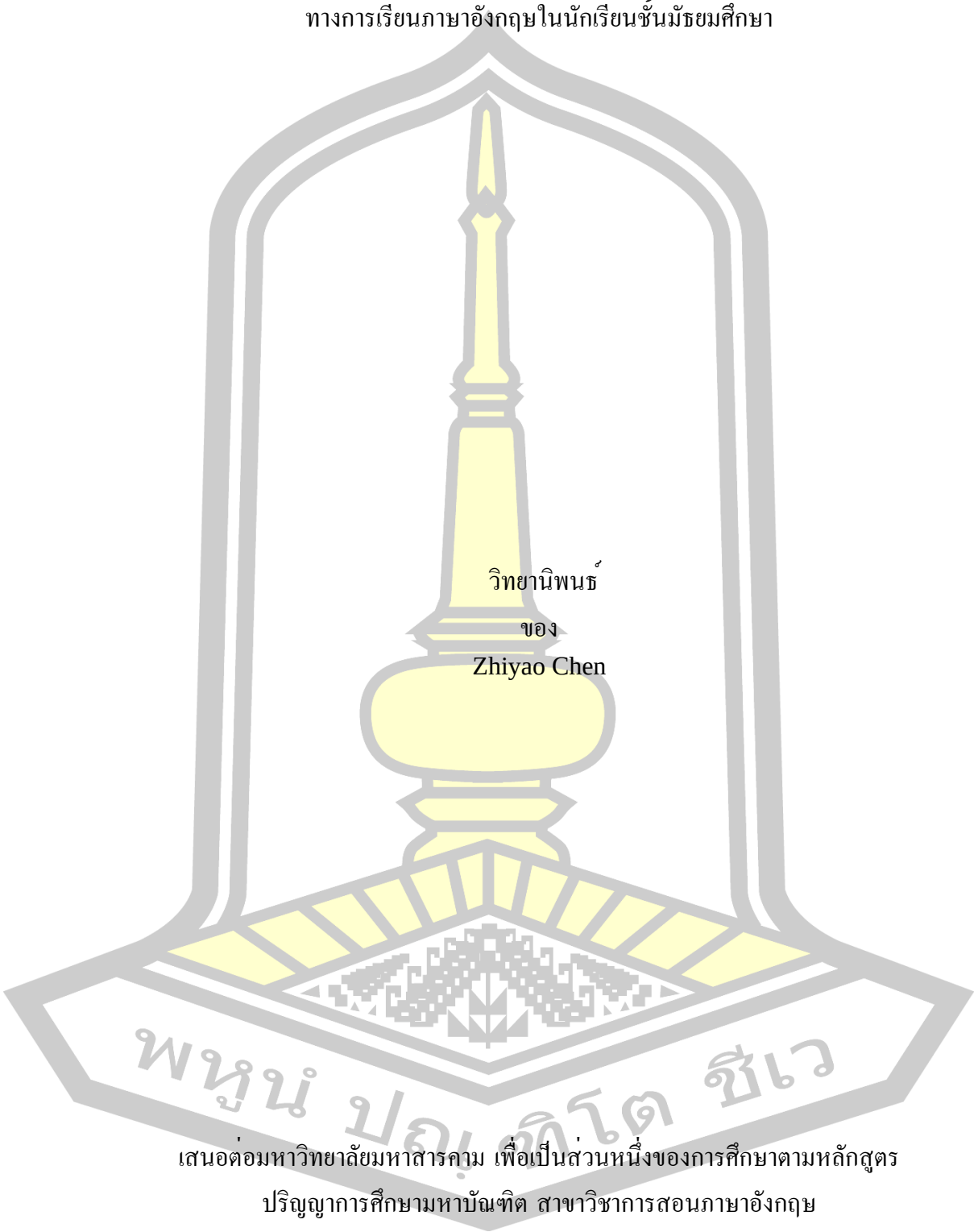
The Role of Intrinsic Motivation and Self-efficacy in Self-regulated Learning and English Learning Achievements in Chinese High School Students

Zhiyao Chen

A Thesis Submitted in Partial Fulfillment of Requirements for
degree of Master of Education in English Language Teaching
August 2024

บทบาทของแรงจูงใจและการรับรู้ความสามารถของตนในการเรียนรู้ด้วยตนเองและผลสัมฤทธิ์ทางการเรียนภาษาอังกฤษในนักเรียนชั้นมัธยมศึกษา



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สิงหาคม 2567

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DEGREE Master of Education **MAJOR** English Language Teaching

UNIVERSITY Mahasarakham University **YEAR** 2024

ABSTRACT

This study investigates the roles of intrinsic motivation and self-efficacy in self-regulated learning (SRL) and their contributions to English language achievements among Chinese high school students. Recognizing SRL as pivotal for effective learning strategies, particularly in English as a Foreign Language (EFL) contexts, this research aims to (1) examine the relationship between intrinsic motivation and SRL, (2) explore the link between self-efficacy and SRL, and (3) assess the impact of SRL strategies on English learning achievements. Data were gathered from 237 Grade 10 students at a public high school in southwestern China, utilizing a structured questionnaire to measure intrinsic motivation, self-efficacy, SRL strategies and English language test scores to evaluate learning achievements. Structural equation modeling (SEM) and related statistics were employed to analyze the hypothesized relationships and mediation effects among these variables. The findings reveal that intrinsic motivation significantly predicts monitoring and effort regulation, while self-efficacy predicts all SRL strategies. Moreover, SRL strategies are crucial in predicting English learning achievement, with goal setting and planning being the most influential factors, followed by monitoring and effort regulation. These results suggest that students who set clear, attainable goals, develop detailed plans, continuously monitor their progress, and regulate their efforts achieve higher academic outcomes. The study emphasizes the importance of intrinsic motivation and self-efficacy in SRL strategies and academic performance. Highlighting the critical role of SRL, the research underscores its significance in empowering students to take control of their learning and achieve academic success. The pedagogical implications based on structural equation modeling (SEM) analysis indicate that fostering students' intrinsic motivation and self-efficacy can contribute to better SRL strategy use and, consequently, higher English learning achievements, consequently, higher English learning achievements. Educators and policymakers are encouraged to integrate practices that enhance these motivational beliefs to improve educational outcomes. Recommendations for future research and educational practice are provided.

Keyword : Intrinsic Motivation, Self-Efficacy, Self-Regulated Learning (SRL), English Language Achievement, Structural Equation Modeling (SEM)

ACKNOWLEDGEMENTS

I would like to express my deepest gratitude to my advisor, Assistant Professor Apisak Sukying, Ph.D., for his unwavering support, invaluable guidance, and continuous encouragement throughout the duration of this research. His insightful feedback, profound knowledge, and dedication have been instrumental in shaping this thesis, and I am profoundly grateful for his mentorship.

I am also deeply indebted to Dr. Pilanut Phusawiso and Dr. Eric A. Ambel, for their exceptional support and guidance in my coursework. Their expertise and willingness to share their knowledge have greatly enhanced my academic journey, and their encouragement has been a source of inspiration.

My heartfelt thanks go to my friends who helped organize the survey. Their dedication, hard work, and unwavering support were crucial in the data collection process. Without their assistance, this research would not have been possible, and I am deeply appreciative of their contributions.

I would like to extend my sincere appreciation to the faculty and staff at Mahasarakham University for providing the necessary resources and support that facilitated my research. I am also grateful to my beloved classmates who offered their assistance, shared their experiences, and provided a collaborative and enriching environment.

Special thanks go to the participants of this study, the Grade 10 students from the public high school in southwestern China, whose cooperation and honesty made this research possible. I am also thankful to their teachers and the school administration for their support and facilitation during the data collection process.

Lastly, I am profoundly thankful to my family and friends for their constant encouragement, patience, and understanding. Their unwavering love and support have been my greatest source of strength throughout this academic endeavor. This thesis is dedicated to them, with heartfelt appreciation for their enduring belief in me.

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CHAPTER I
INTRODUCTION

This chapter introduces the critical role of Self-Regulated Learning (SRL) in education and the picture of self-regulated learning (SRL) in Chinese high school students' English language learning. It highlights how intrinsic motivation and self-efficacy influence students' use of SRL strategies. The chapter sets out the background to the study, purposes of the research, scope of the research, significance of the study, and definition of the term. Understanding the relationship between motivational beliefs, SRL, and language proficiency aims to support students and improve English language education in China.

1.1 Background to the study

Given the complexity and dynamism of the modern educational landscape, Self-Regulated Learning (SRL) has been increasingly recognized as a fundamental component of effective learning strategies within broader educational settings. Scholars such as Zimmerman (2002) and Pintrich (2000) have extensively argued for the importance of SRL in fostering proactive, reflective, and adaptive learners in their learning processes. Zimmerman, in particular, has posited that self-regulation skills are critical for academic success and lifelong learning, emphasizing that SRL enables students to set learning goals, employ strategies to achieve them and monitor and adjust their approaches as necessary (Zimmerman, 2002). Similarly, Pintrich has highlighted the role of motivational and behavioral components of SRL, suggesting that these elements are crucial for engaging students in the learning process (Pintrich, 2000).

The adoption of SRL in educational policies across various countries can be attributed to the growing acknowledgment of these skills in preparing students for the challenges of a rapidly evolving world. Linda Darling-Hammond has articulated that education systems must evolve to equip students with the skills necessary for success in the 21st century, including critical thinking, self-regulated learning, and adaptability (Darling-Hammond, 2010).

By fostering SRL competencies, educational systems aim to prepare learners for academic success and a lifetime of learning and adaptation in an ever-changing world. Integrating SRL strategy use into educational practices is vital in cultivating learners

capable of navigating the complexities of modern life and work environments with agility and resilience.

Self-Regulated Learning (SRL) learners are more likely to achieve enhanced learning outcomes due to their active engagement in planning, setting goals, employing strategies, and evaluating learning outcomes (Pintrich, 2000; Zimmerman, 2002). In recent years, there has been a growing recognition of the pivotal significance of self-regulated learning (SRL) in students' academic achievement and continuous growth (Bai & Guo, 2018; Guo et al., 2023; Teng & Zhang, 2022). Educational reform in numerous nations has prioritized SRL to build student-centered instructional strategies (Randi, 2017). SRL is considered a dynamic and cyclical process through which learners sustain and activate their emotions, ideas, and behaviors to pursue learning goals (Zimmerman & Schunk, 2011). Self-regulated learners typically employ a range of proactive tactics, including critical thinking and planning, to enhance their academic achievements and learning efficiency (Guo et al., 2023; Li et al., 2018). However, according to studies, most students demonstrated only a moderate to low degree of SRL strategy utilization when learning English as a foreign language (EFL) (Bai, 2018; Bai & Guo, 2021; Guo et al., 2023). As a result, encouraging students to employ more SRL methods and exercise self-regulation is crucial and pertinent in English learning. The social cognitive theory posits that the learning behaviors of individuals may be influenced by their thoughts and beliefs (Bandura, 2011). Learners with adaptive motivational beliefs are more likely to deploy SRL strategies (Dörnyei & Ushioda, 2021; Iwamoto et al., 2017). It has been discovered that intrinsic motivation and self-efficacy, two main motivational variables in students' learning, significantly impact students' SRL strategy use (Guo et al., 2023; Lim & Yeo, 2021). Intrinsic motivation is the degree to which individuals engage in activities out of their inherent curiosity and interest (Pintrich et al., 1993). Self-efficacy pertains to an individual's subjective evaluation of their ability to achieve specific goals (Zimmerman, 2000).

Self-efficacy and intrinsic motivation are critical determinants of student language learning (Chen, 2020; Gardner, 2007). Motivational research has been conducted to determine what inspires students to behave and why they hold the beliefs and behaviors they do (Bai & Wang, 2023; Wigfield et al., 2015). The activities and tasks that students

engage in are contingent upon their motivation and self-efficacy. Motivation is contingent upon the quality and degree of student engagement, as postulated by expectancy-value theory, which posits that learning achievements are determined by students' task value beliefs and self-efficacy (Bai & Guo, 2019; Bai & Wang, 2023). Additionally, research suggests that intrinsic motivation and self-efficacy contribute to the promotion and sustainability of SRL, which correlates directly to academic achievements (Bai & Wang, 2023; Guo et al., 2023; Pintrich, 2003). SRL strategies are intentional and goal-directed attempts by language learners to manage and control their efforts (Oxford, 2011; Sukying, 2021). To efficiently regulate their learning, self-regulated learners employ a number of SRL strategies, including metacognitive self-regulation, cognitive strategies, and environment and resource management, to effectively handle their learning (Sukying, 2021). As an illustration, self-regulated learners may exhibit perseverance by dedicating their time and efforts despite encountering obstacles. Self-regulated learning is critical in EFL contexts, such as China and Thailand. Since their exposure to the target language is frequently restricted to the walls of the classroom environment and daily setting, EFL learners might not be afforded adequate interaction opportunities for engagement (Kormos & Csizér, 2014; Sukying, 2021).

In China, self-regulated learning is prevalent. Chinese EFL learners' language acquisition and self-regulated learning techniques (SRLS) have been studied extensively. In 2022, Shen and Bai studied Chinese university students' self-regulated writing styles and EFL writing performance. Their study highlighted self-efficacy as a precursor to self-regulated writing. They concluded that treatments promoting self-regulated learning processes and writing self-efficacy can assist Chinese EFL students who have low self-efficacy. Another study by Shen et al. (2023) studied self-regulated learning and academic emotions in Chinese university EFL students. Students' English academic performance was positively correlated with SRL technique use. Promoting self-regulated learning may improve language acquisition. The self-regulated learning (SRL) profiles and individual characteristics of Chinese EFL learners at a public high school in an eastern Chinese city were examined by Chen et al. (2023). In the study, extrinsic drive and self-efficacy predicted profile membership the most. Profile membership was not highly predicted by reading ability. SRL's cultural and educational

context in China was also studied, as was the need for personal and EFL reading study. China favors self-regulated learning, notably in EFL education (Shen et al., 2023, 2024). Boosting self-efficacy, fostering a growth attitude, and emphasizing intrinsic value can help Chinese learners learn independently (Bai, 2023). Additionally, teachers must help kids develop self-regulated learning skills. However, SRL is not well-studied in China across age groups and educational levels (primary, high school, and tertiary). Due to educational resource disparities in China, SRL research on English language acquisition is limited. In conclusion, English SRL studies need more research.

English, as a global language, is crucial for accessing a vast amount of the world's knowledge; many nations have adopted English as an official language or as the primary foreign language in schools, highlighting its importance in education on a global scale (Crystal, 2003). English is an essential subject of study alongside their first language in most non-native English-speaking countries; China is no exception (Tsui & Toolefson, 2017). Informing theory, practice and policy requires investigating the factors that may influence English as a foreign language (EFL) learning achievements. For decades, researchers have endeavored to ascertain the factors that contribute to English language learning achievements for students in EFL settings (Bai, 2018; Guo et al., 2023; Wang & Bai, 2017). In this regard, EFL learners must develop into self-dependent and self-regulated lifelong learners; this necessitates that they engage in independent study beyond the classroom and implement a variety of SRL strategies. It has been determined that self-regulated learning is a crucial form of twenty-first-century competency that forms the foundation of lifelong learning. Gaining insight into the potential of SRL to enhance English language learning achievements can significantly empower EFL learners to surmount their challenges.

Exploring the intricate relationships between intrinsic motivation, self-efficacy, self-regulated learning (SRL) strategy use, and English language learning achievements among Chinese EFL high school students would address critical gaps in the existing literature on language acquisition. This investigation is pivotal for several reasons, each highlighting a unique dimension of the learning process that, when better understood, can significantly enhance educational practices and learner outcomes in the context of English as a Foreign Language (EFL) education in China.

Firstly, the role of intrinsic motivation in the learning process is universally acknowledged; however, its specific impact on self-regulated learning within EFL settings remains insufficiently explored. Intrinsic motivation, characterized by engaging in activities for the sheer joy and interest they evoke, is fundamental to sustaining effort and engagement over time. Understanding how intrinsic motivation influences SRL strategies can unveil how learners' internal drives shape their engagement with the language learning process. This exploration is crucial for developing instructional strategies that effectively tap into and foster students' intrinsic interest in learning English, thereby enhancing their overall engagement and persistence.

Secondly, the influence of self-efficacy on SRL represents another vital area of investigation. Self-efficacy, or the belief in one's capabilities to achieve specific outcomes, is a significant determinant of learning success. Its relationship with SRL strategies requires more precise elucidation, particularly in EFL learning. By examining how students' confidence in their English language abilities affects their selection and application of SRL strategies, educators can better understand how to support and build students' self-efficacy, empowering them to take more active and influential roles in their learning processes.

Furthermore, the direct link between the use of SRL strategies and English language learning achievements in Chinese EFL contexts demands thorough investigation. While SRL strategies are recognized for their positive impact on academic performance, the specific mechanisms through which these strategies influence language learning achievements in EFL settings remain to be fully understood. This knowledge gap underscores the need for research to identify the most effective SRL strategies for EFL learners and understand how these strategies facilitate language mastery. Such insights are essential for designing instruction that effectively supports students' language learning journeys.

Lastly, the unique cultural and educational contexts of China, including disparities in educational resources and the methods through which English is taught and learned, present distinct challenges and opportunities for EFL education. Investigating how intrinsic motivation, self-efficacy, and SRL strategies interact within this context is

critical for identifying tailored approaches that can address the unique needs of Chinese EFL learners. This research can contribute to developing more effective instructional strategies, policies, and support mechanisms sensitive to the nuances of the Chinese educational landscape and the diverse needs of its learners.

Together, examining the relationships between intrinsic motivation, self-efficacy, SRL strategy use, and English language learning achievements in Chinese EFL high school students is essential for filling existing knowledge gaps and enhancing educational practices. This research has the potential to significantly impact teaching methodologies, policy formulation, and learner support systems, ultimately leading to improved English language learning outcomes in China.

1.2 Purposes of the research

This study examines the relationship between EFL high school students' intrinsic motivation, self-efficacy, self-regulated learning strategy use, and English language learning achievements in China. Specifically, the study will examine:1) the relationship between intrinsic motivation and self-regulated learning, 2) the relationship between self-efficacy and self-regulated learning, and 3) the relationship between SRL strategies and English language learning achievements.

In order to achieve these established goals, three research questions are formulated to guide the study:

1. What is the relationship between intrinsic motivation and self-regulated learning among Chinese high school students?
2. What is the relationship between self-efficacy and self-regulated learning among Chinese high school students?
3. What is the relationship between SRL strategies and English learning achievement among Chinese high school students?

1.3 Scope of the research

This study focused on examining the relationships between intrinsic motivation and self-efficacy in self-regulated learning and English language achievements. Indeed, the study was not assumed to represent Chinese high school students. Instead, it aimed to

test the hypothesis of the link between intrinsic motivation, self-efficacy, SRL, and English language learning achievements.

To examine the relationships between intrinsic motivation, self-efficacy, self-regulated learning (SRL), and English language learning achievements in a Chinese high school context, the study was conducted with 237 Grade 10 students out of a total of 1,008 in the entire Grade 10 at a Chinese public high school in the northeastern region of Yunnan Province, southwestern China.

The study drew on previous research and utilized a quantitative approach to gather data on the participants' motivational beliefs, SRL strategy use, and English language learning achievements. The sample size consisted of grade 10 students, and data was collected through the average scores of 2 times monthly academic scores and questionnaires (Questionnaires of motivational beliefs; Measures of SRL in English language learning).

1.4 Significance of the study

This study highlights the vital roles of motivation, self-efficacy, and self-regulated learning (SRL) in enhancing English language acquisition among Chinese high school students. Intrinsic motivation, which drives students' genuine interest and enjoyment in learning, is crucial for sustained engagement and academic success (Ryan & Deci, 2020). Self-efficacy, as described by Bandura (2011), empowers students by boosting their confidence to tackle challenges and persist through difficulties in language learning. Furthermore, SRL strategies, which involve goal setting, self-monitoring, and strategic planning, are fundamental for students to take charge of their learning, leading to better academic outcomes.

Understanding the importance of intrinsic motivation and self-efficacy in their learning journeys can empower students to take charge of their educational processes. By adopting effective SRL strategies, students can become more self-regulated and proactive in their studies, leading to higher levels of English proficiency and overall academic success. The study highlights that intrinsic motivation, which drives students' genuine interest and enjoyment in learning, is crucial for sustained engagement and achievement. Similarly, self-efficacy boosts students' confidence, enabling them to tackle challenges and persist through difficulties in language learning.

The insights from this study can help educators foster a motivating and supportive classroom environment that enhances students' self-efficacy and encourages active engagement. By integrating SRL techniques into their teaching practices, teachers can help students develop the skills necessary for independent learning and lifelong success. Educators are encouraged to design instructional strategies that effectively tap into and nurture students' intrinsic interest in learning English, thereby enhancing their overall engagement and persistence.

This study provides valuable guidance for school administrators in developing policies and programs that support student motivation and self-regulation. Administrators can use these findings to create a more conducive learning environment that addresses the specific needs of students, particularly in underdeveloped regions. The research emphasizes the importance of designing school programs that promote intrinsic motivation and self-efficacy to improve educational outcomes.

Policymakers can leverage the research findings to address educational disparities and invest in programs that enhance student motivation and self-efficacy. The study highlights the significance of creating initiatives that promote equitable access to quality education and support for all learners. Policymakers are encouraged to integrate practices that foster students' intrinsic motivation and self-efficacy, which can lead to better SRL strategy use and, consequently, higher English learning achievements.

For English Language Teaching (ELT) specifically, by understanding the critical roles of intrinsic motivation and self-efficacy, ELT professionals can tailor their teaching methods to better support students' individual needs. This study suggests that ELT programs should focus on creating engaging and supportive learning environments that stimulate students' intrinsic interest and confidence. Incorporating SRL strategies into ELT curricula can help students to become self-regulated learners. Additionally, the study's insights can help in the development of professional training programs for ELT educators, ensuring they are equipped with the necessary skills to foster motivation and self-efficacy in their students.

By filling a gap in the literature on the role of motivation, self-efficacy, and SRL in English language learning among Chinese high school students, especially in underdeveloped regions, this study lays the groundwork for future research. It invites

further exploration into effective educational practices that can be scaled and adapted to various contexts, ensuring that more students benefit from improved learning strategies.

This research advances theoretical understanding and offers practical recommendations for enhancing English language education. By focusing on motivation, self-efficacy, and SRL, stakeholders can work collaboratively to create more effective and supportive learning environments. Ultimately, the study aims to improve educational outcomes for students, empowering them to achieve academic success and develop essential lifelong learning skills.

1.5 Definitions of terms

Intrinsic Motivation

Intrinsic motivation in the specific context of Chinese high school students learning English as a foreign language (EFL) in this study refers to the degree to which participating students are internally compelled to learn English because they find the language learning process enjoyable, interesting, or valuable in and of itself.

Self-efficacy

Self-efficacy refers to Chinese high school students' belief in their abilities to effectively learn and use English as a foreign language (EFL). This term encompasses students' confidence in their skills to achieve specific language learning outcomes, such as mastering vocabulary, understanding grammar, and communicating effectively in English.

Self-regulated Learning (SRL)

In this study, self-regulated learning encompasses goal setting and planning, monitoring, and effort regulation. This involves learners actively managing and controlling their learning processes, setting goals, monitoring their progress, and adjusting strategies to optimize learning and performance. Self-regulated learning also includes metacognitive, motivational, and behavioral aspects, emphasizing learners' ability to regulate both cognitive and emotional processes (Schunk & Zimmerman, 2023). Specifically, in the context of this study, it refers to how Chinese high school students independently manage their English language learning as a foreign language (EFL).

English language learning achievements

English language learning achievements, in this study, specifically denote the measurement of Chinese high school students' proficiency in English, as determined through academic performance and standardized test scores. These achievements are quantified by analyzing the students' average scores from their last 2 English language tests, which are designed by the school's committee in alignment with the 10th-grade English curriculum standards. Based on these scores, students are classified into three proficiency levels: first level (100-150 points) indicating the highest proficiency, second level (50-99.99 points) representing intermediate proficiency, and third level (0-49.99 points) reflecting the lowest proficiency. This structured assessment approach provides a clear framework for evaluating students' English language skills and tracking their progress over time.

Chinese high school students

Chinese high school students are individuals enrolled in the senior secondary education phase in China, usually between 15 and 18 years old. This educational stage, divided into three years (Grades 10 to 12 or senior 1 to senior 3), prepares students for higher education or vocational training. The curriculum focuses on various subjects, significantly emphasizing preparing for the Gaokao (National College Entrance Examination in China).

