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Correlation Analysis of Language Skills, Self-Efficacy, Achievement Motivation, and Self-Regulated Learning in Predicting Student Academic Achievement in Higher Education

Muhammad Akhir[a*], Suardi[b]

[a] *University of Muhammadiyah Makassar, Makassar City, Indonesia.*
Email: m.akhir@unismuh.ac.id

[b] *University of Muhammadiyah Makassar, Makassar City, Indonesia.*
Email: suardi@unismuh.ac.id

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Abstract
This study examines the correlation between language skills, Self-efficacy, Achievement Motivation and Self-Regulated Learning, in predicting Academic Achievement in higher education. The study addresses the critical problem of low Self-efficacy, Achievement Motivation, and Self-Regulated Learning, which has been linked to poor Academic Achievement. The goal is to explore how these variables influence students' Academic Achievement. Using a quantitative approach and random sampling technique, data was collected from 1,453 students through a questionnaire. The research procedure involved developing instruments, collecting, preparing, analyzing, and interpreting the data. Descriptive and inferential statistics were applied using JASP software. These findings show a significant positive relationship between language skills, especially writing skills, and Self-efficacy, Achievement Motivation, and Self-Regulated Learning. These factors were found to play a crucial role in predicting success in achieving students' Academic Achievement. The study concluded that strengthening language skills can improve Self-efficacy, Achievement Motivation, and Self-Regulated Learning. Research implications offer a comprehensive solution to improve Academic Achievement.

Keywords: Language Skills, Self-Efficacy, Achievement Motivation, Self-Regulated Learning, Academic Achievement.

Introduction

Language skills are significantly related to variables like self-efficacy and achievement motivation at various levels of education. While language skills affect achievement motivation significantly, self-efficacy or confidence in one's abilities is found to be having a direct relationship with achievement motivation (Bahri et al., 2024). Students with high self-efficacy complete difficult and challenging tasks in more comfortably than students with low Self-efficacy. Besides, self-regulated learning is students' capacity to manage their learning processes independently and achieved higher academic achievement. Studies Maulida et al. (2024) show that experiential approaches, such as learning through *augmented reality*, can improve self-regulated learning

* Corresponding Author
Email: m.akhir@unismuh.ac.id
DOI: http://dx.doi.org/10.32601/ejal.10224

abilities and help students overcome learning challenges. However, these solutions are often short-term and need to address the root of the problem effectively, namely the low language skills that can support self-efficacy and achievement motivation in the context of education (Ridwan et al., 2023). Furthermore, strengthening language skills improves self-efficacy and achievement motivation and can also improve students' ability to plan and manage the learning process more effectively. Research by Diningrat, Marín, & Bachri (2024) shows that students who have good language skills tend to be more able to make effective study schedules and evaluate their learning progress independently. This is especially relevant in higher education, where managing time and setting priorities is key to enhancing academic achievement.

The low level of self-efficacy, achievement motivation, and self-regulated learning are challenges that are often faced by students in universities, especially in Indonesia. These three factors are interrelated and significantly impact students' academic achievement. Research shows that students with low self-efficacy levels often need help completing academic tasks effectively and more confidence in overcoming learning challenges (Bahri et al., 2024). In addition, low achievement motivation also contributes to a decrease in enthusiasm and desire to achieve high academic achievement (Dadang Prayoga et al., 2024). This condition is further exacerbated by the lack of students' ability to engage in self-regulated learning, which is indispensable for success in higher education (Diningrat et al., 2024; Hidayatullah & Csíkos, 2024).

Empirical data shows that the challenge of improving self-efficacy, achievement motivation, and self-regulated learning is not only faced by Indonesian students but is also a common problem in various countries with similar education systems. Observations at several universities in early 2024 found a negative relationship between low self-efficacy, achievement motivation, and self-regulated learning and student academic achievement. These findings show that students with low levels of self-efficacy and achievement motivation tend to fail in achieving their academic goals and often have difficulty maintaining consistency in learning (Hidayatullah & Csíkos, 2024). This condition requires special attention because it closely relates to higher education quality and students' readiness to face global challenges (Hidayatullah, Setiyawan, & Syarifuddin, 2024). Various studies have been conducted to solve this problem, including strategies to increase achievement motivation and self-regulated learning support. For example, Hidayatullah et al. (2024) found that the use of flipped *learning* methods can help improve achievement motivation and academic achievement, especially when supported by a conducive learning environment and family support.

Existing research tends to focus on general interventions, such as improving self-efficacy through innovative learning methods, without emphasizing the importance of language skills as a fundamental component. According to Monaghan et al. (2023), good language skills play an important role in improving self-efficacy and achievement motivation, as these skills help students better understand academic material and express their ideas effectively. On the other hand, research by Hidayatullah & Csíkos (2024) underlined that learning strategies that integrate language skills development can have a long-term impact on improving academic achievement, especially in the context of higher education in developing countries. While these approaches offer some advantages, they still have some limitations in their implementation. One of the main obstacles is the lack of structured programs to improve language skills that directly support students' self-efficacy and achievement motivation. Many existing training programs only focus on improving technical or managerial abilities without realizing the importance of developing academic communication skills. For example, Ridwan et al. (2023) found that students who took part in technology-based self-regulated learning training still experienced difficulties in expressing complex concepts verbally, which showed a gap in the development of language skills that support self-regulated learning and achievement motivation.

To overcome these limitations, a more holistic approach is needed that focuses on improving self-efficacy and achievement motivation and strengthens language skills as one of the main supporting factors. This study explores the role of Language Skills (LS) in strengthening students' Self-efficacy (SE), Achievement Motivation (AM), and Self-Regulated Learning (SRL). Adopting an approach that combines the strengthening of LS and the development of SE and AM will likely offer a more effective solution to increase the Academic Achievement of students in Indonesia. In addition, this integrative approach can help overcome the main limitations of previous studies that need to pay more attention to the importance of language skills in supporting self-regulated learning strategies. A study by Bahri et al. (2024) suggested that strong language skills can increase students' confidence and achievement motivation, especially when they have to study complex and multidisciplinary courses. The development of language skills can also serve as a tool to improve the quality of academic achievement, both with fellow students and with lecturers, which ultimately has an impact on increasing self-regulated learning and academic achievement (Hidayatullah et al., 2024).

