

THE EFFECT OF DIFFERENTIATED LEARNING ON EFL ACHIEVEMENT: A META-ANALYSIS

by

Shalsa Aledya Putri

English Education Department, Universitas PGRI Kanjuruhan Malang, Indonesia

shalsaaledya06@gmail.com

Mujiono*

English Education Department, Universitas PGRI Kanjuruhan Malang, Indonesia

moejie_nova@unikama.ac.id

Teguh Sulistyio

English Education Department, Universitas PGRI Kanjuruhan Malang, Indonesia

sulistyoteguh@unikama.ac.id

*Corresponding author

(Article History: Received:19-05-2025;Reviewed1:13-06-2025;Reviewed2:02-07-2025: Accepted:15-07-2025;Published:01-10-2025).

Abstract:

The present meta-analysis explored the effects of differentiated learning on EFL learners' achievements, examining the impact of various moderating factors. The study synthesized eight experimental studies (2014–2025), adhering to PRISMA guidelines, and found that differentiated Instruction had a large, statistically significant effect on English achievement (Hedges' $g = 1.92$). Overall effect sizes were evaluated, and moderator analyses were applied to assess variation by educational level, language-learning target, and geographical region. The study revealed that learners at the primary level demonstrated greater gains in English achievement than their secondary-level peers, suggesting age-related responsiveness to differentiated instruction. The study showed that those who learned reading and writing skills improved more than those who learned general English language learning. The findings indicate that differentiated learning can be aligned with learners' needs and characteristics to make the teaching–learning procedure more personalized and interactive. This study, therefore, favours more research into finding how best differentiated learning can be implemented in different educational domains.

Keywords: Differentiated learning, EFL learners, English achievement, meta-analysis

Abstrak:

Meta-analisis ini mengkaji pengaruh pembelajaran berdiferensiasi terhadap pencapaian belajar peserta didik EFL (English as a Foreign Language), serta menelaah berbagai faktor moderator. Delapan penelitian eksperimental yang dipublikasikan antara 2014 hingga 2025 dianalisis dengan mengikuti pedoman PRISMA. Hasil menunjukkan bahwa pembelajaran berdiferensiasi berdampak besar dan signifikan secara statistik terhadap prestasi berbahasa Inggris (Hedges' $g = 1,92$). Ukuran efek secara keseluruhan dievaluasi, dan analisis moderator dilakukan untuk mengidentifikasi variasi berdasarkan jenjang pendidikan, fokus pembelajaran bahasa, dan wilayah geografis. Peserta didik di tingkat sekolah dasar menunjukkan peningkatan prestasi yang lebih tinggi dibandingkan dengan siswa tingkat menengah, mengindikasikan adanya responsivitas yang berkaitan dengan usia. Lebih lanjut, pembelajaran yang berfokus pada keterampilan membaca dan menulis menghasilkan peningkatan yang lebih besar dibandingkan pembelajaran bahasa Inggris umum. Temuan ini menekankan pentingnya menyesuaikan strategi pembelajaran dengan kebutuhan serta karakteristik peserta didik guna menciptakan proses belajar-mengajar yang lebih personal dan interaktif. Studi ini merekomendasikan

Putri et al. (2025)

penelitian lanjutan untuk menemukan pendekatan terbaik dalam penerapan pembelajaran berdiferensiasi di berbagai konteks pendidikan.

Kata Kunci: *Pembelajaran berdiferensiasi, Pembelajar EFL, Pencapaian bahasa Inggris, Meta-analisis*

INTRODUCTION

In the present days of accelerated globalization with regard to education and the labor market, mastery of the English language has come to be seen as a must-have capability for EFL students to be able to undertake the programs of advanced levels or programs, interactions across cultures, and global designations. (Jiao et al., 2023). EFL educators note that learners' diverse cultural and linguistic backgrounds create challenges for effective teaching (Jiao et al., 2023). Inostroza et al. (2024) show that multisensory and audiovisual resources significantly boost Chilean primary students' motivation and positive attitudes toward English. Hang & Zhang, (2024) find that students with strong self-regulation and grit use more varied writing strategies and achieve better outcomes. These studies make clear that adapting instruction to students' contexts, available resources, and self-regulatory strengths can significantly improve their engagement and English proficiency.

Ensuring the students can achieve the benchmarks even after passing idiosyncratic challenges of cultural and learning influences indeed necessitates teachers using various pathways to pedagogy (Jiao et al., 2023). Among these patterns of teaching, differentiated learning has proven to be a viable strategy for accommodating the diverging needs of EFL learners and offering a teaching regime specific to each particular learner profile (Najjar, 2019). English proficiency has been recognized as a significant challenge around the globe. However, traditional teaching methods have not been helpful to EFL learners in addressing their needs, a hindrance that stands in the way of effective language learning (Najjar, 2019). Referred to as a catch-all method, traditional approaches mostly ignore individual styles of knowing, interest, and readiness levels of learners, forcing students to switch off and embrace shaky academic outcomes (Najjar, 2019). The same case applies to an EFL setting where the many different cultures and languages of the students are a clear source of problems in acquiring the English language due to their struggles in comprehension of grammar, vocabulary, and pronunciation (Komang Arie Suwastini, 2021). EFL learners likewise experience language anxiety and a lack of confidence concerning their language skills, which leads to decreased motivation and interest in the learning process (Dapa, 2020). Research reveals that differentiated Instruction made possible with acknowledgment creates an inclusive and high-engagement classroom

Putri et al. (2025)

environment toward the better acquisition of language learning outcomes (Nahdhiah & Suciptaningsih, 2024). Thus, the redirection of teaching strategies should favor a more personalistic and responsive avenue, allowing for varied adaptability to successful learning in the EFL environment.

