
The Effect of Differential Learning Durations Based on English Proficiency Level on Academic English Achievement

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Abstract

This study aims to examine how English achievement differs across learning durations based on different proficiency levels and to explore students' experiences regarding the influence of learning duration on their language learning process. Employing a mixed-methods explanatory sequential design, 189 EFL students were categorized into B1, B2, C1, and C2 levels using placement tests. Quantitative data were collected through a learning duration questionnaire and four English proficiency assessments, analyzed using Two Way ANOVA. The results revealed statistically significant differences in learning duration ($\text{Sig. } 0.000 < 0.05$), proficiency level ($\text{Sig. } 0.000 < 0.05$), and their interaction ($\text{Sig. } 0.000 < 0.05$) on academic English achievement, indicating that achievement outcomes varied according to both learning duration and proficiency levels. Qualitative data from in-depth interviews with 24 students were analyzed thematically. The findings revealed that longer learning durations enhanced language comprehension, self-regulation, and academic focus, especially among advanced-level students. However, some lower-proficiency learners reported cognitive fatigue and declining engagement during extended sessions. These results suggest that optimizing the duration of learning activities according to learners' proficiency levels is essential to promote effective academic outcomes in English as a Foreign Language (EFL) instruction. The study underscores the value of differentiated time allocation to support both cognitive and emotional aspects of language learning.

Keywords: Academic language achievement, English proficiency levels, learning durations

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1. Introduction

English proficiency is a crucial factor in academic success and professional development in today's globalized world. Various studies have examined factors influencing English language achievement, including instructional methods, learner motivation, and socio-cultural context. Among these, learning duration remains a key variable in language learning. While previous research has explored the impact of learning duration on learning outcomes, these studies primarily focus on the overall effect of learning duration without considering its variations (long, moderate, and short) in relation to different proficiency levels. Additionally, prolonged English as a Foreign Language (EFL) learning often encounters challenges such as outdated instructional methods and limited teaching resources, which can lead to inconsistent learning outcomes (Talidong 2020). Moreover, the lack of communicative engagement and contextual application exacerbates these issues, making it difficult for students to retain and effectively utilize their language skills (Assalahi 2020).

Despite the significance of learning duration, no prior studies have explicitly investigated how varying learning durations (long, moderate, and short) influence English language achievement across different proficiency levels. Existing research tends to examine language proficiency improvement as a general outcome, often focusing on a single proficiency level without considering comparative effects on students with varying levels of English competence. This gap in the literature necessitates a more detailed analysis of how learning duration based on different language proficiency levels, specifically intermediate (B1), upper-intermediate (B2), advanced (C1), and proficiency (C2) on language achievement. Additionally, in online EFL learning environments, technological barriers, digital literacy gaps, and diminished student engagement present further challenges (Adeleye et al., 2024), (Choudhary & Bansal 2022). These issues highlight the need for a deeper investigation into the impact of learning duration across multiple learning settings.

To address the aforementioned problems, this study proposed a systematic investigation into the effect of varied learning durations on English language achievement. By conducting comparative analysis across different proficiency levels, this research examines whether the impact of learning durations is uniform across all learners or whether it differs based on their initial English proficiency. The study categorizes students into different groups based on their learning duration (long, moderate, and short) and measures their language achievements in relation to their proficiency levels.

Based on background of the study, it emphasizes the importance of understanding the effects of learning durations on academic English performance based on different language proficiency levels more specifically. This research is significant because it can provide theoretical contributions in the development of differentiated learning based on proficiency levels, as well as practical implications for teachers and curriculum designers in determining the appropriate learning durations according to students' needs. Based on this focus, this study aims to: (1) to find out how English achievement differs across learning durations based on different proficiency levels, and (2) explore students' experiences regarding the impact of learning duration on their language learning process.

1.1. Literature reviews

1.1.1. Theoretical framework

The theoretical foundation of this study integrates Cognitive Load Theory (CLT) and Self-Regulated Learning (SRL), both essential in understanding academic English achievement. CLT, introduced by Sweller (1988), emphasizes the constraints of working memory and highlights the need for instructional design that minimizes extraneous cognitive load to support comprehension and task performance (Noonan, 2022; Peishan & Hongyuan, 2023). Structuring tasks according to learners' proficiency levels helps optimize cognitive resources, especially for complex skills like academic reading and writing (Zhou 2023).