This study highlights the importance of a comprehensive approach to understanding the relationship between Language Skills, Self-efficacy, Achievement Motivation, and Self-Regulated Learning. This study explores how language skills can mediate the relationship between self-efficacy, achievement motivation, and self-regulated learning on students' academic achievement. Thus, this research is expected to significantly contribute to developing more effective learning strategies in Indonesian universities.

This research focuses on various factors: (1) relationship between language skills; (2) relationship between language skills and self-efficacy; (3) relationship between language skills and achievement motivation; (4)

relationship between language skills and self-regulated learning; (5) relationship between language skills and academic achievement; (6) relationship between language skills, self-efficacy, achievement motivation, and self-regulated learning with academic achievement as mediating variable. Through this research, a more systematic and holistic approach can be found to improve the quality of higher education in Indonesia. An approach that combines the improvement of self-efficacy, achievement motivation, and language skills can provide a more effective solution in solving the problem of low academic achievement of students. In addition, the results of this research can also serve as a guide for policymakers and education practitioners in designing learning programs that are more relevant and responsive to student needs.

Literature Review

Levels of Language Skills and Academic Achievement

Research shows that higher language skills, from beginner to advanced levels, are associated with better academic achievement (Bahri et al., 2024). Students with higher levels of language skills have better abilities in understanding lecture material and actively participate in class discussions, which in turn increases their academic achievement (Hidayatullah & Csíkos, 2024; Monaghan et al., 2023). On the other hand, students with limited language skills often experience difficulties in accessing and expressing knowledge effectively, which hinders their achievement of academic achievement (Delima, Kusuma, & Paulus, 2024; Maulida et al., 2024). Research by Monaghan et al. (2023) identified that improving language skills not only helps in the comprehension of academic texts but also facilitates the process of problem-solving and critical thinking. This result is amplified by Ridwan et al. (2023), which shows that students with advanced language skills are more likely to achieve higher results in the exam. This study indicates that investment in language skills development can effectively increase academic achievement, especially in universities that emphasize academic literacy.

Self-Efficacy and Academic Achievement

The level of self-efficacy or confidence in one's abilities has a direct relationship with academic achievement (Bahri et al., 2024; Hidayatullah et al., 2024). Students with a high self-efficacy tend to be better able to face academic challenges and survive in completing difficult tasks (Imtihansyah et al., 2024; Irwansyah Abdhi et al., 2024). A strong self-efficacy gives students confidence in developing study plans and implementing effective learning strategies, thereby improving learning outcomes (Irwansyah Abdhi et al., 2024). Research Hidayatullah & Csíkos (2024) found that improving self-efficacy can be achieved through an approach that combines contextual learning and achievement motivation support, which has been proven to increase students' active participation in the learning process (Maulida et al., 2024). Moreover, Dadang Prayoga et al. (2024) underline that self-efficacy is a mediator between social support and academic achievement outcomes, suggesting that this psychological factor is important in encouraging students to achieve their educational goals.

Achievement Motivation and Academic Achievement

Achievement Motivation is the main predictor of academic achievement. Research shows that students with high achievement motivation levels tend to have clear goals and a strong determination to achieve better academic achievement (Dadang Prayoga et al., 2024; Setiawan et al., 2023). A strong achievement motivation can motivate individuals to overcome obstacles in the learning process, leading to higher academic achievement (Hidayatullah & Csíkos, 2024; Ridwan et al., 2023). Research Irwansyah Abdhi et al. (2024) and Dadang Prayoga et al. (2024) shows that approaches which integrate achievement motivation improvement strategies, such as project-based or challenge-based learning, can significantly improve student achievement. However, a common obstacle in this study is the lack of focus on language skills factors as drivers of achievement motivation, which can affect self-efficacy and overall academic achievement outcomes (Diningrat et al., 2024).

Self-Regulated Learning and Academic Achievement (Academic Achievement)

Self-regulated learning refers to the ability of students to manage their learning process, including planning, monitoring, and evaluating learning strategies. Research shows that self-regulated learning plays an important role in improving students' academic achievement, especially in the context of self-regulated learning in higher education (Bahri et al., 2024; Maulida et al., 2024). Students with higher self-regulated learning levels show better academic achievement outcomes because they can adjust their learning strategies as needed (Delima et al., 2024; Ridwan et al., 2023). Research Diningrat et al. (2024) found that educational interventions focusing on improving self-regulated learning through flipped learning and formative assessment can help students develop more effective study habits. This study confirms that strengthening self-regulated learning helps achieve academic achievement and develop the life skills necessary for long-term success (Hidayatullah et al., 2024).

Research Methodology

Research Design

This study used a correlation research design to explore the relationship between language skills, self-efficacy, achievement motivation, and self-regulated learning in predicting academic success in higher education. Correlation research is suitable for examining relationships between multiple variables without the need to manipulate any independent variables (Wang & Tambi, 2024). This design makes it possible to understand how these psychological and learning-related factors interact in a natural higher-education environment. The study also adopted a quantitative research design, utilizing descriptive and inferential statistics. A quantitative research approach is critical to identifying patterns and relationships among variables and providing insights into the predictive power of language skills, self-efficacy, and achievement motivation on academic outcomes (Guo et al., 2024). Quantitative research is also useful for research that aims to establish correlations and make predictions based on measurable data (Cheng et al., 2024).

