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The Impact of Differentiated Instruction on Student Engagement and Academic Achievement in Chinese Secondary School English Language Classrooms

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Abstract: This study investigates the impact of differentiated instruction on student engagement and academic achievement in secondary school English language classrooms, with a focus on implications for the Chinese educational context. Recognizing the diverse learning needs of students and the limitations of traditional, uniform instruction, the research sought to determine if tailoring pedagogical approaches could enhance student participation and learning outcomes. Employing a quantitative, quasi-experimental design, the study utilized a pre-test and post-test non-equivalent groups approach. Data on student engagement, encompassing behavioral, emotional, and cognitive dimensions, was collected via a validated questionnaire, while academic achievement was measured through standardized English language assessments. The sample comprised students from two intact secondary school English language classes in Malaysia, one serving as the experimental group receiving differentiated instruction and the other as a control group. Anticipated findings suggest that the implementation of differentiated instruction will lead to significantly higher levels of student engagement and improved academic achievement. These results are expected to underscore the critical role of adaptive teaching in fostering effective English language acquisition, offering valuable insights for educators, curriculum developers, and policymakers aiming to enhance pedagogical practices and student success in similar high-stakes, large-class environments, particularly in China.

Keywords: Differentiated Instruction, Student Engagement, Academic Achievement, English Language Teaching, Secondary School, China

1. Introduction

The landscape of education globally is undergoing a significant transformation, moving away from traditional, one-size-fits-all approaches towards more student-centric methodologies that acknowledge the inherent diversity within classrooms (Bi et al., 2023). This paradigm shift is particularly pertinent in second language acquisition contexts, where learners often present with a wide spectrum of prior knowledge, learning styles, linguistic abilities, and motivational levels (Chen & Shih, 2025). In China, a nation that places immense emphasis on English language proficiency for global competitiveness and individual advancement, the challenges of teaching English to a large and diverse student population in secondary schools are particularly pronounced. Despite significant investments in English language education, traditional pedagogical practices in many Chinese secondary schools often still prioritize rote memorization, grammar translation, and standardized testing, which can inadvertently stifle student engagement and fail to cater to individual learning needs, potentially hindering true language acquisition and academic achievement (Feng et al., 2024).

The concept of differentiated instruction (DI) has emerged as a promising pedagogical framework to address these challenges. Differentiated instruction, as articulated by Heny Subandiyah et al. (2025), is a teaching philosophy that recognizes and responds to student differences in readiness, interest, and learning profile. It involves proactively modifying curriculum, instruction, and assessment to create optimal learning experiences for all students in a mixed-ability classroom. Instead of teaching to the "average" student, DI encourages teachers to tailor content (what students learn), process (how students learn), and product (how students demonstrate what they have learned) based on individual

student needs (Kim, 2022). The fundamental premise of DI is that all students can learn and succeed when provided with appropriate support and challenge (Komarudin et al., 2021). In the context of English language learning, differentiation might involve offering varied texts, providing choices in learning activities, utilizing different instructional strategies, or allowing diverse methods for demonstrating understanding, all aimed at enhancing language acquisition and fostering deeper engagement (Saputri et al., 2023).

The potential benefits of differentiated instruction extend beyond simply accommodating diverse learners; it is posited to significantly enhance student engagement and academic achievement (Ramilo, & Ting, 2025). Student engagement, often conceptualized as the degree of attention, curiosity, interest, optimism, and passion that students show when they are learning or being taught (Iqbal et al., 2020), is a critical precursor to effective learning. When instruction is tailored to their needs and interests, students are more likely to feel a sense of belonging, perceive the relevance of the material, and be intrinsically motivated to participate actively in the learning process (Feng et al., 2024). Conversely, disengagement can lead to superficial learning, poor academic performance, and even behavioral issues (Nirwanto Maruf, 2023). Academic achievement, typically measured through standardized tests, classroom assessments, and grades, serves as a tangible indicator of student learning outcomes. Research in various educational contexts suggests a positive correlation between effective differentiated instruction and improved academic performance across different subject areas (Heny Subandiyah et al., 2025).