1.6 Thesis Organization

The thesis is organized into six chapters. Chapter I is the Introduction, which sets the stage for the study by discussing the importance of intrinsic motivation, self-efficacy, and self-regulated learning (SRL) in Chinese high school students' English language learning. Chapter I includes sections on the background to the study, purposes of the research, scope of the research, significance of the study, and definition of terms.

Chapter II is the literature review related to the present study topic. The first section explores intrinsic motivation, self-efficacy, and self-regulated learning both theoretically and in the context of English language learning. The second section emphasizes the importance of intrinsic motivation and self-efficacy in self-regulated learning, particularly in English language learning. The third section discusses the significance of self-regulated learning in academic achievements and English language

learning outcomes. The fourth section reviews recent studies on intrinsic motivation, self-efficacy in English self-regulated learning, and English learning achievements, underscoring the research gap and the significance of the present study.

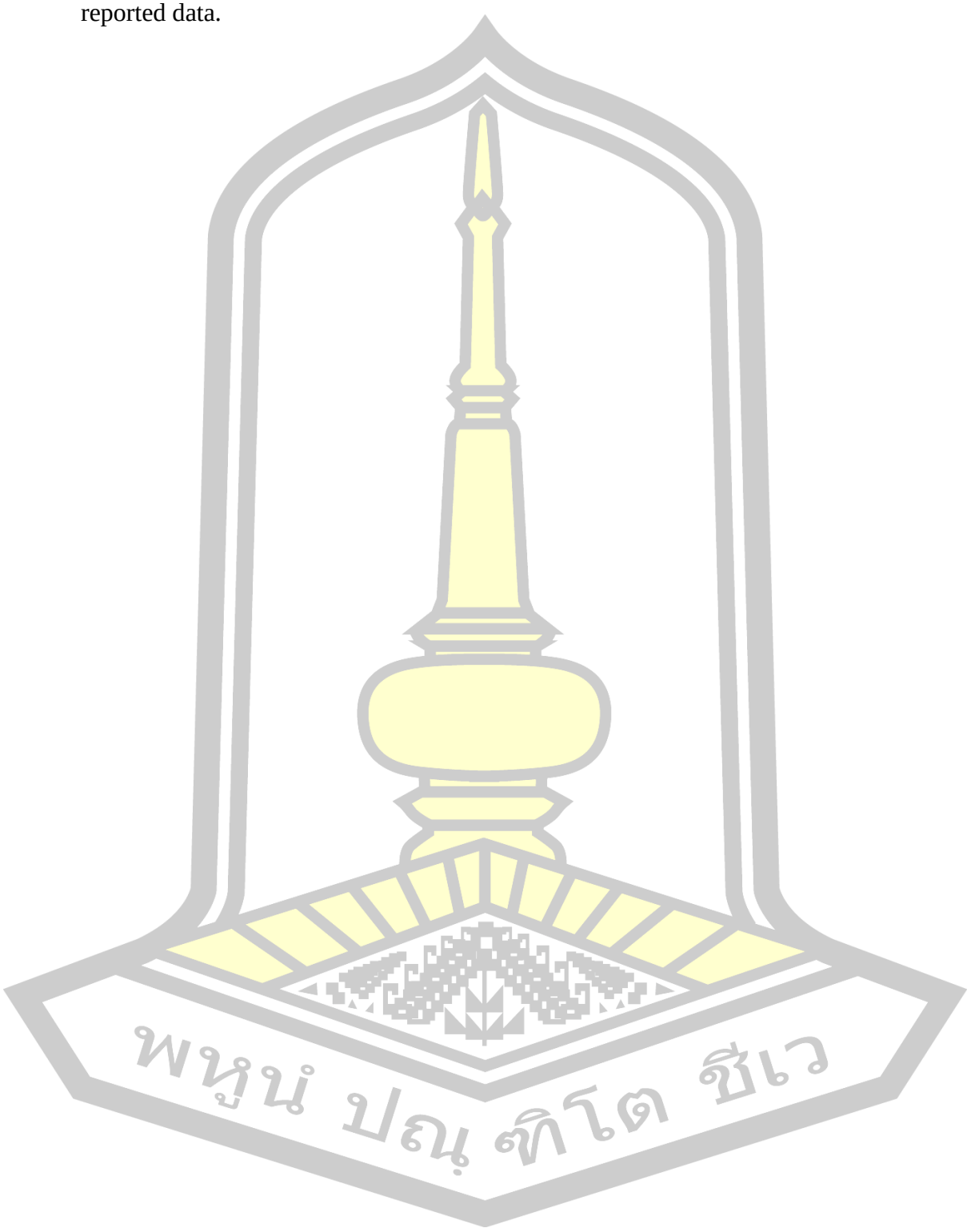
Chapter III details the research methodology, including Research design and paradigm, Participants and setting, Research instruments, and Data Analysis. It describes how the study investigates the relationships between intrinsic motivation, self-efficacy, SRL strategies, and English language learning achievements among Chinese high school students.

Chapter IV presents the findings from the study on intrinsic motivation, self-efficacy, self-regulated learning (SRL) strategies, and English language learning achievements among Chinese high school students. This chapter includes sections on descriptive statistics, reliability and validity testing, correlation analysis, and structural equation modeling (SEM) results. It details the statistical analyses performed and the relationships identified between the key variables of the study.

Chapter V interprets the results presented in Chapter IV, connecting them to the existing literature on intrinsic motivation, self-efficacy, and self-regulated learning strategies in language learning. Specifically, it examines how intrinsic motivation and self-efficacy predict different SRL strategies (goal setting and planning, monitoring, and effort regulation) and how they predict English learning achievement. Additionally, the chapter investigates the mediating effects of SRL strategies on the relationships between intrinsic motivation, self-efficacy, and English learning achievement.

Chapter VI summarizes the main findings of the study, emphasizing the importance of intrinsic motivation and self-efficacy in enhancing self-regulated learning (SRL) strategies and their impact on English learning achievement among Chinese high school students, and underscores that all three SRL strategies are integral to academic success, particularly in language learning contexts, and support the development of essential lifelong learning skills. This chapter includes sections on the implications for educational practice, recommendations for future research, and the limitations of the study. It highlights the need for supportive educational environments and the importance of further research with diverse populations and longitudinal designs. It

acknowledges the limitations related to the specific regional focus and reliance on self-reported data.



CHAPTER II
LITERATURE REVIEW

This chapter reviews the fundamental theory of motivation, self-efficacy and self-regulated learning. Then, it explores the importance of motivation, self-efficacy and self-regulated learning in the context of English language learning. In addition, it will review the role of motivation and self-efficacy in self-regulated learning, as well as English language learning achievements.

2.1 Intrinsic Motivation and Self-Efficacy in Self-Regulated Learning and English Language Learning

2.1.1 Conceptualizing Intrinsic Motivation

Intrinsic motivation is the internal drive to participate in activities purely for the enjoyment and fulfillment they bring (Dörnyei & Ushioda, 2021). It stems from an innate desire to participate in inherently satisfying activities, contribute to personal growth, and be enjoyable (Lai, 2011). This form of motivation is marked by a person's enthusiasm, curiosity, and joy in undertaking a task, as discussed by Deci et al. (2012) and Noels et al. (2003). It arises from the fundamental psychological needs for mastery, independence, and connection (Ryan & Deci, 2000). Intrinsically motivated individuals are driven to embrace challenges, broaden their abilities, and pursue knowledge and exploration without external rewards or incentives (Ryan & Deci, 2000). Deci and Ryan al. (2012) noted that intrinsic motivation fuels and maintains activities through the inherent pleasure of task engagement, making it a more favorable type of motivation that often leads to superior learning outcomes than extrinsic motivation, which relies on outside forces or rewards. Intrinsic motivation involves undertaking actions for the sheer joy and satisfaction it provides, grounded in the basic desires for skillfulness and self-regulation. It is characterized by the search for new challenges and developing a sense of achievement. This motivation is connected to the joy felt during self-regulating and demanding activities (Noels et al., 2000). It pertains to actions performed for their own sake, aiming to fulfill one's curiosity and enjoy satisfying experiences (Dörnyei & Ushioda, 2021).

According to Vallerand and Ratelle (1997, 2002), there are three subtypes of intrinsic motivation: 1) Knowledge Exploration: Participation in activities mainly to gain knowledge, satisfy curiosity, and explore complexities for the pure joy of learning something new; 2) Excellence Pursuit: Involvement in activities to excel, face challenges successfully, and achieve or create something for the pleasure derived from this achievement journey; 3) Sensory Exploration: Participation in activities aimed at experiencing pleasant sensations and stimulation for enjoyment.

In second language learning, intrinsic motivation plays a crucial role in individuals' willingness to learn and their overall language learning achievements. It is characterized by a genuine desire to engage in the language learning activity for its own sake rather than for external rewards or pressures. Researchers have identified different types of intrinsic motivation in language learning, such as intrinsic motivation to know, toward accomplishments, and to experience stimulation (Matsuzaki Carreira, 2012). Intrinsic motivation can manifest in various ways, such as finding pleasure in developing knowledge and new ideas, feeling a sense of accomplishment in mastering language skills, and experiencing enjoyment and excitement from engaging in language learning activities (Noels et al., 2003). When language learners are intrinsically motivated, they derive pleasure from the process of learning and are more likely to continue learning the language (Matsuzaki Carreira, 2012). When language learners are intrinsically motivated, they find pleasure in the process of mastering the language, and language learning becomes inherently enjoyable.

Moreover, intrinsic value exerts a sustained influence on language learning accomplishments and involvement (Noels et al., 2003). This intrinsic value can have a lasting effect, leading to higher engagement and achievement in language learning (Wang & Bai, 2023). Studies have shown the significance of intrinsic motivation in language learning, as it contributes to learners' enjoyment of the learning process and their engagement with the language (Bai & Wang, 2023). Intrinsic motivation could enable learners to improve learning outcomes (Yu & Xu, 2022). Intrinsic motivation in second language learning is characterized by an internal drive to engage in language learning activities for their inherent value and enjoyment without relying on external rewards or pressures. Researchers have identified various types of intrinsic motivation,

reflecting different aspects of learners' internal motivations, such as the desire for knowledge, accomplishments, and stimulation. Studies demonstrate a positive correlation between intrinsic motivation, student engagement, creativity, and overall learning outcomes. Fostering and maintaining intrinsic motivation is essential for creating a fulfilling and effective language learning experience, contributing to higher engagement, achievement, and long-term language proficiency.

2.1.2 Conceptualizing self-efficacy

Self-efficacy, as defined by Bandura (2011), refers to the belief in one's ability to plan and execute actions necessary for achieving specific goals. It encompasses individuals' confidence in their capacity to attain desired performance levels and navigate life events. These beliefs influence emotions, thoughts, self-motivation, and actions, operating through cognitive, motivational, emotional, and decision-making processes. Recognized as a context-dependent belief system (Bandura, 1986), self-efficacy relates to a person's confidence in successfully learning or performing a particular task based on their skills (Pajares, 1996). Self-efficacy is domain-specific, varying across different areas such as social or academic endeavors. It reflects an individual's belief in their abilities to effectively organize and execute actions required to achieve specific goals or outcomes (Bandura, 2011). This perception is subjective and contingent upon a person's confidence in their capability to learn or accomplish tasks based on their existing skills (Bandura, 1986; Pajares, 1996). Task-specific self-efficacy beliefs can differ across domains like academic or social spheres and are not generalized (Valentine, DuBois, & Cooper, 2004). These beliefs play a crucial role in shaping motivation, affective processes, and behavior, influencing individuals' actions, efforts, and resilience in the face of challenges or failures (Bandura & Wessels, 1997). They are developed through various sources, including past experiences, observations of others, social persuasion, and physiological and emotional states (Bandura & Wessels, 1997). Individuals with higher self-efficacy are inclined to view difficult tasks as challenges to be mastered, maintain a strong commitment to their goals, and rebound from setbacks more easily. In comparison, those with lower self-efficacy may avoid challenging tasks and experience heightened stress or depression (Kim et al., 2015). Self-efficacy beliefs significantly impact human agency, affecting accomplishment, well-being, and personal development (Bandura & Wessels, 1997).

Language acquisition is influenced by self-efficacy. Language learning success is more prevalent among students who possess higher levels of self-efficacy beliefs since they exhibit greater self-control (Bai & Wang, 2023; Kim et al., 2015). Empirical evidence supports a favorable correlation between self-efficacy and scholastic performance in the context of foreign language learning (Bai et al., 2019; Todaka,2017). In addition, individuals with elevated levels of self-efficacy are more inclined to employ self-regulated learning procedures and attain superior outcomes when acquiring English as a foreign or second language (Chen, 2020; Moghari,2011). A further benefit of greater self-efficacy is that it fosters a more favorable disposition toward learning, heightened drive, and perseverance in surmounting obstacles encountered during the process of language acquisition (Alagozlü, 2016; Ritter et al., 2014; Sun et al., 2015;). Hence, it is imperative to integrate strategies for classroom instruction that promote the development of self-efficacy beliefs, as they are fundamental to the language acquisition process (Kim et al., 2015). Language learning environments should foster and encourage self-efficacy, which is a significant determinant of language learning outcomes.

2.1.3 Conceptualizing self-regulated learning

Self-regulated learning (SRL) refers to the process by which students take control of their learning by setting goals, monitoring their progress, and regulating their cognitive, motivational, and behavioral processes. SRL is a proactive approach to learning where students are actively involved in their educational journey rather than being passive recipients of information. This process involves self-generated thoughts, feelings, and actions that are systematically oriented toward attaining specific educational goals (Zimmerman, 2000; Panadero, 2017).

Goal setting and planning are foundational aspects of SRL. This component involves identifying specific, measurable, attainable, relevant, and time-bound (SMART) goals that guide the learning process. Students who effectively set goals and plans are better equipped to direct their efforts towards achieving these objectives. Goal setting involves determining what one wants to achieve. Effective goal setting provides clear direction and purpose, helping students focus on specific outcomes. Goals can be short-term (e.g., completing a homework assignment) or long-term (e.g., mastering a subject

by the end of the semester). Once goals are set, planning involves devising a strategy to achieve them. This includes breaking down tasks into manageable steps, allocating time and resources, and anticipating potential challenges. Planning helps students organize their study activities and prioritize tasks, ensuring they are on track to meet their goals (Schunk, 1990; Locke & Latham, 2002; Teng & Zhang, 2020).

Monitoring refers to the ongoing process of tracking one's progress toward achieving set goals. This component involves assessing one's understanding, performance, and strategy effectiveness throughout the learning process. Self-assessment is a crucial aspect of monitoring, where students regularly evaluate their progress, checking if they are on track to meet their goals. This includes reviewing completed tasks, assessing comprehension of the material, and identifying areas that need improvement. Effective monitoring also involves seeking and utilizing feedback from teachers, peers, or self-reflection. Feedback helps students identify discrepancies between their current performance and their goals, allowing them to make necessary adjustments (Panadero, 2017; Bai & Wang, 2023).

Effort regulation is the ability to maintain and manage one's effort and persistence, especially when faced with challenges or distractions. This component is crucial for overcoming obstacles and achieving long-term academic goals. Persistence is an essential aspect of effort regulation, involving sustained effort and motivation over time, even when tasks are difficult or uninteresting. Students who can regulate their efforts are more likely to persist through challenges and stay focused on their goals. Self-control is another critical element involving managing distractions and staying disciplined in one's study habits. Effective effort regulation requires students to maintain a balance between work and leisure, ensuring that they remain committed to their academic objectives (Wolters, 2004; Usher & Pajares, 2008).

Self-regulated learning is learners' proactive and intentional approach to steering their learning journey (Zimmerman, 2000, 2002). This process encompasses recognizing their strengths and weaknesses, establishing learning objectives, devising strategies for goal attainment, tracking their advancement, and evaluating the outcomes of their learning efforts (Bandura, 2011; Zimmerman, 2002). Individuals who practice self-regulation in learning take charge of their learning, engaging in actions that foster their

learning development (Zimmerman, 1989, 2002). These actions may involve organizing information, seeking new knowledge, maintaining progress records, goal-setting, soliciting help when needed, and assessing their achievements (Zimmerman, 1989).

Zimmerman (2002) describes self-regulation not as an inherent mental ability or an academic proficiency but as a self-guided process whereby learners convert their cognitive capabilities into academic skills. It involves self-initiated thoughts, emotions, and actions directed towards goal fulfillment. Self-regulated learners actively manage their learning process, driven by self-established objectives and methodologies pertinent to the task. They continuously monitor and assess their approach, aiming to refine their learning techniques. The study of self-regulated learning delves into the essential processes and tactics learners apply to manage their education and achieve their scholarly ambitions.

In language learning, SRL involves learners taking control of their learning by setting goals, monitoring their progress, managing their time and resources, and regulating their motivation and emotions (Teng, 2022). Self-regulation has been considered a major factor leading to improved language competence in English language learning (Bai, 2018; Oxford, 2011). Self-regulated learning is critical in language learning, particularly in ESL/EFL contexts (Kormos & Csizér, 2014). It involves learners actively and purposely managing their learning processes, setting goals, selecting strategies, monitoring progress, and evaluating outcomes (Bai & Wang, 2023).

In English language learning, self-regulated learners demonstrate deliberate and goal-directed efforts to manage their learning, applying strategies such as metacognitive self-regulation, cognitive strategies, and environment and resource management (Bai & Wang, 2023). Effective self-regulatory strategies are increasingly important in foreign language learning; without these, students might be unable to exploit learning opportunities outside language classrooms (Kormos & Csizér, 2014). Research has shown that self-regulated learning strategies contribute to the enhancement of language learning performance. By actively seeking opportunities for learning and using the target language independently, learners can improve their language competence (Kormos & Csizér, 2014). In addition, self-regulatory strategies are positively

associated with English academic achievements in EFL learning contexts (Shen et al., 2023).

Researchers have validated multidimensional models of self-regulated learning strategies, highlighting their importance in language learning contexts (Chen et al., 2020). Self-regulated learning is a critical factor in language learning as it empowers learners to proactively and effectively manage their learning processes. Motivation and self-regulatory strategies play a significant role in fostering independent learning behavior and advancing language learning outcomes. Educators can support learners by guiding them in selecting self-regulatory strategies to enrich their language learning experiences and achievements.

2.2 The role of intrinsic motivation and self-efficacy in self-regulated learning

Recent studies highlight that the independent nature of self-regulated learners is significantly influenced by their beliefs, notably their sense of self-efficacy and intrinsic interest (Zimmerman, 2002). Motivational beliefs, especially self-efficacy, are crucial in the self-regulation process, underscoring the importance of motivation in learning self-regulation (Pintrich, 1999; Zimmerman, 2002). Both intrinsic motivation and self-efficacy have been identified as crucial components in self-regulated learning. According to Zimmerman (1990), self-regulated learners are intrinsically motivated individuals who are inspired by studying and practicing. They adapt their learning strategies to enhance their performance, reflecting their belief in their capability to achieve success. This indicates that those with strong intrinsic motivation and high self-efficacy are more inclined to practice self-regulated learning behaviors. Motivational factors such as setting goals, having positive self-perceptions, and aligning goals with personal relevance are foundational for effective self-regulatory strategies (Kormos & Csizér, 2014). Essentially, individuals with intrinsic motivation and strong self-efficacy are more apt to utilize self-regulatory methods like setting goals, planning, monitoring their advancement, and adjusting their learning approaches to fulfill their ambitions.

The interplay between intrinsic motivation and self-efficacy in self-regulated learning is a significant area of focus within educational psychology research. Studies by Wang et al. (2013) and Wolters et al. (2005) have emphasized this dynamic, illustrating how these factors are critically intertwined. A notable finding is that a combination of a

growth mindset, self-efficacy, and the intrinsic value of learning predicts the employment of self-regulated learning strategies. These strategies are, in turn, predictors of higher scores on English tests. In particular, intrinsic value has been specifically linked to an increase in self-regulated learning within the domain of language education, positively influencing both achievement and engagement in language learning activities (Bai & Wang, 2023). This connection underscores the pivotal role of motivational beliefs and self-regulation in securing academic success.

Further research underscores the influence of motivational factors and self-regulation strategies on learners' initiative in their learning behaviors. Kormos and Csizer (2014) have identified learning goals, an instrumental orientation, and positive self-related beliefs as essential precursors for applying self-regulation strategies. This indicates that intrinsic motivation fosters a predisposition towards self-regulated learning and is also a predictor of employing specific types of self-regulation. These include cognitive and metacognitive self-regulation, behavioral regulation, and manipulating the learning environment to improve learning outcomes (Pintrich, 2004). Therefore, learners with high levels of intrinsic motivation are more likely to engage in behaviors characteristic of self-regulated learning.

The correlation between self-efficacy beliefs and the utilization of self-regulated learning (SRL) strategies further highlights the importance of self-efficacy. Efficacious students tend to report more frequent use of SRL strategies, indicating a positive relationship between self-efficacy and self-regulation in learning processes (Kim et al., 2015). Self-efficacy is especially relevant for Chinese EFL learners, with both writing self-efficacy and SRL writing strategies being significant predictors of students' writing performance (Shen & Bai, 2024). This suggests that self-efficacy plays a crucial role in the self-regulated learning process, as documented by Wang et al. (2012).

In the context of second language (L2) writing instruction, the significance of self-efficacy cannot be overstated. Students with higher self-efficacy are more inclined to engage in metacognitive monitoring of their learning processes and actively apply strategies to maintain learning in challenging situations. This highlights the crucial nature of self-efficacy and self-regulation across all aspects of L2 writing. Given that

writing is a complex and cognitively demanding task, it requires substantial cognitive, metacognitive, and motivational regulation to achieve proficiency (Chen et al., 2022).

Self-regulated learning and self-efficacy emerge as central themes demonstrating a clear linkage between these constructs and language learning success. These studies underscore the importance of students' active engagement in their learning processes, employing strategies such as goal setting, monitoring, and self-assessment, and a belief in their capabilities to positively influence learning outcomes. The implication for educators is the necessity of integrating SRL strategies and fostering self-efficacy within instructional designs to enhance language proficiency.

The role of motivation in language learning is extensively discussed in works by Zoltán Dörnyei (2014, 2021) and Bai et al. (2021), highlighting the significance of both intrinsic and extrinsic motivational factors. These studies reveal that motivation is not a monolithic entity but comprises various dimensions, including learners' interests, enjoyment of the learning process, and the perceived relevance and value of the language learning endeavor. This nuanced understanding of motivation suggests that teaching strategies should be tailored to nurture learners' intrinsic interests and recognize their extrinsic goals, thereby enhancing engagement and persistence in language learning.

2.3 The role of self-regulated learning in English language learning achievements

Self-regulated learning (SRL) is a pivotal determinant of students' achievements within academic environments (Zimmerman, 2002). Students with high SRL skills demonstrate better academic performances than those with low SRL skills (Wolters et al., 2005; Zimmerman & Bandura, 1992; Zimmerman, 2002). Self-regulated learning has been found to have a positive impact on academic outcomes. The relationship of SRL to academic success is essential because students face many academic challenges in college. Previous research has shown that students who engage in self-regulated learning strategies are more likely to succeed academically (Lee et al., 2021). Self-regulated learners have superior motivation and adaptive learning methods, contributing to their academic success (Dent & Koenka, 2016). Students who employ effective learning strategies, such as self-regulation and various cognitive and

metacognitive strategies, tend to achieve better learning outcomes (Barnard et al., 2009).

Self-regulation has also been identified as a pivotal contributor to performance in English language learning. Students who are self-regulated learners in second language learning are more likely to achieve better results (Bai & Wang, 2023). With this shift in the L2 strategic frameworks, researchers who have applied SRL in L2 contexts have found a positive relationship between SRL strategies and the language performances of ELL college students (Mirhassani et al., 2007; Zarei &Hatami, 2012). Specifically, several studies have found that the use of SRL strategies positively affects ELL college students' reading comprehension (Maftoon & Tasnimi, 2014; Nejabati, 2015), listening achievement (Nasrollahi-Mouziraji & Birjandi, 2016), writing performances (Soureshjani & Naseri, 2011), and speaking performances (Aregu, 2013). Effective self-regulatory strategies play an important role in influencing how students use learning resources and information technology independently to improve their L2 competence (Kormos & Csizer, 2014). Self-regulation studies related to English language learning reveal that self-regulation can be conceived as a group of iterative processes (Xiao & Yang, 2019). In this process, students can recognize their learning objectives, try different strategies to reach these goals, assess their progress, and seek assistance and feedback to enhance their performance (Lam, 2015; Tseng et al., 2015).