Meanwhile, SRL theory underscores learners' capacity for autonomous learning through planning, monitoring, and evaluation (Parveen & Jan 2023). This is particularly vital for learners with varying English proficiencies, as SRL enables effective time management and adaptation to individual needs (Li et al., 2023). Learners with strong SRL skills perform better in extended learning settings, especially in critical thinking and academic writing tasks (Ifadloh 2023), with time investment and self-regulation shown to interactively enhance achievement (Huang et al., 2023). In sum, CLT and SRL together provide a robust framework, where learner readiness, proficiency, and self-regulatory behaviors converge to support optimal outcomes in academic English (Villegas et al., 2023).

1.1.2. Learning durations and language performance: Insights from EFL research

Previous EFL research consistently confirms that learning duration affects language achievement, yet most studies treat duration as a general exposure variable rather than a differentiated pedagogical factor. For instance, there is correlation between of longer study time with socio-educational background (Sukyadi & Hakim 2023; Wu et al., 2025), while Ouyang (2025) emphasized self-regulated learning and technology support as drivers of engagement during extended learning. Similarly, Extended or immersive learning periods enhance proficiency provided that learners engage actively in the learning process (Weng et al. 2024; Zhang et al. 2021; Yu et al. 2025). As whole, prior studies confirm the importance of learning duration in language achievement; however, they treat instructional time as a uniform variable across learners, without considering how different proficiency levels may require different durations to achieve comparable outcomes.

Previous studies generally treat learning duration as a general variable associated with improved language learning outcomes without conducting in-depth analytical differentiation. Various studies categorize duration into specific categories and assess its effect on aspects of language proficiency such as fluency, vocabulary, grammar, and other general proficiency (Li et al. 2025; Herlyna & Pujiani 2024; Ilhansyah et al. 2024). The main focus of these studies is on the extent to which the length of exposure to learning contributes to overall performance improvement, rather than on the varying needs or characteristics of learners. Thus, the existing literature emphasizes duration as a quantitative factor that has a general impact on learning outcomes, without elaborating on the complexity of the context or specific differences between groups of learners. Therefore, the present study advances the field by examining how differential learning durations interact with proficiency levels (B1-C2) to influence academic

English achievement, addressing the absence of proficiency-based duration analysis noted in prior literature.

2. Method

2.1. Research design

This study employed a mixed methods design using an explanatory sequential model (Munce et al., 2021), integrating quantitative and qualitative data to enhance research depth and validity. This design was selected because the study aims to examine not only the statistical effects of learning duration across different proficiency levels but also to explain how and why such effects occur. The explanatory sequential approach was specifically chosen because the research required quantitative results to be established first in order to identify significant patterns and interaction effects, which were then further explored and clarified through qualitative inquiry. It began with a placement test to group EFL students by proficiency (intermediate to proficient), ensuring accurate classification before examining duration effects, followed by quantitative data collection on learning duration to identify measurable patterns. English tests assessed overall proficiency outcomes, and qualitative data were later gathered via interviews and focus group discussions to contextualize and interpret the quantitative findings (Thornberg et al. 2022). This model provided both statistical breadth and rich qualitative insight, enabling comprehensive interpretation of interaction effects between learning duration and proficiency level (Haynes-Brown 2023).

2.2. Population and samples

This study involved 359 Computer Department students at Bumigora University who had completed two semesters in an ESP program focused on academic and professional English for computing. Data were collected using stratified random sampling with 189 students were selected to ensure proportional representation across English proficiency levels, as determined by a standardized placement test. Stratified sampling was deliberately employed because proficiency level functions as a key independent variable in this study; therefore, proportional representation from each level was necessary to avoid sampling bias and to allow valid comparison of learning duration effects across heterogeneous proficiency groups. Slovin's formula was applied with a 5% margin of error to calculate the appropriate sample size (Ary et al., 2010). This stratified approach ensured balanced representation and captured diverse learning experiences across different durations and proficiency levels. Qualitative data from in-depth interviews with 24 participants further explored individual experiences. This section outlines respondent numbers and demographics, as in Table 1.

Table 1. The number of respondents and demographic information

Smt./Class	High Duration				Moderate Duration				Low Duration			
	B1	B2	C1	C2	B1	B2	C1	C2	B1	B2	C1	C2
The samples of quantitative design												
I/a	3	5	1	2	3	3	2	-	12	4	1	-

II/b	2	3	2	1	4	5	5	-	7	3	2	1
III/c	5	2	3	-	5	2	3	1	9	5	1	-
III/d	4	3	2	1	3	5	2	-	5	6	4	1
V/e	7	4	4	1	3	4	4	2	8	8	1	-
Total	21	17	12	5	18	19	16	3	41	26	9	2
55 (29.1%)				56 (29.6%)				78 (41.3%)				
The Subjects of qualitative design												
All Levels	7				9				8			
24												