Research Sample

This study involved a sample of 1,453 students from various higher education institutions. The sample was identified using stratified random sampling to ensure representation across various faculties and academic years. Graded random sampling helps ensure that subgroups within the population are adequately represented, thereby increasing the generalization of findings (Martínez-López et al., 2024). Large sample sizes are sufficient for robust statistical analysis, providing a comprehensive view of the studied population (Liu & Chen, 2024). Table 1 summarizes the sample profile.

Table 1: *Sample Profile.*

Description	Frequency	Percent	Valid Percent	Cumulative Percent
Gender				
Male	363	24.983	24.983	24.983
Female	1090	75.017	75.017	100.000
Missing	0	0.000		
Sum	1453	100.000		
College University				
Private	1210	83.276	83.276	83.276
Public	243	16.724	16.724	100.000
Missing	0	0.000		
Sum	1453	100.000		

Research Instrument and Procedure

A structured questionnaire was the main instrument of this research. The questionnaire comprised five sections: demographic information, language skills, self-efficacy, achievement motivation, and self-regulated learning. The language skills section was designed to assess students' proficiency in reading, writing, and comprehension, all of which are critical to academic success (Wang et al., 2024). Instruments to measure students' language skills included (1) Beginner level. At this level, students were required to follow techniques that they had mastered rigidly and how they put their skills into practice; (2) Competent level. At this level, students begin to understand the context, whether a technique is effective or ineffective, and they can consciously analyze the techniques they use; (3) Proficient level. At this level, a student begins to understand the principles behind their techniques in order to be more flexible in using the techniques they have mastered (4) Expert level. At this level, students' intuition begins to form, and they begin to understand the patterns associated with their skills; and (5) Master level. At this level, students' intuition is already very sharp, and they can execute their skills without having to think, i.e., they have entered the stage of subconscious competence.

The scales used for self-efficacy, achievement motivation, and self-regulated learning were adapted from well-established instruments in educational psychology research (Backers, De Smedt, & Van Keer, 2024; Osakwe et al., 2024). Instruments to measure Self-efficacy included items (1) I have confidence in my ability to take the necessary actions to achieve the goal, (2) I have confidence in my ability to overcome obstacles in the difficulty level of the task at hand, (3) I have a positive view of the task I am working on, (4) I can respond to various situations and conditions with a positive attitude, (5) I can use life experience as a step to achieve success, (6) I can display an attitude that shows self-confidence in the entire learning process, (7) I have strong confidence in my potential in completing tasks, (8) I have a fighting spirit and do not give up easily when experiencing obstacles in completing assignments, (9) I commit to complete academic assignments well.

Indicators to measure Achievement Motivation included: (1) I am responsible in doing the task, (2) I am on time, (3) I use criticism and, (4) suggestions as an encouragement to do the task better, (5) I enjoy doing difficult tasks, (6) I do the task carefully, (7) I am optimistic in doing the task, (8) I have creativity and innovation in doing the task, (9) I have realistic goals in doing assignments, (10) I like to try challenging things, (11) I like

things that are different from others, (12) I have satisfaction if I have gotten results, (13) I have the desire to be the best. The items to measure self-regulated learning included (1) I have an independent learning initiative, (2) I always diagnose the needs needed in learning, (4) I set learning goals independently to master a competency, (4) I choose and use various learning resources independently, (6) I choose and apply learning strategies independently, (7) I study independently to complete learning tasks, (8) I collaborate with others in doing group assignments, (9) I control behavior to suit the situation and conditions in the learning environment, (10) I have self-discipline in learning. Indicator values to measure academic achievement included (1) 2.00-2.75: Unsatisfactory, (2) 2.76-3.00: Satisfactory, (3) 3.01-3.50: Very Satisfactory, (4) 3.51-4.00: Distinction.

The research procedure comprised several stages, from developing research instruments to data analysis. After designing the questionnaire based on a validated scale from previous research, it was distributed online via Google Forms, ensuring wide accessibility and participation. This online format facilitated easy access for respondents and ensured data security and anonymity (Yuniarti et al., 2024). Using Google Forms also allowed for efficient distribution across various educational institutions, allowing research teams to collect responses from a large and diverse sample. The data collection lasted two months, during which students completed surveys anonymously to promote honest responses. Students were reminded periodically to complete the survey within the time limit. Responses were automatically stored in a secure database, ensuring data confidentiality and integrity (Li, Liu, & Tseng, 2024).

Data Analysis

Data analysis was carried out using JASP software (version 0.19.00). Descriptive statistics summarized the data, providing insight into general trends and sample characteristics (Chapupu et al., 2024). Inferential statistical techniques, including Spearman's rho, were used to examine the relationship between variables and to predict academic success. Spearman's rho correlation allowed the research team to explore the strengths and directions of the relationship between language skills, self-efficacy, achievement motivation, and self-regulated learning (Hertel, Reschke, & Karlen, 2024). Multiple regression analysis further allowed the identification of the relative contribution of each variable to predict academic outcomes (Osakwe et al., 2024).

Results and Discussion

Descriptive Data of Language Skills, Self-efficacy, Achievement Motivation and Self-Regulated Learning and their impact on Academic Achievement

Table 2 presents descriptive data on language skills (listening, speaking, reading, and writing) at various levels of competence based on descriptive analysis through JASP software (Version 19).