There is an increasing recognition that strategic, self-regulated learning lies at the heart of second/foreign language (L2) teaching and learning for promoting self-regulated learners who are independent, capable, and goal-oriented with lifelong learning strategies (Csizér & Tankó, 2017; Oxford, 2016; Zhang et al., 2019). The successful use of self-regulated learning (SRL) strategies is seen as a significant factor in enhancing the ability of L2 learners to achieve their learning goals (Dörnyei & Ryan, 2015; Han & Hiver, 2018; Tseng et al., 2006). Self-regulated learning and effective self-regulatory strategies are increasingly important in foreign language learning; without these, students might be unable to exploit learning opportunities outside language classrooms (Kormos & Csizér, 2014).

In China, EFL (English as a Foreign Language) learning, there has been a recent surge in interest as a prominent research subject (Bai & Wang, 2023; Sun & Wang, 2020).

Researchers (e.g. Bai & Wang, 2020; Wang et al., 2012) found a positive link between using strategies and student language learning outcomes, also L2/EFL learners who effectively use SRL strategies perform better in L2 writing (Chen et al., 2022; Shen & Bai, 2024; Teng & Zhang, 2018). Chinese EFL learners with higher levels of self-regulated learning strategies, including cognitive, metacognitive, and motivational regulation strategies, tend to have higher reading proficiency (Chen et al., 2023). SRL in EFL learning is significant. Its positive associations with English academic achievements and understanding the influence of learners' academic emotions on their SRL strategy use can contribute to creating a favorable classroom atmosphere and achieving better teaching and learning outcomes (Shen et al., 2023). Therefore, researchers have argued that self-regulated, strategic learning instruction can result in better academic outcomes (Harris & Graham, 2009; Oxford, 2016; Teng & Zhang, 2020).

2.4 Related studies of intrinsic motivation and self-efficacy in self-regulated learning and language learning achievements

The synthesis of foundational research on the interplay between intrinsic motivation, self-efficacy, self-regulated learning, and their impacts on learning achievements—particularly within language learning (EFL/L2)—highlights several key insights and areas for further exploration.

2.4.1 The fundamental theory of intrinsic motivation and self-efficacy in self-regulated learning and learning achievements

Albert Bandura's (1997, 2001) pioneering work provided a comprehensive theoretical framework for understanding the constructs of self-efficacy and self-regulation, emphasizing the crucial role of personal control, goal-setting, and self-reflection in human functioning. Bandura (2006) posits that self-efficacy, or the belief in one's capabilities to perform specific tasks and achieve desired outcomes, is fundamental to setting motivating goals and engaging effectively in self-regulated learning. This foundational perspective underscores the importance of fostering a strong sense of self-efficacy in learners to enhance their motivation and self-regulating ability (Bandura, 2006, 2011).

Zimmerman (2002) explored the importance of self-regulation in academic studying, emphasizing the essential processes required for effective self-regulation. He underscored the significance of self-motivation and self-guided learning or practice in fostering self-regulated learning. Additionally, he emphasizes the significance of intrinsic motivation and perceived efficacy in self-regulated learning. The research underscores the importance of instructors prioritizing the development of students' motivation and self-regulatory abilities throughout the learning journey to understand self-regulation in the context of academic study. Zimmerman's (1990, 1994, 1997, 2002, 2004, 2023) series of studies enhance knowledge regarding the relationship between self-regulated learning and academic achievement, sheds light on the influence of cognitive and motivational factors on students' learning processes, and provides educators with a theoretical framework for assisting students in developing self-regulation to improve academic performance.

The research findings of Pintrich and De Groot (1990) indicate that self-efficacy and intrinsic value are positively related to cognitive engagement and performance, and self-regulation, self-efficacy, and test anxiety emerge as the best predictors of performance. Pintrich's (1990, 1991, 2000, 2004) studies highlight that motivational beliefs and self-regulated learning components are essential for academic performance. Still, self-regulated learning seemed to have a more direct impact on performance, and there is a need to consider motivational orientation and self-regulated learning in models of classroom academic performance.

According to Self-Determination Theory (SDT), proposed by Ryan and Deci (1985, 2000), motivation is divided into two subtypes: intrinsic motivation (IM) and extrinsic motivation (EM). Intrinsic motivation centers on the generated internal feelings of satisfaction and enjoyment. SDT's applications in education focus on facilitating the satisfaction of students' and teachers' basic psychological needs. Much research in school settings ranging from elementary to advanced degrees and across diverse cultural contexts has confirmed that SDTs support basic psychological needs, facilitate students' intrinsic and well-internalized motivation, and enhance their well-being (Ryan & Deci, 2020).

Noels et al. (2001) conducted a study to explore the motivation and language learning outcomes of French Canadian learners of English, 59 participants who studied at the Second Language Institute at the University of Ottawa; the study revealed that there were significant correlations between different motivational orientations and language learning outcomes, and emphasized the role of intrinsic and extrinsic motivations, as well as the integrative orientation, in language learning outcomes. Noels et al. (2000) discussed the importance of motivation in second language learning. They highlighted the role of affective variables such as attitude, orientation, anxiety, and motivation in predicting language learning outcomes, aiming to provide insights into the motivations behind second language learning.

2.4.2 The related studies of intrinsic motivation and self-efficacy in English self-regulated learning and English learning achievements

Wang et al. (2012) studied the self-regulated learning strategies and self-efficacy beliefs of Chinese college students (517 sophomore students majoring in medicine at a university in southeastern China) in their study of English as a foreign language. The study's conclusion indicated statistically significant relationships between the use of self-regulated learning strategies, self-efficacy beliefs, and achievement in learning English. The authors highlighted the importance of incorporating self-regulated learning strategies and self-efficacy beliefs into classroom instruction. The authors argued that the dominant teacher-centered instructional pedagogy in China might hinder students' development of their learning strategies. The research contributed to understanding the role of self-regulated learning strategies and self-efficacy beliefs in learning English as a foreign language among Chinese college students.

Zoltán Dörnyei (2014) discussed individual differences in second language learning, including aptitude, learning style, strategies, and motivation and emphasized the significance of understanding and addressing these differences to improve language acquisition. In the study of Zoltán Dörnyei (2021), the importance of the intrinsic motivation and self-efficacy of L2 and EFL learners was repeatedly emphasized, providing L2 and EFL learners with theoretical foundations and research guidance on motivation and self-efficacy in the foreign language learning process.

Bai et al. (2014) analyzed the use of writing strategies among primary school students in Singapore and their correlation with English proficiency; a questionnaire-based study used to investigate the writing strategies employed by Singapore primary school 1,618 pupils, results indicated that upper primary school pupils in Singapore utilized a variety of writing strategies with moderate frequency. Planning, text generation, revising, monitoring and evaluating, and resourcing strategies significantly correlate with English language proficiency. This study contributed to understanding the relationship between writing strategies and English proficiency in primary schools in Singapore.

Kim et al. (2015) found that different self-efficacy profiles were associated with variations in the use of self-regulated learning strategies. Students with higher self-efficacy scores reported higher levels of self-regulated learning strategy use. The study explored English language learners' self-efficacy profiles and their relationship with self-regulated learning strategies among undergraduate students (majoring in education-related fields in a specific university) in Korea. It contributed to understanding the relationship between self-efficacy profiles, self-regulated learning strategies, and language learning outcomes among undergraduate students in Korea.

Teng et al. (2019) studied the relationship between writing proficiency levels and motivational regulation strategies in English as a foreign language (EFL) context, conducted using a mixed-methods approach and involved 389 Chinese undergraduate students (the participants completed a writing task and a self-report questionnaire, and a subgroup of 30 students from high and low writing proficiency groups were also interviewed). The study found that students with high writing proficiency utilized more effective motivational regulation strategies than those with lacking proficiency, and the interviews revealed insights into the factors affecting motivational regulation strategies in the two proficiency groups. Understanding the relationship between writing proficiency and motivational regulation strategies could inform EFL writing instruction (Teng, Yuan, & Sun, 2019). The findings provided insights into how to support students in improving their writing skills by fostering effective motivational regulation strategies that contributed to education and pedagogical guidance by highlighting the importance of motivational regulation strategies in EFL writing instruction.

Bai et al. (2019) examined the relationship between social support, self-efficacy, and English language learning achievement among secondary students in Hong Kong and found a positive correlation between social support, self-efficacy, and English language learning achievement. Social support played a significant role in students' language learning progress and overall academic achievement. Fostering a supportive learning environment could positively impact students' self-efficacy and enhance their English language learning outcomes (Bai, Chao, & Wang, 2019). These research findings contributed to developing educational strategies and interventions that promote social support and self-efficacy beliefs to improve language learning outcomes.

The study by Chen et al. (2020) examined the use of self-regulated learning strategies (SRLS) among English as a Foreign Language (EFL) learners in a university in the southeastern region of China. It explored how these strategies impact English language proficiency. In this research, Chen et al. (2020) classified learners (involving 501 student participants majoring in medicine and enrolled in English courses at the university, 82% were male, and the participants had an average age of 20.60 years, ranging from 17 to 25 years old) based on SRLS profiles and investigated differences in performance on English language proficiency tests, then found that different SRLS profiles are associated with variations in English language proficiency, learners with high levels of self-regulation performed better on English language proficiency tests. This study contributes to understanding the relationship between SRLS and language proficiency among EFL learners.

Sun and Wang (2020) explore college students' writing self-efficacy and self-regulated learning strategies in an English as a Foreign Language (EFL) context, examine the implications of these factors for improving writing proficiency, 330 college students enrolled in College English Course at two major universities situated in northwest China as participants, the study find a positive relationship between writing self-efficacy, self-regulated learning strategies, and writing proficiency: higher levels of writing self-efficacy and the use of effective self-regulated learning strategies are associated with better writing performance, this research contributes to understanding the role of self-efficacy and self-regulated learning strategies in improving writing proficiency among EFL learners.

Teng and Zhang's (2020) research focused on the impact of self-regulated learning strategies-based writing instruction on L2 (second/foreign language) writing proficiency and academic self-efficacy. The study involved an intervention group and a control group, and both groups completed three in-class writing tasks. It found that the intervention group, which received self-regulated learning strategies-based writing instruction, showed improved L2 writing proficiency and academic self-efficacy compared to the control group. The intervention group demonstrated higher levels of engagement in the writing tasks and applied self-regulated learning strategies effectively. Self-regulated learning strategies-based writing instruction could empower learners in the L2 classroom by enhancing their writing proficiency and academic self-efficacy (Teng & Zhang, 2020). The instructional model used in the study, which included stages such as knowledge activation, modeling, and independent performance, was found to be effective in facilitating learners' engagement and strategic learning.

The study by Teng (2021) investigated the predictive influence of motivational beliefs and self-efficacy on various aspects of self-regulated learning (SRL) strategies in English as a foreign language (EFL) writing, 389 undergraduate students from four mainland Chinese universities participated voluntarily, completing questionnaires assessing their motivational beliefs (extrinsic and intrinsic goal orientation, task value, and control of learning belief), self-efficacy (linguistic, performance, and self-regulatory), and SRL strategies (cognition, metacognition, social behavior, and motivational regulation). Multiple regression analyses revealed significant predictive effects of motivational beliefs on SRL strategies, with task value and intrinsic goal orientation emerging as significant predictors across nine SRL sub-factors; self-efficacy strongly predicted metacognitive, cognitive, and motivational regulation strategies, with linguistic self-efficacy notably influencing text processing; self-regulatory efficacy significantly impacted various SRL strategies, including knowledge rehearsal, goal-oriented monitoring, idea planning, peer learning, and interest enhancement (Teng, 2021). The study provided insights into the impact of motivational beliefs and self-efficacy on self-regulated learning strategies in EFL writing.

Bai et al. (2021) investigated the relationships between self-efficacy, task values, growth mindset, and self-regulated learning (SRL) in English writing among primary

school students (511 fourth graders), emphasized the importance of motivational factors in students' SRL and English writing competence. Self-efficacy, intrinsic task values, and a growth mindset positively correlated with students' self-regulated English writing learning (Bai et al., 2021). This study contributed to understanding the motivational factors influencing primary school students' self-regulated learning in English writing, recognized the cultural context of Asian Confucianism, and emphasized the role of self-efficacy, intrinsic task values, and growth mindset in promoting effective learning.

In the study of Lee et al. (2021), the authors investigated the connections between self-efficacy and self-regulated learning (SRL) strategies among English language learners (ELLs) in a college setting, aimed to understand how to support international ELLs (117 ELL college students enrolled in an English language course at a Midwestern university in China) in their academic success. Self-efficacy significantly predicted the use of SRL strategies among ELL college students, and there were differences in the use of SRL strategies between ELL college students with high self-efficacy and those with low self-efficacy (Lee et al., 2021). The research contributed to understanding the importance of self-regulated learning and self-efficacy in promoting the success of international ELLs in college settings.

Research by YE (2021) investigated the motivation differences among Chinese junior secondary school students (employing the self-determination theory and utilizing a questionnaire survey of 773 students and semi-structured interviews with 12 students) in learning English as a foreign language (EFL) and aimed to explore the motivation differences between higher-achieving, average-achieving, and lower-achieving students. Lower-level students demonstrated the lowest and highest levels of intrinsic motivation; all students showed a similar level of extrinsic motivation, contrary to the belief that higher-achieving students were less extrinsically motivated (Ye, 2021). The research contributed to the existing literature by focusing on motivation differences among junior secondary school students in the Chinese context. Also, it emphasized the importance of understanding motivation differences to cater to the specific learning needs of learners and improve their English learning outcomes.

The study of Deng et al. (2022) explored the self-regulated learning strategies of Macau English as a Foreign Language (EFL) learners (598 undergraduate students from Macau University of Science and Technology during the first semester of the 2020/2021 academic year). It examined the validity of their self-reported responses with academic achievements. The study found that Macau EFL learners reported using comprehension, seeking social assistance, and persistence strategies the most. The research contributes to understanding the self-regulated learning strategies used by Macau EFL learners and their relationship with academic achievements.

Bai and Wang (2023) proposed a framework of self-regulated reading-to-write (SR-R2W) strategy use and a scale to measure its impact on writing competence, focusing on 458 primary students in Hong Kong and examined the relationships between self-regulated R2W strategy use, motivational variables (self-efficacy and perceived task values), and writing competence. The use of self-regulated R2W strategies had positive impacts on writing competence among ESL/EFL students (Bai & Wang, 2023). The research, as it provided a self-regulated learning perspective on reading-to-write in ESL/EFL school contexts, was significant, and the research results showed that self-regulated R2W strategies could enhance the writing skills of ESL/EFL students and contribute to their overall writing competence.

The study of Bai and Wang (2023) explored the significance of motivational beliefs, including growth mindset, self-efficacy, and intrinsic value, in self-regulated learning (SRL) and English language learning achievements in primary school students (690 4th graders) in Hong Kong, focusing on three types of SRL strategies: monitoring, effort regulation, and goal setting and planning. Motivational beliefs played a crucial role in students' SRL and English language learning outcomes; growth mindset, self-efficacy, and intrinsic value positively correlated with students' engagement in SRL and their overall English language learning achievements (Bai & Wang, 2023). This study highlighted the importance of motivational beliefs and self-regulated learning in promoting English language learning achievements among primary school students in Hong Kong. It underscored the role of growth mindset, self-efficacy, and intrinsic value in fostering students' engagement and success in language learning.

Shen et al. (2023) examined the relationship between Chinese university EFL (English as a Foreign Language) learners' academic emotions and their use of self-regulated learning (SRL) strategies, aiming to understand the emotional experiences of Chinese EFL learners and how these emotions interacted with their SRL strategy use, 308 non-English major undergraduates enrolled in the College English Course at two universities in southern China as the participants, they completed questionnaires related to academic emotions and SRL strategy use. Chinese participants had medium levels of positive emotions, low levels of anger, medium levels of shame and anxiety, and a medium frequency use of SRL strategies in English learning; in terms of gender differences, females outperformed males in certain types of SRL strategies; grade level also influenced anxiety levels; enjoyment had a positive relationship with SRL strategy use, while anger and shame had negative relationships, and anxiety had ambivalent relationships (Shen et al., 2023). The study provided important implications for instructors to understand better and navigate the emotional aspects of language learning to achieve better learning outcomes. It contributes to a broader understanding of the emotions experienced by Chinese EFL learners and their impact on learning strategies.

Chen et al. (2023) explored the self-regulated learning (SRL) strategies used by Chinese English-as-a-foreign-language (EFL) readers (899 Chinese EFL readers from grades 11 and 12 at a public high school in eastern China with ages ranging from 15 to 19) in a high-stakes testing environment, aimed to identify different SRL profiles among the participants and examined the associations between these profiles and individual factors such as gender, grade, reading proficiency, and motivational beliefs. The conclusion of the study revealed three SRL profiles characterized by high, medium, and low levels of SRL-strategy use, that self-efficacy and extrinsic motivation were the most powerful predictors of a reader's profile membership; higher strategy-use profile members exhibited significantly higher intrinsic and extrinsic motivation levels (Chen et al., 2023). The research contributed to education and pedagogical guidance by highlighting the importance of self-regulated learning in language learning and emphasizing the need to consider individual differences in SRL profiles when designing teaching plans for individualized education. The authors emphasized the SRL in the Chinese testing context and the role of personal factors in SRL types.

The body of research across various studies illustrated the critical roles of motivation, self-efficacy, and self-regulated learning in English language learning. Pintrich & De Groot's (1990) work and subsequent studies by Pintrich et al. established a strong correlation between these factors and academic performance, particularly emphasizing the direct impact of self-regulated learning. Deci & Ryan's Self-Determination Theory (SDT) further divided motivation into intrinsic and extrinsic types, highlighting the importance of satisfying basic psychological needs to enhance motivation and well-being in educational settings.

Studies focusing on language learning outcomes, such as those by Noels et al. (2001) and Dörnyei (2014, 2021) underlined the significance of motivational orientations and self-efficacy in language acquisition. Research on self-regulated learning strategies (SRLS) by Chen et al. (2020) and the exploration of writing self-efficacy and self-regulated learning strategies by Sun & Wang (2020) contributed to understanding how these strategies impact English language proficiency and writing proficiency among EFL learners.

Further, investigations into motivational regulation strategies and their influence on writing performance in English as a second/foreign language by Teng and Zhang (2018) revealed the positive effects of such strategies on language learning outcomes. Studies focusing on primary and secondary education levels highlighted the importance of motivational beliefs, self-efficacy, and a growth mindset in fostering effective learning and self-regulated learning strategies. Notably, the research calls attention to the need for further study in 1) underdeveloped regions within China and 2) among different educational levels, particularly high school students, to address existing gaps in understanding. This comprehensive body of work underscores the interconnectedness of motivation, self-efficacy, self-regulated learning, and their collective impact on English language learning, advocating for educational strategies that promote these factors to improve language learning outcomes.

In conclusion, this body of research paints a detailed picture of the interplay between intrinsic motivation, self-efficacy and self-regulation in English language learning. It calls for a holistic approach to language education that not only emphasizes the development of linguistic skills but also the cultivation of self-regulated learning

capabilities, self-efficacy, and motivational resilience. Educators are encouraged to create adaptive, supportive, and engaging learning environments that recognize and leverage the diversity of learners' experiences, preferences, and needs. As the field continues to evolve, further research is warranted to explore these themes across different educational contexts and among diverse learner populations, aiming to refine and expand strategies that promote language learning success.

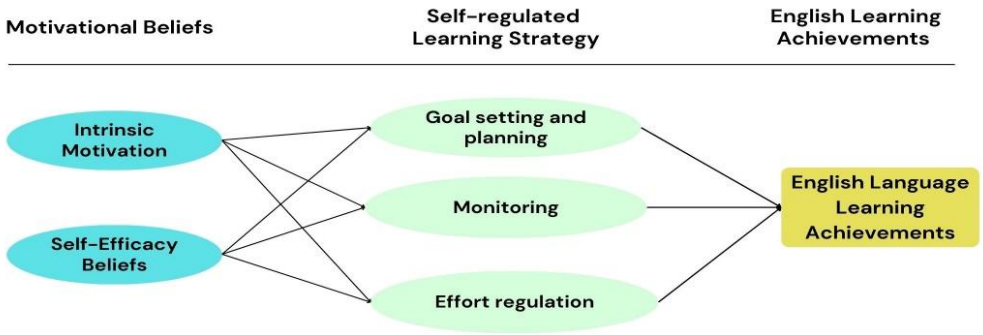


Figure 1 The theoretical framework

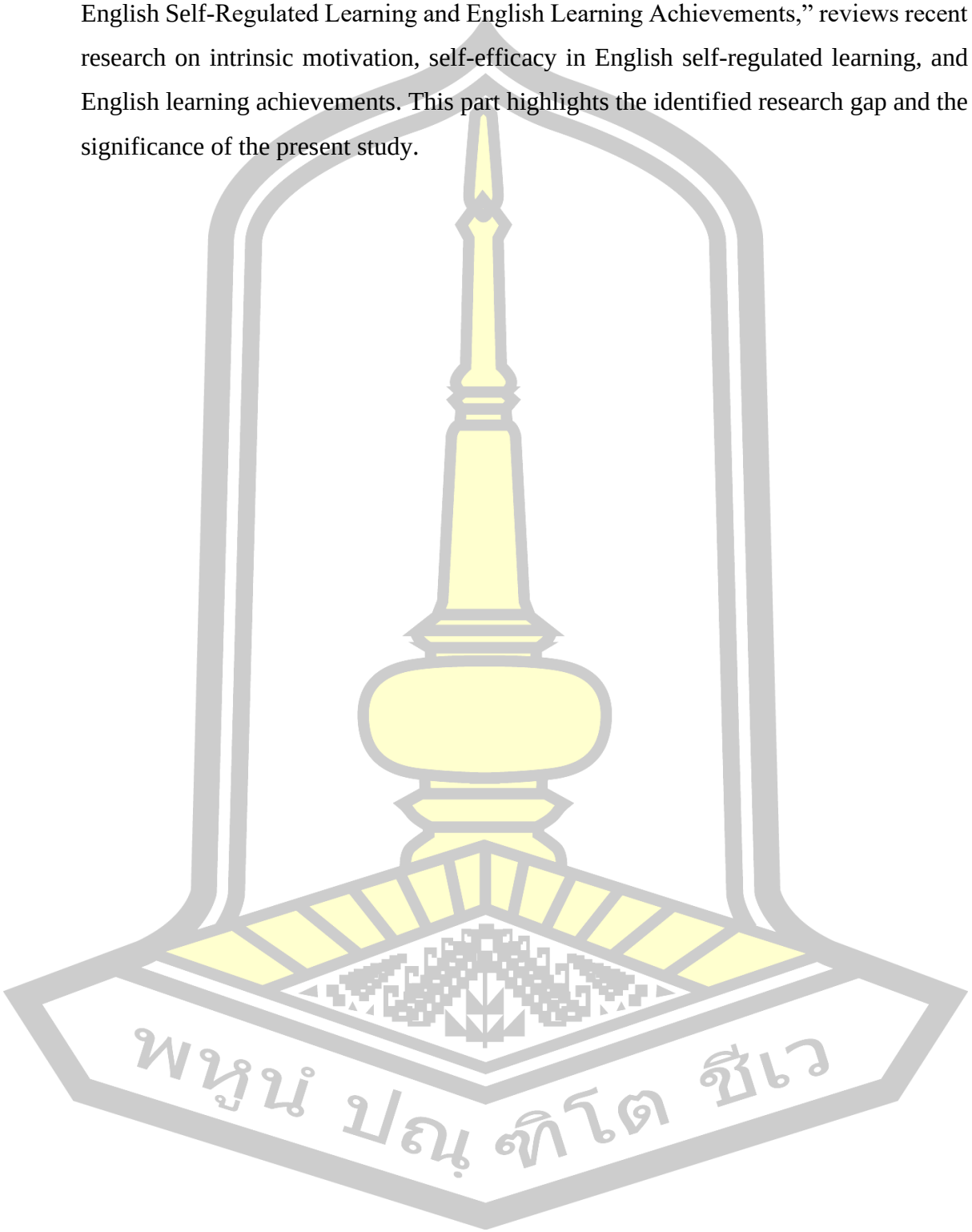
2.5 Summary of the chapter

This chapter consists of four parts, including a review of the literature related to this study. In the first part, titled “Intrinsic motivation and self-efficacy in self-regulated learning and English language learning”, intrinsic motivation, self-efficacy, and self-regulated learning are conceptually explored within both fundamental theoretical frameworks and in the specific context of English language learning.

In the second part, “The role of intrinsic motivation and self-efficacy in self-regulated learning”, the role of intrinsic motivation and self-efficacy in self-regulated learning and the role of intrinsic motivation and self-efficacy in self-regulated learning in the context of English language learning are highlighted.