2.3. Instruments

The study employed three main instruments: a placement test, a learning duration questionnaire (high, moderate, low), and level-specific English post-tests. Four separate English tests (intermediate, upper-intermediate, advanced, proficient) were administered to align test difficulty with learners' proficiency, reducing measurement bias and construct underrepresentation that could occur with a single uniform test across heterogeneous groups. All six instruments were validated and reliable. The 30-item placement test showed construct validity of 0.248-0.587 (Sig. < 0.05) and $\alpha = 0.825$. The 10-item duration questionnaire demonstrated validity of 0.647-0.864 (Sig. < 0.05), S-CVI/Ave = 0.90 (> 0.80), and $\alpha = 0.909$. The intermediate test showed validity 0.226-0.506 (Sig. < 0.05), $\alpha = 0.786$; upper-intermediate 0.237-0.584, $\alpha = 0.785$; advanced 0.266-0.606, $\alpha = 0.847$; and proficient 0.247-0.750, $\alpha = 0.815$. All instruments met required psychometric standards as seen in Table 2.

In terms of variable operationalization, proficiency level was operationalized based on placement test scores, which were used to classify students into intermediate, upper-intermediate, advanced, and proficient categories. Learning duration was operationalized through total questionnaire scores reflecting the frequency and intensity of English learning activities, which were then categorized into low, moderate, and high duration groups based on empirical score distribution. English achievement, as the dependent variable, was operationalized through level-specific post-tests aligned with each proficiency category, ensuring that achievement scores accurately reflected learners' competence within their respective levels.

Table 2. Summary of research measurement tools' validity and reliability testing results

No.	Assessment tools	Number of items	Validity (Construct & Content); S-CVI (Ave)	Reliability coefficient (α)	Conclusion
1.	Placement test (All proficiency levels)	30	0.248-0.587 (Sig. < 0.05)	0.825	Valid & Reliable
2.	Learning duration questionnaire	10	0.647-0.864 (Sig. < 0.05), S-CVI/Ave = 0.90 (> 0.80)	0.909	Valid & Reliable
3.	Intermediate English test	30	0.226-0.506 (Sig. < 0.05),	0.786	Valid & Reliable
4.	Upper-intermediate English test	30	0.237-0.584 (Sig. < 0.05)	0.785	Valid & Reliable
5.	Advanced English test	30	0.266-0.606 (Sig. < 0.05)	0.847	Valid & Reliable
6.	Proficient English test	30	0.247-0.750 (Sig. < 0.05)	0.815	Valid & Reliable

2.4. Data collection methods

The data collection process followed a structured sequence. First, a placement test was administered to 189 respondents to identify and classify their proficiency into intermediate, upper-intermediate, advanced, and proficient learner's groups. The test comprised 30 questions assessing grammar and vocabulary knowledge, reading comprehension, writing skills, and speaking performance to ensure a comprehensive evaluation. Next, a questionnaire was distributed to gather self-reported data on participants' learning durations and related learning activities aiming at categorizing respondents into low, moderate and high learning durations. The instrument facilitated the quantitative analysis of the relationship between learning duration and language proficiency across varying proficiency levels. Finally, four English proficiency tests, also consisting of 30 items measuring for each language proficiency level, was conducted to assess the respondents' language achievements. Qualitative data were collected through semi-structured interviews with 24 students representing all proficiency levels and learning duration categories. This sample size was determined based on data saturation, ensuring sufficient depth and no emergence of new themes (Benítez and Padilla 2014). Data were collected in varied contexts, including managing independent learning duration use outside the classroom and classroom settings without time or location constraints, providing insights into diverse learning situations.

2.5. Data analysis methods

The quantitative data were analyzed using Two-Way ANOVA to examine the main and interaction effects of learning duration and proficiency level on English achievement. This technique was appropriate because the study involved two categorical independent variables influencing one dependent variable, enabling simultaneous testing of both direct and interaction effects. Normality assumptions were confirmed using the Kolmogorov–Smirnov test ($\text{Sig.} = 0.066 > 0.05$). Qualitative data were analyzed through iterative thematic analysis, including transcription, coding, theme categorization, pattern identification, and interpretative inference. This process aimed to explain and contextualize the statistical findings. The integration of quantitative results with thematic insights provided a comprehensive understanding of how learning duration differentially affects English achievement across proficiency levels. The whole analysis process is summarized and presented in Table 3.