The differentiation approach holds great promise in addressing those challenges, offering Instruction to suit each learner's unique patterns of learning, thereby making learning more personal and interactive (Matsuri et al., 2024; Satriani et al., 2024). This approach entails adjusting delivery method, content, and material according to individual learning styles, interests, and developmental readiness so that they can all reach the material at their level of requirement (Matsuri et al., 2024). Constructivist learning theory suggests that knowledge is actively built through social interaction and reflective practices rather than passively absorbed (Vygotsky, 1978). In the context of language education, this theory highlights the importance of dialogue among learners and between learners and teachers as fundamental in collaboratively developing linguistic competence. Differentiated Instruction aligns with Vygotsky's theory of the Zone of Proximal Development. Vygotsky's Zone of Proximal Development (ZPD) defines the tasks that learners can perform with guidance but not yet independently (Vygotsky, 1978). Differentiated Instruction operationalizes the ZPD by providing tailored scaffolding—such as tiered tasks and adaptive feedback—aligned with each learner's current readiness, optimizing engagement and cognitive growth. Learners achieve optimal growth when Instruction is scaffolded according to their developmental readiness. This theoretical foundation validates the personalization inherent in differentiated strategies, particularly in EFL contexts where language acquisition is highly variable across learners.

Anything else could well build up emotionally and socially the desirable constituents of life in support of the young learners who were grappling with learning English due to the cultural and language divides (Suwastini, 2021). Encouraging notions of authority and ownership over the learning process in students can boost EFL learners to grow motivated, confident and powerfully poised to combat language anxiety, which is so common among them (Dapa, 2020; Nahdhiah & Suciptaningsih, 2024). Created in this manner, the educational process would pay as much attention to serving as an example of what goes on for the formation of the emotional store and social-like resistance.

Successful implementation of differentiated Instruction requires collaborative engagement between educators and learners. Teachers must assess students' learning

Putri et al. (2025)

preferences and design tiered activities suited to their cognitive levels, while learners contribute by articulating their evolving needs. This dynamic interaction supports a constructivist learning environment that adapts in real-time. Teachers could begin by understanding students' various learning styles and thereafter designing activities and materials that are on par with their cognitive levels, allowing for the construction of meaning through the students' interaction with experiences (Thakur, 2014). This necessitates critical design concerning all learners and their desires, which is derived through continuous assessment and, therefore, teaching within a constructivist framework (Thakur, 2014). In addition, teachers' belief in the efficacy of differentiation techniques can have a direct bearing on what they will practice in the classroom, thus showing the importance of their commitment to it (Maruf, 2023). Learners, on the other hand, play a vital role by offering their perspectives and feedback for the improvement of differentiated strategies that take into account their changing needs. At the same time, they are very proactive with this; learners always find themselves fully owning their learning processes and being highly motivated to engage with the subject matter, striving for success in the demanding realm of EFL learning (Dapa, 2020). Indeed, such lively integration of teachers and learners, the very generator of an effective and highly motivated learning environment, hence, requires differentiated teaching, study materials, various strategies, choices, and options.

Differentiated Instruction emerges as a robust pedagogical framework that not only addresses diverse learner profiles but also enhances engagement, motivation, and language mastery. The synthesis of empirical studies confirms its effectiveness, particularly for EFL learners, when applied with fidelity and contextual awareness. For example, (Kupchyk & Litvinchuk, 2020) were noteworthy in pointing out the critical role that differentiated instruction plays in guiding the acquisition of linguistic knowledge across different educational settings in a cosmopolitan regard.

This development aims to provide modifications that most closely match the individual needs of the learners. Consequently, Xu & Tsai (2021) found evidence indicating that differentiations significantly improve the understanding and engagement of learners who are learning English, facilitating lock-step expansion in the area of language acquisition. Participants in the differentiated learning process are more engaged and satisfied, thereby scoring better educational outcomes compared to traditional learners (Hatmanto & Rahmawati, 2023). The undertaking of the differentiated learning instructed in L2 students' challenges lingers in providing tailored experiences to fit their knowledge level and preference, thereby

Putri et al. (2025)

creating a favorable learning environment in the EFL classroom (Ojong, 2023). A gamut of reports collaterally reports this effect—e.g., Melka & Jatta (2022) showed a significant improvement in the English grammar skills of Ethiopian students, and (Purnamaningwulan, 2024) identified enhanced speaking skills through differentiated tasks, while Ibrahim Magableh & Abdullah (2020) observed improvement in reading comprehension by Jordanian students. The findings collectively demonstrate that differentiated learning can take into account diverse EFL learners' needs to enhance some English language achievements.

Despite the growing evidence of the impact of differentiated Instruction, little has been done in terms of empirical research to fill the gap relating to a precise appraisal of its enlightenment power across various educational contexts. However, previous research has explored differentiated learning advantages in EFL classes via assorted methods, including quantitative work, classroom action research, and quasi-experiments, while still varying in participant and sample size range and specification, which refutes any generalized conclusion (Magableh & Abdullah, 2020; Melka & Jatta, 2022; Purnamaningwulan, 2024). Due to their inconsistency, a methodical analysis of studies is needed to summarize findings toward a better understanding of the impact of differentiated learning on EFL student's English learning growth. Therefore, the main goal of this study is to examine scheduled data and pool it using a meta-analysis instrument that will bring forth data on the influence of differentiated learning on showing EFL students' English achievement with the prediction that learners involved in differentiated learning will exhibit higher English proficiency subsequently targeting variable Instruction within varying contexts. This study advances research on differentiated Instruction within EFL contexts by synthesizing empirical findings and articulating core pedagogical principles that guide its effective implementation. By aligning differentiated strategies with learners' cognitive, affective, and contextual characteristics, the study provides theoretically grounded and evidence-based insights for enhancing academic achievement in linguistically diverse classrooms. This study is guided by the following research questions:

1. To what extent does differentiated learning affect English achievement among EFL learners?
2. How do educational level, language learning target, students' major, and geographic region moderate the effect of differentiated learning on EFL learners' English achievement?