In the third part, “The role of self-regulated learning in English language learning achievements”, the role of self-regulated learning in academic achievements and the role of self-regulated learning in English language learning outcomes are elucidated.

The fourth part, titled “Related Studies of Intrinsic Motivation and Self-Efficacy in English Self-Regulated Learning and English Learning Achievements,” reviews recent research on intrinsic motivation, self-efficacy in English self-regulated learning, and English learning achievements. This part highlights the identified research gap and the significance of the present study.



CHAPTER III
RESEARCH METHODS

This chapter outlines and explains the research methods employed to examine the role of intrinsic motivation and self-efficacy in self-regulated learning strategies and the relationship between SRL strategy use and English language learning achievements. Initially, the chapter introduces the research paradigm and design that underpin the study, setting the theoretical and methodological framework. Following this, it details the demographics and setting of the research participants, involving 237 students from a public high school in China, provide a representative sample for the study. The description then progresses to describe the research instruments used, offering an in-depth look at the tools and methodologies for data collection and analysis. The chapter further elaborates on the precise procedures for gathering data and the analytical techniques employed to interpret the findings. It concludes with a summary, encapsulating the key points and methodologies outlined in the chapter.

3.1 Research Paradigm and Design

This research employed a quantitative approach to investigate the relationships between motivational beliefs (intrinsic motivation and self-efficacy), self-regulated learning (SRL) strategies (goal setting and planning, monitoring, and effort regulation), and English language achievements among 237 Grade 10 high school students. The study used structural equation modeling (SEM) to test the hypothesized relationships and mediation effects among these variables.

Data were collected using a structured questionnaire and English test papers to effectively explore the interconnections among student motivation, self-efficacy, SRL strategies, and their achievements in English language learning. The questionnaire quantitatively measures the participants' intrinsic motivation, self-efficacy, and SRL strategies, drawing on established studies such as those by Noels et al. (2000), Ye (2021), Zimmerman and Pons (1986), Pintrich et al. (1991), Wang and Bai (2017), and Bai and Wang (2023). Additionally, the students' latest two times average monthly English test scores were categorized into three levels to assess English language achievements.

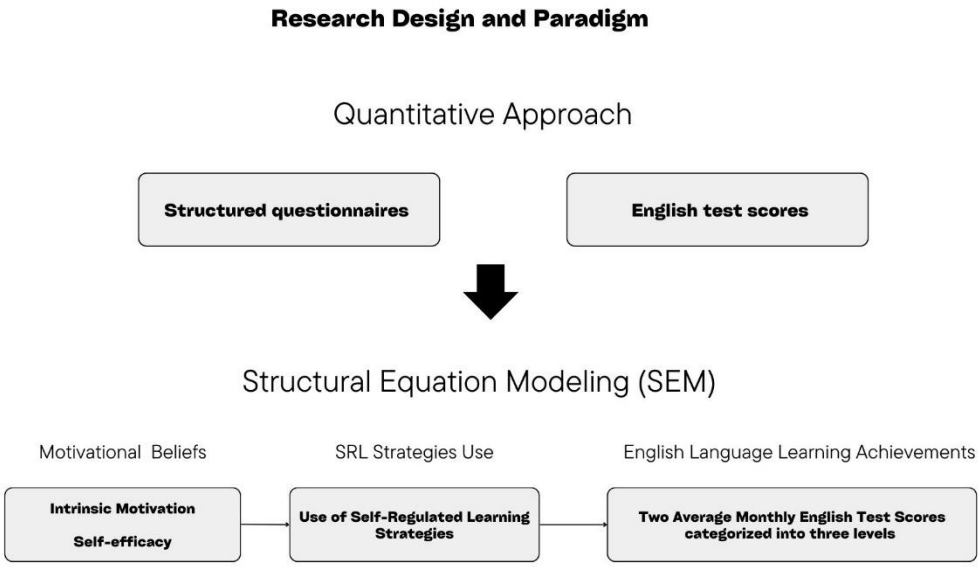


Figure 2 Research design and paradigm

3.2 Participants and Setting

For this study, 237 students who were currently in the 10th grade were selected in this study divided into five classes. These students were sourced from a specific school situated in the northeastern part of Yunnan Province. This institution is a public high school that serves students from undeveloped city districts, counties, and towns in the southwestern area of China. All these students are native Chinese speakers who have been exposed to English as a foreign language from Grade 3 in their primary school, with their ages ranging between 15 and 17 years; most of them are 16 years old. The selection of these students as the study group considered they had just started their high school courses. At this stage and in their age, students exhibited increasing maturity, both cognitively and emotionally, making them apt participants for exploring the role of intrinsic motivation and self-efficacy in self-regulated learning and English language learning achievements.

The methodology for grouping the participants was based on their performance in recent English language proficiency tests. Specifically, I analyzed their average scores from the last two monthly tests. The scoring for these tests was on a scale of up to 150 points. Based on their scores, students were categorized into three distinct proficiency levels: the first level for students scoring between 100 to 150 points, the second level

for those with scores from 50 to 99 points, and the third level for students scoring below 50 points.

The participants completed structured questionnaires designed to measure their intrinsic motivation and self-efficacy towards learning English, and their self-regulation strategies in the context of English language acquisition.

3.3 Research Instruments

3.3.1 Questionnaires of Motivational Beliefs (See Appendix A)

To assess the students' intrinsic motivation and self-efficacy in English language learning, two parts of the structured questionnaire of motivational beliefs (intrinsic motivation and self-efficacy) with approximately 20 items were designed to investigate intrinsic motivation and self-efficacy of Chinese high school EFL students.

Part I: Intrinsic Motivation

In this study, the investigation of students' intrinsic motivation for English language learning involved adapting the intrinsic motivation section from the "Language Learning Orientations Scale-Intrinsic Motivation, Extrinsic Motivation, and Amotivation Subscales" (LLOS-IEA) by Noels et al. (2000). This section included specifically crafted items aimed at exploring the learners' internal drive and enjoyment derived from learning a second language. The reliability of this scale had been demonstrated with a Cronbach's alpha index ranging between 0.67 and 0.88, indicating acceptable to good internal consistency.

Furthermore, the "EFL learning motivation questionnaire" by Ye (2021) was also adapted for this study due to its relevant items that assess intrinsic motivation within the context of English as a Foreign Language (EFL) learning. Ye (2021) had confirmed the high reliability of this questionnaire with a Cronbach's alpha of 0.837. Items from both the LLOS-IEA and Ye's (2021) adapted questionnaire were utilized to measure intrinsic motivation among participants.

To provide concrete examples, items such as "I am studying English for the satisfaction I derive from learning new things" and "I am studying English for the enjoyment I experience when mastering a difficult concept in English" were included. Participants

responded to these statements using a 5-point Liked Scale, ranging from (1) strongly disagree to (5) strongly agree, to indicate their level of agreement.

All items on the questionnaire were translated into Mandarin Chinese, the participants' native language, by the researcher. This translation was then reviewed and verified for accuracy by two of the participants' English teachers, ensuring that the language used is appropriate and clear for the intended audience. This meticulous process aimed to ensure the reliability and validity of the measurement of intrinsic motivation in the context of EFL learning among the study's participants.

Part II: Self-Efficacy

Evaluating the self-efficacy of students is a key element of this research. To effectively measure this construct, the study incorporated items from established sources in the field. Specifically, the Motivated Strategies for Learning Questionnaire (MSLQ) developed by Pintrich and De Groot (1990), which contained a self-efficacy section, were utilized. This section was known for its robust reliability, evidenced by a Cronbach's alpha of 0.86, indicating strong internal consistency. Additionally, recent contributions by Bai and Wang (2023) to the assessment of self-efficacy, which also demonstrated high internal consistency with a Cronbach's alpha of 0.86, were integrated into the study's methodology.

Participants were presented with statements such as "I'm certain I can master the English skills being taught in English class" and "Compared with others in this class, I think I'm a good student." These items were designed to gauge the confidence students have in their abilities to succeed in their English language studies. Responses were collected using a 5-point Liked Scale that ranges from (1) strongly disagree to (5) strongly agree. This scale enables a nuanced capture of participants' levels of self-efficacy across different aspects of their language learning.

To ensure clarity and comprehensibility, all questionnaire items were translated into Mandarin Chinese, the native language of the participants. This translation process was undertaken by the researcher and subsequently reviewed by another English teacher. This step was crucial to confirm the accuracy and appropriateness of the translation,

ensuring that the items were properly understood by the students and that the assessment of self-efficacy was valid and reliable within the context of this study.

3.3.2 Measures of SRL in English Language Learning (See Appendix B)

The assessment of self-regulated learning (SRL) strategies among students was a core aspect of this research, aiming to uncover its relationship with intrinsic motivation and self-efficacy, as well as its impact on English language learning achievements. The study emphasized the crucial mediating role that the evaluation of SRL strategies played. To this end, it focused on three key subscales of metacognitive self-regulation: monitoring, effort regulation, and goal setting and planning. These components were vital for understanding how Chinese high school students managed their English as a Foreign Language (EFL) learning processes.

A structured questionnaire, comprising approximately 12 items, was developed by adapting and integrating elements from the works of Zimmerman and Pons (1986), Pintrich et al. (1991), Wang and Bai (2017), and Bai and Wang (2023). These sources were selected due to their thorough assessments of SRL usage, providing a solid foundation for this study's investigative tools.

Specifically, items related to goal setting and planning were drawn from Zimmerman and Pons (1986) and Bai and Wang (2023), which had shown strong internal consistency (Cronbach's α=0.85). Examples of these items included statements like 'I set a concrete English learning plan for myself' and 'I have my own English learning goals'.

For monitoring strategies, the questionnaire adapted items from Pintrich, Smith, and García (1991) and Bai and Wang (2023), with reliability scores of Cronbach's α=0.79 and α=0.76, respectively. Sample items in this category might have included 'I ask myself questions to make sure I understand the materials I have been studying in English' and 'When studying English, I try to determine which concepts I don't understand well'.

Effort regulation items were adapted from Pintrich et al. (1991) and Bai and Wang (2023), with their studies reporting Cronbach's α=0.69 and α=0.86, indicating a range of internal consistency. Examples included 'I will not give up when the work in

English is difficult' and 'Even when learning materials are dull and uninteresting, I keep studying until I finish'.

Participants were evaluated their use of these strategies across two different study methodologies using a 5-point Likert Scale, ranging from (1) never to (5) always. To ensure accessibility and comprehension, all questionnaire items were translated into Mandarin Chinese by the researcher. This translation was then meticulously reviewed by another English teacher, guaranteeing the accuracy and appropriateness of the language used, thus ensuring the validity and reliability of the SRL assessment within the context of this study.

3.3.3 English language learning achievements

The evaluation of English language learning achievements (English test scores) within this study utilized test papers compiled by seasoned educators under the auspices of the school's headquarters and the supervising institution. These English test papers were crafted to mirror the rigors of the Chinese National College Entrance Examination (Gaokao), ensuring that their standard and content were aptly suited for the English competency expected of Grade 10 high school students.

According to Wang and Liu (2020), the Gaokao English examination is recognized as both a credible and valid test instrument for assessing English language proficiency among Chinese high school students. Its credibility is grounded in the construction and administration of the exam, which adheres to rigorous standards to ensure fairness and consistency across the vast number of examinees. The validity of the Gaokao's English test is underscored by its comprehensive approach to evaluating a broad spectrum of language skills, including reading comprehension, listening, writing, and in some iterations, speaking. This multifaceted assessment aligns with international standards for language testing and reflects the objectives of English language education in China's secondary schools. Research supports the Gaokao English test as an effective predictor of students' potential success in English-medium academic environments, highlighting its role in facilitating educational and career opportunities.

The examination's emphasis on both linguistic knowledge and practical language use ensures that it measures not only students' memorization of English grammar and vocabulary but also their ability to apply English in real-world contexts. Furthermore,

continuous updates and reforms to the Gaokao, including the English section, respond to evolving educational goals and global trends in English language use, thereby maintaining the test's relevance and efficacy (Chen, 2021). The Gaokao English examination's structure and content have been scrutinized and validated by educational experts, confirming its alignment with both national educational standards and global language proficiency benchmarks. This ensures that the examination not only serves as a reliable measure of students' English language skills but also as a valid indicator of their readiness to engage with global academic and professional environments.

Table 1 The components of Chinese National College Entrance Examination (Gaokao)

Part and Scores	**Subsection**	**Questions composition**	**Scores**
Part 1: Listening Section (30 points)	Subsection 1	5 Multiple-Choice items	1.5 points each
	Subsection 2	15 Multiple-Choice items	1.5 points each
Part 2：Reading Section (50 points)	Subsection 1	15 Multiple-Choice items	2.5 points each
	Subsection 2	5 Multiple-Choice items	2.5 points each
Part 3: Language Use Section (30 points)	Subsection 1	15 Multiple-Choice items	1 point each
	Subsection 2	10 subjective fill-in-the-blank items	1.5 points each
Part 4: writing Section (40 points)	Subsection 1	Writing of Practical documents	15 points
	Subsection 2	Continue Writing Two Paragraphs	25 points
			Total Sore:150 points

The examination comprises four distinct parts (see Table 1), totaling 150 points. The breakdown is as follows:

Listening Section (30 points): This part is divided into two subsections. The first subsection includes 5 multiple-choice items, each valued at 1.5 points (for a subtotal of 7.5 points), and the second subsection comprises multiple-choice items, each also worth 1.5 points, contributing to a total of 22.5 points.

Reading Section (50 points): Comprising two subsections, the first includes 15 multiple-choice items, each worth 2.5 points (totaling 37.5 points), and the second subsection has 5 multiple-choice items, each also worth 2.5 points (adding up to 12.5 points).

Language Use Section (30 points): This section also features two subsections, with the first consisting of 15 multiple-choice items at 1 point each (totaling 15 points), and the second subsection includes 10 subjective fill-in-the-blank items, each worth 1.5 points (amounting to 15 points).

Writing Section (40 points): This final part is subdivided into two, where subsection 1 involves writing practical documents for 15 points, and subsection 2 requires continuation writing based on provided content and opening phrases to form a complete passage, valued at 25 points.

To ascertain the participants' English proficiency levels, an analysis of their academic records, specifically from the monthly exams aligned with Chinese National College Entrance Examination (Gaokao) standards, was conducted. These exams were designed by a specialized committee from the school's headquarters to align with the Grade 10 English curriculum requirements. The average scores from the last 2 English tests were used to categorize participants into three proficiency levels: first level (100-150 points), second level (50-99 points), and third level (0-49.99 points).

Analyzing the average scores of students' most recent 2 English examinations is a strategic approach in research for assessing their English proficiency. Averaging 2 times scores rather than relying on a single test result mitigates the impact of outliers or anomalies, enhancing the stability and reliability of the data. It also accounts for natural variability in performance across different examinations, smoothing out fluctuations due to factors like exam difficulty, topics covered, and personal circumstances at the time of each test. Furthermore, this approach allows for the observation of learning trends over time, revealing whether students' proficiency is improving, declining, or remaining consistent. By adopting this methodology, researchers can derive a more accurate and reliable measure of English proficiency that is contextually relevant and reflective of both current capabilities and performance trends. This systematic approach ensures a thorough and standardized assessment of

each participant's English language capabilities. (The two English test papers utilized in this study, see Appendix C).

3.4 Data collection procedure

The research process commenced upon receiving approval from the school principals and the director responsible for Grade 10 high school classes, ensuring all activities were conducted within the bounds of ethical guidelines. The study involved 237 Grade 10 students across five classes. These students were initially divided into three distinct groups according to their performance in the most recent 2 monthly English exams. The collection of academic records was undertaken within a two-week period to facilitate this categorization.

Following the grouping process, the students proceeded to complete questionnaires. To guarantee the relevance and comprehensibility of the questionnaire content in the context of Chinese high schools, the materials were translated into Chinese. This translation was meticulously reviewed by one researcher and two or three English teachers to ensure linguistic and contextual accuracy. Participation in the questionnaire phase was mandatory for all selected students.

The questionnaires were distributed by the students' English teachers within a classroom setting, ensuring a controlled environment for completion. This phase was designed to be concluded within one week, with each class completing the questionnaire on a scheduled basis. Prior to distribution, English teachers communicated the confidentiality of the students' responses, clarifying that the information would be used exclusively for research purposes. They encouraged thoughtful engagement with the questionnaire, emphasizing the importance of answering all questions sincerely. Teachers also instructed students not to discuss the questionnaire items among themselves and were available to clarify any questions students might have. (Data collection procedure, see Figure 3)

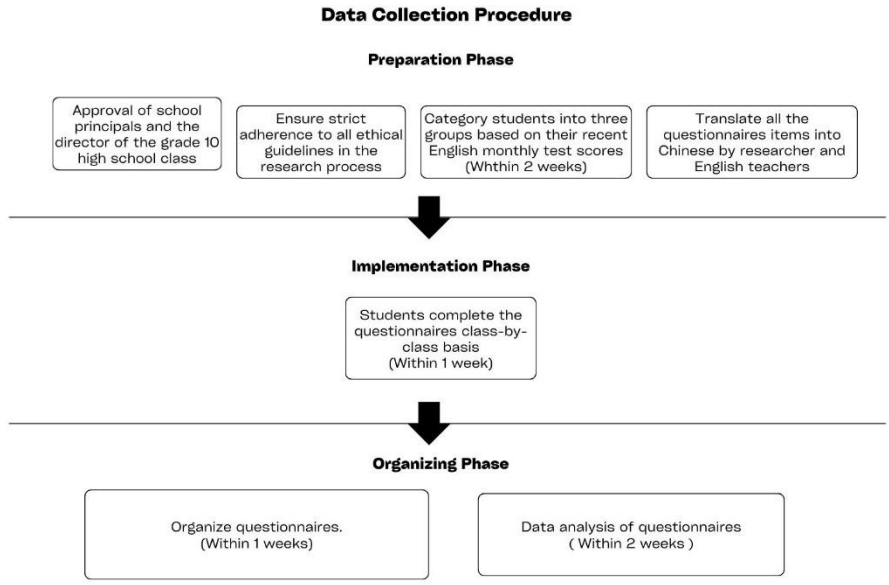


Figure 3 Data Collection Procedure

3.5 Data analysis

The data analysis section aimed to provide a thorough examination of the collected data to understand the relationships between motivational beliefs, SRL strategies, and English language achievements. Various statistical methods were employed to ensure the reliability and validity of the measurements and to test the hypothesized relationships.

3.5.1 Descriptive Statistics

Descriptive statistics were calculated to provide an overview of the participants' responses. This included computing means, standard deviations, and frequency distributions to summarize the central tendencies and variability of the data. These statistics help in understanding the general patterns and characteristics of the sample.

3.5.2 Reliability and Validity Testing

To ensure the accuracy and consistency of the questionnaire scales, several tests were conducted:

Cronbach's Alpha: This was used to assess the internal consistency of the questionnaire scales. A higher Cronbach's Alpha value indicates greater reliability and internal consistency of the items within each scale.

Exploratory Factor Analysis (EFA): EFA was conducted to evaluate the structural validity of the scales. This analysis helps identify the underlying structure of the data and ensures that the items on each scale measure the intended constructs.

Confirmatory Factor Analysis (CFA): CFA was used to confirm the factor structure identified in the EFA. This analysis assesses the model fit indices to determine how well the data fit the hypothesized measurement model. Key fit indices include the chi-square statistic, comparative fit index (CFI), Tucker-Lewis index (TLI), and root mean square error of approximation (RMSEA).

3.5.3 Correlation Analysis

Pearson correlation coefficients were calculated to examine the relationships between motivational beliefs, SRL strategies, and English achievements. This analysis helps determine the strength and direction of the associations between the variables, providing insights into how different factors are related.

3.5.4 Structural Equation Modeling (SEM)

SEM was employed to test the hypothesized relationships and mediation effects among the variables. This advanced statistical technique allows for the simultaneous examination of multiple relationships, including direct and indirect effects. The analysis included:

Model Fit Indices: Evaluating the overall fit of the SEM model using indices such as CFI, TLI, and RMSEA.

Path Coefficients: Estimating the strength and significance of the direct relationships between the variables.

Mediation Effects: Assessing the indirect effects to understand how motivational beliefs and SRL strategies influence English achievements through mediating variables.

3.5.5 Validity and Reliability of the English Test Paper

The reliability of the English test papers, designed to mirror the Chinese National College Entrance Examination (Gaokao), ensures high reliability and consistency. These tests assessed a broad range of English skills and were standardized to maintain

fairness and integrity. The discrimination power of the English test paper was assessed by analyzing the test scores of 237 students, calculating the item discrimination index for objective questions, and the standardized difference index for subjective questions. The test was structured into four parts (Listening, Reading, Language Use, and Writing) with a total score of 150 points.

3.6 Chapter Summary

This chapter details the research methods, including the quantitative design using SEM to explore relationships between motivational beliefs, SRL strategies, and English language achievements among 237 Grade 10 students. It describes the participant demographics, research instruments (structured questionnaires and English test papers), data collection procedures, and the statistical methods for data analysis, including descriptive statistics, reliability and validity testing, correlation analysis, and Structural Equation Model (SEM).

CHAPTER IV
RESULTS

This chapter presents the results of the study, focusing on the validity and reliability of the English test paper, the demographic analysis of the participants, and the statistical analysis of English scores and questionnaire scales. This chapter aims to provide a comprehensive understanding of the relationships between motivational beliefs, self-regulated learning (SRL) strategies, and English language achievements among 237 Grade 10 high school students. The analyses include assessments of the reliability and discrimination power of the English test paper, a detailed demographic analysis, descriptive statistics, correlation analysis, and structural equation modeling (SEM) to test the hypothesized relationships and mediation effects.

4.1 Validity and Reliability of the English Test Paper

4.1.1 The Reliability of the English Test Paper

English test papers utilized in this study were compiled by experienced educators under the auspices of the school's headquarters and the supervising institution. These English test papers are crafted to mirror the rigors of the Chinese National College Entrance Examination (Gaokao), ensuring that their standard and content are aptly suited for the English competency expected of Grade 10 high school students. The English test papers used to categorize the students into three English proficiency levels are composed of experienced teachers and educators who have participated in grading the Gaokao English test papers and have been involved in creating the Gaokao's English test.

The Gaokao English test is highly standardized, ensuring consistent testing conditions and scoring criteria across different regions (Zhang, 2021). This standardization helps maintain the test's reliability, which is essential for its fairness and integrity. Zhang's study also highlights the training of markers to ensure objective and consistent scoring, especially in subjective components like writing and speaking. The test encompasses a broad range of English skills—listening, speaking, reading, and writing—reflecting the high school curriculum and ensuring the content is educationally relevant (O'Sullivan & Cheng, 2022). It assesses practical language use, not just rote memorization, aiming to evaluate students' ability to apply English in real-world scenarios (Deng, Wang, & Xu, 2022). Research has shown that the Gaokao is a reliable predictor of students'

success in English-medium academic environments, indicating its effectiveness in assessing students' potential for university-level education (Tao & Aryadoust, 2024).

4.1.2 The Discrimination Power of the English Test Paper

To assess the discrimination power of the English test, students' test scores of the latest test were used to calculate the D value. Two hundred thirty-seven students participated in the test, and the top 27% (N:64) students and the bottom 27% (N:64) students of four sections in this test were chosen to get the discrimination power. The item discrimination index was calculated with each item score of the objective question items, and the standardized difference index was calculated with the subjective question scores. The average discrimination value of the test is .30. Discrimination value, often referred to as the item-total correlation, measures how well an individual test item differentiates between high and low performers on the overall test (de Ayala, 2009). An average discrimination value of .30 is generally considered acceptable for educational assessments (Washington University, 2024; Ngo, 2024). This value indicates that the test items have a moderate ability to differentiate between different levels of student performance, providing a balanced measure of the test's effectiveness in assessing student knowledge and skills.

The English test is structured into four main parts, contributing to a total score of 150 points. The first part, the Listening Section, is worth 30 points and includes two subsections: the first with five multiple-choice items, each worth 1.5 points, and the second with 15 multiple-choice items, also worth 1.5 points each. The second part, the Reading Section, carries 50 points and is divided into two subsections: the first contains 15 multiple-choice items, each valued at 2.5 points, and the second with five multiple-choice items, valued at 2.5 points each. The third part, the Language Use Section, is worth 30 points and features two subsections: the first with 15 multiple-choice items, each worth 1 point, and the second with ten subjective fill-in-the-blank items, each worth 1.5 points. The final part, the Writing Section, is valued at 40 points and includes two subsections: the first involves writing practical documents worth 15 points, and the second requires continuing to write two paragraphs worth 25 points. The discrimination value of each part of the test is shown in Figure 4, Figure5, Figure 6, and Figure 7.

