Theory (Aladini et al., 2024)	“I continue trying to understand the material despite difficulties.”

All questionnaire items used a five-point Likert scale.

### Instrument Validity and Reliability Tests

Instrument testing was conducted using Cronbach's alpha, composite reliability, and Average Variance Extracted (AVE) to ensure internal consistency and convergent validity. Items with loading factors below 0.70 were evaluated for potential removal, while AVEs above 0.50 and

composite reliabilities above 0.70 were used as benchmarks for acceptance (Hair et al., 2021). Discriminant validity was assessed using the HTMT ratio.

### Data Analysis Techniques and Criteria

This study used the Partial Least Squares Structural Equation Modeling (PLS-SEM) method, as recommended by (Cheah et al., 2021; Hair et al., 2021). Data analysis was conducted using SmartPLS version 3.0. The analysis consisted of two main stages: *First*, Measurement Model Evaluation. This stage assessed indicator reliability, internal consistency, convergent validity, and discriminant validity to ensure that each construct was measured accurately. Second, Structural Model Evaluation. This stage evaluated the significance of direct and moderating effects, path coefficients, effect sizes ( $f^2$ ), predictive relevance ( $Q^2$ ), and coefficient of determination ( $R^2$ ). The moderating role of learning motivation was examined using the product indicator approach. Bootstrapping with 5,000 subsamples was applied to assess significance levels. Through this analytical approach, the study provides a comprehensive understanding of how ESP learning and metacognitive strategies influence students' financial literacy, and the extent to which learning motivation strengthens or weakens these relationships. The conceptual model of this relationship is presented in image 1.

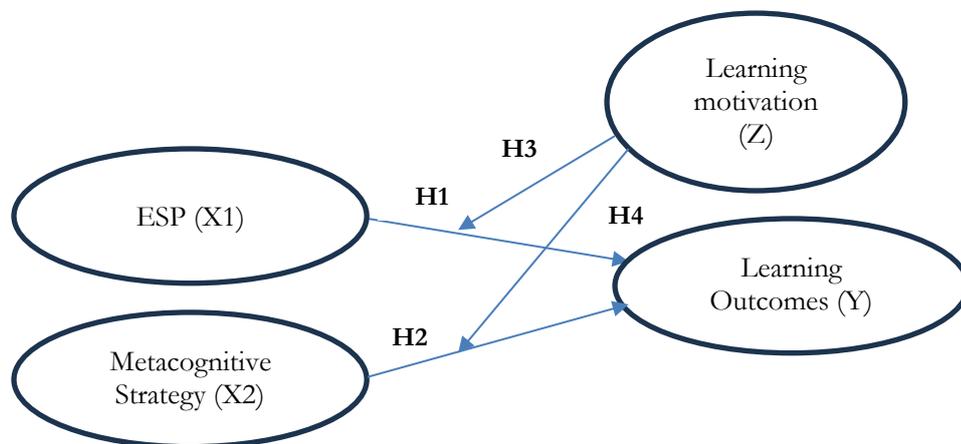


Image 1. Research model

## Results and Discussion

### Results

#### Measurement Model

In this study, the instruments used were rigorously tested for convergent validity, discriminant validity, and internal consistency reliability to ensure that each construct accurately represented the underlying concept being measured. The initial stage involved evaluating convergent validity using the Average Variance Extracted (AVE) and the loadings for each construct. According to established guidelines, the recommended threshold values are 0.708 for the loading factor and 0.50 for AVE, indicating that each indicator should explain at least 50% of the variance of the construct it represents. Nevertheless, indicators with loading values ranging from 0.4 to 0.7 can still be retained if their removal does not improve the model's Composite Reliability (CR) or AVE (Fanggidae et al., 2024; Hair et al., 2021). The dependent variable (Y) consists of a single indicator – "I can compile financial statements from transaction data in accordance with applicable accounting standards" – because other indicators failed the discriminant validity test and were subsequently removed from the model to maintain its measurement precision. The retention of this single indicator is theoretically justified, as it reflects the essential outcome expected of learners'

financial reporting ability. As presented in Table 1, all remaining constructs in the study satisfactorily meet the criteria for convergent validity, demonstrating that the measurement items consistently represent their respective latent variables and contribute to the overall reliability of the structural model.