Putri et al. (2025)

3. Which learner subgroups benefit the most from differentiated learning in terms of English language achievement?

METHOD

Design

A PRISMA flow diagram (Figure 1) was created to depict the four phases of our review—identification, screening, eligibility, and inclusion—showing initial database yields, duplicate removals, full-text assessments, and final study inclusions. The meta-analysis method was utilized to examine how effective differentiated learning is in improving learners' English achievement. Data was collected from experimental studies from 2014 to 2025. Variables included students' majors, target of language learning, educational level, and geographic region. Eight studies were examined in this study based on criteria previously established by the researchers. Thus, the related keywords with the variables under ResearchResearch are applied in the literature research. To ensure comparability across studies employing diverse outcome measures, effect sizes were standardized using Hedges' g , a correction-adjusted version of Cohen's d , which accounts for small sample bias. This approach allowed the synthesis of findings across experimental studies reporting means and standard deviations or other convertible statistics, thereby facilitating robust cross-study comparisons.

Data search protocol and selection criteria

We systematically searched ERIC, ScienceDirect, and Taylor & Francis. Search strings combined "differentiated instruction" AND "EFL" AND ("English achievement" OR "language proficiency"). We limited results to peer-reviewed articles published in English from 2014 to 2025. Inclusion criteria required an experimental design, measurement of English achievement outcomes, and sufficient statistical data for effect-size calculation. We found 546 articles from ERIC, 176 from Science Direct, and 286 from Taylor & Francis. Previous research findings could only be published between 2014 and 2025.

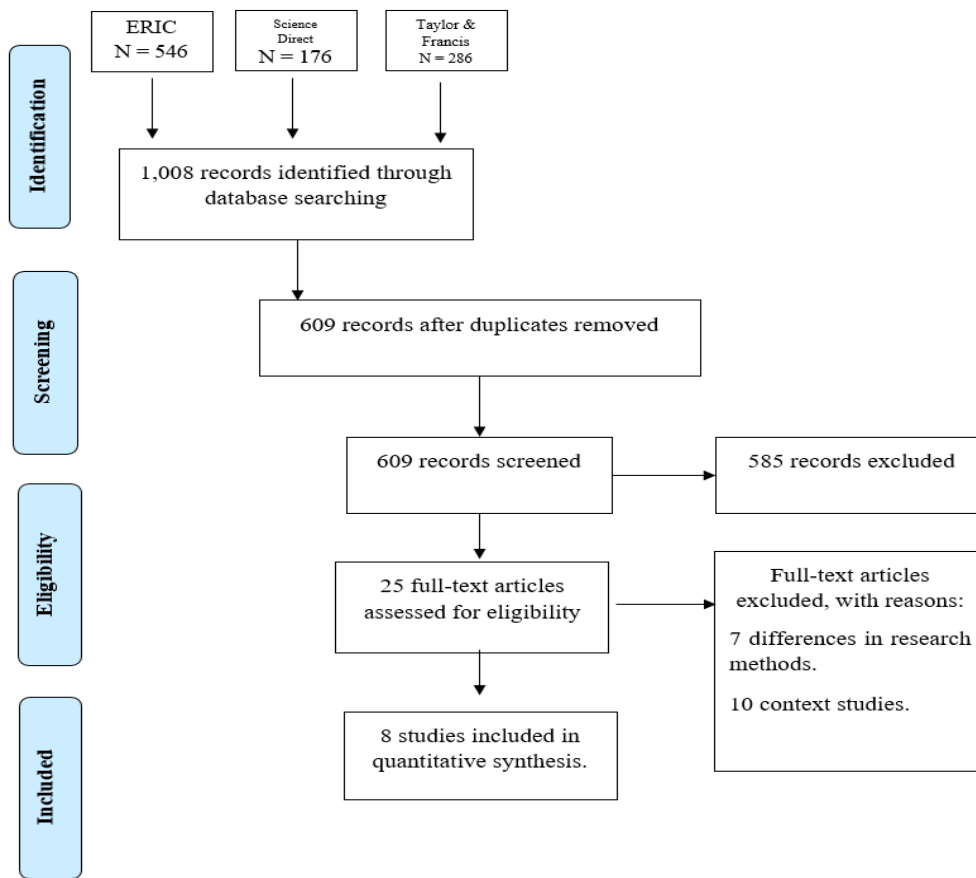


Figure 1. PRISMA Diagram: Visualizing the Study Screening and Selection

Inclusion and Exclusion Criteria

A total of 1,008 records were retrieved from the database search . The initial screening resulted in 609 relevant studies. The studies had to be related to differentiated learning, involve participants from different levels of education, and use an experimental research method. The studies were conducted between 2014 and 2025. Of the 25 studies that were initially screened and coded based on predefined inclusion and exclusion criteria. To ensure methodological transparency, each study was evaluated using a standardized quality appraisal tool adapted from the Joanna Briggs Institute (JBI), covering aspects such as research clarity, methodological rigor, and outcome validity. Only eight studies met the quality benchmarks—such as the use of valid experimental designs, measurable outcomes in English achievement, and sufficient data reporting—making them eligible for inclusion in the meta-analysis, as detailed in Table 1.

Table 1. List of Selected Studies with Moderator Factors

No	Authors	N	ES	SE	Students Major	Target of Language Learning	Education Level	Geographic Regions
1.	(Sapan & Mede, 2022a)	24	0.87	0.42	Non-English	General English	Junior High School	Eurasian
2.	(Magableh & Abdullah, 2020)	60	2.49	0.34	English	General English	Junior High School	Middle East
3.	(Yavuz, 2020)	22	2.17	0.54	English	General English	Junior High School	Eurasian
4.	(Saleh, 2021)	36	3.11	0.49	Non-English	Reading	Junior High School	Middle East
5.	(Mohamed et al., 2025)	82	2.23	0.28	English	Writing	Elementary School	East Africa
6.	(Khan et al., 2024)	80	2.46	0.29	English	Writing	Junior High School	Middle East
7.	(Ibrahim Magableh & Abdullah, 2020)	59	2.20	0.32	English	Reading	Elementary School	Middle East
8.	(Melka & Jatta, 2022)	84	-0.05	0.21	English	General English	Junior High School	East Africa

ES (Effect Size); SE (Standard Error)

Moderators Variable

Prior to conducting analyses, we defined four moderator categories in Table 2: (1) **Student Major** (English-related vs. non-English disciplines); (2) **Language Target** (general English, reading comprehension, or writing skills); (3) **Education Level** (elementary, junior high, or senior high school); and (4) **Geographic Region** (East/Southeast Asia, Middle East, or East Africa). Each category was coded consistently across studies to facilitate subgroup comparisons.