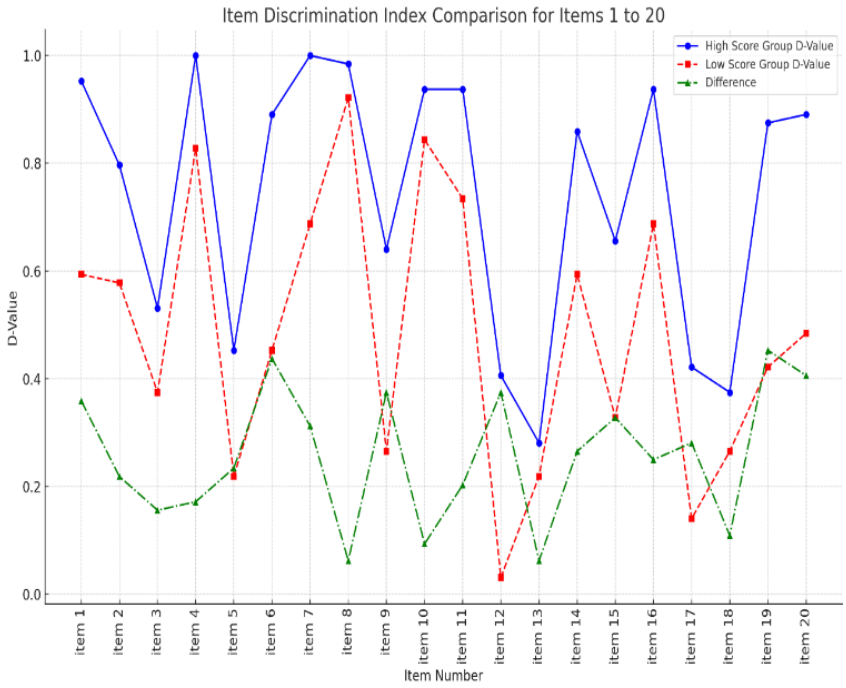


Figure 4 Item Discrimination Index comparison for Items 1 to 20 of Part One

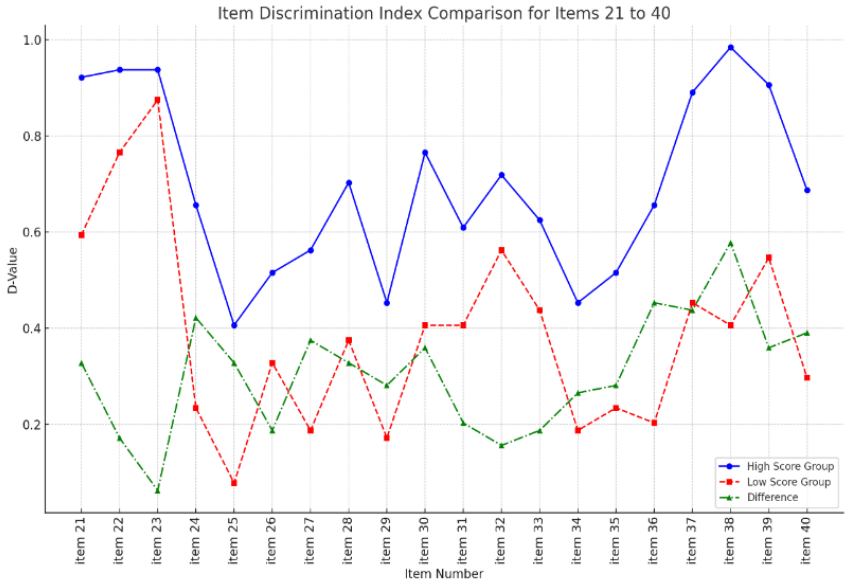


Figure 5 Item Discrimination Index comparison for Items 21 to 40 of Part Two

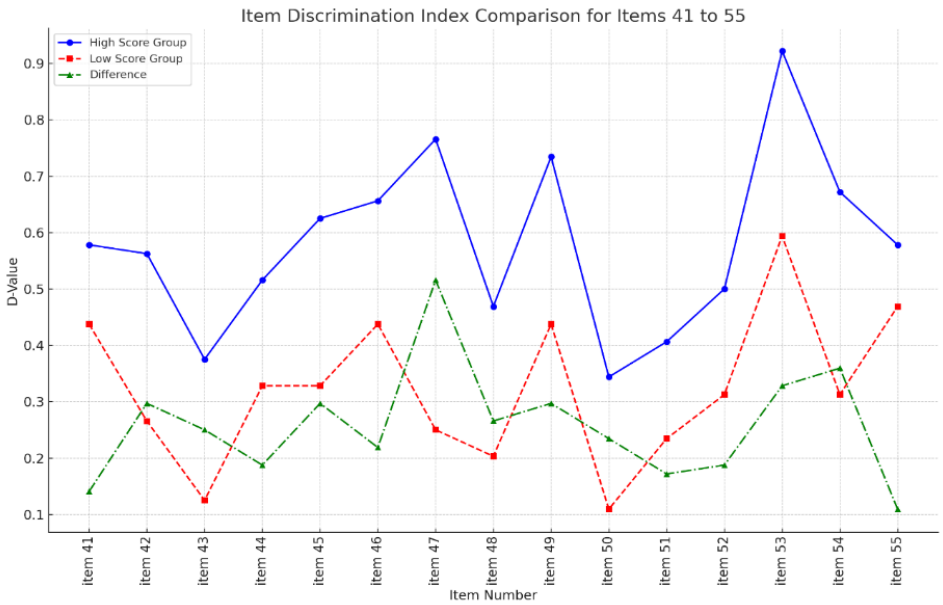


Figure 6 Item Discrimination Index comparison for Items 41 to 55 of Part Three

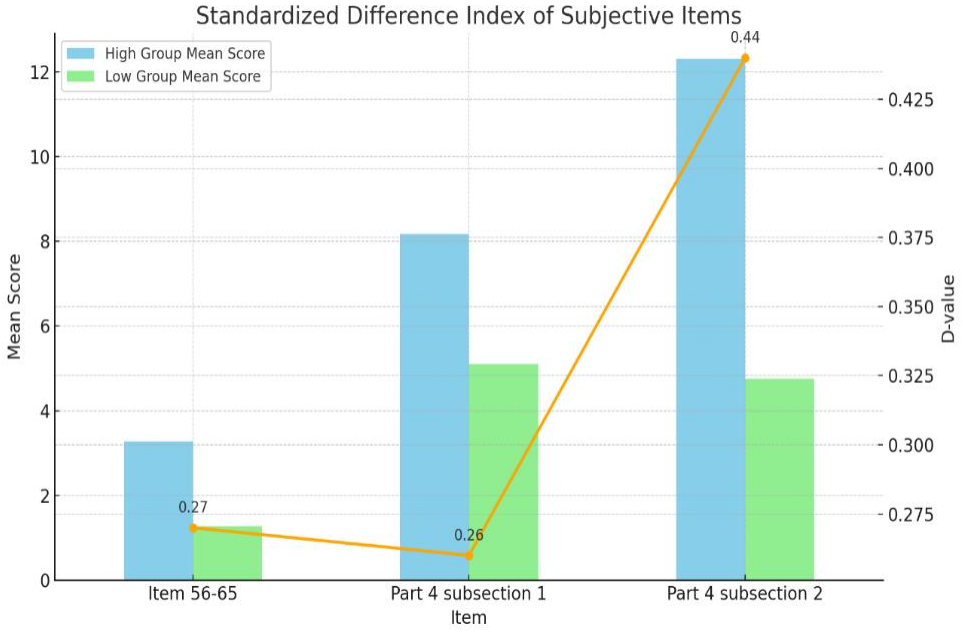


Figure 7 Standardized Difference Index of Subjective Items for Items 56 to 65 of Part 3 and Subsections 1 and 2 of Part 4

A T-test was employed to compare the main differences in the English test scores between the upper 27% (n = 46, M_{total} = 89.48, SD = 8.91) and the lower 27% (n = 46, M_{total} = 48.89, SD = 8.13) of the participants. The analysis revealed statistical differences across all parts of the test: listening Section, t = 25.606, p < .001; reading section, t = 20.095, p < .001; language use section, t = 14.028, p < .001; writing section, t = 15.681, p < .001, and total scores, t = 63.468, p < .001. (Average scores distribution across each part for top and bottom 27% of students, see Figure 8).

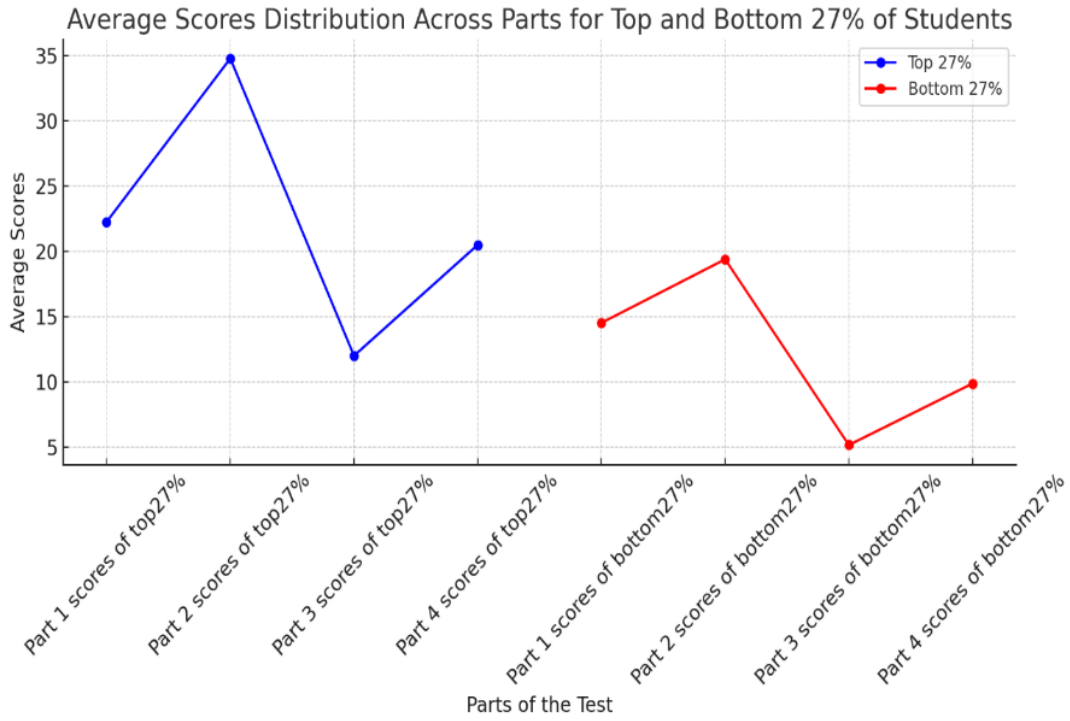


Figure 8 Average scores distribution across each part for top and bottom 27% of students

4.2 Demographic Analysis

A total of 237 students from five different classes participated in the survey. These students are all in the 10th grade, which corresponds to the first year of high school in China. This analysis provides insights into the gender, age, and origin distributions among these participants. According to Chinese policy, in the underdeveloped areas of Zhaotong City, Yunnan Province, English learning begins in the third grade of primary school, around the ages of 9-10.

4.2.1 Gender Distribution

The survey participants are nearly evenly split between males and females. Specifically, 125 participants (52.74%) are female, and 112 (47.26%) are male.

4.2.2 Age Distribution

Most participants are 16 years old, comprising 154 individuals (64.98%). This is followed by 50 participants (21.10%) who are 15 years old, 31 participants (13.08%) who are 17 years old, and only 2 participants (0.84%) who are 14 years old. The concentration of participants in the 16-year-old category suggests that this age group is the primary demographic for the survey.

4.2.3 Origin Distribution

All participants are from Zhaotong City, Yunnan Province, China. The majority come from Zhaoyang District, accounting for 157 individuals (66.24%). The remaining participants are distributed across various regions within Zhaotong City: 32 individuals (13.50%) are from other areas, 15 (6.33%) are from Yiliang County, 12 (5.06%) are from Daguan County, 9 (3.80%) are from Weixin County, 6 (2.53%) are from Yongshan County, and both Yanjin County and Qiaojia County contribute 3 participants each (1.27%).

4.3 Analysis of English Scores

To thoroughly understand the student's performance in English, I analyzed the average scores from their last two monthly exams, each out of 150 points. This method removes anomalies from individual exams and provides a more stable representation of the student's abilities. The following sections provide a detailed analysis and discussion of the results.

4.3.1 Statistical Overview

The analysis included 237 students. The average score among these students was 66.17, suggesting that, on average, students are scoring approximately 44% of the total possible points. The standard deviation of 15.44 indicates moderate variability in the scores, with most students' scores falling within 15 points above or below the mean. The scores ranged from a minimum of 22.00 to a maximum of 107.75, demonstrating a wide range of abilities among the students. The 25th percentile score was 56.50, the median (50th percentile) score was 64.25, and the 75th percentile score was 74.50.

4.3.2 Distribution of Scores

To better understand the performance distribution, the scores were categorized into three ranges: 0-49.99, 50-99.99, and 100-150, each representing different levels of student performance. In the range of 0-49.99, approximately 13.92% of the students scored below 50. The majority of students, about 82.70%, scored between 50 and 99.99, indicating an average level of performance. A small fraction of students, around 3.38%, scored between 100 and 150 points.

The histogram shows (Figure 9) the frequency of scores within various intervals. It highlights that most students' scores are clustered between 50 and 100, with a peak in this range indicating a typical level of performance. Fewer students scored at the extreme ends of the scale, which is consistent with the observed distribution.

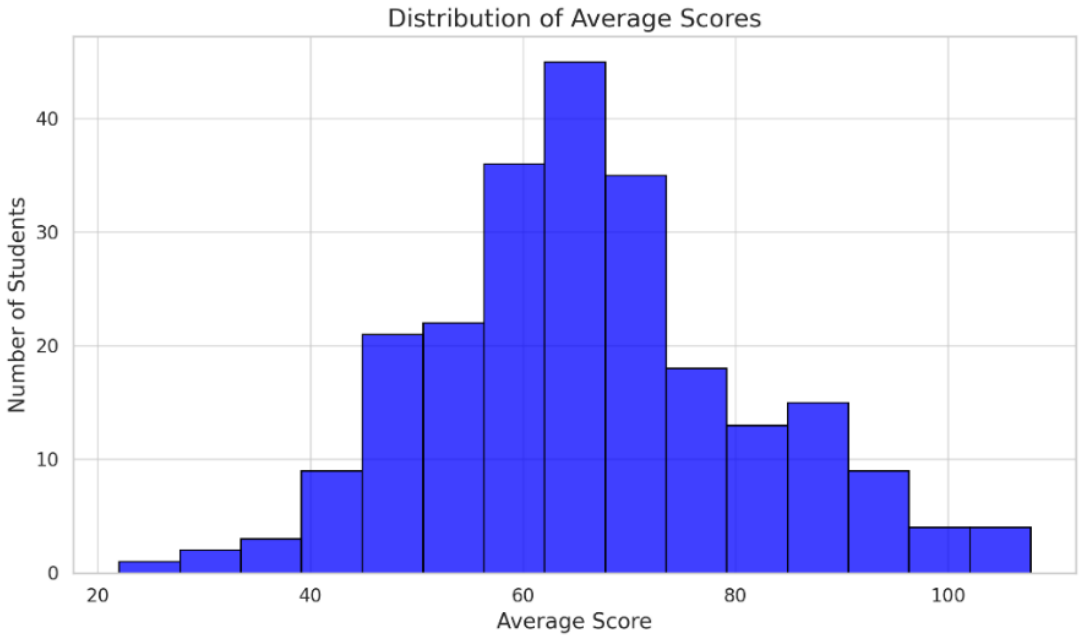


Figure 9 Distribution of Average Scores

The pie chart (Figure 10) visually emphasizes the dominance of the 50-99.99 score range, with most students falling into this category. The smaller segments represent the lower and higher ends of the score spectrum, clearly illustrating the distribution of student performance across different ranges.

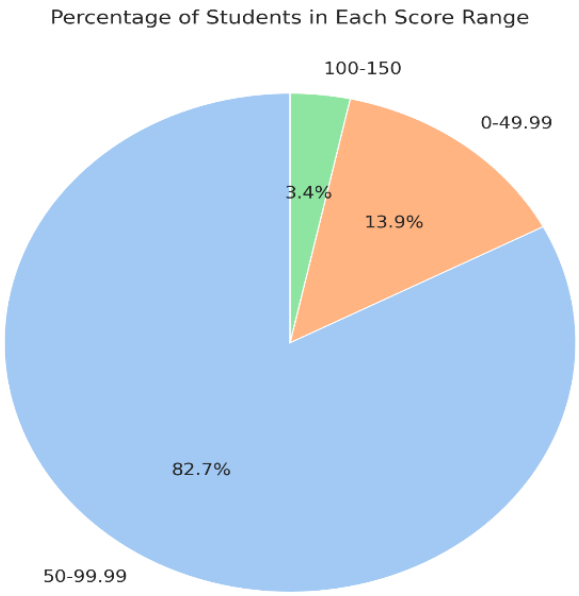


Figure 10 Percentage of Students in Each Score Range

4.4 Reliability of the Questionnaire Scales

Cronbach's Alpha was utilized to assess the internal reliability of the questionnaire. A higher Cronbach's Alpha coefficient indicates greater internal consistency within the questionnaire. By evaluating the reliability of each section of the scale independently, the overall internal consistency of the questionnaire was systematically examined. According to George and Mallery (2003), the commonly used guidelines for interpreting Cronbach's Alpha are as follows: An Alpha value greater than 0.9 is considered excellent, 0.8-0.9 is good, 0.7-0.8 is acceptable, 0.6-0.7 is questionable, and less than 0.6 is poor.

Table 2 Cronbach's Alpha of Variables

Variable	Cronbach's Alpha	N of Items
Intrinsic Motivation	0.927	10
Self-Efficacy	0.936	10
Goal Setting and Planning	0.871	4
Monitoring	0.887	5
Effort Regulation	0.895	3

The Cronbach's Alpha for each scale is presented in Table 2. The intrinsic motivation, consisting of 10 items, has a Cronbach's Alpha of 0.927. The self-efficacy, comprising ten items, has a Cronbach's Alpha of 0.936. The goal setting and planning, with four

items, has a Cronbach's Alpha of 0.871. The monitoring contains five items with a Cronbach's Alpha of 0. 887. The effort regulation, consisting of 3 items, has a Cronbach's Alpha of 0.895. All scales have Cronbach's Alpha > 0.8.

4.5 Descriptive Statistics and Correlation Analysis

4.5.1 Descriptive Statistics Analysis

Descriptive statistics for the main variables are provided in Table 3, which includes the means, standard deviations, and a sample of N=237. The mean values indicate a moderate level of agreement among respondents for intrinsic motivation (Mean = 3.70, SD = 0.87), self-efficacy (Mean = 3.72, SD = 0.86), and self-regulated learning strategies, such as goal setting and planning (Mean = 3.27, SD = 1.07), monitoring (Mean = 3.54, SD = 0.92), and effort regulation (Mean = 3.30, SD = 0.97). English scores, ranging from 22 to 107.75, show considerable variability in language proficiency among the participants.

Table 3 Descriptive Statistics for Variables

Variable	N	Mean	SD	Min	Max
Intrinsic Motivation	237	3.70	0.87	1	5
Self-Efficacy	237	3.72	0.86	2	5
Goal Setting and Planning	237	3.27	1.07	1	5
Monitoring	237	3.54	0.92	1	5
Effort Regulation	237	3.30	0.97	1	5
English Achievements	237	66.17	15.44	22	107.75

4.5.2 Correlation Analysis

The correlation analysis (see Table 4) showed significant positive relationships between Motivational Beliefs, Self-Efficacy, and the three SRL strategies (Goal Setting and Planning, Monitoring, and Effort Regulation). A small correlation is indicated by a coefficient ranging from r=0.10 to r<0.30, and a medium correlation is indicated by a coefficient ranging from r=0.30 to r<0.50, and a large correlation is indicated by a coefficient of r≥0.50 (Cohen, 2013).

Table 4 Correlation Analysis of Key Variables

Variable	Intrinsic Motivation	Self-Efficacy	Goal Setting and Planning	Monitoring	Effort Regulation
Intrinsic Motivation	_				
Self-Efficacy	.47**	_			
Goal Setting and Planning	.33**	.54**	_		
Monitoring	.44**	.53**	.50**	_	
Effort Regulation	.40**	.41**	.48**	.45**	_
English Achievements	.49**	.58**	.54**	.54**	.48**

**p< .01

Intrinsic motivation demonstrated a significant correlation with goal setting and planning (GSP) with a correlation coefficient of r=0.33, which is considered significant. Intrinsic motivation was positively correlated with monitoring, with a correlation coefficient of r=0.44, indicating a moderate correlation. Additionally, the correlation between intrinsic motivation and effort regulation was r=0.40, indicating a moderate correlation. Moreover, intrinsic motivation significantly correlated with English achievements with r=0.49.

Self-efficacy showed substantial positive correlations with the use of SRL strategies. The correlation between self-efficacy and goal setting and planning was r=0.54, indicating a large correlation. Self-efficacy also showed a significant positive correlation with monitoring, with a coefficient of r=0.53, suggesting a high correlation. Moreover, the relationship between self-efficacy and effort regulation was significant, with a correlation coefficient of r=0.41, indicating a moderate correlation. Self-efficacy also exhibited a strong positive correlation with English achievements with r=0.58.

The analysis revealed that the three SRL strategies (Goal Setting and Planning, Monitoring, and Effort Regulation) are strongly associated with English achievements. Goal setting and planning (GSP) exhibited a high positive correlation with English achievements, with a correlation coefficient of r=0.54. Monitoring also showed a robust positive correlation with English achievements, with a coefficient of r=0.54, which is considered a high correlation. Effort regulation was found to have a moderate to high positive correlation with English achievements, with a coefficient of r=0.48.

4.6 Questionnaire Scale Validity Analysis

4.6.1 Exploratory Factor Analysis

Exploratory factor analysis (EFA) is used to measure the structural validity of the scale, aiming to determine if the measurement variables of each latent variable exhibit stable consistency and structure. This is one of the most commonly used indicators for evaluating scale validity. In this study, SPSS 27 software was used to test the composition of the dimensions. Two conditions must be met for factor analysis: the Kaiser-Meyer-Olkin (KMO) value should be greater than 0.7, and the significance of Bartlett's Test of Sphericity should be less than 0.05. If these conditions are met, it indicates strong correlations among the observed variables, making them suitable for factor analysis.

Table 5 Kaiser-Meyer-Olkin Result

Kaiser-Meyer-Olkin		0.94
Bartlett's Test of Sphericity	Approx. Chi-Square	4989.129
	DF	496
	Sig.	0

The analysis results (Table 5) indicate that the KMO value of the survey data is 0.940, greater than 0.70, suggesting that the questionnaire is suitable for factor analysis. The Bartlett's Test of Sphericity result shows an approximate chi-square value of 4989.129, significantly greater than zero, with a significance probability of 0.000 (P<0.01).

Table 6 Factor Rotation Matrix

Observation variable	**Component**				
	1	2	3	4	5
IM1	0.124	**0.806**	0.172	0.066	0.099
IM2	0.183	**0.708**	0.093	0.015	0.074
IM3	0.207	**0.691**	0.118	0.01	0.172
IM4	0.128	**0.816**	0.183	0.064	0.04
IM5	0.098	**0.696**	0.131	0.054	0.111
IM6	0.131	**0.752**	0.099	0.078	0.174
IM7	0.259	**0.652**	0.121	0.155	0.022
IM8	0.126	**0.767**	0.112	0.126	0.04
IM9	0.15	**0.702**	0.115	0.158	0.151
IM10	0.23	**0.808**	0.037	0.023	0.014
SE11	**0.76**	0.166	0.233	0.129	0.13
SE12	**0.771**	0.147	0.093	0.134	0.064
SE13	**0.718**	0.192	0.23	0.172	0
SE14	**0.707**	0.268	0.084	0.16	0.07
SE15	**0.711**	0.227	0.168	0.201	0.232
SE16	**0.694**	0.211	0.263	0.197	0.074

SE17	**0.781**	0.165	0.191	0.068	0.064
SE18	**0.74**	0.193	0.123	0.175	0.087
SE19	**0.703**	0.116	0.135	0.167	0.057
SE20	**0.792**	0.117	0.053	0.071	0.159
GSP21	0.329	0.111	0.238	**0.73**	0.137
GSP22	0.254	0.088	0.107	**0.806**	0.17
GSP23	0.173	0.149	0.169	**0.76**	0.111
GSP24	0.282	0.115	0.222	**0.747**	0.185
MON25	0.209	0.141	**0.823**	0.146	0.035
MON26	0.183	0.149	**0.736**	0.177	0.1
MON27	0.264	0.169	**0.704**	0.158	0.225
MON28	0.257	0.238	**0.72**	0.157	0.142
MON29	0.179	0.229	**0.775**	0.111	0.141
ER30	0.165	0.215	0.194	0.243	**0.797**
ER31	0.16	0.171	0.174	0.174	**0.821**
ER32	0.193	0.216	0.159	0.146	**0.86**
eigenvalue	12.458	3.538	2.373	1.707	1.364
% of Variance	19.885	19.401	11.003	8.951	7.764
Cumulative %	19.885	39.286	50.289	59.24	67.004

Note: IM=Intrinsic Motivation; SE=Self-Efficacy; GSP=Goal Setting and Planning; MON=Monitoring; ER=Effort Regulation

Using principal component analysis, five common factors with eigenvalues greater than one were extracted (See Table 6). The cumulative variance explained by these factors after orthogonal rotation is 67.004%, greater than 60%. Each project's load on the factors is higher than 0.5, indicating that the extracted factors comprehensively represent the information without high dual factor loads, and the observed variables converge according to theoretical expectations. This analysis demonstrates that the selected scale has good structural validity.