However, the implementation of differentiated instruction in the unique socio-cultural and educational context of Chinese secondary schools presents its own set of challenges and opportunities. The large class sizes, high-stakes examination system, and prevailing teacher-centered pedagogical traditions in China may pose significant barriers to the successful adoption of DI (Bi et al., 2023). Yet, the growing awareness of the need for student-centered approaches and the government's emphasis on quality education offer a fertile ground for exploring innovative teaching methodologies. Therefore, this study aims to investigate the impact of differentiated instruction on student engagement and academic achievement specifically within Chinese secondary school English language classrooms. By examining this relationship, the study seeks to provide empirical evidence that can inform pedagogical practices, teacher training programs, and curriculum development, ultimately contributing to more effective and equitable English language education in China (Wenfeng, & Gao, 2008). This research is critical for understanding how DI can be adapted and implemented effectively to address the diverse learning needs of Chinese students, thereby fostering a more dynamic and productive English language learning environment that goes beyond mere rote learning and truly cultivates communicative competence and a lifelong love for the language.

This study holds significant implications for various stakeholders within the educational landscape of China, particularly concerning English language teaching and learning in secondary schools. Firstly, the findings will contribute substantially to the existing body of academic literature on differentiated instruction (DI), especially by providing empirical evidence from the unique cultural and educational context of Chinese secondary schools. While DI has been extensively researched in Western contexts (Chen & Shih, 2025), its application and effectiveness in East Asian settings, characterized by large class sizes, a high-stakes examination culture, and often more teacher-centered pedagogical traditions, remain less explored (Chen & Shih, 2025). This research seeks to bridge this gap, offering nuanced insights into how DI principles can be adapted and implemented effectively to enhance student engagement and academic achievement in such environments. Understanding these contextual nuances is crucial for developing theories and practices that are globally relevant yet locally sensitive.

Secondly, the study's findings bear considerable practical significance for English language educators in Chinese secondary schools. Many teachers grapple with the challenge of catering to a diverse range of learners, from highly motivated and proficient students to those who struggle with basic concepts or lack interest in the subject (Heny Subandiyah et al., 2025). By demonstrating the potential benefits of differentiated instruction in fostering student engagement and improving academic outcomes, this research can serve as a compelling rationale for teachers to adopt more student-centered and adaptive pedagogical approaches. It will provide practical insights into specific differentiation strategies that are feasible and effective within the constraints of Chinese classrooms, thereby empowering teachers with evidence-based practices to address individual learning needs and motivate their students more effectively (Guo et al., 2022). This could lead to a shift away from uniform instruction towards more dynamic and responsive teaching methodologies, ultimately enhancing the quality of English language education.

Furthermore, this research is significant for curriculum developers and policymakers in China. The continuous drive to improve the quality of English language education and align it with global standards necessitates innovative approaches that move beyond traditional rote learning and grammar-translation methods (Feng et al., 2024). The results of this study can inform the design of English language curricula that are inherently flexible and promote differentiation, ensuring that learning objectives and materials are accessible and challenging for all students. Policymakers can leverage these findings to advocate for greater investment in teacher professional development programs focused on differentiated instruction, equipping educators with the necessary skills and confidence to implement these strategies effectively (Fajar Rahmani et al., 2024). By providing empirical support for the efficacy of DI, this study can contribute to policy decisions that foster a more inclusive and effective learning environment for English language acquisition across the nation.

The study holds significance for students themselves. By highlighting the positive impact of differentiated instruction on engagement and academic achievement, this research advocates for a learning environment where students

feel understood, supported, and appropriately challenged. Increased engagement can lead to a deeper understanding of the English language, enhanced communicative competence, and a more positive attitude towards learning, which are vital for long-term academic success and personal development (Feng et al., 2024). Ultimately, this study aims to contribute to creating more equitable and effective English language classrooms where every student has the opportunity to thrive, regardless of their starting point or learning style, thereby fostering a generation of confident and proficient English speakers in China.

2. Literature Review

The concept of differentiated instruction (DI) has been a cornerstone of educational reform efforts in various international contexts for several decades, driven by the recognition that learners are not homogenous and that effective teaching must respond to individual differences (Bi et al., 2023). This literature review will delve into the theoretical underpinnings of differentiated instruction, explore its conceptual links with student engagement and academic achievement, and critically examine empirical studies that have investigated these relationships, with a particular focus on second language acquisition and, where available, the East Asian educational context.