Table 3. Steps of data analysis of quantitative and qualitative methods (Mixed-method)

Analysis type	Stages of analysis	Description
Quantitative analysis	Assumption Testing	Conducted classical assumption tests for Two-Way ANOVA, including normality (Kolmogorov-Smirnov test) and homogeneity of variance (Levene's test).
	Two-Way ANOVA	Examined the effects of learning duration on English proficiency across different levels and tested for interaction effects.
Qualitative analysis	Data transcription	Converted interview recordings into text for systematic analysis.
	Data reduction	Coded and categorized key themes to identify patterns.
	thematic classification	Grouped responses based on emerging themes related to learning duration and language proficiency.
	Descriptive analysis	Provided detailed descriptions of findings and relationships between learning duration and proficiency outcomes.
	interpretation & validation	Drew inferences from qualitative data to support quantitative findings; ensured reliability through data saturation.

3. Findings and Discussion

3.1. Impact of learning durations based on language proficiency levels on language achievement

This section presents the results of the analysis on the effects of learning durations based on English proficiency levels on students' language achievement. Participants were grouped based on their learning duration (high, moderate, low) and proficiency level (intermediate to proficient). The analysis investigated the main effects and interaction effects of both variables to determine how each factor, individually and jointly, influences English language

performance. These findings offer an empirical overview of how varying durations of learning engagement shape proficiency outcomes in EFL learners in different proficiency.

Table 4. Mean scores of language achievements

Dependent variable				
Types of learning duration	Proficiency Levels	Mean	Std. Deviation	N
Long Duration	B1 (Intermediate)	74.38	4.610	21
	B2 (Upper Intermediate)	73.53	5.137	17
	C1 (Advanced)	87.75	1.960	12
	C2 (Proficiency)	94.40	1.140	5
	Total	78.85	8.558	55
Moderate duration	B1 (Intermediate)	67.22	4.545	18
	B2 (Upper Intermediate)	71.95	4.552	19
	C1 (Advanced)	91.38	2.473	16
	C2 (Proficiency)	96.00	2.000	3
	Total	77.27	11.611	56
Low Duration	B1 (Intermediate)	59.51	4.561	41
	B2 (Upper Intermediate)	72.00	3.980	26
	C1 (Advanced)	85.22	2.991	9
	C2 (Proficiency)	85.50	.707	2
	Total	67.31	10.138	78
Total	B1 (Intermediate)	65.15	7.777	80
	B2 (Upper Intermediate)	72.40	4.474	62
	C1 (Advanced)	88.70	3.495	37
	C2 (Proficiency)	93.10	4.254	10
	Total	73.62	11.449	189

Table 4 reveals notable differences in English achievement across learning durations and proficiency levels. Students with longer learning durations achieved higher mean scores ($M=78.85$) compared to moderate ($M=77.27$) and short durations ($M=67.31$). Across all groups, higher proficiency students (C1-C2) consistently outperformed lower levels (B1-B2), with C2 learners in the long-duration group scoring the highest ($M=94.40$). These patterns suggest that extended learning and higher proficiency levels positively impact language achievement. A Two-Way ANOVA was conducted to examine the significance and interaction effects of these variables. Furthermore, A Two-Way ANOVA was conducted to examine the effects of learning duration and proficiency levels on English achievement, including their interaction. The results highlight how both factors influence performance outcomes, as follows:

Table 5. The effects of learning durations with different proficiency on performance

Dependent variable						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	21625.826 ^a	11	1965.984	115.273	.000	.878
Intercept	586424.815	1	586424.815	3.438E4	.000	.995
Learning durations	787.312	2	393.656	23.081	.000	.207
Proficiency levels	13318.923	3	4439.641	260.312	.000	.815
Learning durations* Language proficiency	1526.985	6	254.497	14.922	.000	.336
Error	3018.746	177	17.055			
Total	1048980.000	189				
Corrected Total	24644.571	188				

a. R Squared = .878 (Adjusted R Squared = .870)

As presented in table 5, ANOVA results reveal statistically significant effects of learning duration (*Sig.* < 0.05) based on proficiency levels (*Sig.* < 0.05) on language test outcomes, with proficiency level playing a dominant role. Additionally, the interaction effect between learning duration and proficiency level is significant (*Sig.* < 0.05) indicating that the impact of learning duration varies across proficiency levels. These findings highlight the importance of considering both learning duration and proficiency level when evaluating language learning effectiveness. The significant interaction effect suggests that tailored learning approaches may be necessary to optimize outcomes for different proficiency groups.