4.6.2 Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) tests the relationship between a specific factor and its corresponding observed variables to see if it matches the researcher's theoretical expectations. Developed by Swedish statistician Karl Gustav Jöreskog, CFA begins with hypotheses based on existing theory and knowledge, constructing a model of the relationships among variables. The aim is to test the consistency between theory and data, thus validating and potentially refining the theory.

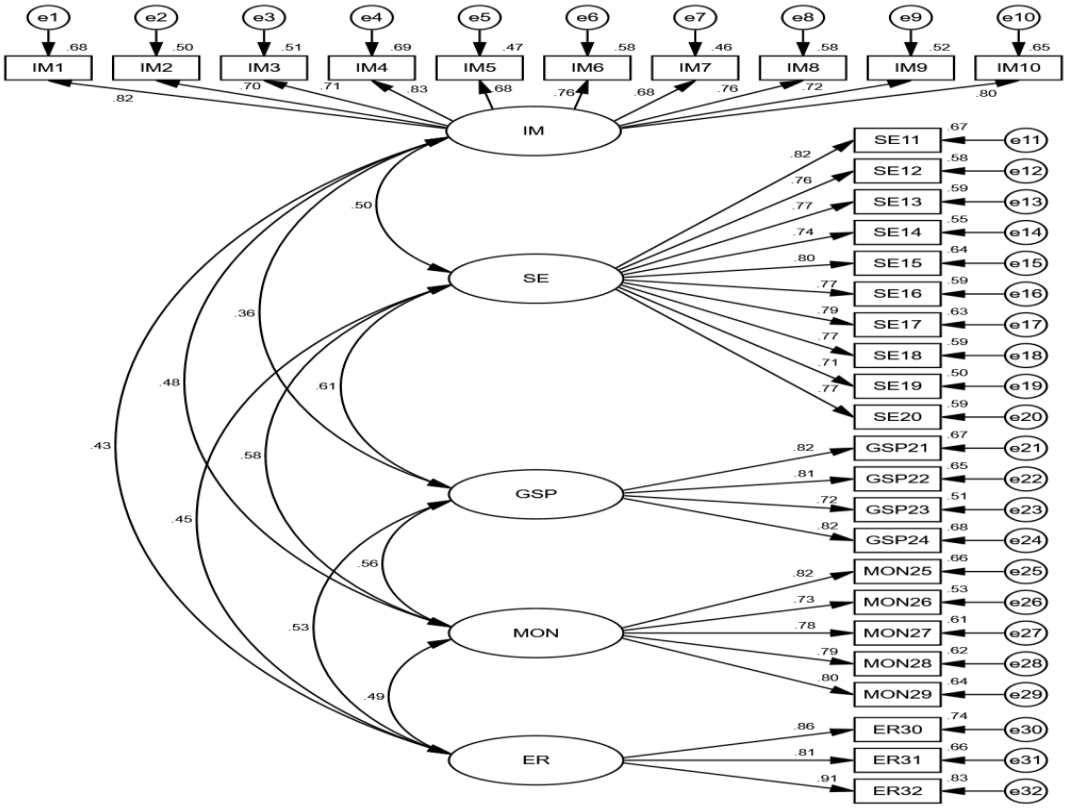


Figure 11 Confirmatory Factor Analysis Model

Using AMOS 26.0, CFA was conducted based on the EFA results (Figure 11). Several key indices are used to evaluate the fit of a confirmatory factor analysis model. The chi-square to degrees of freedom ratio (X^2/df) should ideally be less than 3, indicating a good fit between the model and the data. The Goodness of Fit Index (GFI) and the Adjusted Goodness of Fit Index (AGFI) should be above 0.90; a GFI or AGFI of 0.853 suggests the model is close but may need refinement. The Incremental Fit Index (IFI), Comparative Fit Index (CFI), and Tucker-Lewis Index (TLI) should all be above 0.90, with values closer to or above 0.95 ideal. The Root Mean Square Error of Approximation (RMSEA) should be less than 0.06 for a good fit, although values up to 0.08 are acceptable, indicating a reasonable fit. Factors loading for all the items were significant at $p < .001$. The factor loadings for intrinsic motivation (IM) ranged from .50 to .83, self-efficacy (SE) from .67 to .82, goal setting and planning (GSP) from .72 to .81, monitoring (MON) from .73 to .82, and effort regulation (ER) from .81 to .91.

Table 7 demonstrates confirmatory factor model, showing that the X^2/df value is 1.240, which is less than 3. The GFI is 0.874, which is greater than 0.8. The AGFI is 0.853,

which is also greater than 0.8. The IFI is 0.977, which is greater than 0.9. The CFI and TLI are greater than 0.9, and the RMSEA is 0.032, less than 0.08. According to the model fit index standards, all model fit indices meet the requirements.

Table 7 Confirmatory Factor Model Fit Indices

	X^2/df	**GFI**	**AGFI**	**IFI**	**TLI**	**CFI**	**RMSEA**
Statistical value	1.24	0.874	0.853	0.977	0.974	0.977	0.032
Recommended value	<3	>0.8	>0.8	>0.9	>0.9	>0.9	<0.08

4.6.3 Convergent and Discriminant Validity Tests

4.6.3.1 Convergent Validity Test

Convergent validity assesses whether different measurement tools intended to measure the same construct produce highly correlated results. Following Hair et al. (2016), convergent validity is evaluated using Composite Reliability (CR) and Average Variance Extracted (AVE). Acceptable thresholds are CR values greater than 0.70 and AVE values greater than 0.50.

The factor loadings, Composite Reliability (CR), and Average Variance Extracted (AVE) for each variable are shown in Table 8. The factor loadings for each item range between 0.6 and 0.9, indicating high convergent validity. The CR values for all dimensions exceed the standard of 0.7, and the AVE values are above the standard of 0.5. The significance probability (P) is less than 0.001, demonstrating significant relationships between the five latent variables and their respective measurement indicators. These results indicate that the scale's structural model has excellent convergent validity.

Table 8 Convergent Validity Results

Latent variables	Observation variable	Standard factor load coefficient	S.E.	C.R.	P	CR	AVE
Intrinsic Motivation (IM)	IM1	0.822				0.927	0.562
	IM2	0.704	0.062	12.042	***		
	IM3	0.712	0.059	12.227	***		
	IM4	0.828	0.066	15.129	***		
	IM5	0.683	0.066	11.576	***		
	IM6	0.764	0.061	13.454	***		
	IM7	0.681	0.062	11.527	***		
	IM8	0.758	0.061	13.321	***		
	IM9	0.721	0.062	12.431	***		
	IM10	0.804	0.062	14.481	***		
Self-Efficacy (SE)	SE11	0.816				0.936	0.592
	SE12	0.761	0.068	13.342	***		
	SE13	0.766	0.069	13.467	***		
	SE14	0.744	0.065	12.942	***		
	SE15	0.8	0.071	14.324	***		
	SE16	0.771	0.067	13.574	***		
	SE17	0.791	0.067	14.093	***		
	SE18	0.769	0.068	13.536	***		
	SE19	0.706	0.067	12.049	***		
	SE20	0.767	0.065	13.48	***		
Goal Setting and Planning (GSP)	GSP21	0.82				0.871	0.629
	GSP22	0.807	0.076	13.591	***		
	GSP23	0.717	0.072	11.706	***		
	GSP24	0.823	0.07	13.921	***		
Monitoring (MON)	MON25	0.815				0.888	0.613
	MON26	0.727	0.078	12.018	***		
	MON27	0.783	0.073	13.227	***		
	MON28	0.785	0.079	13.284	***		
	MON29	0.802	0.074	13.644	***		
Effort regulation (ER)	ER30	0.861				0.897	0.743
	ER31	0.815	0.061	15.244	***		
	ER32	0.908	0.059	17.395	***		

4.6.3.2 Discriminant Validity Analysis

Discriminant validity assesses whether constructs that should not be related are actually unrelated. In this analysis, the square root of the AVE of each dimension is greater than the correlation coefficients between dimensions, indicating good discriminant validity. The AVE values for each dimension are greater than 0.5, and the square roots of AVE are greater than the correlations between dimensions, indicating good discriminant validity (See Table 9).

Table 9 Discriminant Validity Analysis of AVE Values for Each Dimension

	Intrinsic Motivation	**Self-Efficacy**	**Goal Setting and Planning**	**Monitoring**	**Effort Regulation**
Intrinsic Motivation	0.75				
Self-Efficacy	0.498	0.77			
Goal Setting and Planning	0.36	0.607	0.793		
Monitoring	0.48	0.577	0.561	0.783	
Effort Regulation	0.434	0.45	0.529	0.493	0.862

4.7 Structural Equation Model

Structural Equation Model (SEM) fit testing evaluates how well a hypothesized model fits the observed data. Fit indices are used to assess the adequacy of the model, including measures such as the chi-square to degrees of freedom ratio (NC), root mean square error of approximation (RMSEA), goodness of fit index (GFI), comparative fit index (CFI), and Tucker-Lewis index (TLI). These indices help to determine whether their model is a good representation of the underlying data structure.

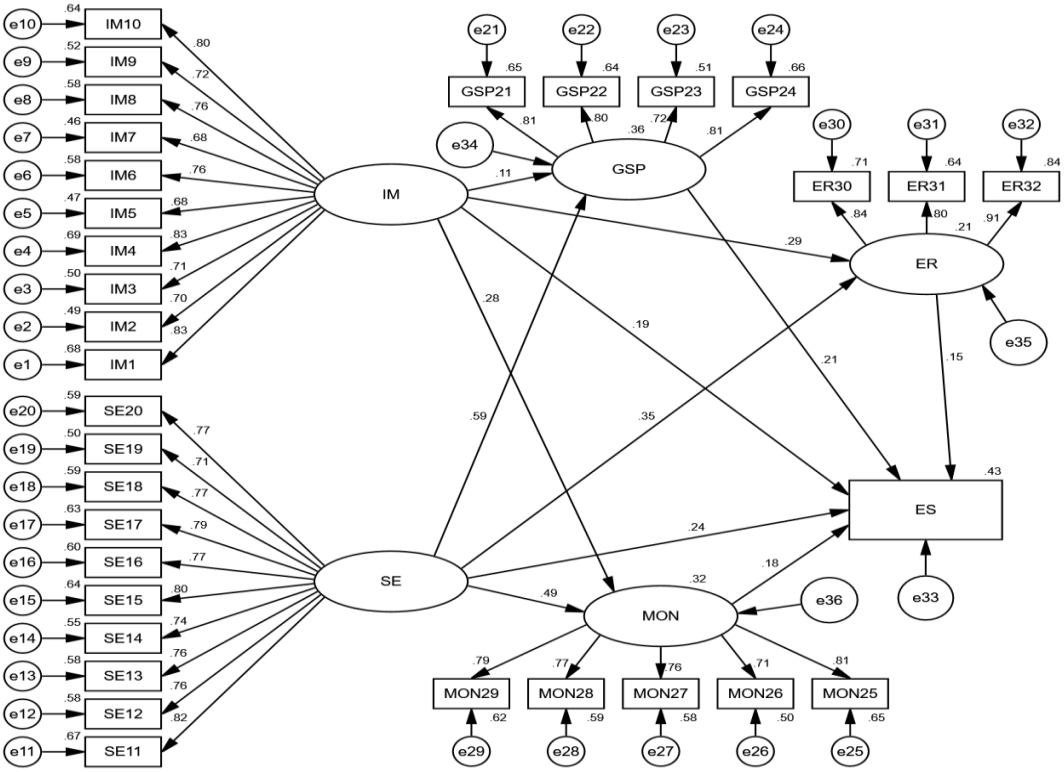


Figure 12 Standardized Path Estimation of Structural Equation Model

Figure 12 illustrates this study's standardized path estimates of a SEM. In this model, intrinsic motivation (IM) measured by 10 observed variables (IM1 to IM10), with standardized loadings ranging from 0.46 to 0.83; self-efficacy(SE) measured by 10 observed variables (SE11 to SE20), with loadings ranging from 0.58 to 0.82; goal setting and planning(GSP) measured by four observed variables (GSP21 to GSP24), with loadings ranging from 0.51 to 0.81; monitoring(MON) measured by five observed variables (MON25 to MON29), with loadings ranging from 0.50 to 0.81; effort regulation(ER) measured by three observed variables (ER30 to ER32), with loadings ranging from 0.64 to 0.91; English scores (ES)， i.e. English language achievements, represented as an observed variable.

Based on the structural equation model fit indices, the chi-square to degrees of freedom ratio (NC) should be between 1 and 3; the root mean square error of approximation (RMSEA) should be between 0.05 and 0.08, with values below 0.05 indicating very good fit; the goodness of fit index (GFI) is generally considered acceptable if greater than 0.9, and acceptable if above 0.8; the comparative fit index (CFI) should be greater

than 0.9; the Tucker-Lewis index (TLI) should also be above 0.9(Kline, 2015), and it is generally considered that the sample size should be greater than 200 (Newsom,2023). The main path results of the model are shown in Figure 11.

Table 10 Structural Equation Model Fit Indices

	X^2/df	**GFI**	**AGFI**	**IFI**	**TLI**	**CFI**	**RMSEA**
Statistical value	1.471	0.85	0.826	0.954	0.949	0.954	0.045
Recommended value	<3	>0.8	>0.8	>0.9	>0.9	>0.9	<0.08

The model fit indices are presented in Table 10. The fit indices are as follows: χ^2/df = 1.471, which is less than 3. GFI = 0.85 and AGFI = 0.826, both greater than 0.8. IFI = 0.954, TLI = 0.949, and CFI = 0.954, all exceeding 0.9. RMSEA = 0.045, which is below 0.08. Based on the fit criteria in the table, all model fit indices meet the required standards; thus, the model's path can be analyzed further.

4.7.1 Path Analysis

Path analysis is used in the context of structural equation modeling (SEM) to describe the analysis of direct and indirect relationships between variables in a hypothesized model.

In this study, AMOS 26.0 software was employed to conduct structural equation modeling (SEM) path analysis, deriving the model's path coefficients and Critical Ratio (C.R.) values. The path coefficients indicate the degree and direction of the influence between variables. The Critical Ratio (C.R.) can determine the significance of the regression coefficients; generally, a C.R. value equal to or greater than 1.96 indicates significant influence at the 0.05 significance level (Kline, 2015; Hair et al., 2018).

In structural equation modeling (SEM), path coefficients are standardized estimates that represent the strength and direction of relationships between variables in the model. The magnitude of these coefficients provides important information about the relative impact of one variable on another. Typically, a path coefficient (γ) close to 0 indicates a weak relationship, while a coefficient closer to ± 1 signifies a strong relationship. A path coefficient (γ) of around 0.10 generally represents a small effect; a path coefficient (γ) of around 0.20 represents a moderate effect. A path coefficient (γ) of 0.30 or higher represents a large effect.

Table 11 Standardized Path Coefficients and Variance Parameter of SEM

Path relationship			Standard path coefficient	S.E.	C.R.	P
GSP	<---	IM	0.107	0.06	1.744	0.081
ER	<---	IM	0.294	0.058	4.398	***
MON	<---	IM	0.285	0.052	4.441	***
GSP	<---	SE	0.588	0.079	8.228	***
ER	<---	SE	0.351	0.066	5.186	***
MON	<---	SE	0.493	0.063	7.132	***
ES	<---	GSP	0.215	1.019	3.011	0.003
ES	<---	ER	0.153	0.985	2.508	0.012
ES	<---	MON	0.18	1.178	2.627	0.009
ES	<---	IM	0.194	0.842	3.224	0.001
ES	<---	SE	0.239	1.279	2.944	0.003

Note：*** P<0.001

The standardized regression coefficients and variance parameter estimates of the structural equation model in this study are shown in Table 11. In this model, the results indicate that intrinsic motivation (IM) strongly predicts effort regulation (ER) with a path coefficient (γ) of 0.294 and critical ratio (C.R.) of 4.398 ($p < 0.001$) and monitoring (MON) with a path coefficient (γ) of 0.285 and C.R. of 4.441 ($p < 0.001$), but does not significantly predict goal setting and planning (GSP) (γ = 0.107, C.R. = 1.744, p = 0.081). Self-efficacy (SE) very strongly predicts goal setting and planning (γ = 0.588, C.R. = 8.228, $p < 0.001$), strongly predicts effort regulation (γ = 0.351, C.R. = 5.186, $p < 0.001$), and very strongly predicts monitoring (γ = 0.493, C.R. = 7.132, $p < 0.001$). Additionally, goal setting and planning moderately predict English achievement (ES) with a path coefficient (γ) of 0.215 and C.R. of 3.011 (p = 0.003). Effort regulation predicts English achievements with a path coefficient (γ) of 0.153 and C.R. of 2.508 (p = 0.012), and monitoring predicts ES with a path coefficient (γ) of 0.180 and C.R. of 2.627 (p = 0.009), indicating a relatively weaker but still significant predictive relationship. Both intrinsic motivation (γ = 0.194, C.R. = 3.224, p = 0.001) and self-efficacy (γ = 0.239, C.R. = 2.944, p = 0.003) predict English achievements, with self-efficacy having a slightly stronger effect.

4.7.2 Mediation Effect Analysis

To investigate whether these significant paths have mediation effects, the Bootstrap method in AMOS 26.0 was employed, selecting 5000 repetitions with a 95% confidence interval. The built-in syntax in the AMOS software was used to assign values to all relevant paths and calculate the standardized specific mediation effects.

The significance of mediation effects is often assessed using the bootstrap method, a non-parametric resampling technique used to estimate confidence intervals for indirect effects (Sarstedt et al., 2022; Hair et al., 2022). The mediation effect is considered significant if the confidence interval does not include zero.

Table 12 Mediation Effect Analysis Results

Parameter	Effect Value	Lower	Upper	P
IM-GSP-ES (Indirect Effect)	0.023	-0.005	0.065	0.115
IM-ER-ES (Indirect Effect)	0.239	0.069	0.384	0.004
IM-MON-ES (Indirect Effect)	0.508	0.396	0.602	0
SE-GSP-ES (Indirect Effect)	0.126	0.038	0.224	0.003
SE-ER-ES (Indirect Effect)	0.054	0.007	0.11	0.025
SE-MON-ES (Indirect Effect)	0.089	0.013	0.171	0.022
IM-ES (Direct Effect)	0.194	0.062	0.316	0.004
IM-ES (Total Effect)	0.314	0.191	0.428	0
SE-ES (Direct Effect)	0.239	0.069	0.384	0.004
SE-ES (Total Effect)	0.508	0.396	0.602	0

According to the mediation effect analysis results of this study (see Table12), intrinsic motivation (IM) significantly mediates the relationship between effort regulation (ER) and English achievement (ES), with a mediation effect of 0.239 and a confidence interval of [0.069, 0.384] ($p = 0.004$), indicating that intrinsic motivation positively influences English achievements through effort regulation. Additionally, intrinsic motivation significantly mediates the relationship between monitoring and English achievements, with a mediation effect of 0.508 and a confidence interval of [0.396, 0.602] ($p < 0.001$), showing a strong positive influence of intrinsic motivation on English achievements through monitoring. Conversely, the mediation effect of intrinsic motivation through goal setting and planning on English achievements is not significant, with a mediation effect of 0.023 and a confidence interval of [-0.005, 0.065] ($p = 0.115$). Self-efficacy (SE) significantly mediates the relationships through goal setting and planning (mediation effect = 0.126, confidence interval [0.038, 0.224], $p = 0.003$), effort regulation (mediation effect = 0.054, confidence interval [0.007, 0.110],

p = 0.025), and monitoring (mediation effect = 0.089, confidence interval [0.013, 0.171], p = 0.022) on English achievements.

4.8 Summary

In this Chapter, the study's findings are systematically presented. The reliability and validity of the English test paper are confirmed, mirroring the rigorous standards of the Gaokao. The discrimination power of the test is assessed, showing appropriate differentiation among student performance levels. Demographic analysis reveals a balanced distribution of gender, age, and origin among the 237 Grade 10 participants. Descriptive statistics and correlation analysis highlight significant relationships between motivational beliefs, SRL strategies, and English achievements. The SEM analysis validates the hypothesized model, showing strong predictive relationships and significant mediation effects of intrinsic motivation and self-efficacy on English language achievements through SRL strategies.

CHAPTER V
DISCUSSION

This study explored the relationships between intrinsic motivation, self-efficacy, self-regulated learning (SRL) strategies, and English learning achievement among Chinese high school students. Specifically, it examined how intrinsic motivation and self-efficacy predict different SRL strategies (goal setting and planning, monitoring, and effort regulation) and how they predict English learning achievement. Additionally, the study investigated the mediating effects of SRL strategies on the relationships between intrinsic motivation, self-efficacy, and English learning achievement.

5.1 The Relationship between Intrinsic Motivation and Self-Regulated Learning Strategies

The findings from the Structural Equation Modeling (SEM) indicated that intrinsic motivation significantly predicts monitoring ($\gamma = 0.285$, $p < 0.001$) and effort regulation ($\gamma = 0.294$, $p < 0.001$). This suggests that students who are internally motivated to learn English are more likely to engage in self-monitoring activities and persist in their efforts, even when faced with challenges. However, intrinsic motivation did not significantly predict goal setting and planning ($\gamma = 0.107$, $p = 0.081$), highlighting a potential area for further investigation. Additionally, the correlation analysis revealed moderate positive relationships between intrinsic motivation and monitoring ($r = .44$, $p < .01$), as well as effort regulation ($r = .40$, $p < .01$).

The results revealed that there was an insignificant correlation between these variables. Precisely, intrinsic motivation did not significantly predict goal setting and planning. This finding implies that while intrinsic motivation is critical for engaging students in learning activities, it does not directly influence their ability to set and plan goals for their English learning. This aligns with prior research, indicating that goal setting requires more than just motivation; it also relies on students' cognitive strategies and external guidance (Schunk, 1990). For instance, effective goal setting might necessitate specific skills and knowledge about how to set achievable and realistic goals, which might not be solely driven by intrinsic motivation. Moreover, external factors such as teacher support, feedback, and structured learning environments play a crucial role in helping students develop these skills. Recent studies suggest that while intrinsic

motivation might not directly impact goal setting, it could still have significant indirect effects through other mediators like self-efficacy and learning strategies (Teng & Zhang, 2020).

Intrinsic motivation exhibited a significant positive relationship with monitoring. This indicates that students with higher intrinsic motivation are more likely to actively monitor their learning processes. These students tend to assess their understanding and adjust their study strategies accordingly. This finding aligns with recent studies indicating that intrinsically motivated students engage more in metacognitive activities, which are essential for effective learning (Shen et al., 2023; Zimmerman, 2000). For example, students with high intrinsic motivation are likely to reflect on their learning, recognize areas where they need improvement, and modify their approach to enhance understanding and retention. This internal drive to monitor progress and sustain efforts is a crucial component of effective learning, as it empowers students to be proactive and flexible in their learning strategies (Chen et al., 2020).

Intrinsic motivation also showed a significant positive correlation with effort regulation. This suggests that intrinsically motivated students are more persistent and less likely to give up when facing difficulties. They are driven by an inherent interest in the subject matter and derive satisfaction from overcoming challenges, which enhances their ability to regulate their efforts (Deci & Ryan, 2012). For instance, students with high intrinsic motivation are more likely to persist through challenging tasks because they find the process rewarding. This resilience and sustained effort are crucial for achieving long-term academic goals. Recent studies highlight that intrinsic motivation significantly boosts students' perseverance and effort regulation, making them more capable of maintaining focus and dedication to their studies despite obstacles (Chen et al., 2020; Teng, 2021).