The theoretical foundation of differentiated instruction is firmly rooted in constructivist learning theories, particularly those emphasizing Vygotsky's Zone of Proximal Development (ZPD) and Gardner's Theory of Multiple Intelligences. Vygotsky (1978) posited that learning occurs most effectively when individuals are challenged just beyond their current independent capabilities, within their ZPD, and with the support of a more knowledgeable other. Differentiated instruction aligns with this by providing scaffolding and varied levels of challenge to ensure all students are learning within their optimal zone, rather than being bored by overly simplistic tasks or overwhelmed by excessively complex ones (Bi et al., 2023). Similarly, Gardner's (1983) theory suggests that intelligence is not a single, monolithic entity but rather comprises distinct intelligences. Differentiated instruction, by offering multiple pathways for learning and demonstrating understanding, acknowledges and caters to these diverse intellectual strengths, allowing students to access and process information in ways that resonate with their dominant intelligences (Fajar Rahmani et al., 2024). Furthermore, theories of intrinsic motivation, such as Self-Determination Theory (Deci & Ryan, 1985), underscore the importance of autonomy, competence, and relatedness in fostering engagement. DI, by offering choices, providing appropriate challenges, and fostering a supportive learning environment, can significantly enhance these psychological needs, leading to greater student motivation and engagement.

Numerous studies have explored the impact of differentiated instruction on student engagement. Engagement is a multifaceted construct, often categorized into behavioral, emotional, and cognitive dimensions (Chen & Shih, 2025). Behavioral engagement refers to participation, effort, and persistence; emotional engagement encompasses feelings of interest, enjoyment, and belonging; and cognitive engagement involves investment in learning, self-regulation, and the use of deep learning strategies. Research by Fajar Rahmani et al. (2024) found that when teachers actively differentiate instruction, students report higher levels of interest and participation in classroom activities. Similarly, another study by Komarudin et al. (2021) in a mixed-ability classroom setting demonstrated that students exposed to differentiated learning tasks exhibited significantly higher levels of on-task behavior and reported greater enjoyment of the learning process compared to those in traditional classrooms. The provision of choice, a key element of DI, has been consistently linked to increased student motivation and engagement across various educational levels and subject areas (Jiang & Peng, 2023). When students are given agency over aspects of their learning, they are more likely to perceive the relevance of the material and invest greater effort, thereby enhancing their emotional and cognitive engagement.

The link between differentiated instruction and academic achievement has also been a subject of extensive empirical investigation. A meta-analysis by Guo et al. (2022) on differentiated programming for gifted students, which shares many principles with DI for all learners, showed significant positive effects on academic outcomes. More broadly, scholars like Feng et al. (2024) argue that when instruction is tailored to meet individual needs, students are more likely to grasp complex concepts, improve their foundational skills, and ultimately demonstrate higher levels of academic performance. For instance, a study by Iqbal et al. (2020) in elementary schools found a positive correlation between differentiated instruction practices and student achievement in reading and mathematics. In the context of second language acquisition, where individual differences in linguistic background, learning styles, and cognitive abilities are particularly salient, DI holds immense promise. Research by Ma (2024) on English language learners in a primary school setting indicated that students receiving differentiated reading instruction showed greater gains in reading comprehension compared to those in a control group. Furthermore, studies by Kim (2022) in South Korea, though not specifically focusing on China, provide valuable insights into the application of DI in an East Asian English language learning context, showing positive effects on students' receptive and productive skills when instructional materials and activities were varied according to proficiency levels. These findings suggest that by addressing individual learning gaps and leveraging strengths, DI can optimize learning opportunities for all students, leading to improved academic outcomes.

Despite the compelling evidence, the implementation of differentiated instruction is not without its challenges, particularly in contexts like Chinese secondary schools. Large class sizes, often exceeding 50 students, pose practical difficulties for teachers attempting to cater to individual needs (Fajar Rahmani et al., 2024). The pervasive influence of high-stakes examinations, which often prioritize standardized content and assessment, can also disincentivize teachers from adopting more flexible and individualized approaches (Chen & Shih, 2025). Moreover, many teachers may lack the

specific training and professional development necessary to effectively implement differentiated strategies (Iqbal et al., 2020). Traditional pedagogical paradigms, often teacher-centered and focused on direct instruction, also represent a significant cultural and systemic barrier to the widespread adoption of DI in many Chinese classrooms (Guo et al., 2022). However, as evidenced by studies from neighboring countries and the growing international discourse on student-centered learning, there is a clear imperative and potential for DI to revolutionize English language teaching in China by fostering deeper engagement and more robust academic achievement.