**Table 2.** Measurement Model

Variables	Loading	CA	CR	AVE
English for Specific Purposes (X1)		0.726	0.843	0.645
I learned accounting terms in English that were not explained in general English courses	0.670			
I can understand the technical explanation of accounting in international standards written in English	0.885			
I am able to write simple notes or reports in English related to accounting	0.839			
Metacognitive Learning Strategies (X2)		0.773	0.898	0.815
I make a plan about what material to study	0.898			
I evaluate the effectiveness of my learning methods and adjust them when necessary after the class	0.907			
Learning Motivation (Z)		0.841	0.904	0.758
I feel excited when I learn about accounting and English materials on the subject.	0.848			
I continue to try to understand the material despite the difficulties.	0.890			
I believe my academic success is influenced by consistent effort in learning.	0.874			

After that, we conducted a discriminant validity test to ensure that each construct in the model was conceptually and empirically distinct from the others. The results of the discriminant validity test based on the Fornell–Larcker and HTMT criteria showed that each construct had a square root of its Average Variance Extracted (AVE) greater than its correlations with other constructs, indicating satisfactory discriminant validity. Furthermore, the HTMT (Heterotrait Monotrait Ratio) values for all construct pairs were below the recommended threshold of 0.90 (Mohd Dzin & Lay, 2021), confirming that there was no significant overlap between the constructs measured. These findings suggest that each variable in the model captures a unique aspect of the underlying phenomena, providing confidence in the reliability and distinctiveness of the constructs used. Table 2 presents the detailed results of the discriminant validity analysis using the HTMT criterion.

**Table 3.** Heterotrait-Monotrait Ratio (HTMT)

	ESP (X1)	Learning Motivation (Z)	Learning Outcomes (Y)
ESP (X1)			
Learning Motivation (Z)	0.564		
Learning Outcomes (Y)	0.536	0.654	
Metacognitive Strategies (X2)	0.718	0.736	0.726

The internal consistency of each construct was examined using the Composite Reliability (CR) and Cronbach's alpha ( $\alpha$ ) coefficients (Cheung et al., 2024). As indicated in Table 1, both the Cronbach's alpha and CR values exceed the recommended threshold of 0.70 (Fanggidae et al., 2024; Hair et al., 2021), confirming that all constructs demonstrate satisfactory reliability.

## Hypothesis Testing

The results of hypothesis testing provide a comprehensive overview of the relationships between the variables examined in this study (Table 3). H1 is rejected, indicating that ESP learning does not have a significant effect on students' practice of financial reporting ( $\beta = 0.121$ ,  $t = 1.763$ ). This means that although ESP courses are designed to enhance students' mastery of accounting-related English, such linguistic improvement alone has not translated into a direct increase in their ability to practice financial reporting in a technical and accurate manner. H2 is accepted, indicating that metacognitive learning strategies significantly affect students' financial reporting practice ( $\beta = 0.367$ ,  $t = 4.580$ ). This finding supports the idea that students who consciously plan, monitor, and evaluate their learning processes are better equipped to comprehend accounting concepts and apply them effectively in preparing financial statements.

**Table 4.** The Hypotheses Testing Results

Hypothesis: Path	$\beta$	t-value	Sig.
ESP (X1) -> Learning Outcomes (Y)	0.121	1.763	0.079
Learning Motivation (Z) -> Learning Outcomes (Y)	0.316	3.541**	0.000
Metacognitive Strategies (X2) -> Learning Outcomes (Y)	0.367	4.580**	0.000
Moderating Effect (X1*Z) -> Learning Outcomes (Y)	0.020	0.196	0.845
Moderating Effect (X2*Z) -> Learning Outcomes (Y)	-0.037	0.477	0.634

\*\*Significant at  $p < 0.05$ .

For the indirect effects, H3 is rejected, as learning motivation does not significantly moderate the relationship between ESP learning and students' Practice of Financial Reporting ( $\beta = 0.020$ ,  $t = 0.196$ ). This suggests that the presence or absence of learning motivation does not alter the strength of the relationship between ESP instruction and students' performance in financial reporting tasks. H4 is rejected, meaning that learning motivation does not moderate the relationship between metacognitive learning strategies and students' Practice of Financial Reporting ( $\beta = -0.037$ ,  $t = 0.477$ ). Therefore, regardless of students' level of motivation, the impact of metacognitive strategies on their financial reporting practice remains relatively consistent. Overall, these results indicate that while metacognitive learning strategies play a central role in enhancing students' competence in financial reporting practices, ESP learning and learning motivation, whether directly or as moderating factors, do not exert a statistically significant influence within the tested model. The structural relationships and significance levels of these hypotheses are illustrated in Figure 2, which presents the model's path coefficients and corresponding p-values.