The results showed that the predictive power of intrinsic motivation across different SRL strategies provides valuable insights. While intrinsic motivation significantly predicts monitoring and effort regulation, its effect on goal setting and planning is not statistically significant. This differential impact suggests that intrinsically motivated students are proactive in monitoring their learning and regulating their efforts. Still, the process of setting and planning goals might require additional cognitive and external

support (Schunk, 1990). For example, goal setting and planning are strategic activities that often necessitate a structured approach, including guidance on how to break down tasks, prioritize objectives, and develop actionable steps.

Recent studies corroborate these findings, showing that intrinsic motivation is crucial for tasks requiring self-assessment and persistence (Shen et al., 2023; Teng & Zhang, 2020). However, the non-significant impact on goal setting and planning suggests that motivation alone might not suffice for these activities. This aligns with Schunk's (1990) argument that goal setting depends on additional cognitive strategies and support mechanisms. Therefore, while intrinsic motivation is a powerful driver for self-regulated learning, educators must also provide structured support and teach specific strategies to help students effectively set and plan their academic goals. This holistic approach ensures that students are motivated and equipped with the necessary skills to achieve their learning objectives.

5.2 The Relationship between Self-Efficacy and Self-Regulated Learning Strategies

Self-efficacy emerged as a predictor of all three SRL strategies: goal setting and planning $\gamma = 0.588$, $p < 0.001$), monitoring ($\gamma = 0.493$, $p < 0.001$), and effort regulation ($\gamma = 0.351$, $p < 0.001$). This underscores the critical role of self-belief in one's capabilities in fostering effective learning strategies. Students with high self-efficacy are more likely to set concrete learning goals, monitor their progress, and regulate their efforts towards achieving these goals. Similarly, the correlation analysis showed strong positive relationships between self-efficacy and goal setting and planning ($r = .54$, $p < .01$), monitoring ($r = .53$, $p < .01$), and effort regulation ($r = .41$, $p < .01$).

The analysis of the results revealed that self-efficacy demonstrates a strong positive predictive relationship across all SRL strategies, with the most significant impact on goal setting and planning, followed by monitoring and effort regulation. This comprehensive influence underscores the pivotal role of self-efficacy in enabling students to engage in all aspects of SRL. Students with high self-efficacy are confident in their abilities, which translates into proactive goal setting, diligent monitoring of their learning processes, and persistent effort regulation (Bandura, 2011).

The analysis of the present findings revealed a strong positive relationship between self-efficacy and goal setting and planning. This suggests that students with high self-efficacy are more likely to set clear and effective learning goals and plans. High self-efficacy enhances students' confidence in their abilities to achieve their goals, making them more proactive in their learning process (Bandura, 2011). Recent research highlights that self-efficacy is a strong predictor of goal-setting behaviors (Lee et al., 2021). Additionally, there was a significant positive correlation between self-efficacy and monitoring, indicating that self-efficacious students are better at monitoring their learning progress and adjusting their strategies to improve their understanding. They are more reflective about their learning, which helps them identify and correct mistakes (Pintrich & De Groot, 1990). The study also revealed a moderate positive correlation between self-efficacy and effort regulation, suggesting that students with high self-efficacy are more resilient and willing to exert effort to succeed, even when faced with challenging tasks. This resilience motivates them to persist and strive for excellence (Schunk & Pajares, 2002).

These findings underscore the significance of fostering self-efficacy in students to improve their self-regulated learning strategies. High self-efficacy boosts students' confidence in their capabilities and translates into practical actions that support their learning process. For instance, students with high self-efficacy are better at setting and planning their academic goals, monitoring their progress, and regulating their efforts to stay on track.

Moreover, the differential impact of self-efficacy on various SRL strategies suggests that interventions aimed at improving self-efficacy could have a broad and multifaceted impact on students' learning behaviors. Educators should consider incorporating strategies that build students' self-efficacy, such as providing positive feedback, setting achievable goals, and teaching self-reflective practices. By doing so, educators can help students develop a stronger sense of self-efficacy, leading to more effective self-regulated learning.

Together, the strong positive relationships between self-efficacy and SRL strategies underscore the critical role of self-efficacy in academic success. By fostering self-efficacy, educators can empower students to take control of their learning, set and

achieve their goals, monitor their progress, and persist in the face of challenges. This comprehensive approach to supporting students' self-regulated learning can ultimately lead to improved educational outcomes and a more fulfilling learning experience.

5.3 The relationship between Self-regulated learning Strategies and English Learning Achievement

The study examined the relationship between self-regulated learning strategies and English learning achievement. Specifically, it assessed how three SRL strategies positively predict English learning achievement: goal setting and planning, monitoring, and effort regulation.

The findings from the Structural Equation Modeling (SEM) indicated that goal setting and planning significantly predicts English achievements (γ = .215, p = .003). This indicates that students who set clear and attainable goals and develop detailed plans for their English studies are more likely to perform well. Monitoring also significantly predicts English achievements (γ = .180, p = .009), suggesting that students who continuously monitor their understanding and progress in English tend to achieve higher scores. Similarly, effort regulation significantly predicts English achievements (γ = .153, p = .012), indicating that students who consistently regulate their efforts, especially when facing challenges, tend to perform better in English. The correlation analysis indicates strong positive relationships between self-regulated learning (SRL) strategies and English learning achievement (ES). Goal setting and planning has a correlation coefficient of r = .54, monitoring r = .54, and effort regulation r = .48 with English achievements. These correlations suggest that students who effectively use these SRL strategies tend to achieve higher in their English learning. The strong positive correlations highlight the importance of self-regulated learning strategies in predicting academic success in English.

The findings suggest that all three SRL strategies—goal setting and planning, monitoring, and effort regulation—are integral to predicting English learning achievement. However, a closer examination of the predictive values shows that goal setting and planning have the highest predictive value for English learning achievement, followed by monitoring and effort regulation. This hierarchy indicates

that while all SRL strategies are essential, goal setting and planning may be slightly more crucial in predicting English learning outcomes.

Effective goal setting provides students with a clear roadmap and specific targets, which helps them direct their efforts more efficiently (Schunk & DiBenedetto, 2020). This strategic approach allows students to organize their study activities and prioritize tasks that are directly related to achieving their goals. Having clear goals, students can maintain focus and motivation, which are critical for sustained academic success. The strong correlation between goal setting and English learning achievement underscores the importance of this strategy in academic contexts.

Monitoring allows students to continuously evaluate their progress and make necessary adjustments, essential for sustained learning (Sitzmann & Ely, 2011). This metacognitive process helps students stay aware of their learning status and identify gaps in their understanding. Students can modify their study strategies by regularly assessing their progress and seeking additional resources or support when needed. The significant impact of monitoring on English learning achievement highlights the importance of this skill in helping students achieve their academic goals.

While essential, effort regulation might have a slightly lower impact than goal setting and monitoring because it largely depends on the foundation laid by these strategies and the insights gained through monitoring (Wolters & Hussain, 2015). Effort regulation involves maintaining consistent effort and persistence, especially when facing challenges. Students who can effectively regulate their efforts are more likely to overcome obstacles and continue progressing towards their goals. The moderate to high correlation between effort regulation and English learning achievement indicates that while this strategy is crucial, its effectiveness is enhanced with goal setting and monitoring.

Recent studies confirm these relationships. Chen et al. (2023) emphasize the importance of goal setting in achieving academic success, while Shen et al. (2023) highlight the critical role of monitoring in improving academic outcomes. Teng and Zhang (2020) show that effort regulation is essential for sustaining performance, especially in challenging learning environments. These studies affirm that SRL strategies are integral to academic success, particularly in language learning contexts.

In conclusion, the findings highlight the multifaceted nature of SRL strategies and their collective impact on English learning achievement. Goal setting and planning provide a structured approach to learning, monitoring ensures continuous assessment and adjustment, and effort regulation maintains persistence and resilience. Together, these strategies create a comprehensive framework that supports effective self-regulated learning and enhances academic performance. Educators should focus on fostering these SRL strategies to help students achieve their full potential in English learning and beyond.

5.4 The Mediating Role of Self-Regulated Learning Strategies in the Relationship Between Motivational Beliefs and English Learning Achievement

The mediation analysis revealed that self-regulated learning (SRL) strategies play a significant mediating role between motivational beliefs and English learning achievement. Specifically, intrinsic motivation significantly mediates the relationship between effort regulation and English achievement, with a mediation effect of 0.239. This indicates that intrinsic motivation positively influences English achievement through the pathway of effort regulation. For instance, intrinsically motivated students are more likely to exert consistent effort and persist through challenges, leading to higher achievement in English.

Intrinsic motivation also significantly mediates the relationship between monitoring and English achievement, with a mediation effect of 0.508. This suggests a strong positive influence of intrinsic motivation on English achievement through monitoring. Intrinsically motivated students are more engaged in monitoring their learning progress, which helps them identify areas for improvement and adjust their strategies, resulting in better academic performance. Conversely, the mediation effect of intrinsic motivation through goal setting and planning on English achievement is insignificant. This finding indicates that while intrinsic motivation is crucial, it does not significantly impact English achievement through goal setting and planning alone, aligning with the notion that these activities require additional cognitive strategies and external support.

Self-efficacy significantly mediates the relationship between goal setting and planning and English achievement, with a mediation effect of 0.126. This suggests that students with high self-efficacy are more likely to set and plan their goals effectively,

contributing to higher English achievement. The confidence in their abilities enables them to set realistic and challenging goals, plan their learning activities accordingly, and achieve better outcomes. Self-efficacy also mediates the relationship between effort regulation and English achievement, with a mediation effect of 0.054. This indicates that students with high self-efficacy are more persistent and capable of regulating their efforts, leading to improved academic performance.

Furthermore, self-efficacy significantly mediates the relationship between monitoring and English achievement, with a mediation effect of 0.089. This suggests that self-efficacious students are better at monitoring their learning progress, allowing them to make necessary adjustments and improve their performance. The ability to reflect on their learning process and make informed changes is crucial for achieving high academic standards. These findings underscore self-efficacy's broad and substantial impact on academic performance through various SRL strategies.

The findings highlight the crucial role of SRL strategies as mediators in the relationship between motivational beliefs and academic performance. The significant mediation effects of intrinsic motivation through effort regulation and monitoring indicate that intrinsically motivated students are more likely to engage in behaviors that directly enhance their learning outcomes. These students are driven by an internal desire to learn and succeed, which fuels their persistence and reflective practices. However, the lack of significant mediation through goal setting and planning suggests that while intrinsic motivation is essential, it alone may not suffice for strategic planning activities, reinforcing that effective goal setting and planning require additional cognitive and external support mechanisms.

The mediation effects of self-efficacy through all three SRL strategies—goal setting and planning, effort regulation, and monitoring—demonstrate its broad and substantial impact on academic performance. Students with high self-efficacy are confident in their abilities, which translates into effective goal setting, consistent effort, and diligent monitoring of their learning processes. This comprehensive influence underscores the importance of fostering self-efficacy in students to enhance their overall academic success.

These findings suggest that enhancing SRL strategies can significantly improve students' English learning outcomes. Educators should focus on developing students' intrinsic motivation and self-efficacy, as these motivational beliefs are pivotal for effective self-regulation. Practical interventions might include providing students with opportunities for self-reflection, offering constructive feedback, and teaching goal-setting techniques. Creating a supportive learning environment that encourages persistence and self-monitoring can further enhance students' SRL capabilities.

Recent studies affirm the importance of SRL strategies in academic achievement. For instance, Teng and Zhang (2020) emphasize the critical role of effort regulation in sustaining performance, while Chen et al. (2023) highlight the significance of goal setting in achieving academic success. Shen et al. (2023) underline the importance of monitoring for improving academic outcomes, particularly in language learning contexts. These studies align with the current findings, reinforcing that SRL strategies are integral to academic success.

In conclusion, the mediating role of SRL strategies between motivational beliefs and English learning achievement highlights the complex interplay between motivation and self-regulation. By understanding and leveraging these relationships, educators can better support students in achieving their academic goals and maximizing their potential.

5.5 Summary

This chapter discusses the relationships between intrinsic motivation, self-efficacy, self-regulated learning (SRL) strategies, and English learning achievement among Chinese high school students. The study found that self-efficacy significantly predicted all SRL strategies, while intrinsic motivation predicted monitoring and effort regulation but not goal setting and planning. All SRL strategies positively influenced English learning achievement, with goal setting and planning having the strongest impact. Additionally, SRL strategies mediated the effects of intrinsic motivation and self-efficacy on English learning achievement, highlighting the importance of these strategies in enhancing academic performance.

CHAPTER VI
CONCLUSION AND IMPLICATIONS

The findings from this study underscore the crucial role of intrinsic motivation and self-efficacy in enhancing self-regulated learning (SRL) strategies, which, in turn, significantly influence English learning achievement among Chinese high school students. Given that this research was conducted in an underdeveloped city in Yunnan Province, China, it provides valuable insights into how educational practices can be tailored to support students in similar contexts.

6.1 Conclusion of the Study

The current study sought to determine whether intrinsic motivation influences self-regulated learning strategies (RQ1). The findings indicate that intrinsic motivation does not significantly predict goal setting and planning, suggesting that while intrinsic motivation is crucial for engaging students in learning activities, it alone is insufficient for effective goal setting and planning. However, intrinsic motivation significantly predicts monitoring and effort regulation, highlighting its role in fostering students' proactive learning behaviors and persistence. These results underscore the need for additional cognitive strategies and external support to enhance goal setting and planning. Therefore, educators should provide structured support and teach specific strategies to help students leverage their intrinsic motivation effectively.

Regarding Research Question 2 (RQ2), the study revealed a strong positive relationship between self-efficacy and all three self-regulated learning strategies: goal setting and planning, monitoring, and effort regulation. Students with high self-efficacy are likelier to set clear goals, monitor their progress, and effectively regulate their efforts. These findings underscore the pivotal role of self-efficacy in enabling students to engage in comprehensive self-regulated learning practices. Enhancing self-efficacy through positive feedback, achievable goal-setting, and self-reflective practices can significantly improve students' learning behaviors and academic outcomes. Thus, fostering self-efficacy is essential for helping students manage and control their learning processes effectively.

The study examined how self-regulated learning strategies—goal setting and planning, monitoring, and effort regulation—predict English learning achievement (RQ3). The

findings demonstrate that all three SRL strategies positively influence English learning outcomes, with goal setting and planning showing the highest predictive value, followed by monitoring and effort regulation. This hierarchy suggests that while all SRL strategies are essential, goal setting and planning play a slightly more critical role in predicting English learning achievement. Therefore, educators should focus on developing these SRL strategies to help students achieve their full potential in English learning. Emphasizing structured goal setting, continuous progress monitoring, and consistent effort regulation will support effective self-regulated learning and enhance academic performance.

6.2 Implications of the Study

Intrinsic motivation is a crucial predictor of self-regulated learning (SRL) behaviors such as monitoring and effort regulation. Research indicates that students with high levels of intrinsic motivation are more engaged in self-monitoring and demonstrate greater persistence, even when faced with challenges (Chen et al., 2020; Shen et al., 3). For educational practitioners, this underscores the importance of cultivating an environment that fosters a love for learning and personal satisfaction. This can be achieved through engaging, relevant, and stimulating activities that resonate with students' interests and real-life experiences (Deci & Ryan, 2000). Moreover, promoting opportunities for self-assessment and reflection can significantly enhance students' ability to monitor their progress and refine their learning strategies. Such practices boost intrinsic motivation and develop essential metacognitive skills for lifelong learning (Zimmerman & Schunk, 2011).

While intrinsic motivation plays a pivotal role, it is insufficient for effective goal setting and planning. This necessitates additional cognitive scaffolding and external guidance. Educators should incorporate specific goal-setting techniques into their instructional strategies to help students set clear, achievable objectives. Providing templates, planning frameworks, and regular feedback and encouragement can further support students in their goal-setting endeavors (Schunk, 1990; Teng & Zhang, 2020). The differential impact of intrinsic motivation on various SRL strategies highlights the need for differentiated instructional support. Intrinsically motivated students may excel at monitoring and regulating their efforts but often require extra guidance in goal setting

and planning. Educators should emphasize praising students' efforts and strategies rather than innate abilities, fostering resilience and a growth mindset (Dweck, 2006). Creating a classroom atmosphere that values curiosity, exploration, and celebrating learning achievements can significantly enhance intrinsic motivation. Providing students with choices in learning activities, promoting collaborative learning experiences, and integrating real-world applications can further boost motivation and engagement (Ryan & Deci, 2020; Vansteenkiste et al., 2009).

Self-efficacy, a stronger predictor of SRL strategies than intrinsic motivation, empowers students to manage and control their learning processes effectively. Self-efficacy enables students to believe in their capacity to execute tasks and achieve goals, playing a vital role in their learning journey (Bai & Wang, 2023; Bandura, 2011; Lee et al., 2021). Educators should enhance students' self-efficacy by providing positive reinforcement, creating opportunities for successful experiences, and fostering a supportive learning environment. Strategies such as modeling successful behaviors, offering constructive feedback, and celebrating small achievements can significantly boost students' self-efficacy (Schunk & Pajares, 2002). Enhancing self-efficacy helps students become more proactive in setting goals, diligent in monitoring their learning processes, and persistent in their efforts, ultimately leading to improved academic outcomes. Enhanced self-efficacy improves academic performance and equips students with the resilience needed to face academic challenges and persist in their efforts (Usher & Pajares, 2008).

SRL strategies—goal setting and planning, monitoring, and effort regulation—have significant predictive relationships with learning achievement, showing that all three strategies positively impact learning outcomes. Goal setting and planning have the most substantial impact, indicating that students who set clear, attainable goals and develop detailed plans perform better in English, as effective goal setting provides direction and focuses efforts on specific outcomes (Chen et al., 2023; Locke & Latham, 2002). Monitoring significantly enhances English learning achievement by enabling students to identify areas for improvement and adjust their strategies, a crucial skill for sustained learning and academic success (Flavell, 1979; Shen et al., 2023). Additionally, effort regulation influences English achievement, with students who can regulate their efforts

and persist through challenges achieving higher scores, emphasizing the importance of perseverance for long-term academic goals (Wolters, 2004; Teng & Zhang, 2020).

Educators should integrate SRL strategies into their teaching practices to optimize students' academic performance. Effective goal setting provides a clear roadmap and specific targets, directing students' efforts efficiently (Schunk & DiBenedetto, 2020). Continuous progress monitoring enables necessary adjustments, fostering sustained learning (Sitzmann & Ely, 2011). Promoting effort regulation ensures students can overcome challenges and remain focused on long-term academic goals (Wolters & Hussain, 2015). Goal setting and planning involve defining clear, attainable goals and developing detailed plans to achieve these goals. Monitoring encompasses tracking progress toward these goals, identifying any deviations from the plan, and making necessary adjustments. Effort regulation refers to managing one's effort and persistence, especially when encountering difficulties or distractions. By integrating these SRL strategies, educators can help students achieve better academic outcomes and develop essential lifelong learning skills.

The mediating role of SRL strategies between motivational beliefs and academic achievements, particularly in English learning, has profound implications for educational practice. Intrinsic motivation mediates the relationship between effort regulation and academic achievements, as well as between monitoring and academic achievements. This highlights that fostering intrinsic motivation can enhance students' perseverance and self-monitoring, leading to better academic outcomes (Pintrich & De Groot, 1990). Conversely, the mediation effect of intrinsic motivation through goal setting and planning is insignificant, suggesting that these areas require additional cognitive strategies and support mechanisms (Schunk, 1990; Teng & Zhang, 2020). Similarly, self-efficacy mediates the relationships between goal setting, planning, effort regulation, and monitoring of academic achievements. This underscores the importance of building students' self-efficacy to enhance their SRL strategies and academic performance (Bandura, 1997; Lee et al., 2021). Therefore, educators should focus on developing intrinsic motivation and self-efficacy to leverage the mediating role of SRL strategies effectively. By creating a supportive learning environment that encourages self-assessment, goal setting, and perseverance, teachers can help students enhance

their SRL skills, ultimately leading to improved academic outcomes (Zimmerman, 2008).

From the students' viewpoint, developing intrinsic motivation and self-efficacy can transform their learning experience. Students can take greater ownership of their learning journey by setting personal goals, self-monitoring progress, and regulating their efforts. The skills acquired through SRL strategies enhance academic performance and prepare students for future challenges by fostering independence and critical thinking (Boekaerts, 2011). Parents play a crucial role in supporting their children's education. Understanding the importance of intrinsic motivation and self-efficacy can help parents create a conducive home environment for learning. Encouraging curiosity, providing resources for independent learning, and celebrating achievements can significantly enhance a child's motivation and confidence (Grolnick & Ryan, 1989).

Policymakers should recognize the importance of intrinsic motivation and self-efficacy in educational success. Policies supporting teacher training in SRL strategies, providing resources for creating engaging learning environments, and promoting a balanced curriculum that emphasizes academic and personal development are essential. Additionally, standardized assessments should be designed to evaluate academic knowledge and SRL skills (OECD, 2013). Developers of educational technologies can leverage these insights to create tools that support SRL. Features that enable goal setting, progress monitoring, and personalized feedback can enhance students' intrinsic motivation and self-efficacy. Interactive and gamified elements can make learning more engaging and enjoyable, fostering a deeper connection to the material (Koivisto & Hamari, 2019).

6.3 Limitations of the Study and Recommendations for Future Research

6.3.1 Limitations of the Study

While this study provides valuable insights into the relationships between intrinsic motivation, self-efficacy, SRL strategies, and English learning achievement, several limitations should be acknowledged. First, the sample size was limited to Chinese high school students from a specific region, which may affect the generalizability of the findings to other populations. To address this, future research should include larger and more diverse samples to enhance the generalizability of the results.

Second, relying on self-reported data for measuring intrinsic motivation, self-efficacy, and SRL strategies may introduce bias, as participants might have overestimated or underestimated their abilities and practices. Future studies could incorporate objective measures and triangulate data sources to mitigate this limitation and provide a more accurate assessment.

Third, the study's cross-sectional design limits the ability to draw causal conclusions. While significant relationships were found, causality cannot be inferred. Longitudinal and experimental studies are needed to establish causal relationships between the variables. The study's focus on a specific educational context may not fully capture the dynamics in different cultural and academic environments. Expanding the scope of research to include diverse populations from various cultural and educational contexts is necessary to improve the generalizability of the findings.

6.3.2 Recommendations for Future Research

Future research should consider several directions to further understand the intricate relationships between intrinsic motivation, self-efficacy, SRL strategies, and academic achievement. First, expanding the scope of research to include diverse populations from different cultural and educational contexts will help enhance the generalizability of the findings and provide a broader understanding of the studied relationships.

Second, conducting longitudinal studies to explore how the relationships between intrinsic motivation, self-efficacy, SRL strategies, and academic achievement evolve over time can provide insights into the developmental aspects of these relationships and track changes over extended periods. Third, investigating other potential mediators and moderators, such as cognitive strategies, external supports, classroom environment, teacher support, and peer interactions, can provide deeper insights into the mechanisms underlying these relationships and how they influence academic achievement.

Additionally, examining the impact of different teaching methods and interventions designed to enhance SRL strategies can provide practical recommendations for educational practice and help identify the most effective approaches for fostering SRL in students. Incorporating objective measures and triangulating data sources in future studies can reduce the potential biases associated with self-reported data and provide a more accurate assessment of intrinsic motivation, self-efficacy, and SRL strategies.

Finally, implementing experimental designs to establish causal relationships between intrinsic motivation, self-efficacy, SRL strategies, and academic achievement can provide stronger evidence for the effectiveness of specific interventions to enhance SRL strategies. By addressing these limitations and exploring these recommendations, future research can build on the findings of this study, providing a more comprehensive understanding of how intrinsic motivation and self-efficacy influence self-regulated learning and academic achievement. This knowledge can inform educational practices and policies, ultimately contributing to developing effective strategies to support student learning and success.