3. Research Method

This study will adopt a quantitative research approach to systematically investigate the impact of differentiated instruction on student engagement and academic achievement in Chinese secondary school English language classrooms. Quantitative research is chosen for its ability to measure variables, test hypotheses, and generalize findings from a sample to a larger population, thereby providing objective and measurable data. This paradigm is particularly suitable for examining causal or correlational relationships between distinct variables, such as the implementation of differentiated instruction (independent variable) and its effects on student engagement and academic achievement (dependent variables). The emphasis will be on numerical data collection and statistical analysis to determine the strength and significance of the observed relationships. The use of quantitative methods will allow for the systematic collection of data from a large number of participants, enhancing the generalizability and reliability of the findings.

Data will be collected through structured instruments, including standardized questionnaires for student engagement and pre-existing academic records or standardized English language tests for academic achievement. This approach ensures that the data collected are consistent and amenable to statistical analysis, minimizing subjective interpretation and maximizing objectivity. Ethical considerations, such as informed consent, anonymity, and confidentiality, will be rigorously upheld throughout the entire research process to protect the rights and well-being of all participants. The research process will involve several distinct phases: initial planning and ethical approval, instrument development and validation (or selection of established instruments), data collection, data analysis, and finally, the interpretation and dissemination of findings. The strength of a quantitative approach lies in its capacity to provide statistical evidence to support or refute the hypothesized relationships, thus offering a robust empirical basis for conclusions regarding the impact of differentiated instruction.

Furthermore, by employing statistical techniques, this study can control for extraneous variables where appropriate, enhancing the internal validity of the findings. The findings from this quantitative study are expected to provide clear, measurable insights that can directly inform pedagogical practices, curriculum development, and policy decisions related to English language education in China. The commitment to a rigorous quantitative methodology ensures that the conclusions drawn are evidence-based and contribute meaningfully to the understanding of effective instructional strategies in diverse educational contexts. This approach is superior to qualitative methods for this specific study's objectives, which focus on measuring the extent and effects of an intervention, rather than exploring in-depth perceptions or experiences. The standardized nature of data collection allows for comparisons across different groups or over time, which is essential for determining the impact of an educational intervention.

3.1 Research Design

The research design for this study will be a quasi-experimental design, specifically a pre-test/post-test non-equivalent groups design. This design is chosen due to the practical impossibility of random assignment to intervention and control groups within existing secondary school English language classrooms in China, which often have pre-formed classes. In a true experimental design, random assignment ensures that any pre-existing differences between groups are minimized, thus enhancing internal validity. However, in educational settings, disrupting established class structures for research purposes is often unfeasible or unethical. The quasi-experimental design provides the next best alternative, allowing for the investigation of cause-and-effect relationships while acknowledging the limitations of non-random assignment.

In this design, two existing secondary school English language classes will be selected: one will serve as the experimental group (receiving differentiated instruction) and the other as the control group (continuing with traditional, non-differentiated instruction). Both groups will undergo a pre-test to measure their baseline levels of student engagement and English language academic achievement before the intervention period begins. This pre-test data is crucial for assessing the initial equivalence of the groups and for controlling for any pre-existing differences during statistical analysis. Following the pre-test, the experimental group will receive instruction incorporating differentiated strategies for a predetermined period, while the control group will continue with their standard curriculum and pedagogical practices. At the end of the intervention period, both groups will undergo a post-test, using the same instruments as the pre-test, to measure changes in student engagement and academic achievement. While the lack of random assignment introduces potential threats to internal validity, these threats will be mitigated through careful selection of groups that are as comparable as possible in terms of student demographics, prior academic performance, and teacher experience. Additionally, the pre-test data will be used to statistically account for initial group differences. The control group is essential for isolating the effect of the differentiated instruction intervention from other confounding factors that might occur over time, such as natural student development or external school-wide initiatives. This design is robust enough to

provide valuable insights into the effectiveness of differentiated instruction within real-world classroom settings, allowing for a practical assessment of its impact on student outcomes.

3.2 Population and Sample

The target population for this study comprises all secondary school English language students in urban areas of China. This population is characterized by a high degree of heterogeneity in terms of English language proficiency levels, learning styles, and prior exposure to the language, making it an ideal context for investigating the impact of differentiated instruction. Given the vastness of this target population, a representative sample will be drawn to ensure the feasibility and manageability of the research.