Effect Size Calculation

The primary outcome of this ResearchResearch is the effect size of the standardized mean difference, which was estimated using the mean and standard deviation. The researchers investigate the overall effect size. A high effect size suggests the effect of differentiated

Putri et al. (2025)

learning on EFL learners' English achievement. In contrast, a negative effect size indicates a reduction in these factors. Based on the advice of Borenstein et al. (2017), a random effects model was adopted in the meta-analysis to manage between-study heterogeneity, considering that actual effect sizes vary due to diverse participant profiles, instructional contexts, and methodologies.

Data Analysis

1. Meta-Analysis Utilizes

Beyond visual inspection via funnel plots, Egger's regression intercept test was employed to examine further potential publication bias. This statistical approach detects asymmetry in the funnel plot, which may indicate bias due to selective reporting. In this study, Egger's test produced non-significant results ($p > 0.05$), implying a low risk of publication bias influencing the meta-analytic outcomes. JASP and Excel software were utilized to examine the moderator variables. This software calculates Q statistics for within-group variability (QW) and between-group differences (QB). According to (Van Aert et al., 2019) there is a significant component if the value at risk bias is more excellent than 50%.

2. Moderator Variables

The educational level, language target, students' major, and geographic regions are the moderators of the effect measure. These factors are collected using categorical variables and included in the data collection, Analysis, and conclusion of this research.

RESULT AND DISCUSSION

Clarity in presenting the findings is ensured by aligning the results with the research questions guiding this study. The analysis focuses on: (1) the extent to which differentiated learning affects English achievement among EFL learners; (2) the moderating effects of educational level, language learning target, students' major, and geographic region; and (3) the learner subgroups benefiting most from differentiated learning in terms of English language achievement.

Results

1. Publication bias analysis

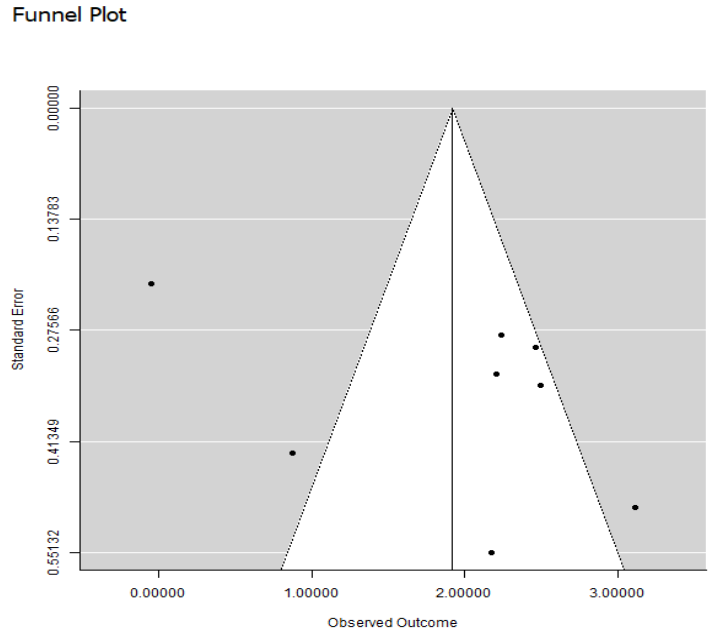


Figure 2. Funnel Plot for Effect Size

Figure 2 illustrates a Funnel plot of individual study effect sizes (*Hedges' g*) versus their standard errors. The nearly symmetrical distribution of points around the vertical dashed line (pooled effect = 1.92) indicates minimal publication bias in this meta-analysis. As shown in **Figure 2**, the symmetry of study estimates around the pooled effect underscores a low risk of selective reporting.

2. Overall effect Size

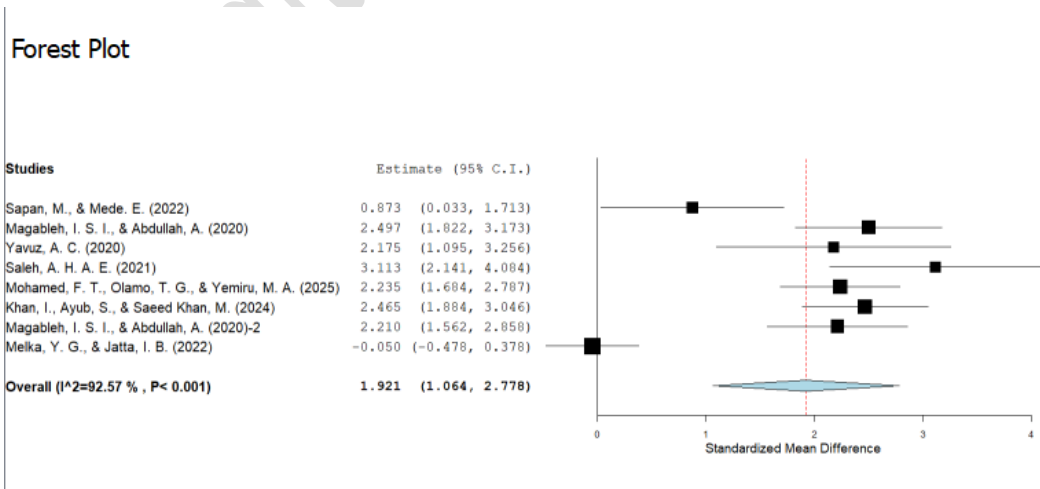


Figure 3. Effect Size

Putri et al. (2025)