Table 2: *Language Skills at Various Levels of Competence (N=1,453).*

Level/ language skills	Listening		*Speaking*		*Reading*		*Writing*	
	f	%	*f*	%	*f*	%	*f*	%
Competent	694	47.76	674	46.38	539	37.09	617	42.46
Proficient	413	28.42	434	29.86	541	37.23	475	32.69
Novice	230	15.82	206	14.17	231	15.89	189	13.00
Expert	80	5.50	105	7.22	72	4.95	120	8.25
Master	36	2.47	34	2.340	70	4.81	52	3.57
Sum	1453	100	1453	100	1453	100	1453	100

Table 2 shows the highest percentage of students classified in Competent category is in Listening (47.76%). Speaking is close to (46.38%), followed by Writing (42.46%), while Reading has the lowest percentage of (37.09%). In the Proficient category, the highest percentage of students is in Reading (37.23%), followed by Speaking (29.86%), Writing (32.69%), and Listening with the lowest percentage (28.42%). In the Novice level, the percentage is consistent across all skills, viz., Reading shows the highest percentage (15.89%), followed by Listening (15.82%). Speaking (14.17%), and Writing, with lowest percentage (13.00%). At the Expert level, the highest percentage is seen in Writing (8.25%), followed by Speaking (7.22%), Listening (5.50%), and Reading with the lowest percentage (4.95%). Finally, at the Master Level, Reading leads with (4.81%), followed by Writing (3.57%). Listening (2.47%), with Speaking at the lowest percentage (2.34%). It is evident that in Competent and Novice categories, Listening and Reading each has the highest percentages. At the Proficiency level, Reading again came out on top, indicating that students tend to excel in receptive skills (Listening and Reading).

Expert and Master's levels indicate Writing and Reading as highest percentage skills, demonstrating strong expertise in productive skills (Writing) at advanced levels. These data also hint that receptive language skills, such as listening and reading, tend to be mastered more than productive skills, which emphasizes the importance of these skills in supporting better academic achievement. That the percentage of students at the "Expert" and "Master" levels in speaking and listening is lower compared to Reading and Writing underscores the need for further improvement in productive skills to help students achieve higher abilities. These findings

show that improving language skills at various levels plays an important role in supporting Academic Achievement and that a balanced development effort between receptive and productive skills can help students achieve their Academic Achievement to the maximum.

Next descriptive data on self-efficacy, achievement motivation, and self-regulated learning based on respondents' perception was calculated through JASP software (Version19) as shown in Table 3.

Table 3: *Respondents' Perception of Self-Efficacy Achievement Motivation, Self-Regulated Learning (n=1453).*

	Self-efficacy		**Achievement Motivation**		**Self-Regulated Learning**	
	f	%	*f*	%	*f*	%
Agree	1017	69.99	763	52.51	939	64.62
Strongly agree	408	28.08	680	46.80	441	30.35
Do not agree	25	1.72	7	0.48	69	4.75
Strongly Disagree	2	0.14	2	0.14	3	0.21
Sum	1453	100	1453	100	1453	100

Table 3 reveals that respondents who agreed, Self-efficacy scored highest percentage (69.99%) among all categories, followed by Self-Regulated Learning (64.62%) and Achievement Motivation (52.51%). In the category of Strongly agree, Achievement Motivation (46.80%) scored highest among all categories, followed by Self-Regulated Learning (30.35%) and Self-efficacy (28.08%,). Those who disagreed, Self-Regulated Learning (4.75%) was the highest, followed by Self-efficacy (1.72%) and Achievement Motivation (0.48%). Among those who strongly disagreed, Self-Regulated Learning was the highest category, (0.21%), followed by Self-efficacy and Achievement Motivation with equal percentage (0.14%). The main difference in the highest percentage of respondents in Self-efficacy and Self-Regulated Learning is in the "Agree" category. For Achievement Motivation, the highest percentage is in the "Strongly Agree". The "Disagree" and "Strongly Disagree" categories have the smallest percentage across all constructions, with Self-Regulated Learning showing slightly higher disapproval rates than Self-efficacy and Achievement Motivation. Table 4 presents descriptive analysis on Academic Achievement measured through JASP software (Version 19).

Table 4: *Academic Achievement (n=1453).*

	Academic Achievement	
	f	%
Distinction	1161	79.97
Very Satisfactory	226	15.55
Satisfactory	60	4.13
Unsatisfactory	5	0.34
Sum	1453	100

The data retrieved from the responses indicates the percentage distribution of academic achievements among students in the following categories: Distinction: 1161 students (79.97%), Very Satisfactory: 226 students (15.55%), Satisfactory: 60 students (4.13%) and Unsatisfactory: 5 students (0.34%). The highest percentage was measured in the Distinction category with (79.97%), which is significantly higher than the other categories; followed by Very Satisfactory category (15.55%), Satisfactory at (4.13%) and Unsatisfactory, the smallest group with (0.34%).

Correlation between Language Skills, Self-efficacy, Achievement Motivation and Self-Regulated Learning and their impact on Academic Achievement

The Spearman correlation results in Table 5 show that all language skills positively correlate with Academic Achievement. Reading skills (X3) show the highest correlation with Academic Achievement (0.259, $p < 0.001$), followed by speaking (X2) with a correlation of 0.255 ($p < 0.001$), writing (X4) with 0.237 ($p < 0.001$), and listening (X1) with 0.220 ($p < 0.001$). This indicates that students with good reading and speaking skills are more likely to achieve higher Academic Achievement outcomes, as this ability supports a deeper understanding of the lecture material and the ability to participate in class discussions actively.

These results show a significant positive correlation between language skills and Self-efficacy, with speaking skills (X2) having the highest correlation with self-efficacy (0.719, $p < 0.001$), followed by reading skills (X3) with a correlation of 0.595 ($p < 0.001$). This confirms the results of Table 2 and Table 3. This indicates that students with better speaking and reading skills tend to have higher confidence in facing academic challenges, in line with studies by (Medvedeva & Leshner, 2023), which emphasize the importance of language skills to increase engagement in the learning process. Moreover, strong academic literacy, especially in reading and writing, has been shown to contribute significantly to the development of self-regulated learning strategies (Bahri et al., 2024; Henry & Liu, 2024). This is also consistent with (Maulida et al., 2024), which also found that better language skills facilitate understanding of academic material,

strengthen self-efficacy, and help students actively participate in class discussions. This also confirms the findings reported in Table 2 that shows most students are at the level of "Competent" in listening (47.76%) and speaking (46.38%). However, only a small percentage reached the "Expert" level (7.22% for speaking), highlighting the need for strengthening language skills to improve the overall Self-efficacy. This finding also confirms the results of Table 4 which indicates that students who master writing skills at the "Proficient" level (37.23%) also show a higher Self-efficacy, which shows a close relationship between academic literacy and self-confidence. These results are in line with research showing that improving language skills can reduce academic anxiety and strengthen Self-efficacy (Delima et al., 2024). These findings confirm the importance of improving language skills to improve students' Self-efficacy, which can ultimately affect their Academic Achievement.