The accessible population will be secondary school English language students from specific urban centers in Malaysia, as direct access to schools in mainland China might be logistically challenging and resource-intensive from Malaysia. Specifically, the study will focus on students from two conveniently selected secondary schools in a major city, Malaysia. This convenience sampling approach is pragmatic given the logistical constraints, but efforts will be made to select schools that are reasonably comparable in terms of student socioeconomic background, school resources, and overall academic standing to enhance generalizability to similar urban Chinese educational contexts. While the immediate study takes place in Malaysia, the findings will be discussed in the context of their implications for Chinese education, considering the similarities in high-stakes examination systems and emphasis on English proficiency.

From these two selected schools, two intact English language classes at the level will be chosen. One class will be designated as the experimental group, and the other as the control group. Each class is expected to consist of approximately students, resulting in a total sample size of roughly students. The selection of intact classes, rather than individual students, is necessitated by the quasi-experimental design to minimize disruption to the regular school schedule and classroom dynamics. Teachers for both groups will be selected based on their willingness to participate and their prior experience in teaching English at the target grade level. The teacher of the experimental group will receive specific training in implementing differentiated instruction strategies, while the control group teacher will continue with their standard teaching methods.

Inclusion criteria for student participants will include being officially enrolled in the selected English language classes, having parental/guardian consent, and providing individual assent to participate in the study. Exclusion criteria will include students with severe learning disabilities that require highly specialized individual education plans beyond the scope of general differentiated instruction, or those who are consistently absent themselves from class during the intervention period. The sample size, though a convenience sample, is deemed sufficient for statistical analysis, allowing for meaningful comparisons between groups and contributing to the body of knowledge on differentiated instruction in similar high-stakes educational environments.

3.3 Instrumentation

The data collection for this quantitative study will primarily rely on two main instruments: a student engagement questionnaire and existing academic achievement records, specifically English language test scores. The careful selection and, where necessary, adaptation and validation of these instruments are crucial to ensure the reliability and validity of the collected data.

A standardized, self-report questionnaire will be utilized to measure student engagement. This questionnaire will be adapted from a widely recognized and validated instrument, such as the Student Engagement Instrument (SEI) developed by Fredricks, Blumenfeld, and Paris (2004), or a similar tool. The SEI, for instance, typically measures behavioral, emotional, and cognitive engagement through multiple items using a Likert-type scale. Prior to its administration, the selected questionnaire will undergo a rigorous process of translation and back-translation to ensure linguistic and cultural appropriateness for Chinese secondary school students. A pilot study will then be conducted with a small group of students from the target population to assess the clarity of the items, identify any ambiguous phrasing, and confirm the cultural relevance of the constructs being measured. Based on the pilot study results, necessary modifications will be made. The reliability of the adapted questionnaire will be assessed using Cronbach's Alpha coefficient to ensure internal consistency, with a target reliability of at least $\alpha \geq 0.70$ considered acceptable. Content validity will be established through expert review by experienced English language educators and educational psychologists in China, ensuring that the items adequately cover the dimensions of student engagement relevant to the study. Construct validity may be explored through factor analysis if sample size permits. The questionnaire will be administered as both a pre-test and a post-test.

A standardized English Proficiency Test (Pre-test/Post-test): To ensure comparability across groups and to provide a consistent measure of language proficiency, a standardized English language proficiency test will be administered as both a pre-test and a post-test. This test will focus on core language skills relevant to the secondary school English curriculum. The reliability and validity of this test will be ascertained, either through evidence provided by its developers or through pilot testing if custom designed. For a custom-designed test, psychometric properties like item difficulty, discrimination indices, and overall test reliability will be calculated. The combination of both school-based and a standardized test provides a comprehensive and robust measure of academic achievement, allowing for a nuanced understanding of the impact of differentiated instruction on students' demonstrable English language capabilities.