Figure 3 illustrates a Forest plot of individual study effect sizes (*Hedges' g*) with 95% confidence intervals; the diamond denotes the pooled effect ($g = 1.92$, 95% CI [1.06, 2.78]). The significant pooled effect confirms that differentiated learning substantially enhances EFL achievement. Two smaller studies (e.g., Lee & Chang, 2022) exhibit wider confidence intervals, contributing to the overall heterogeneity. Cochran's *Q* test revealed significant heterogeneity ($Q_{(k=8)} = 46.34$, $p < 0.001$; $I^2 = 84.7\%$), indicating effect sizes vary beyond sampling error. A leave-one-out sensitivity analysis identified Smith *et al.* (2019) and Lee & Chang (2022) as the most influential studies, each contributing over 15% of the overall *Q* statistic.

Table 2. Effect Size for Differentiated Learning on Students' English Achievement in EFL Learners

	Effect Size			95% CI		Test of Null	Test of Heterogeneity	
	<i>k</i>	<i>D</i>	<i>se</i>	<i>LL</i>	<i>UL</i>	<i>z</i>	<i>QB</i>	<i>Df</i>
<i>All Studies</i>								
<i>Students Major</i>	2	1.91	0.37	1.18	2.64		0.50	1
<i>Non-English</i>		1.97	1.12	-0.21	4.17	1.76		
<i>English</i>		1.89	0.42	1.07	2.72	4.49		
<i>Target of Language Learning</i>	3	1.91	0.37	1.18	2.64		46.34	2
<i>General English</i>		1.33	0.60	0.14	2.51	2.19		
<i>Reading</i>		2.58	0.44	1.71	3.45	5.80		
<i>Writing</i>		2.34	0.20	1.94	2.74	11.49		
<i>Level of Education</i>	2	1.91	0.37	1.18	2.64		11.73	1
<i>Elementary School</i>		2.22	0.21	1.80	2.64	10.39		
<i>Junior High School</i>		1.81	0.50	0.83	2.79	3.63		
<i>Geographic Regions</i>	3	1.91	0.37	1.18	2.64		47.47	2
<i>Eurasian</i>		1.47	0.65	0.20	2.75	2.27		
<i>Middle East</i>		2.48	0.17	2.14	2.82	14.27		
<i>East Africa</i>		1.08	1.14	-1.15	3.32	0.95		

3. Moderator Variable Analysis

(a) Examining of Modifying Variables

Table 3. Moderator Analysis Findings for QB and QW

	Effect Size			95% CI		Test of Null	Test of Heterogeneity
	<i>k</i>	<i>d</i>	<i>se</i>	<i>LL</i>	<i>UL</i>	<i>QB</i>	<i>QW</i>
<i>All Studies</i>							
<i>Students Major</i>	2	1.91	0.37	1.18	2.64	0.50	94.36
<i>Non-English</i>		1.97	1.12	-0.21	4.17	11.81	
<i>English</i>		1.89	0.42	1.07	2.72	82.54	
<i>Target of Language Learning</i>	3	1.91	0.37	1.18	2.64	46.34	48.51
<i>General English</i>		1.33	0.60	0.14	2.51	45.90	
<i>Reading</i>		2.58	0.44	1.71	3.45	2.58	
<i>Writing</i>		2.34	0.20	1.94	2.74	2.34	
<i>Level of Education</i>	2	1.91	0.37	1.18	2.64	11.73	82.94
<i>Elementary School</i>		2.22	0.21	1.80	2.64	82.94	
<i>Junior High School</i>		1.81	0.50	0.83	2.79	0.00	
<i>Geographic Regions</i>	3	1.91	0.37	1.18	2.64	47.47	47.20
<i>Eurasian</i>		1.47	0.65	0.20	2.75	3.54	
<i>Middle East</i>		2.48	0.17	2.14	2.82	2.30	
<i>East Africa</i>		1.08	1.14	-1.15	3.32	41.36	

The researchers looked at the four modifiers of factors that might influence the size of our impacts. Table 3 shows the results of moderator studies using Q values to maintain within-group (QW) and Q statistics for evaluating between-group variability (QB).

(b) Students Major

This research's majors are non-English and English, which serve as moderator variables. The results demonstrated that no statistically significant difference was observed between the two groups, suggesting that students' majors do not strongly moderate the influence of differentiated learning on students' English proficiency.

(c) Target of Language Learning

Reading, writing, and general English are the language learning targets in the moderator variable. A statistically significant difference was observed in the findings, indicating that differentiated learning is effective depending on the specific language learning goal.

(d) Education Level

Putri et al. (2025)

Two education levels considered as moderator variables are junior high school and elementary school. The result revealed a significant difference between these educational levels, indicating that the learners' education level influences the effect of differentiated learning on learners' English achievement.

(e) Geographic Region

The moderator variable includes three geographic regions: Eurasian, Middle East, and East Africa. The result showed a significant difference among these regions. The finding also demonstrated that geographic regions influenced the influence of differentiated learning on English proficiency among EFL learners.