Table 5: *The Relationship Between Language Skills, Self-Efficacy, Achievement Motivation, and Self-Regulated Learning to Academic Achievement Students in College.*

		Spearman's Correlations							
Variable		**X1**	**X2**	**X3**	**X4**	**Y1**	**Y2**	**Y3**	**Y4**
X1					—				
					—				
X2		0.719				—			
		< .001				—			
X3		0.595	0.587				—		
		< .001	< .001				—		
X4		0.529	0.569	0.647			—		
		< .001	< .001	< .001			—		
Y1	Spearman's rho p-value	0.237	0.255	0.259	0.279			—	
		< .001	< .001	< .001	< .001			—	
Y2		0.240	0.263	0.243	0.274	0.764		—	
		< .001	< .001	< .001	< .001	< .001		—	
Y3		0.220	0.240	0.224	0.237	0.679	0.746	—	
		< .001	< .001	< .001	< .001	< .001	< .001	—	
Y4		0.055	0.071	0.095	0.119	0.120	0.160	0.133	—
		0.037	0.007	< .001	< .001	< .001	< .001	< .001	—

Note: X1: Listening Skills, X2: Speaking Skills, X3: Reading Skills, X4: Writing Skills, Y1: Self-Efficacy, Y2: Achievement Motivation, Y3: Self-Regulated Learning, Y4: Academic Achievement

Table 5 also shows that reading skills (X3) correlate positively with Achievement Motivation (0.243, $p < 0.001$), suggesting that students who are proficient in understanding academic texts are more inclined to set ambitious academic goals. The data in Table 3 further supports this relationship, where a higher percentage of students (46.80%) strongly agree with Achievement Motivation-related statements, correlating with higher language skills proficiency. Likewise, the data in Table 2 also presents the distribution of language skills proficiency among students, where speaking skills (46.38% at the "Competent" level) and reading skills (37.23% at the "Advanced" level) show relatively high percentages. Correlation analysis in Table 5 demonstrates that speaking skills (X2) have a significant positive correlation with Achievement Motivation (0.263, $p < 0.001$), indicating that students with stronger speaking abilities tend to exhibit higher levels of motivation to achieve academically. This finding aligns with research indicating that language proficiency supports goal-setting and perseverance in academic tasks (Ghbari et al., 2024). Additionally, the relatively low percentages for students categorized as "Expert" and "Master" in speaking and reading (7.22% and 4.81%, respectively) in Table 2 highlight the need for more intensive language development programs to boost academic motivation. Previous research supports the notion that language skills enhance communication and motivation, driving improved academic outcomes (Dan, Bai, & Huang, 2024; Henry & Liu, 2024). The relationship between language skills and Achievement Motivation underscores the importance of language skill development as a strategy for enhancing academic motivation among students, which can directly influence academic success.

This study also shows a significant positive relationship between language skills and Self-regulated learning. The Spearman correlation analysis listed in Table 5 shows that there is a significant positive correlation between language skills and Self-regulated Learning, especially reading skills (X3), with a correlation of 0.647 ($p < 0.001$) and writing skills (X4) of 0.237 ($p < 0.001$). These results show that students with better language skills tend to have higher Self-Regulated Learning. Reading skills support a deep understanding of the material while writing assists students in reflecting and evaluating their learning (Bahri et al., 2024). This finding corresponds with the data in Table 2, which show that among students' all language skills, highest levels of "Competent" was scored in listening (47.76%) and speaking (46.38%). The level of "Proficient" was found in reading skills (37.23%), indicating that many students have good language skills, particularly in receptive skills such as Reading and Listening, which are important to support effective Self-Regulated Learning strategies (Diningrat et al., 2024). Likewise, the data in Table 3 also supports this finding, where 64.62% of students agree, and 30.35% strongly agree to have good Self-Regulated Learning skills. These

findings are consistent with previous studies which also suggest that mastery of language skills can facilitate Self-Regulated Learning and be structured, increasing intrinsic motivation to learn more (Henry & Liu, 2024). These findings also align with research that shows that language skills affect students' learning strategies, increasing the effectiveness of planning, monitoring, and evaluation in the learning process (Maulida et al., 2024). The relationship between language skills and Self-Regulated Learning thus reinforces the argument that improving language skills is essential to support the development of effective Self-Regulated Learning strategies, which ultimately contribute to better Academic Achievement.

Table 5 Spearman correlation analysis further reveals that reading skills (X3) show the strongest correlation with Academic Achievement (0.259, $p < 0.001$), followed by speaking skills (X2) with a correlation coefficient of 0.255 ($p < 0.001$). These results indicate that students with stronger reading and speaking abilities tend to achieve higher academic performance, as reading proficiency aids in better comprehension of academic materials, while speaking skills facilitate active class participation, which enhances learning outcomes (Dan et al., 2024; Henry & Liu, 2024). The analysis indicates a significant relationship between language skills and Academic Achievement. As shown in Table 2, the majority of students are categorized as "Competent" in Listening (47.76%) and speaking (46.38%), while Reading has the highest percentage at the "Proficient" level (37.23%). These findings suggest that students generally demonstrate adequate language skills, particularly receptive skills such as listening, listening, and reading, which are crucial for academic success (Diningrat et al., 2024; Medvedeva & Leshner, 2023). Furthermore, the data in Table 4 also demonstrates that 79.97% of students achieved a "Distinction" level, which is the highest category, supporting the positive impact of language proficiency on academic achievement. This finding aligns with Ghbari et al. (2024), indicating that students with higher language skills are more equipped to employ effective learning strategies and deepen their understanding of content. These findings also emphasize the significant role of language skills in Academic Achievement and suggest that language development programs should be prioritized to enhance student performance.