## Discussion

### ESP and financial reporting practice

Based on the hypothesis testing, ESP learning is found to have no significant influence on students' ability to understand and prepare financial statements. This aligns with Li (2018), who explains that ESP focuses primarily on language mastery and professional communication within a specific field rather than on enhancing the field's technical skills. Consequently, although ESP helps students comprehend the terminology and discourse structures of English-language financial statements, the ability to compile financial statements accurately remains more dependent on their understanding of accounting concepts and hands-on learning experiences (Jiang et al., 2019). These findings may also be influenced by variations in students' language proficiency and by the limited integration of ESP content with technical accounting materials (Widodo, 2016). Thus, in this context, ESP functions more as a linguistic support mechanism that fosters academic and professional literacy, but it does not yet serve as a key determinant of technical competence in financial statement preparation. This reinforces the empirical evidence that, within Indonesian

vocational education, ESP's role remains linguistic and non-technical when assessed through performance-based financial reporting tasks.

Building on this, the findings highlight the need for a paradigm shift in how ESP is implemented in vocational accounting programs. Although ESP has traditionally been regarded as a language-support component, this study's evidence shows that its impact is limited when not connected to authentic financial reporting tasks. This positions the study within a new pedagogical perspective that views ESP as a potential integrative platform for linking linguistic competence with real accounting practice. Such a perspective offers a new conceptual foundation for aligning ESP more closely with domain-specific performance, especially in settings where English functions as a medium for both academic and professional literacy.

Accordingly, these results suggest an urgent need to redesign ESP curricula to be more contextually embedded in real-world accounting practices. Collaboration between language experts and accounting educators can help bridge existing gaps and enhance the relevance and effectiveness of ESP instruction (Hyland & Hyland, 2019). Approaches such as project-based learning, business simulations, and authentic case studies have been shown to strengthen both linguistic fluency and professional competence (Zhang, 2021). Through such integration, students not only develop the ability to understand English financial terminology but also gain the confidence to apply this knowledge meaningfully when preparing and analyzing financial statements. Thus, ESP designs that lack real business context are unlikely to improve technical competence, reaffirming the need for an ESP curriculum that is more fully aligned with the demands of professional accounting practice.

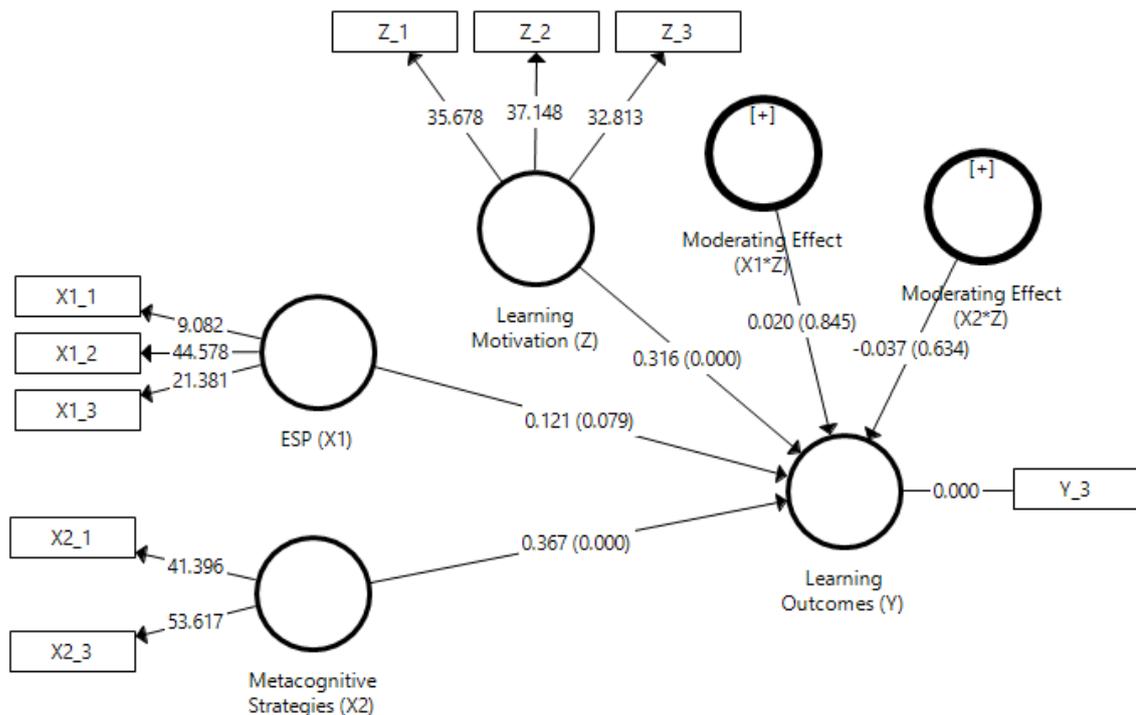


Image 2. Path coefficients and p-values

### Metacognitive learning strategies and reporting practice

On the other hand, we find that metacognitive learning strategies significantly enhance students' ability to understand and prepare financial statements. This result supports recent studies showing