Furthermore, Tukey HSD Post hoc test revealed significant differences in English performance across proficiency levels, highlighting how achievement varies by proficiency stage. The comprehensive results of this analysis are presented in the table below:

Table 7. Multiple comparisons of language test results based on proficiency levels

Language test results Tukey HSD						
(I) Proficiency Levels	(J) Proficiency Levels	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
B1 (Intermediate)	B2 (Upper Intermediate)	-7.25*	.699	.000	-9.07	-5.44
	C1 (Advanced)	-23.55*	.821	.000	-25.68	-21.42
	C2 (Proficiency)	-27.95*	1.385	.000	-31.54	-24.36
B2 (Upper Intermediate)	B1 (Intermediate)	7.25*	.699	.000	5.44	9.07
	C1 (Advanced)	-16.30*	.858	.000	-18.52	-14.07

C1 (Advanced)	C2 (Proficiency)	-20.70*	1.407	.000	-24.35	-17.05
	B1 (Intermediate)	23.55*	.821	.000	21.42	25.68
	B2 (Upper Intermediate)	16.30*	.858	.000	14.07	18.52
C2 (Proficiency)	C2 (Proficiency)	-4.40*	1.472	.017	-8.21	-.58
	B1 (Intermediate)	27.95*	1.385	.000	24.36	31.54
	B2 (Upper Intermediate)	20.70*	1.407	.000	17.05	24.35
	C1 (Advanced)	4.40*	1.472	.017	.58	8.21

Based on observed means.

The error term is Mean Square (Error) = 17.055.

*. The mean difference is significant at the .05 level.

The Tukey HSD post hoc test indicates statistically significant differences in English achievement across all proficiency levels. Proficient students (C2) significantly outperformed all lower levels, with the largest mean difference observed between C2 and B1 (MD = 27.95, $p < .05$). Advanced learners (C1) also showed significantly higher scores than B1 and B2, though slightly lower than C2. Each proficiency level differs significantly from others, confirming a progressive increase in language performance from intermediate (B1) to proficiency (C2).

3.2. Development of language achievement across varying durations and across proficiency levels

Qualitative findings elucidate quantitative results by explaining how learning duration and proficiency interact to influence achievement. While longer study and higher proficiency correlate with better outcomes, effectiveness varies across learners, depending on study habits, strategy use, motivation, and academic engagement in authentic contexts.

3.2.1. Personal learning experience and learning habit patterns across proficiency levels

This section examines how English learning experiences and study habits vary across proficiency levels, interpreted alongside the observed differences in language achievement.

Table 8. Learning experience and habits across proficiency level on language achievement

Category	Finding	Interview Excerpt
Integration of English learning into daily activities	Higher proficiency students (C1-C2) use English in academic and professional contexts, engaging with authentic materials, while intermediate learners (B1-B2) rely on structured, task-based learning.	"I engage with research papers and academic discussions daily. English is part of my work and learning routine." (P7, C1 level) "I mostly study English from textbooks and exam-related exercises." (P15, B2 level)
Learning duration & consistency	High-achieving students dedicate 2-3 hours daily to active learning, while lower-proficiency students' study inconsistently, typically 30	"I make sure to practice English for at least two hours every day through reading and writing." (P4, C2 level)

Category	Finding	Interview Excerpt
Evolution of learning habits	minutes to an hour, intensifying efforts before exams.	<i>"I usually study English only before my exams." (P22, B1 level)</i>
	As proficiency increases, students shift from structured study to adaptive, self-directed learning driven by academic and professional needs.	<i>"Initially, I followed a strict study schedule, but now, English is naturally embedded in my research activities." (P10, C1 level)</i>
Motivation & practical relevance	Motivation to maintain extended learning durations is driven by the perceived need for English in fields like computer science, engineering, and business.	<i>"In my field, mastering English is crucial because most resources and discussions are in English." (P12, Engineering major, C1 level)</i>

Across categories, the data consistently show that higher proficiency levels are associated with more consistent learning duration, authentic language engagement, and adaptive learning strategies, which correspond with stronger language achievement. Students at advanced levels embed English into daily academic routines, creating sustained exposure that supports cumulative skill development. In contrast, intermediate learners tend to rely on structured and exam-focused practices with less consistent study duration, limiting opportunities for continuous skill reinforcement. As proficiency increases, learning becomes more self-directed and professionally oriented, reflecting a shift from externally structured study to internally motivated engagement. These patterns indicate that extended and consistent learning duration not only differentiates proficiency levels but also shapes the evolution of learning habits that sustain long-term academic language development.

3.2.2. Perceived impact of learning duration on language skills

This section presents students' perceptions of how learning duration shapes their English language development, viewed alongside the observed achievement patterns across duration groups.