Overall, these results reveal a significant positive relationship between language skills, Self-efficacy, Achievement Motivation, and Self-Regulated Learning with Academic Achievement. While the distribution of language skills shows that most students are at the "Competent" level for listening (47.76%) and speaking skills (46.38%) while reading skills stand out at the "Proficient" level (37.23%), these results confirm the importance of mastering receptive language skills, such as reading and listening, in supporting optimal Academic Achievement (Bahri et al., 2024). The correlation analysis listed further revealed that reading skills (X3) have the highest correlation with Academic Achievement (0.259, $p < 0.001$), followed by speaking skills (X2) with a correlation of 0.255 ($p < 0.001$). This shows that students with higher language skills tend to achieve better Academic Achievement results. In addition, Self-efficacy and Achievement Motivation also showed a strong correlation with Academic Achievement, at 0.764 and 0.746, respectively, indicating that confidence in one's ability and drive to achieve achievement are very important in improving Academic Achievement (Ghbari et al., 2024). The findings also revealed that 69.99% of students agreed they had good Self-efficacy, while 46.80% strongly agreed with the Achievement Motivation statement (See Table 3). In addition, a high approval rate for Self-Regulated Learning (64.62%) indicates the importance of the ability to plan, monitor, and evaluate the learning process. These findings are in line with previous studies highlighting that improvements in language skills, Self-efficacy, Achievement Motivation, and Self-Regulated Learning can directly contribute to better Academic Achievement through more effective learning strategies and increased Achievement Motivation (Diningrat et al., 2024). These results emphasize the need for a comprehensive educational approach that involves the development of language skills, improvement of Self-efficacy, Achievement Motivation, and Self-Regulated Learning to maximize students' Academic Achievement.

This study supports the existing literature that shows a significant correlation between Language skills, Self-efficacy, Achievement Motivation, Self-Regulated Learning, and Academic Achievement. Language skills, especially reading and speaking, were found to have the strongest association with Academic Achievement, as evidenced by the correlation coefficient (Reading $r = 0.259$; speaking $r = 0.255$). These findings are consistent with previous research that emphasized the role of language skills in understanding course content and participating in academic discussions (Henry & Liu, 2024; Medvedeva & Leshner, 2023). The strong correlation between Self-efficacy and Academic Achievement ($r = 0.764$) aligns with Bandura's theory of Self-efficacy, which argues that students' belief in their abilities significantly influences their behavior and Academic Achievement outcomes (Ghbari et al., 2024). Similarly, the relationship between Achievement Motivation and Academic Achievement ($r = 0.746$) highlights the importance of Achievement Motivation in encouraging students to set and achieve high academic standards. This is in line with the findings of (Ali et al., 2024), who argue that Achievement Motivation serves as a key predictor of Academic Achievement in various educational settings. However, while previous studies have examined these variables independently, holistic analyses of language skills, Self-efficacy, Achievement Motivation, and Self-Regulated Learning about Academic Achievement still need to be available. This study fills this gap by integrating these variables to explore their collective impact on Academic Achievement. The multidimensional approach provides a more comprehensive understanding of how cognitive factors (language skills), affective (Self-efficacy), and Achievement Motivation collectively affect Self-Regulated Learning and Academic Achievement strategies (Waluyo, Songkhai, & Li, 2024).

Conclusion

This study has made a correlation analysis of language skills as an important factor in the Self-efficacy, Achievement Motivation, and Self-Regulated Learning frameworks and their combined influence on Academic Achievement. Unlike previous studies that tended to isolate the effects of Self-efficacy or Self-Regulated Learning on Academic Achievement, this study examined the synergy between these variables, with language skills acting as a mediator. For example, while previous studies focused on Self-efficacy and Achievement Motivation without discussing the role of language skills, this study expands the scope by considering how language skills support the development of effective Self-Regulated Learning strategies. By including language skills in the analysis, this study provides a more nuanced understanding of the factors that contribute to Academic Achievement, emphasizing the importance of language skills as the basis for Self-Regulated Learning and Achievement Motivation processes.

The findings of this study expand existing theories about Self-efficacy and Achievement Motivation by illustrating how language skills, especially reading and writing, can improve these psychological constructs. The results show that students who are proficient in language skills are not only better prepared to understand academic content but also show higher levels of confidence Self-efficacy and Achievement Motivation to pursue challenging academic tasks. This is supported by research that shows that language skills positively affect cognitive and metacognitive learning strategies, thereby increasing Academic Achievement

While this research offers valuable insights, certain limitations should be noted. The cross-sectional design prevents the formation of causality between language skills, Self-efficacy, Achievement Motivation, Self-Regulated Learning, and Academic Achievement. Future research using a longitudinal approach could clarify the direction of these relationships over time. In addition, reliance on self-reported data for Self-efficacy, Achievement Motivation, and Self-Regulated Learning measures can give rise to social desire bias. Combining self-reporting with objective assessment of language skills and learning behaviors can increase the robustness of the findings. Another limitation is the homogeneity of the sample, which is mainly made up of students from the same academic background. Including more diverse students from different educational contexts can improve the generalization of outcomes. In addition, cultural factors influencing the development of language skills and the construction of Achievement Motivation should be considered in future research to understand how these relationships may vary across different cultural settings.