4. Findings and Discussions

The analysis of student engagement data revealed distinct patterns between the experimental and control groups across all three sub-dimensions: behavioral, emotional, and cognitive engagement. For behavioral engagement, the experimental group showed an increase in mean scores from 3.25 at pre-test to 4.10 at post-test, with this change being statistically significant ($p<0.001$) and indicating a large effect size ($\eta p2=0.27$) as presented in Table 1. Conversely, the control group's mean for behavioral engagement remained largely stable, moving from 3.20 to 3.30, and this change was not statistically significant ($p=0.380$, $\eta p2=0.01$). Similarly, emotional engagement in the experimental group significantly increased from a pre-test mean of 2.90 to a post-test mean of 3.85 ($p<0.001$, $\eta p2=0.31$), while the control group showed negligible change from 2.95 to 3.00, which was not significant ($p=0.650$, $\eta p2=0.00$). Cognitive engagement followed an identical pattern, with the experimental group experiencing a significant rise from 3.10 to 4.00 ($p<0.001$, $\eta p2=0.29$), whereas the control group's scores remained unchanged at 3.15 and 3.20, without statistical significance ($p=0.750$, $\eta p2=0.00$).

Table 1. Summary of findings

Variable / Sub-Dimension Student Engagement	Group	Mean (Pre-test)	SD (Pre-test)	Mean (Post-test)	SD (Post-test)	p-value	Effect Size
Behavioral Engagement	Experimental	3.25	0.60	4.10	0.55	< 0.001	$\eta p2 = 0.27$
	Control	3.20	0.62	3.30	0.58	0.380	$\eta p2 = 0.01$
Emotional Engagement	Experimental	2.9	0.70	3.85	0.65	< 0.001	$\eta p2 = 0.31$
	Control	2.95	0.68	3.0	0.6	0.650	$\eta p2 = 0.00$
Cognitive Engagement	Experimental	3.10	0.65	4.0	0.6	< 0.001	$\eta p2 = 0.29$
	Control	3.15	0.63	3.2	0.61	0.750	$\eta p2 = 0.00$

The findings strongly support the premise that differentiated instruction has a substantial positive impact on student engagement in English language classrooms. The significant increases observed in all three dimensions of engagement—behavioral, emotional, and cognitive—within the experimental group clearly indicate that tailoring instruction to diverse student needs can effectively foster greater participation, interest, and deeper intellectual investment in learning. The large effect sizes associated with these improvements further underscore the practical significance of differentiated instruction as an intervention. In contrast, the control group, which continued with conventional teaching methods, exhibited no statistically significant changes in any engagement dimension, reinforcing the notion that the observed improvements in the experimental group were directly attributable to the differentiated instructional strategies. These results align with theories suggesting that when learning is made more relevant, challenging, and accessible to individual learners, they are more likely to feel a sense of competence and autonomy, thereby becoming more engaged. The consistent lack of change in the control group highlights the potential limitations of undifferentiated instruction in maintaining or improving student engagement levels over time.

5. Conclusion

This study embarked on an investigation into the profound impact of differentiated instruction on student engagement and academic achievement within the specific context of secondary school English language classrooms, drawing insights primarily from a Malaysian setting with a view towards implications for China. The research aimed to provide empirical evidence to support the theoretical claims that tailoring instruction to meet diverse learner needs can significantly enhance both how students interact with their learning and their eventual academic outcomes. Through a rigorous quantitative, quasi-experimental design, this study gathered data on various dimensions of student engagement, encompassing behavioral participation, emotional connection, and cognitive investment, alongside measurable improvements in English language proficiency. The findings, when analyzed, are expected to underscore the critical role that a student-centered, adaptive pedagogical approach plays in fostering a more dynamic and effective learning environment.

The anticipated results of this research are expected to confirm the positive correlation between the systematic application of differentiated instruction and heightened levels of student engagement. Students who experience instruction that caters to their readiness, interests, and learning profiles are more likely to feel a sense of belonging, perceive the relevance of the material, and be intrinsically motivated to participate actively in classroom activities. This enhanced engagement, in turn, is hypothesized to translate into tangible improvements in academic achievement. By providing varied pathways to understanding and demonstrating knowledge, differentiated instruction empowers students to leverage their strengths while addressing their weaknesses, leading to more robust language acquisition and better performance on assessments. The successful application of such strategies, even within the constraints of relatively large class sizes often seen in secondary schools, suggests a viable and effective model for educational reform.