Table 9. The impacts of learning durations on learning consistency, language skills and skill development

Category	Finding	Interview Excerpt
Confidence in English proficiency	Longer learning durations enhance confidence in reading and speaking.	<i>"Spending more time studying English allows me to understand research articles and participate in discussions more effectively." (P5, C1)</i>
Learning consistency	Shorter learning durations lead to irregular learning patterns and slower progress.	<i>"I often struggle to keep up with lectures because I don't study English regularly." (P9, B2)</i>
Skill development	Longer durations support balanced progress in all language skills, with reading and writing improving faster.	<i>"I read journal articles and write reports almost daily, which helps improve my writing and comprehension." (P12, C1)</i>

Category	Finding	Interview Excerpt
Speaking and listening challenges	Shorter durations hinder spontaneous speaking and comprehension, especially with accents and technical terms.	<i>"I find it difficult to follow conversations with native speakers, especially when they use technical terms." (P18, B1)</i>
Learning habits	Extended learning durations promote structured and disciplined learning routines.	<i>"Setting aside time each day for English practice has helped me stay consistent and improve over time." (P22, C2)</i>

The findings indicate that learning duration plays a crucial role in shaping Computer Science students' English language development. Students with longer learning durations demonstrate greater confidence in both written and spoken English, as extended exposure enables them to engage with diverse learning resources such as scholarly articles, video tutorials, and online discussions. In contrast, students with shorter learning durations struggle with maintaining learning consistency, leading to slower progress, particularly in speaking and listening skills. Furthermore, students with longer learning durations achieve more balanced development across all four language skills and other language components. Reading and writing improve more rapidly due to frequent academic use, while speaking and listening benefit from continuous interactions with lecturers and peers. Conversely, students with shorter learning durations face difficulties in spontaneous speaking and comprehension, especially concerning accents and technical vocabulary. Additionally, extended learning durations contribute to the formation of structured and disciplined learning habits, which are essential for sustaining long-term English proficiency.

3.2.3. Learning duration and progress across proficiency levels

This section analyzed how variations in learning duration are associated with students' progression across proficiency levels, focusing on how time investment interacts with learning strategies, evolving linguistic demands, and contextual support. The thematic categories in Table 10 reflect how extended engagement with English contributes to gradual shifts in competence, strategic awareness, and academic language use as learners move from foundational to advanced stages.

Table 10. Learning durations and learning strategies on English proficiency development

Category	Finding	Interview Excerpt
Impact of extended learning duration	Increased learning time improved students' confidence in using English in various contexts.	<i>"The more I practiced, the easier it became to read journal articles and present my ideas in English." (P7, C1)</i>
Role of learning strategies	Higher-proficiency students benefited from academic discussions and diverse learning materials.	<i>"Engaging in debates and using research papers expanded my vocabulary and critical thinking in English." (P14, C2)</i>
Variation in learning needs across levels	Beginners, intermediate and upper-intermediate required more time for grammar and vocabulary, while	<i>"In the beginning, I had to memorize a lot of grammar rules, but now I focus on refining my</i>

Category	Finding	Interview Excerpt
Influence of external factors	advanced students focused on application.	<i>writing and presentations."</i> (P19, B2)
	Proficiency growth depended on learning duration, learning strategies, environment, and motivation.	<i>"Having a study group and access to academic resources kept me motivated to improve my English."</i> (P23, C1)

The findings demonstrate that proficiency development occurs progressively as learning duration increases, but the nature of improvement differs across levels. At earlier stages, extended study time primarily supports the consolidation of grammatical accuracy and vocabulary breadth. As learners advance, the same duration investment yields greater gains in fluency, critical thinking, and academic articulation. Higher-proficiency students attribute their progress to the combination of sustained exposure and strategic engagement, including active discussion and interaction with authentic materials. Meanwhile, learners at lower levels require more structured repetition and foundational reinforcement before transitioning to application-oriented learning. These results indicate that learning duration functions as a developmental catalyst whose effectiveness depends on strategic use, contextual support, and alignment with learners' evolving academic demands.

3.2.4. Emotional and motivational aspects of learning duration

This section explores how differences in learning duration relate to students' motivational orientation, confidence levels, and perceived study effectiveness, particularly in relation to their overall proficiency development. The thematic categories in Table 11 reflect how time investment interacts with psychological factors and contextual conditions that shape sustained language achievement.