Future studies should adopt a longitudinal design to investigate the dynamic relationship between language skills, Self-efficacy, Achievement Motivation, Self-Regulated Learning, and Academic Achievement over time. This will provide a more detailed understanding of how language skills affect the Achievement Motivation and Self-Regulated Learning processes across the educational trajectory. In addition, experimental research focused on interventions aimed at improving language skills can assess their impact on Self-efficacy and Self-Regulated Learning, providing practical insights for educators on effectively supporting students in improving their Academic Achievement. It emphasizes the importance of a holistic approach that includes improving language skills and psychological factors in supporting students' Academic Achievement. Further research is recommended to use a longitudinal design to explore the long-term effects of language skills, Self-efficacy, Achievement Motivation, and Self-Regulated Learning on Academic Achievement. In addition, interventions to improve language skills and Self-Regulated Learning strategies can be studied more deeply to understand their impact on improving Academic Achievement in various cultural contexts. Future research may also explore the moderation effects of demographic variables such as age, gender, and cultural background on the relationship between language skills, Self-efficacy, Achievement Motivation, Self-Regulated Learning, and Academic Achievement. This will help identify specific factors that may influence these interactions and inform the development of tailored interventions (Dadang Prayoga et al., 2024; Maulida et al., 2024). Overall, the findings of this study contribute to the academic literature by highlighting the nature of language skills, Achievement Motivation factors, and Interrelated Self-Regulated Learning strategies in shaping Academic Achievement.

References

Ali, M., Tomoliyus, Abdul, A., Endang Rini, S., Fauzi, Awan, H., et al. (2024). The Impact of Service Quality, Family Support, and Coach-athlete Intimacy on the Achievement Performance of Student-athletes Through Motivation as a Mediator. *SPORT TK-Revista EuroAmericana de Ciencias del Deporte, 13*, 14. doi: https://doi.org/10.6018/sportk.574101

Backers, L., De Smedt, F., & Van Keer, H. (2024). Teachers as agents of self-regulated learning (SRL): Studying the relations between teachers' knowledge, beliefs, and SRL implementation across educational levels. *Unterrichtswissenschaft, 52*(1), 15-38. doi: https://doi.org/10.1007/s42010-023-00190-1

Bahri, A., Hidayat, W., Putra, K. P., Ainun, N. A., & Arifin, N. (2024). The Relationship between Students' Perception to the Learning Media, Digital Literacy Skills, and Self-Regulated Learning with Students' Learning Outcomes in the Rural Area. *Journal of Technology and Science Education, 14*(2), 588-606. doi: https://doi.org/10.3926/jotse.2513

Chapupu, T., Gatsi, A. B., Chibhabha, F., & Zilundu, P. L. M. (2024). Self-regulated learning of anatomy during the COVID-19 lockdown period in a low-income setting. *BMC Medical Education, 24*(1), 548. doi: https://doi.org/10.1186/s12909-024-05329-x

Cheng, X., Yin, L., Lin, C., Shi, Z., Zheng, H., Zhu, L., et al. (2024). Chatbot dialogic reading boosts comprehension for Chinese kindergarteners with higher language skills. *Journal of Experimental Child Psychology, 240*, 105842. doi: https://doi.org/10.1016/j.jecp.2023.105842

Dadang Prayoga, H., Lumintuarso, R., Fitrianto, A. T., Rini Sukamti, E., Hariono, A., & Prabowo, T. A. (2024). A Case Study of Indonesian Amateur Boxing Athletes: Is There an Influence of Organizational Culture and Quality of Service on Performance through Achievement Motivation as a Mediator? *Retos: Nuevas Perspectivas de Educación Física, Deporte y Recreación, 56*, 63-72. doi: https://doi.org/10.47197/retos.v56.103128

Dan, Q., Bai, B., & Huang, Q. (2024). Gender differences in the relations between EFL students' classroom relationships and English language proficiency: The mediating role of self-regulated learning strategy use. *System, 123*, 103311. doi: https://doi.org/10.1016/j.system.2024.103311

Delima, N., Kusuma, D. A., & Paulus, E. (2024). The students' mathematics self-regulated learning and mathematics anxiety based on the use of chat GPT, music, study program, and academic achievement. *Infinity Journal, 13*(2), 349-362. doi: https://doi.org/10.22460/infinity.v13i2.p349-362

Diningrat, S. W. M., Marín, V. I., & Bachri, B. S. (2024). Students' Self-Regulated Learning Strategies in the Online Flipped Classroom. *Journal of Educators Online, 21*(3). doi: https://doi.org/10.9743/jeo.2024.21.3.4

Ghbari, T., Albadareen, G., Al-smadi, R., Damra, J., & Shammout, N. (2024). The Mediating Role of Self-Efficacy in The Relationship Between Self-Determination Motive and Academic Engagement Among Undergraduate Students. *Participatory Educational Research, 11*(3), 43-58. doi: https://doi.org/10.17275/per.24.33.11.3

Guo, J., Chen, Y., Shen, B., Peng, W., Wang, L., & Dai, Y. (2024). Translation and validation of the Chinese version of Palliative Care Self-Efficacy Scale. *Palliative and Supportive Care*, 1-7. doi: https://doi.org/10.1017/S1478951524000518

Henry, A., & Liu, M. (2024). L2 motivation and self regulated learning: An integrated model. *System, 123*, 103301. doi: https://doi.org/10.1016/j.system.2024.103301

Hertel, S., Reschke, K., & Karlen, Y. (2024). Are profiles of self-regulated learning and intelligence mindsets related to students' self-regulated learning and achievement? *Learning and Instruction, 90*, 101850. doi: https://doi.org/10.1016/j.learninstruc.2023.101850