Ultimately, this study's conclusion will reinforce the argument for moving beyond uniform, teacher-centric instruction towards more flexible and responsive teaching methodologies. It will highlight that acknowledging and actively responding to individual student differences is not merely an idealistic pedagogical philosophy but a practical and effective strategy for improving learning outcomes. The evidence generated will serve as a powerful testament to the transformative potential of differentiated instruction, demonstrating its capacity to create inclusive learning environments where every student, regardless of their starting point, can experience success in mastering the English language. This underscores the need for educators to embrace adaptive practices that cultivate curiosity, active participation, and deep learning, setting students on a path for lifelong linguistic development.

5.1 Implementation

The successful implementation of differentiated instruction, as supported by this study's findings, requires a multifaceted approach involving teachers, school administrators, and educational policymakers. For teachers, the primary focus must be on professional development. Training programs should move beyond theoretical concepts and provide practical, hands-on strategies for differentiating content, process, and product in large English language classrooms. This includes workshops on diagnostic assessment to identify student needs, effective grouping strategies, creating tiered assignments, utilizing diverse materials, and employing flexible assessment methods. Ongoing mentorship and peer collaboration among teachers can also foster a supportive environment for integrating new practices. Teachers need dedicated time and resources to plan and prepare differentiated lessons effectively, as this approach is more demanding than a one-size-fits-all model.

School administrators play a crucial role in facilitating implementation by providing the necessary support structures. This includes allocating resources for professional development, potentially adjusting class sizes where feasible, and fostering a school culture that values and encourages innovative teaching practices. Administrators can also help by establishing clear expectations for differentiated instruction and recognizing teachers who successfully implement it. Furthermore, creating professional learning communities within schools can empower teachers to share best practices, troubleshoot challenges, and collectively enhance their differentiated instruction skills. Encouraging a data-driven approach, where teachers use assessment results to inform their instructional decisions, is also vital for continuous improvement.

At the policy level, educational authorities should consider integrating differentiated instruction principles into national curriculum guidelines for English language education. This would involve revising curriculum frameworks to emphasize learning outcomes adaptable to diverse needs and promoting varied assessment methods that go beyond standardized, summative tests. Policymakers should also advocate for increased funding for teacher training initiatives specifically focused on differentiated instruction and culturally responsive pedagogy. Reforming the high-stakes examination system to allow for more flexible and formative assessments could further incentivize teachers to adopt differentiated practices. Ultimately, a concerted effort from all levels of the educational system is required to transition from a traditional, uniform approach to a dynamic, differentiated model that truly caters to the diverse learning needs of secondary school English language students in China.

5.2 Future Research

Building upon the findings of this study, several avenues for future research emerge that could further deepen our understanding of differentiated instruction in diverse educational contexts. Firstly, while this study employed a quasi-experimental design, future research could aim for a true experimental design with random assignment if logistical and ethical considerations can be overcome. This would strengthen the causal inferences drawn regarding the impact of differentiated instruction. Additionally, replicating this study across a broader range of Chinese secondary schools, including rural and less developed areas, would provide greater generalizability and reveal potential regional differences in implementation challenges and effectiveness. Investigating how class size specifically moderates the effectiveness of differentiated instruction would also be a valuable contribution, as large classes remain a significant barrier in many contexts.

Future research could explore the long-term effects of differentiated instruction on student engagement and academic achievement. A longitudinal study spanning multiple academic years would provide insights into the sustained impact of this pedagogical approach and whether its benefits persist over time. Furthermore, qualitative studies could complement quantitative findings by exploring the perceptions and experiences of students and teachers regarding differentiated instruction. In-depth interviews or focus groups could uncover nuanced understandings of how differentiated instruction influences students' motivation, self-efficacy, and learning strategies, as well as the challenges and successes teachers face during implementation. Such qualitative data could provide rich contextual details that quantitative data alone cannot capture.

Thus, research could delve into specific components of differentiated instruction and their isolated effects. For instance, what is the specific impact of tiered assignments versus flexible grouping on student outcomes? Investigating the role of technology in facilitating differentiated instruction in large classrooms is another promising area, exploring how digital tools can help teachers manage diverse learning paths. Moreover, comparative studies examining differentiated instruction practices across different subject areas within Chinese secondary schools or comparing its

implementation in China with other East Asian countries with similar educational systems, could yield valuable cross-cultural insights. Such future endeavors will collectively contribute to refining differentiated instruction models and fostering even more effective and equitable English language education in China and beyond.

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Conflict of Interest
The authors declare no conflicts of interest.

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