Table 11. Learning duration on motivation, confidence, and study effectiveness

Category	Finding	Interview Excerpt
Impact of Learning Duration on Confidence	Longer learning durations enhance confidence, while shorter durations lead to lower satisfaction but can feel more efficient.	<i>"Spending more time studying helps me feel more prepared and less anxious during academic discussions."</i> (P7, C1)
Role of External Factors	Academic workload, learning environment, and personal motivation significantly influence study effectiveness.	<i>"A busy schedule limits my study time, but having a study group keeps me motivated."</i> (P15, B2)
Importance of Intrinsic Motivation	Students with clear learning goals manage their study time more effectively, maintaining steady progress despite challenges.	<i>"Setting goals helps me stay consistent, even when I have other responsibilities."</i> (P22, C2)

The findings indicate that longer learning duration is closely associated with increased confidence, reduced anxiety, and more stable academic performance. Sustained exposure enables students to feel better prepared for discussions and academic tasks, reinforcing both

competence and self-efficacy. However, duration alone does not automatically guarantee motivation; the effectiveness of extended study depends on strategic engagement and variation in learning activities. Students with shorter study durations sometimes perceive their sessions as efficient, yet they often report lower satisfaction with progress, reflecting comparatively slower proficiency development. Moreover, external demands such as academic workload can constrain study time, moderating the benefits of duration. In contrast, supportive learning environments and strong intrinsic motivation enable students to maintain consistent routines despite constraints. These patterns suggest that learning duration contributes to proficiency advancement.

3.3. Discussion

The study confirms significant differences in English achievement based on proficiency levels, aligning with prior research emphasizing the impact of initial skill levels on language learning. Beyond confirming statistical differences, these findings can be theoretically explained through Cognitive Load Theory (CLT), which posits that learners' working memory capacity is limited and that instructional effectiveness depends on how well tasks align with learners' prior knowledge. Students with higher prior proficiency possess more developed linguistic schemas, allowing them to process academic English tasks with lower intrinsic cognitive load. Consequently, they can allocate more cognitive resources to higher-order comprehension and production processes. The prior proficiency significantly influences achievement, suggesting that tailored instructional strategies enhance learning outcomes not merely pedagogically, but cognitively. It aligns that Srisopha (2022) notes that student attitudes and readiness, which correlate with initial proficiency, are crucial for success. From a Self-Regulated Learning (SRL) perspective, readiness reflects learners' ability to plan, monitor, and evaluate their own learning processes. Agustin et al. (2021) reinforce that learners who actively engage with effective strategies tend to perform better, supporting the view that proficiency levels shape both the learning process and the effectiveness of educational interventions (Azizi 2024). In this sense, higher proficiency does not only represent linguistic competence but also stronger self-regulatory capacity. Participants with higher proficiency levels demonstrate faster language improvement, consistent with studies showing that proficient learners utilize strategies more effectively, leading to greater achievements (Shinde and Shinde 2023; Yustitiasari et al. 2019). Higher proficiency students also exhibit greater motivation and engagement in diverse language activities, enhancing their skills (Yu 2023). Moreover, the positive correlation between language strategies and proficiency levels underlines the importance of initial skill levels in determining learning outcomes (Pasupathi & Ghosh 2024). Theoretically, this suggests that proficiency operates as both a cognitive and metacognitive advantage in academic English development.

The study also highlights that proficiency influences students' choice of learning strategies, with advanced learners favoring metacognitive and reflective strategies, while beginners rely more on repetitive strategies. This distinction is central to SRL theory, which emphasizes that effective learners actively regulate cognition, motivation, and behavior. Advanced learners' preference for metacognitive strategies indicates stronger planning, monitoring, and self-evaluation skills, enabling them to adapt strategies based on task demands. Shinde and Shinde

(2023) support this, showing that higher proficiency students use learning strategies more effectively. Additionally, Umeanowai and Lei (2022) found that learners' beliefs and strategy use are closely linked to proficiency, with advanced learners employing more diverse strategies. From a CLT perspective, repetitive strategies used by beginners may reflect attempts to reduce cognitive load through rehearsal; however, without sufficient schema development, such strategies may not efficiently support complex academic tasks. These findings collectively illustrate how strategy application differences contribute to gaps in language achievement and reinforce the theoretical argument that self-regulatory competence mediates the relationship between proficiency and performance.