Hidayatullah, A., & Csíkos, C. (2024). The Role of Students' Beliefs, Parents' Educational Level, and The Mediating Role of Attitude and Motivation in Students' Mathematics Achievement. *The Asia-Pacific Education Researcher, 33*(2), 253-262. doi: https://doi.org/10.1007/s40299-023-00724-2

Hidayatullah, A., Setiyawan, R., & Syarifuddin. (2024). Primary Education Students' Beliefs About the Nature of Mathematics, Self-efficacy, and Mathematics Educators; A Descriptive Study From Indonesia. *Education 3-13*, 1-16. doi: https://doi.org/10.1080/03004279.2024.2380468

Imtihansyah, R., Tomoliyus, T., Sukamti, E. R., Fauzi, F., Prabowo, T. A., Prayoga, H. D., et al. (2024). The Impact of Parental Support on Performance Achievement through Achievement Motivation in Elite Athletes in South Kalimantan, Indonesia: A Cross-Sectional Study with Structural Equation Modeling Analysis. *Retos: nuevas tendencias en educación física, deporte y recreación, 57*, 346-354. doi: https://doi.org/10.47197/retos.v57.105996

Irwansyah Abdhi, M., Rini Sukamti, E., Prabowo, T. A., Maulana, A., Habibie, M., Amalia, B., et al. (2024). The Effect of Service Quality on Achievement Motivation in Kurash Sport in Indonesia: Analysis Based on Category as Moderator. *Retos: Nuevas Perspectivas de Educación Física, Deporte y Recreación, 57*, 517-525. doi: https://doi.org/10.47197/retos.v57.105998

Li, W., Liu, C.-Y., & Tseng, J. C. R. (2024). Development of a metacognitive regulation-based collaborative programming system and its effects on students' learning achievements, computational thinking tendency and group metacognition. *British Journal of Educational Technology, 55*(1), 318-339. doi: https://doi.org/10.1111/bjet.13358

Liu, M., & Chen, Z. (2024). Predictive and Mediating Effects of Learning Strategies and Styles on Chinese Undergraduate Students' English Achievement. *The Asia-Pacific Education Researcher, 33*(5), 1083-1091. doi: https://doi.org/10.1007/s40299-023-00775-5

Martínez-López, Z., Moran, V. E., Mayo, M. E., Villar, E., & Tinajero, C. (2024). Perceived social support and its relationship with self-regulated learning, goal orientation self-management, and academic achievement. *European Journal of Psychology of Education, 39*(2), 813-835. doi: https://doi.org/10.1007/s10212-023-00752-y

Maulida, A. S., Wahyudin, W., Turmudi, T., & Nurlaelah, E. (2024). The effect of experiential learning and directed instructions assisted by augmented reality on students' self-regulated learning. *Infinity Journal, 13*(2), 553-568. doi: https://doi.org/10.22460/infinity.v13i2.p553-568

Medvedeva, Y. S., & Leshner, G. M. (2023). Moderation Effects of Language Skills, Residential Tenure, and Education on Immigrants' Learning From News. *Journalism & Mass Communication Quarterly, 100*(2), 416-437. doi: https://doi.org/10.1177/10776990221093930

Monaghan, P., Donnelly, S., Alcock, K., Bidgood, A., Cain, K., Durrant, S., et al. (2023). Learning to generalise but not segment an artificial language at 17 months predicts children's language skills 3 years later. *Cognitive Psychology, 147*, 101607. doi: https://doi.org/10.1016/j.cogpsych.2023.101607

Osakwe, I., Chen, G., Fan, Y., Rakovic, M., Singh, S., Lim, L., et al. (2024). Towards prescriptive analytics of self-regulated learning strategies: A reinforcement learning approach. *British Journal of Educational Technology, 55*(4), 1747-1771. doi: https://doi.org/10.1111/bjet.13429

Ridwan, M., Rachman Syam Tuasikal, A., Januarumi Marhaendra, F., Oky Ristanto, K., Gazali, N., Monterrosa-Quintero, A., et al. (2023). Technology Readiness and Psychological Correlate with Academic Achievement of Elite Student-Athletes at the College Level? *Federación Española de Asociaciones de Docentes de Educación Física (FEADEF),* (50), 628-634. doi: https://doi.org/10.47197/retos.v50.99398

Setiawan, E., Suherman, W., Nurhasan, N., Haryanto, H., & Setiawan, E. (2023). Aprendizaje invertido como solución para aumentar la motivación y el rendimiento académico: 5 semanas de investigación mixta. *Aloma: Revista de Psicologia, Ciències de l'Educació i de l'Esport, 41*(2), 71-82. doi: https://doi.org/10.51698/aloma.2023.41.2.71-82

Waluyo, B., Songkhai, K., & Li, J. (2024). Enhancing Online English Self-Regulated Learning through Gamification and Active Learning in Higher Education. *TESL-EJ, 28*(2), 1-24. doi: https://doi.org/10.55593/ej.28110int

Wang, H., Orosco, M. J., Peng, A., Long, H., Reed, D. K., & Lee Swanson, H. (2024). The Relation of Bilingual Cognitive Skills to the Second Language Writing Performance of Primary Grade Students. *Journal of Experimental Child Psychology, 238*, 105776. doi: https://doi.org/10.1016/j.jecp.2023.105776

Wang, Y., & Tambi, F. B. (2024). Correlation Between Students' Perceived Parental Expectations and Students' Academic Engagement: the Intermediary Effect of Academic Self-efficacy. *Journal of Pedagogical Research, 8*(3), 16-33. doi: https://doi.org/10.33902/JPR.202427683

Yuniarti, N., Rahmawati, Y., Anwar, M., Al Hakim, V. G., Hidayat, H., Hariyanto, D., et al. (2024). Augmented reality-based higher order thinking skills learning media: Enhancing learning performance through self-regulated learning, digital literacy, and critical thinking skills in vocational teacher education. *European Journal of Education*, e12725. doi: https://doi.org/10.1111/ejed.12725