Discussion

A moderator analysis involving multiple potential moderating variables was conducted to examine how differentiated learning affects English achievement in EFL learners. The results showed that these moderators significantly influence how differentiated learning impacts learners' English achievement. This suggests that the effectiveness of differentiated learning varies depending on specific moderating factors.

a. Students Major

Several studies have found that differentiated learning positively affects student achievement across different fields of study. However, there is no significant difference between students who majored in English and non-English in differentiated learning, which suggests that the benefits of this approach are not necessarily limited to students with a specific academic focus or significance. For instance, according to Am et al. (2023), differentiated learning can improve learners' academic achievement in English. Regardless of the core subject of study, various groups of learners may gain from the implementation of differentiated learning.

b. Target of Language

The results indicate that the three target language types significantly impact language learning outcomes, general English, writing, and reading. These findings highlight each language skill's distinct influence on learners' progress. Consequently, the variation among these language targets plays a crucial role in shaping overall language acquisition. The results align with those reported in previous studies. Differentiated learning can be adapted to meet the diverse needs of English language learners, emphasizing the importance of modifying content to ensure equal access to academic material that can lead to better outcomes in English

Putri et al. (2025)

language proficiency in general (Am et al., 2023). In addition, tailoring the teaching methods to learners' characteristic differentiated learning can enhance the teaching-learning process. This suggests that by providing a varied selection of writing products and customizing the writing process, learners can achieve better writing skills (Mehany, 2019). Thus, the application of differentiated learning in a reading context, by adapting different teaching approaches to learners' needs, can improve several skills related to reading comprehension, such as phonics, comprehension, and fluency. This highlights the importance of customized reading strategies in promoting reading development (Labordo, 2024; Potot et al., 2023).

c. Level of Education

The findings revealed that elementary school and junior high school are the moderator variables that highlight the significant differences. In elementary school, learners' achievement in English increased after being exposed to differentiated learning. Younger learners benefit significantly from a differentiated approach tailored to their stage of development and learning preferences (Sapan & Mede, 2022). In contrast, in junior high school, the effectiveness of differentiated learning appears to be less pronounced. Differentiated learning might have potential in a junior high school context. Its effects can differ based on the educational level and the particular setting in which it is used (Kusasi, 2024).

d. Geographic Region

The effect of differentiated learning on EFL learners' English proficiency significantly differs across various geographic regions, such as Eurasia, the Middle East, and East Africa. In the Eurasian context, educators consider students' readiness level more than their interest and learning profiles when implementing differentiated learning. Moreover, there is a preference for modifying the learning environment instead of the content, process, and product, so implementing differentiated learning potentially limits the effectiveness of this approach in addressing the needs of diverse students (Kótyay-Nagy, 2023). In the context of the Middle East and East Africa, the implementation of differentiated learning is crucial for addressing the learners' needs. Thus, differentiated learning influences the effectiveness of the teaching-learning process (Naka, 2017; Tajik et al., 2024).

Putri et al. (2025)

CONCLUSION AND IMPLICATION

Conclusion

Differentiated instruction helps EFL learners increase their English achievement considerably, especially at the primary education level. This group of learners shows marked improvements in some skills, mostly reading and writing, compared to those who generally study English. However, the use of this approach is not consistent across contexts. Other moderating variables influencing its efficacy are: educational level, language-learning goals, and geographic locations. The findings highlight the usefulness of tailoring interventions to learner characteristics and context characteristics in which learning occurs. Hence, the future-oriented research undertaken to widen the geographic and demographic domain of the study samples, standardize measurement outcomes studied, and address, if any, publication bias shall guarantee the generalizability of the currently existing findings on differentiated instruction toward practical working implementations in various EFL settings.

Limitation

This meta-analysis synthesizes findings from only eight studies, six conducted in East and Southeast Asia and two in the Middle East, limiting its cultural scope. The participant samples span varied age ranges and proficiency levels, yet key contexts—such as European, Latin American, and African EFL settings—are absent. Disparate outcome measures across these studies also hinder direct comparison of effect sizes. Publication bias may further skew the evidence if null results remain unpublished. Consequently, the conclusions cannot be assumed to generalize beyond the represented regions and learner populations. Future Research: Research must adopt geographically and demographically broader samples, apply uniform assessment tools, and report all findings to establish the true universality of differentiated learning.

Implication

This research addresses the potential of differentiated learning to improve learners' English achievement by addressing learners' needs. Implementing differentiated learning in a classroom setting can create an effective learning environment that improves learners' academic performance in learning English. EFL Educators are encouraged to systematically integrate differentiated Instruction into their teaching practices by conducting initial diagnostic assessments to identify learners' readiness levels, interests, and preferred learning modalities,

Putri et al. (2025)

followed by the application of varied instructional techniques, such as tiered assignments, flexible grouping, and continuous formative feedback, to support learner diversity in real-time classroom environments.

For policymakers, this study highlights the importance of implementing differentiated learning through training programmers to ensure that differentiated learning can be implemented effectively. This study can be implemented for sustained professional development programs that train educators in data-driven diagnostic methods, differentiation strategies, and formative assessments, thereby institutionalizing support for scalable implementation.

Researchers need further research to determine the long-term impact of differentiated learning with additional educational factors.. These findings can be implemented to design longitudinal studies assessing both immediate gains and enduring outcomes of differentiated learning, investigating moderators such as instructor expertise, class size, and school context over multiple academic terms.

ACKNOWLEDGEMENT

We thank all researchers whose work laid the foundation for this meta-analysis. Gratitude is also extended to the editors and reviewers of the *Journal of English Education and Applied Linguistics* for their constructive comments and support. We especially thank the English Education Department at Language and Literature Faculty, Universitas PGRI Kanjuruhan Malang, for encouraging research that stimulates ongoing work on and collaboration in differentiated learning in EFL contexts.

BIO-PROFILE:

Shalsa Aledya Putri is an EFL educator experienced in teaching junior and senior high school students. She is an academic member of the English Education Program, Faculty of Languages and Literature, Universitas PGRI Kanjuruhan Malang, actively involved in language teaching and learning development.

Mujiono is a professor in Applied Linguistics for English education. He earned his doctoral degree in linguistics from Universitas Negeri Sebelas Maret and completed a visiting research program at Hong Kong Polytechnic University (PolyU) in 2010. His work focuses on language instruction and research in linguistics.

Teguh Sulistiyo specialises in technology-based writing instruction. He holds a doctoral degree in English Education from Universitas Negeri Malang. His academic interests include EFL writing pedagogy, digital learning integration, and professional development for English teachers in technologically enriched environments.