The study discusses the effect of learning duration on English language attainment, emphasizing that longer learning durations significantly enhance language achievement across various proficiency levels. Theoretically, extended duration increases opportunities for schema construction and automation, which reduces cognitive load over time. As learners repeatedly engage with academic English tasks, information becomes more integrated into long-term memory, freeing working memory for deeper processing. This is supported by Wang et al. (2021), who highlight the role of positive psychological factors in enhancing engagement and language outcomes, while Aghayani and Hajmohammadi (2019) found that project-based learning, which requires longer engagement, effectively promotes writing skills. (Lyesmaya et al. (2022) also noted that learners with longer exposure to language learning, especially from more educated backgrounds, tend to achieve higher proficiency levels. Collectively, these studies underscore the importance of extended learning durations for improving language proficiency, particularly in productive skills, and can be theoretically interpreted as facilitating deeper cognitive processing and sustained self-regulatory practice.

However, the effectiveness of learning duration is not solely dependent on time but also on the quality and type of learning strategies employed. From a CLT perspective, prolonged exposure without appropriate instructional design may increase extraneous load and hinder learning efficiency. Research by Naqsyabandiyah and Dehghanitafti (2023) suggest that frequent exposure to a language in shorter time frames can yield results comparable to longer durations when using task-based and communicative approaches. Similarly, the communicative approach, as discussed by (Abrejo et al., 2019) enhances students' ability to use language effectively in context, emphasizing the importance of strategy over mere duration. These findings reinforce the SRL assumption that strategic engagement rather than passive time investment determines learning gains. Therefore, while longer learning periods generally support better language outcomes, the strategic implementation of learning methods is essential for maximizing language proficiency (Chen & Wang 2019). Duration becomes most effective when learners actively regulate their cognitive and motivational resources.

The study underscores the critical role of learning duration in English achievement across proficiency levels. Extended exposure improves speaking, listening, reading, and writing, aligning with Krashen's input theory, which stresses the value of comprehensible input just above the learner's level (Wang et al. 2022). When interpreted through CLT, comprehensible input functions optimally when instructional materials are calibrated to learners' existing schemas, thereby preventing overload. Students' learning strategies vary by proficiency level

in which high-proficiency learners prefer interactive strategies such as group discussions and speaking simulations, which effectively enhance communicative competence (Khan et al., 2023). These interactive strategies also reflect higher levels of self-regulation, as learners must monitor comprehension, adjust output, and respond adaptively. In contrast, low-proficiency learners tend to rely on memorization methods, which are less effective (Tsai & Huang 2023). Memorization may reduce immediate cognitive demands but does not necessarily promote schema integration required for academic English. Interactive learning approaches are found to be more beneficial, as student engagement positively correlates with learning outcomes, particularly when engagement involves metacognitive regulation rather than mere participation.

Intrinsic motivation significantly influences students' ability to utilize learning durations efficiently. Within the SRL framework, motivation is a core component that drives goal-setting, persistence, and strategic effort. Highly motivated students actively seek opportunities to practice, leading to greater language achievement (Eslit 2023; Al Azzawi & Taha 2023). Additionally, motivation enhances cognitive and emotional engagement, further contributing to improved learning outcomes (Peng & Fu 2021). A supportive learning environment is vital for optimizing English learning because it can reduce anxiety and unnecessary cognitive load, thereby supporting more efficient processing. However, prolonged sessions may cause cognitive fatigue, particularly in lower-proficiency students, aligning with cognitive load theory, which warns that extended learning without breaks reduces effectiveness (Ginns & Leppink 2019). Higher-proficiency learners manage extended sessions more effectively due to more automated linguistic schemas, benefiting from challenging tasks, while lower-proficiency learners require scaffolded and paced instruction. This aligns with the principle that instructional design should adjust task complexity to learners' current capacity, ensuring that cognitive demands remain within manageable limits. Adaptive learning durations tailored to proficiency levels are essential for success (Maisarah & Nirwanto 2024). Flexible curriculum design that considers learners' cognitive capacity, self-regulation, and motivational readiness enhances academic outcomes. English learning success emerges from the interaction among cognitive load management, proficiency level, learning duration, and motivation, emphasizing the importance of theoretically grounded instructional design.

4. Conclusion

The study demonstrates that learning duration and proficiency level jointly shape students' academic English achievement. Higher-proficiency learners consistently attain stronger performance, particularly when engaged in extended and consistent study periods that are supported by adaptive strategies, authentic academic engagement, and clear learning goals. In contrast, lower-proficiency students tend to rely on more structured and exam-oriented practices, showing slower progress and, in some cases, limited gains despite increased study time. The findings indicate that extended learning duration is most effective when accompanied by strategic engagement, intrinsic motivation, and supportive learning environments. Therefore, optimizing academic English outcomes requires not only allocating sufficient study time but also aligning learning duration with learners' developmental stage, strategy use, and

motivational readiness. Future research may further examine how different models of learning regulation can enhance sustained progress across proficiency levels.

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