that metacognitive strategies improve higher-order thinking skills and learning outcomes in accounting (Krpalek et al., 2018; Sargent & Winton, 2023; Widana et al., 2023). By engaging in reflection, planning, and self-monitoring, students are better able to identify conceptual errors, adjust ineffective learning approaches, and regulate their cognitive processes more strategically (Nilson & Zimmerman, 2023). Such abilities are essential in accounting education, where preparing financial statements requires precision and strong analytical and evaluative skills. Therefore, the findings of this study reinforce that metacognitive strategies contribute not only to conceptual understanding but also to students' practical competence in applying accounting knowledge professionally. This provides empirical evidence that metacognitive skills directly support performance in real task-based financial reporting, an area that previous research has rarely examined in depth (Surya Abadi et al., 2025; Dharmadewi et al., 2024).

In accounting education, Metacognitive abilities become particularly crucial because preparing financial statements demands accuracy, critical reasoning, and the ability to interpret complex financial data. Students who employ metacognitive strategies tend to analyze information more effectively, detect inconsistencies, and make more appropriate analytical judgments. They are also better at managing their study time, reviewing their work systematically, and selecting the most suitable problem-solving techniques. In addition, metacognitive learning fosters a reflective mindset and a lifelong learning orientation, enabling students to transfer cognitive strategies across different accounting contexts and adapt to new challenges independently. Thus, metacognitive strategies function not only as academic tools but as bridges between theoretical learning and practical application. They enable students to become reflective, self-regulated, and ethically responsible professionals who combine analytical precision with informed decision-making. Consequently, metacognitive strategies emerge as higher-order cognitive skills that consistently influence financial reporting performance, going beyond improvements measured solely through test-based academic achievement.

### **Moderating effect of learning motivation**

For the indirect effect, we find that learning motivation does not strengthen or weaken the relationship between ESP and learning outcomes. This indicates that although students may have high motivation, it does not directly increase the effectiveness of ESP in developing technical skills, such as understanding and preparing financial statements. This may be due to the nature of ESP, which emphasizes mastery of field-specific language rather than the enhancement of technical accounting abilities (Handayani et al., 2024; Purnadewi et al., 2023). In addition, learning motivation is general in nature, whereas the successful preparation of financial statements requires the simultaneous mastery of language skills and in-depth accounting concepts (Daff, 2021). Prior research also shows that motivation does not consistently function as a strong moderator, especially when the primary variables do not exhibit substantial direct effects (Ryan & Deci, 2018). Therefore, this study challenges the common assumption that motivation automatically enhances the effectiveness of language learning in technical domains, demonstrating instead that motivation does not moderate the relationship between ESP and financial reporting performance (Widana et al., 2019).

In this context, motivation may foster persistence and engagement, but it remains insufficient to bridge the structural gap between the linguistic competence developed through ESP and the technical expertise required for accounting tasks. As a result, the role of learning motivation in ESP learning is indirect and statistically insignificant. Students' ability to prepare financial statements is shaped more by cognitive and experiential factors, such as metacognitive learning strategies, practicum experience, and mastery of foundational accounting concepts.

Similarly, learning motivation does not moderate the relationship between metacognitive strategies and learning outcomes. Although students may be highly motivated, motivation alone is not sufficient to enhance the effectiveness of metacognitive strategy use in achieving accounting learning outcomes. Metacognitive strategies operate as independent cognitive abilities, and their effectiveness depends primarily on an individual's capacity to plan, monitor, and evaluate their own learning processes (Abdelrahman, 2020). These findings expand theoretical understanding by providing quantitative evidence that the interaction between motivation and metacognitive strategies does not produce a synergistic effect on financial reporting performance, a moderation pattern that has rarely been examined in accounting education. Motivation, as an affective drive, does not guarantee improvements in self-regulation or in the effective application of metacognitive strategies (Ryan & Deci, 2018). Prior studies similarly show that motivation and metacognition often function independently in influencing learning outcomes (Tang et al., 2021). Students with strong metacognitive awareness can regulate their learning regardless of motivational levels, whereas motivated students without effective strategies struggle to translate effort into optimal academic performance (Siqueira et al., 2020). In accounting learning, cognitive regulation is more decisive than affective enthusiasm, positioning motivation as a background variable rather than a determining factor. By testing this model in the context of highly precise financial reporting tasks, this study introduces new evidence that metacognitive competence operates independently of motivational factors, thereby contributing substantively to the literature on self-regulated learning in accounting education.