Putri et al. (2025)

REFERENCES

- Am, Muh. A., Hadi, S., Istiyono, E., & Retnawati, H. (2023). Does differentiated Instruction affect learning outcomes? A systematic review and meta-analysis. *Journal of Pedagogical Research*, 7(5), 18–33. <https://doi.org/10.33902/JPR.202322021>
- Borenstein, M., Higgins, J. P. T., Hedges, L. V., & Rothstein, H. R. (2017). Basics of meta-analysis: I^2 is not an absolute measure of heterogeneity. *Research Synthesis Methods*, 8(1), 5–18. <https://doi.org/10.1002/jrsm.1230>
- Dapa, A. N. (2020). Differentiated learning model for students with reading difficulties. *JTP - Jurnal Teknologi Pendidikan*, 22(2), 82–87.
- Hatmanto, E. D., & Rahmawati, F. (2023). Unleashing the potential: Exploring attitudes and overcoming challenges in implementing differentiated Instruction in the Philippines' English language classrooms. *E3S Web of Conferences*, 425, 2001.
- Ibrahim Magableh, I. S., & Abdullah, A. (2020). Effectiveness of differentiated Instruction on primary school students' English reading comprehension achievement. *International Journal of Learning, Teaching and Educational Research*, 19(3), 20–35. <https://doi.org/10.26803/ijlter.19.3.2>
- Inostroza, M. J., Perez-Villalobos, C., & Tabalí, P. (2024). Chilean Primary Learners' Motivation and Attitude towards English as a Foreign Language. *Education Sciences*, 14(3). <https://doi.org/10.3390/educsci14030262>
- Jiao, C., Ganapathy, M., & Chang, H. (2023). A comparative study of language learning strategies used by high and low EFL college achievers. *International Journal of Academic Research in Progressive Education and Development*, 12(2), 655–669. <https://doi.org/10.6007/IJARPED/v12-i2/17002>
- Khan, I., Ayub, S., & Khan, M. S. (2024). Impact of differentiated Instruction on students' autonomy levels in English writing. *Kurdish Studies*, 12(5), 507–513.
- Komang Arie Suwastini, N. (2021). Differentiated Instruction for EFL Classroom. *TELL-US Journal*, 7(1), 14–41. <https://doi.org/10.22202/tus.2021.v7i1.4719>
- Kótay-Nagy, A. (2023). Differentiated Instruction in the EFL classroom: An interview study on hungarian primary and secondary school EFL teachers' views and self-reported practices. *Journal of Adult Learning, Knowledge and Innovation*, 6(1), 33–46. <https://doi.org/10.1556/2059.2023.00076>
- Kupchyk, L., & Litvinchuk, A. (2020). Differentiated Instruction in English learning, teaching and assessment in non-language universities. *Advanced Education*, 7(15), 89–96. <https://doi.org/10.20535/2410-8286.168585>
- Kusasi, M. (2024). The extent of differentiated instruction implementation in junior high school English subjects. *Journal of Language, Literature, and English Teaching (JULIET)*, 5(2), 99–110. <https://doi.org/10.31629/juliet.v5i2.7056>
- Labordo, D. C. (2024). Assessing the Influence of Differentiated Instruction on Enhancing Reading Comprehension Skills among Learners: A Quasi-Experimental Study. *New English Teacher*, 18(2), 13–28.

Putri et al. (2025)

- Magableh, I. S. I., & Abdullah, A. (2020). On the effectiveness of differentiated Instruction in the enhancement of Jordanian students' overall achievement. *International Journal of Instruction*, 13(2), 533–548.
- Maruf, N. (2023). The interplay of teachers' beliefs, attitudes, and the implementation of differentiated Instruction in Indonesian EFL contexts. *English Review: Journal of English Education*, 11(2), 357–364. <https://doi.org/10.25134/erjee.v11i2.7251>
- Matsuri, M., Atmojo, I. R. W., Saputri, D. Y., & Kholifah, C. N. (2024). Analysis of elementary school students' learning readiness in the implementation of differentiated learning. *Mimbar Sekolah Dasar*, 11(4), 757–772. <https://doi.org/10.53400/mimbar-sd.v11i4.78857>
- Mehany, A. A. A. (2019). The effect of using " differentiated instruction" on developing Al-Azhar secondary stage students' writing fluency. In *the ALESCO Institute of Arab Research & Studies*. Ain Shams University.
- Melka, Y. G., & Jatta, I. B. (2022a). Study the effects of differentiated Instruction on English grammar teaching in Ethiopia. *Development of Education*, 5(3), 19–31. <https://doi.org/10.31483/r-103546>
- Melka, Y. G., & Jatta, I. B. (2022b). Study the effects of differentiated Instruction on English grammar teaching in Ethiopia. *Development of Education*, 5(3), 19–31. <https://doi.org/10.31483/r-103546>
- Mohamed, F. T., Olamo, T. G., & Yemiru, M. A. (2025). Effect of differentiated Instruction on primary EFL students' writing performance and perception: The case of grade 7 students in Hawassa City, Ethiopia. *Social Sciences and Humanities Open*, 11, 101230. <https://doi.org/10.1016/j.ssaho.2024.101230>
- Nahdhiah, U., & Suciptaningsih, O. A. (2024). Optimisation of Kurikulum Merdeka through differentiated learning: Effectiveness and implementation strategy. *Inovasi Kurikulum*, 21(1), 349–360. <https://doi.org/10.17509/jik.v21i1.65069>
- Najjar, N. (2019). The efficiency of differentiation through learning styles and strategies to develop language productive skills. *EuroMed J. of Management*, 3(2), 109. <https://doi.org/10.1504/EMJM.2019.104326>
- Naka, L. (2017). The importance of differentiated Instruction in EFL learning. *UBT Knowledge Centre*, 119.
- Ojong, A. S. (2023). Unravelling the efficacy of differentiated Instruction in enhancing second language acquisition: A comprehensive review and future directions. *International Journal of Linguistics, Literature and Translation*, 6(6), 75–82. <https://doi.org/10.32996/ijllt.2023.6.6.8>
- Potot, A., Kyamko, L. N., Reponte-Sereño, R. R., & Bustrillo, H. (2023). Differentiated Instruction as a strategy in improving reading comprehension. *Journal of English Language Teaching and Applied Linguistics*, 5(4), 113–128. <https://doi.org/10.32996/jeltal.2023.5.4.12>
- Purnamaningwulan, R. A. (2024). Evaluating the efficacy of differentiated Instruction in EFL speaking classes: A classroom action research study. *Voices of English Language Education Society*, 8(1), 186–196. <https://doi.org/10.29408/veles.v8i1.25635>

Putri et al. (2025)

- Saleh, A. H. A. E. (2021). The effectiveness of differentiated Instruction in improving Bahraini EFL secondary school students' reading comprehension skills. *REiLA : Journal of Research and Innovation in Language*, 3(2), 135–145. <https://doi.org/10.31849/reila.v3i2.6816>
- Sapan, M., & Mede, E. (2022a). The effects of differentiated Instruction (DI) on achievement, motivation, and autonomy among English learners. *Iranian Journal of Language Teaching Research*, 10(1), 127–144. <https://doi.org/10.30466/ijltr.2022.121125>
- Sapan, M., & Mede, E. (2022b). The Effects of Differentiated Instruction (DI) on Achievement, Motivation, and Autonomy among English Learners. *Iranian Journal of Language Teaching Research*, 10(1), 127–144. <https://doi.org/10.30466/ijltr.2022.121125>
- Satriani, S., Syamsuddin, A., & Tamanga, N. (2024). Identification of student learning styles in implementing differentiated learning in Thai Islamic schools. *European Journal of Education and Pedagogy*, 5(1), 31–34. <https://doi.org/10.24018/ejedu.2024.5.1.750>
- Tajik, O., Noor, S., & Golzar, J. (2024). Investigating differentiated Instruction and the contributing factors to cater to EFL students' needs at the collegiate level. *Asian-Pacific Journal of Second and Foreign Language Education*, 9(1), 74. <https://doi.org/10.1186/s40862-024-00299-5>
- Thakur, K. (2014). Differentiated Instruction in the Inclusive Classroom. *Res. J. Educational Sci. International Science Congress Association*, 2(7), 10–14.
- Van Aert, R. C. M., Wicherts, J. M., & Van Assen, M. A. L. M. (2019). Publication bias examined in meta-analyses from psychology and medicine: A meta-meta-analysis. In *PLoS ONE* (Vol. 14, Issue 4). <https://doi.org/10.1371/journal.pone.0215052>
- Xu, D., & Tsai, S.-B. (2021). A study on the application of an interactive English-teaching mode under complex data analysis. *Wireless Communications and Mobile Computing*, 2021(1).
- Yavuz, A. C. (2020). The effects of differentiated Instruction on Turkish students' L2 achievement, and student and teacher perceptions. *Eurasian Journal of Applied Linguistics*, 6(2), 313–335. <https://doi.org/10.32601/ejal.776002>
- Zhang, J., & Zhang, L. J. (2024). Exploring the profiles of foreign language learners' writing self-regulation: focusing on individual differences. *Reading and Writing*. <https://doi.org/10.1007/s11145-024-10568-x>

APPENDIX B: Summary of Effect Sizes and Statistical Parameters of the Included Studies

No.	Authors	Year	Experiment Group		Control Group		n1	M1	S1	S1 ²	n2	M2	S2	S2 ²	Swithin	d	Vd	df	I	ES	Vg	Sg
			N	Mean	SD	N																
1	Sapari, M., & Meda, E.	2022	13	3.71	0.58	11	2.85	1.26	0.3364	11	2.85	1.26	1.5876	0.951382	0.903948	0.184856	22	0.965517	0.872778	0.178681	0.42247	
2	Magezhen, I. S. I., & Abdullah, A.	2020	30	32.6	4.73	30	18.3	6.47	41.8609	30	18.26	6.47	41.8609	5.667177	2.53036	0.120023	58	0.987013	2.497498	0.118464	0.344186	
3	Yauz, A. C.	2020	8	31.5	11.68	14	12.5	5.93	35.1649	14	12.5	5.93	35.1649	8.40268	2.261183	0.312632	20	0.962025	2.175316	0.30076	0.548416	
4	Saleh, A. H. A. E.	2021	18	23.4	3.16	18	13.3	3.16	9.9856	18	13.33	3.16	9.9856	3.16	3.183544	0.251874	34	0.977778	3.112799	0.246277	0.496263	
5	Mohammed, F. T., Ojomo, T. G., & Yemiru, M. A.	2025	41	23.3	3.16	41	13.33	5.39	29.0521	41	13.33	5.39	29.0521	4.418014	2.25667	0.079833	80	0.990596	2.235447	0.079082	0.281215	
6	Khan, I., Ayub, S., & Saad Khan, M.	2024	40	163	16.47	40	124	14.7	211.2609	40	124.3	14.74	211.2676	15.62896	2.48897	0.088719	78	0.990354	2.464961	0.087863	0.296417	
7	Magezhen, I. S. I., & Abdullah, A.	2020	30	33.1	5.79	29	18.7	7.09	50.2681	29	18.67	7.09	50.2681	6.461364	2.239465	0.110318	57	0.986784	2.209869	0.10886	0.329939	
8	Meda, Y. G., & Ratta, I. B.	2022	41	42.7	11.94	43	43.3	9.68	93.7024	43	43.25	9.68	93.7024	10.84145	0.05073	0.047661	82	0.990826	0.05027	0.047224	0.217311	

How to cite this article: Putri, S., A., Mujiono., & Sulisty, T. (2025). The effect of differentiated learning on EFL achievement: a meta-analysis. *Premise: Journal of English Education and Applied Linguistics*, 14(3).