Furthermore, these findings reinforce the argument that metacognitive competence constitutes a higher-order cognitive skill that functions independently of motivational influences (Hamzah et al., 2023). Students with strong metacognitive awareness are capable of recognizing cognitive weaknesses and adjusting their learning strategies even without strong motivational drives (Siqueira et al., 2020; Purnadewi et al., 2023). Conversely, motivation without structured reflection and self-evaluation often results in superficial engagement, where students may be active yet not strategic (Stranford, 2023). In accounting, where analytical precision and procedural accuracy are essential, learning success relies more on deliberate cognitive control than on emotional enthusiasm. Thus, motivation serves as a psychological backdrop rather than a direct or moderating determinant of how metacognitive strategies influence students' technical mastery of financial statement preparation.

### **Limitations and future research**

This study has several limitations that should be acknowledged to provide a more objective understanding of the findings. *First*, the research design is cross-sectional, meaning that the relationships among variables can be explained only correlatively, not causally. Therefore, the results do not fully capture the dynamic changes in students' abilities over time. *Second*, data collected through self-reported questionnaires may introduce subjective bias, as respondents tend to respond based on idealized perceptions rather than their actual conditions. *Third*, the limited sample size and characteristics may affect the generalizability of the findings to broader educational contexts. *Fourth*, the measurement of financial reporting skills focuses only on several key indicators, so deeper dimensions of technical and analytical skills are not yet fully reflected. *Finally*, external factors such as mastery of accounting concepts, practicum experience, learning styles, and academic environmental support were not included in the research model, even though these factors have the potential to significantly influence student learning outcomes.

Given these limitations, future research is encouraged to adopt a longitudinal design to more comprehensively examine the development of students' abilities following the implementation of ESP-based learning and metacognitive strategies. Furthermore, data collection should employ triangulation methods, such as classroom observation, portfolio analysis, or in-depth interviews, to

enhance the validity and reliability of the findings. Future studies are also expected to involve more diverse samples, both in terms of academic backgrounds and institutional settings, to ensure broader relevance of the results. It is also recommended to integrate additional variables, such as academic self-efficacy, learning technology support, or lecturer–student interaction, as mediating or moderating factors. Moreover, adopting a mixed-method or quasi-experimental approach could provide a richer exploration of the interconnections between cognitive, affective, and linguistic aspects in the context of English-based accounting education. Through such approaches, future research can offer stronger contributions to the development of ESP learning theory and practice while enhancing the effectiveness of vocational curricula in shaping students' professional competencies.

## Conclusion

This study examined the influence of English for Specific Purposes (ESP) learning and metacognitive learning strategies on accounting students' ability to understand and prepare financial statements, while also assessing the moderating role of learning motivation. The results demonstrate that ESP learning alone does not significantly improve students' ability to produce or interpret financial reports, suggesting that language acquisition must be meaningfully contextualized within professional and analytical practice. Conversely, metacognitive learning strategies emerged as a crucial determinant of students' success, emphasizing the importance of self-regulated learning behaviors – such as planning, monitoring, and evaluation – in enhancing both conceptual understanding and applied performance in accounting tasks. Moreover, the absence of a moderating effect from learning motivation indicates that motivation operates more as an internal psychological driver rather than as a strengthening mechanism in the instructional process. This finding highlights that effective learning outcomes in ESP-based accounting education rely more on the integration of strategic learning processes than on motivational intensity alone. In conclusion, the study underscores the pedagogical value of combining ESP instruction with metacognitive and practice-oriented approaches to cultivate analytical competence and domain-specific language proficiency. Theoretically, it contributes to the interdisciplinary understanding of how cognitive and linguistic factors interact within vocational higher education. Practically, educators and curriculum designers are encouraged to incorporate reflective learning practices, task-based assessments, and technology-supported activities to foster students' independent learning and professional communication skills. Future research should explore longitudinal and cross-institutional models to validate these findings and expand their applicability across diverse educational contexts.

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