6.4 Concluding Remarks of the Study

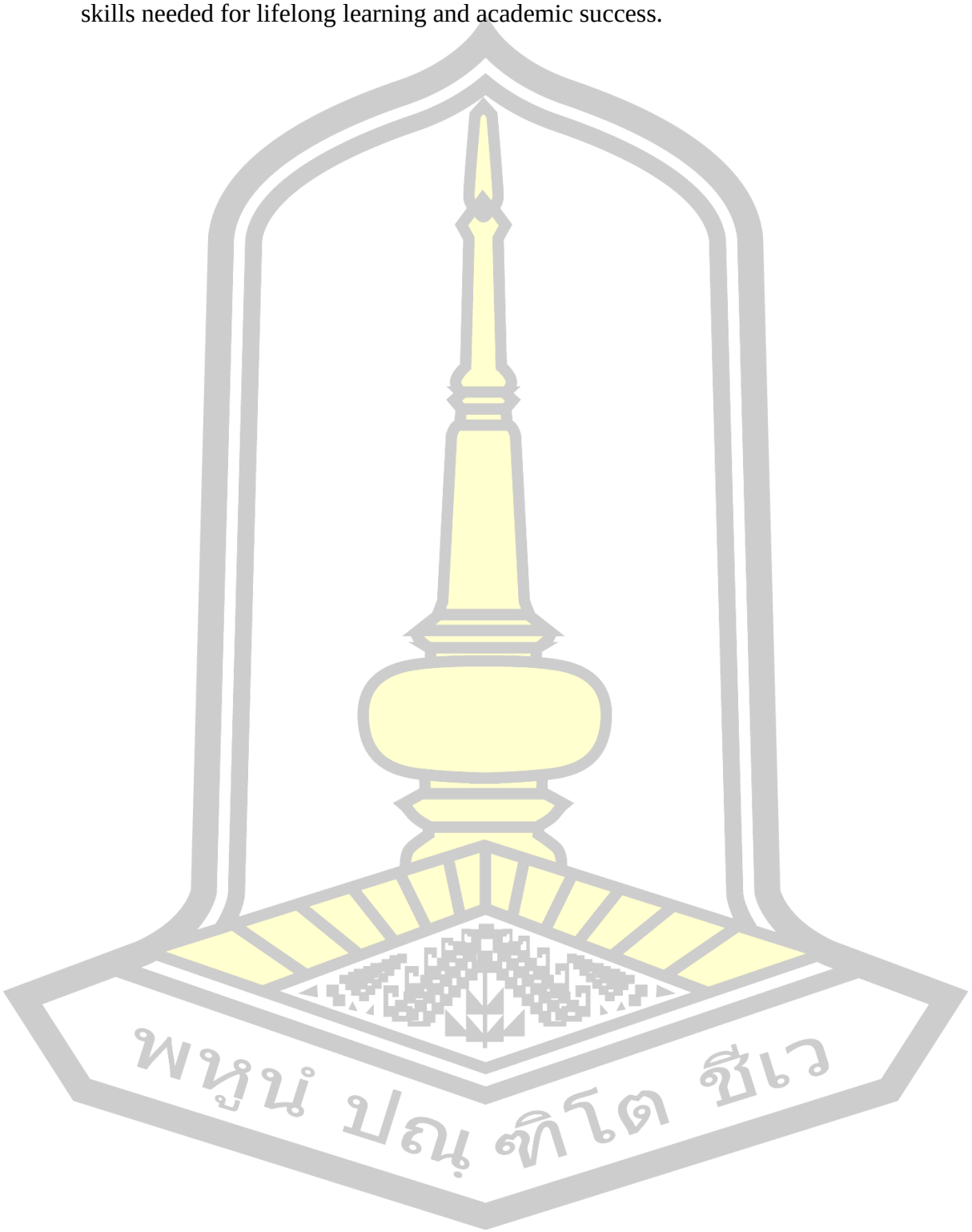
This study offers valuable insights into the interplay between intrinsic motivation, self-efficacy, self-regulated learning (SRL) strategies, and English learning achievement. The findings highlight the significant roles that intrinsic motivation and self-efficacy play in enhancing SRL strategies such as goal setting and planning, monitoring, and effort regulation. Specifically, while intrinsic motivation significantly influences monitoring and effort regulation, self-efficacy shows a strong predictive relationship across all SRL strategies, underscoring its critical role in academic success.

The results also emphasize the importance of SRL strategies in predicting English learning achievement. Goal setting and planning emerged as the most influential factors, followed by monitoring and effort regulation. These findings suggest that students who set clear, attainable goals and develop detailed plans, continuously monitor their progress, and regulate their efforts are more likely to achieve higher academic outcomes.

Despite these significant insights, the study acknowledges several limitations, including limited sample size and reliance on self-reported data, which may affect the generalizability and accuracy of the findings. Future research should aim to include more diverse samples, utilize longitudinal and experimental designs, and incorporate objective measures to build on these findings.

Overall, this study underscores the necessity of fostering intrinsic motivation and self-efficacy in educational settings to enhance SRL strategies and academic performance. Educators are encouraged to create supportive learning environments that promote goal

setting, monitoring, and effort regulation. By doing so, they can equip students with the skills needed for lifelong learning and academic success.



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APPENDICES

APPENDIX A: Questionnaire of motivational beliefs in English language learning

	Part I: Intrinsic Motivation	(1) strongly disagree	(2) disagree	(3) neutral	(4) agree	(5) strongly agree.
1	I study English because I choose to be the kind of person who can speak more than one language.					
2	I study English for the pleasure of knowing more about the culture of English-speaking countries.					
3	I study English for the pleasure I derive from hearing English spoken by native speakers.					
4	I study English for the pleasure I experience when I surpass myself in English studies.					
5	I study English for the satisfied feeling I receive from learning new things.					
6	I study English because I enjoy acquiring knowledge about English-speaking countries and their people's way of life.					
7	I study English for the satisfaction I feel when I accomplish difficult exercises in English.					
8	I study English for the good feeling that I experience while speaking in English.					
9	I study English for the enjoyment I derive when I grasp a difficult construct in English.					
10	I study English, because I find enjoyment in overcoming challenges and understanding difficult concepts in the English language.					
	Part II: Self-Efficacy	(1) strongly disagree	(2) disagree	(3) neutral	(4) agree	(5) strongly agree.
11	I am sure I can learn the skills taught in the English class well					
12	I can learn English well even if the work in English is hard					
13	I'm certain I can understand the ideas taught in English course.					
14	I expect to do very well in English class.					
15	Compared with others in English class, I think I'm a good student.					
16	I am sure I can do an excellent job on the problems and tasks assigned for English class.					
17	I think I will receive a good grade in English class.					
18	My study skills are excellent compared with others in English class.					
19	Compared with other students in this English class, I think I know a great deal about the English language learning.					
20	I know that I will be able to learn the material for English class.					

APPENDIX B: Measures of Self-Regulated Learning (SRL) strategies use in English language learning

	Goal setting and planning measure	(1) never	(2) rarely	(3) sometimes	(4) often	(5) always.
1	I set a concrete English learning plan for myself.					
2	I have my own English learning goals.					
3	I break English learning goals down into specific tasks and steps.					
4	I set deadlines or time limits to achieve my English learning goals.					
	Monitoring measure	(1) never	(2) rarely	(3) sometimes	(4) often	(5) always.
5	I ask myself questions to make sure I understand the materials I have been studying in English.					
6	When studying English, I try to determine which concepts I don't understand well.					
7	When I become confused about something I'm learning English class, I go back and try to figure it out.					
8	I try to change the way I study in order to fit the English course requirements and English instructor's teaching style					
9	When studying English course, I make up questions to help focus my learning					
	Effort regulation measure	(1) never	(2) rarely	(3) sometimes	(4) often	(5) always.
10	I will not give up when the work in English is difficult					
11	Even when learning materials are dull and uninteresting, I keep studying until I finish					
12	I work hard to do well in English class even if I don't like what we are doing					

APPENDIX C:

Grade 10（Second Semester) First Monthly Exam (2024)

English Subject

（Total Score: 150 points, Exam Duration: 120 minutes）

Notes:

1. Before answering, candidates must fill in their name, candidate number, etc. on the answer sheet.
2. When answering multiple-choice questions, select the answer for each question and use a pencil to blacken the corresponding answer number on the answer sheet. If you need to change your answer, erase it cleanly and then select another answer number. For non-multiple-choice questions, write the answers on the answer sheet. Writing answers on this test paper is invalid.
3. After the exam, hand in both the test paper and the answer sheet.

Part 1: Listening Section (Total: 30 points)

While answering, first mark your answers on the test paper. After the recording ends, you will have two minutes to transfer your answers from the test paper to the answer sheet.

Subsection 1 (5 questions, 1.5 points each, total 7.5 points)

Listen to the following 5 dialogues. After each dialogue, there is a question. Choose the best answer from A, B, and C. and mark it in the appropriate position on the test paper. After listening to each dialogue, you have 10 seconds to answer the question and read the next question. Each dialogue will be played only once.

1. What will Tom do today?
   A. Do some sightseeing.
   B. Go on a business trip.
   C. Paint the house.
2. How many people were safe and sound in the accident?
   A. 103. B. 127. C. 134.
3. What are the speakers talking about?
   A. A new school garden.
   B. After-school activities.
   C. The curriculum changes.
4. Which movie does the man speak highly of?
   A. Marina's Ocean. B. Pavement Song. C. Umbrella.
5. What does the woman think of smart watches?
   A. Unnecessary. z B. Convenient. C. Beautiful.

Subsection 2 (15 questions, 1.5 points each, total 22.5 points)

Listen to the following 5 dialogues or monologues. After each dialogue or monologue, there are several questions. Choose the best answer from A, B, and C. and mark it in the appropriate position on the test paper. Before each dialogue or monologue, you will have time to read each question, 5 seconds per question; after listening, each question will give 5 seconds for answering. Each dialogue or monologue is read twice.

Listen to the following conversation and answer questions 6 and 7.

6. What does Peter plan to buy tomorrow?
   A. Jackets. B. A wallet. C. Trousers.
7. Why does the woman want to change the skirt?
   A. She doesn't like the color.
   B. She doesn't like the size.
   C. She doesn't like the style.

Listen to the following conversation and answer questions 8 and 9.

8. What is the woman?
   A. A doctor. B. A hostess. C. A teacher.
9. What is Mr. Black's second suggestion?
   A. Eating healthily.
   B. Having a good rest.
   C. Doing exercise regularly.

Listen to the following conversation and answer questions 10 to 12.

10. What is the man doing?
    A. Asking for some information.
    B. Making an explanation.
    C. Giving an interview.
11. What insurance is the man likely to buy now?
    A. Car insurance. B. Life insurance. C. House insurance.
12. What will the man do next?
    A. Ask questions. B. Read some terms. C. Fill in a form.

Listen to the following conversation and answer questions 13 to 16

13. What is the probable relationship between the speakers?
    A. Friends. B. Colleagues. C. Neighbors.
14. What kind of music does Cathy like best?
    A. Pop music. B. Country music. C. Classical music.
15. Where will Cathy go first tomorrow?
    A. A hospital. B. A theater. C. A gym.
16. When will the concert end?
    A. At 6:00 pm. B. At 7:00 pm. C. At 9:00 pm.

Listen to the following conversation and answer questions 17 and 20.

17. Where did Cliff grow up?
    A. On a farm. B. In a big city. C. In a small town.
18. What was Cliff's childhood like?
    A. Happy. B. Sad. C. Colorless.
19. What did Cliff's father expect him to do?
    A. Go to an acting school.
    B. Run the farm.
    C. Work in the theater.
20. Who encouraged Cliff to pursue his dream?
    A. An actor. B. A traveler. C. His mother.

Part 2: Reading Section (total of two subsections, 50 points)

Subsection 1 (total of 15 questions; each question 2.5 points, total 37.5 points)

Read the following passages and choose the best answer from the four options given (A, B, C, and D).

A

Explore the magic of the underwater world

Reasons for visiting Georgia Aquarium (水族馆) in Atlanta

Atlanta's aquarium is home to tens of thousands of animals including 500 species from around the world and more than 60 habitats. The largest exhibit at Georgia Aquarium is home to whale sharks, manta rays (鳐鱼) and more swimmers. The second largest exhibit is home to six beluga whales (白鲸). And you won't want to miss the dolphin exhibit and the dolphin show at Georgia Aquarium

featuring an expansive underwater dolphin viewing window and a wonderful musical theatrical performance that highlights the bond shared between dolphins and humans.

Insider tips:

Arrive when the aquarium opens to beat the crowds.
Have a sleepover inside some of Georgia Aquarium's exhibits.
Wear a wet suit, dive into the water and swim with whale sharks, manta rays and more.

Know before you go:

Georgia Aquarium is open 365 days a year.
Monday—Wednesday: 9 AM—6 PM
Thursday: 9 AM—8 PM
Friday: 9 AM—5 PM (Early closing for the themed party Sips Under the Sea)
Saturday—Sunday: 8 AM—9 PM

Tickets & Pricing:

Penguin Encounter	Sea Lion Encounter	Dolphin Encounter	Dive with the Whale Sharks	Swim with the Whale Sharks
~~$69.99~~	~~$79.99~~	~~$79.99~~	~~$359.99~~	~~$259.99~~
$63.99	$75.99	$75.99	$335.99	$245.99

21. What can we learn about Georgia Aquarium?
    A. It includes 600 species.
    B. It holds overground dolphin shows.
    C. Visitors can stay the night there.
    D. Swimmers speak highly of its performance.
22. When can people visit Georgia Aquarium?
    A. At 5 PM on Tuesday.
    B. At 6 PM on Friday.
    C. At 7 AM on Saturday.
    D. At 8 AM on Thursday.
23. Which activity takes the most off the ticket price?
    A. Dolphin Encounter.
    B. Penguin Encounter.
    C. Swim with the Whale Sharks.
    D. Dive with Whale Sharks.

B

The automobile industry is spending billions on self-driving cars, but what if we quite like driving?

One holiday a few years ago, I spent hours being transported on trains, buses and planes. I read a novel for a while, then stared out the window, in a black mood. I was turned into goods, being shifted from one location to another. Then, finally, came the exciting section of the holiday when I hired a car.

My wife Jocasta and I followed the positioning system, turning right, then right again, and found ourselves in a small town. I spoke to the positioning system, "We don't want to be here; we want the highway." Then it asked me to turn right again and again. With every turn, the street narrowed. The walls were so close that I had to hold my breath.

Another car appeared, coming towards us from the opposite direction. The driver signaled, telling me I had to make way. But how? I didn't have the courage to back up along the impossibly narrow passage. Soon some locals came to help. One lady stood at the back of the vehicle, waving me on. She continued making "this way, this way" movements with her arms. In an act of blind trust, I followed her instructions, creeping backwards and forwards. Remarkably, it worked. I completely my turn into the side street. The other car passed and the driver gave me a grateful wave. Then I followed the lady's suggestion and—finally—saw the highway.

My hands were shaking. I breathed in and out. Jocasta turned to me. "You're my hero," she said. I looked at her, expecting a shadow of a teasing smile, but can find none. "You're my hero," she repeated. "I mean it. You did a really good job." Finally, I managed to steady my nerves. Then we set off again and the car sped smoothly away. Who would exchange all this for a self-driving car?

24. Why are self-driving cars mentioned in paragraph 1?
    A. To show the advance in technology.
    B. To show the author's love for driving.
    C. To show the change in the automobile industry.
    D. To lead to the author's holiday experience.
25. Why did the author drive into the narrow passage?
    A. He wanted to take a shortcut.
    B. He intended to thank the locals for help.
    C. He had to turn to avoid another car.
    D. He was misdirected by the guidance system.
26. What can be inferred about the author and his wife from the last paragraph?
    A. His wife used to laugh at him.
    B. He became more skilled at driving.
    C. His wife tried to encourage and calm him.
    D. He misunderstood his wife throughout.
27. Which can be a suitable title for the text?
    A. A Hero Behind the Wheel.
    B. An Adventurous Automobile Trip.
    C. A Lover of Self-driving Cars.
    D. An unexpected Technological Problem

C

It's mid-afternoon. You're full from lunch. The day is warm. You're starting to feel sleepy. Should you give in to the comfort of a nap (小睡)?

From the viewpoint of health, it may be worth it. Though there is a hassle when it comes to whether napping benefits everyone, we generally acknowledge that naps can improve at least some people's cognitive (认知的) performance in the short term.

For example, scientists reviewed a past experiment that focused on healthy participants with regular sleep cycles. In that experiment, participants were given math problems that could be solved with a shortcut that they weren't told about. Some participants were encouraged to take a nap before dealing with the problems. It was found that those who napped --- and spent even just 30 seconds in the first, lightest stage of sleep --- were 2.7 times more likely to figure out the math shortcut than those who stayed awake. But entering a deeper sleep stage had a negative effect.

The benefits of napping are strongest for people who have sleep debt, such as shift workers, new parents and elderly people whose nighttime sleep is always affected. They all seem to benefit from napping. A 2013 study focusing on such people, for example, showed that taking a nap during one's night shift work reduced sleepiness and improved overall performance, even if people were slightly inactive as they came out of their nap—a phenomenon called "sleep inertia".

There is something we can do to reduce sleep inertia. A 20-minute nap is good for recharging, and 60 to 90 minutes of sleep can be even more restorative. The nap to avoid is one lasting more than 20 minutes and less than 60 minutes, which is most likely to lead to sleep inertia.

28. What does the underlined word "hassle" mean in paragraph 2?
    A. Debate.
    B. Tendency.
    C. Guidance.
    D. Judgement.

29. What did the experiment find about napping?
A. It improves memory.
B. It helps clear one's mind.
C. It may promote one's health.
D. It has a bad influence on people.
30. What can we infer about the people of the 2013 study?
A. They tended to nap more.
B. They were inactive in daytime.
C. They came out of their naps slowly.
D. They didn't get enough nighttime sleep.
31. How can we avoid sleep inertia?
A. By taking fewer naps.
B. By napping within 1 hour.
C. By managing the nap length.
D. By avoiding long naps.

D

Eating insects is one of those ideas that never quite seem to catch on. The United Nations supported the idea a decade ago, but in the West at least, insects remain mostly absent from supermarket shelves. Faced with this situation, scientists have been exploring other options. One is to feed insects to farm animals, which are not so picky.

Of course, insects need to eat, too. To date, they have mostly been raised on leftover chicken feed. But the supply of that is limited, and if insect-raised meat is to take off, new sources will be needed. In a paper in the Journal of Applied Entomology, Niels Thomas Eriksen, a biochemist at Aalborg University, suggests feeding them on the waste products of the beer industry.

The world drinks around 185 billion liters (升) of beer every year. Each liter produces between three and ten liters of wastewater full of abandoned substances that are richer in protein (蛋白质) but not in carbohydrates (碳水化合物), especially compared with chicken feed. Most insects grown for feed depend, in the wild, on the carbohydrates found in fruit which goes bad. Whether insects would actually consider beer waste a square meal was, therefore, unclear.

The researchers used the baby black soldier flies. The insects were divided into three groups, which were offered beer waste, chicken feed and a mixture of both respectively. The researchers monitored (监控) both their weight gain and the amount of carbon dioxide they breathed out, which helped assess the insects' metabolic (新陈代谢的) performance. The babies happily consumed both beer waste and chicken feed, and grew equally well on either food source. When Dr. Eriksen made further chemical analyses, he found few differences in the nutrients needed for farm animals' growth.

What the researchers found is good news for some other industries whose waste is likewise plentiful and protein-rich, and they now look to be reasonable targets for nutrient recycling by insects. Whether consumers will be willing to eat insect-raised meat, though, remains to be seen.

32. What do we know about eating insects from the first paragraph?
A. It will probably catch on soon.
B. Most westerners shy away from it.
C. It is supported in most of the world.
D. Most scientists turn down this idea.
33. Why were the researchers unsure of beer waste as insect feed at first?
A. Its supply is not enough.
B. It contains too much protein.
C. It lacks necessary carbohydrates.
D. Its chemical contents are unknown.
34. What did the researchers find about the insects?
A. They preferred to eat chicken feed.
B. They grew fastest on beer waste.

C. They could turn beer waste into meat.
D. They needed more food than expected.
35. What can we infer from the last paragraph?
A. Some industries rarely recycle their waste.
B. The practical application of the findings is limited.
C. Insect-raised meat is likely to be the next fashion.
D. The experiment has an outlook beyond the beer industry.

Subsection 2 (total of 5 questions; each question 2.5 points, total 12.5 points)

Read the following passage and choose the best option to fill in the blanks from the options given after the passage. There are two extra options.

How to Politely Cancel Plans Over Text (短信)

You made plans with friends, but when it's time to leave the house, you just don't have the energy. Or, maybe something else comes up, and you can't make it. (36) _____ But with a few tips, you can do it politely.

Text them as soon as possible.

That way, your friends can rearrange their schedules. If you know you cannot make it, try to text a day ahead of time. Otherwise, your friends might be annoyed about the inconvenience. If there's an emergency and you have to cancel the plan at the last minute, that's fine. (37) _____

Be honest about your situation.

(38) _____ If you've encountered a change in your schedule, just tell them what it is. Your friends will be more understanding if they can tell you're telling the truth. Just say things like: "I ran into an issue at work." or "I'm dealing with some family problems."

Ask if you can reschedule.

Instead of saying "Let's hang out soon!" pick a new time, so your friends know that you're serious. (39) _____ Try to include this in your original message so they know what you're doing right away, and make sure it's a plan you can stick to so you don't have to cancel again.

(40) _____

Add in one more nice thing to make a compliment (赞美). After you tell your friends you have to cancel and apologize, let them know how much you appreciate them making plans with you. This will reassure them that you love spending time with them, and it can even help you feel less guilty, too.

A. Start with your apology.
B. Thank them for inviting you out.
C. Let them know how urgent the situation is.
D. There's no need to lie about what's going on.
E. It shows that you aren't just blowing them off.
F. Otherwise, you should try to cancel ahead of time.
G. Whatever the case is, cancelling plans can be annoying.

Part 3: Language Use Section (total of two subsections, 30 points)

Subsection 1 (total of 15 questions; each question 1 point, total 15 points)

Read the following passage and choose the best option to fill in the blanks from the four options given (A, B, C, and D).

When was the last time you made space in your life to play? When I was a kid, I knew exactly what play (41) _____. It was climbing trees. It was (42) _____ mud pies. But as I got older, I found people around were less and less (43) _____ with my playful attitude. Pressure from work (44) _____ me to tone down (收敛) my personality until I almost forgot how to (45) _____. It's a common story. As we grow up, we (46) _____ our connection to our childhood memories of imagination and play. We're told to act (47) _____ and not waste time.

This is a problem. Play is an (48) _____ need like sleep and nutrition. When we don't experience it (49) _____ we will have deficits (缺失). Researchers argue that play can allow us to think more creatively and (50) _____ social cooperation (合作).

To bring more play into your life, you don't necessarily need to make any obvious (51) _____ or rework your entire schedule. You can start small, something as (52) _____ as observing tiny moments in nature. Any increase in play throughout your day is a (53) _____— whether it's a hobby like painting, playing a board game, or just a new, (54) _____ attitude. Just follow the example of your inner child and he can lead you to find more (55) _____.

41. A. needed	B. stressed	C. showed	D. meant
42. A. selling	B. making	C. finding	D. saving
43. A. proud	B. angry	C. satisfied	D. curious
44. A. forced	B. enabled	C. reminded	D. inspired
45. A. work	B. fight	C. play	D. share
46. A. find fault with	B. lose track of	C. take delight in	D. make peace with
47. A. humbly	B. naturally	C. anxiously	D. seriously
48. A. basic	B. formal	C. individual	D. immediate
49. A. secretly	B. previously	C. personally	D. enough
50. A. expect	B. revise	C. practice	D. accept
51. A. sense	B. changes	C. progress	D. contributions
52. A. sweet	B. relaxing	C. simple	D. interesting
53. A. win	B. pity	C. dream	D. regret
54. A. firm	B. playful	C. friendly	D. positive
55. A. value	B. luck	C. help	D. joy

Subsection 2 (total of 10 questions; each question 1.5 points, total 15 points)

Read the following passage and fill in the blanks with one appropriate word or the correct form of the word given in parentheses.

56. I had to explain the reasons to satisfy his _____ (curious).
57. She's always trying to make an impression _____ people with her new clothes.
58. There are many reasons _____ this has been possible.
59. The professional player has many good _____ (quality) and has made a great contribution to sports.
60. The scientists are beating their brains out trying to come up with a _____ (solve) to the problem.
61. Once you become addicted to _____ (smoke), you may find it difficult for you to quit.
62. At last one well had some _____ (smell) gas coming out of it.
63. The number of deaths is expected to grow even _____ (high) over the next few days.
64. At the _____ (begin), written Chinese was a picture-based language.
65. That writing system was of great _____ (important) in uniting the Chinese people and culture.

Part 4: Writing Section (total of two subsections, 40 points)

Subsection 1 (15 points)

Due to environmental pollution, human hunting, and the reduction of habitats, many wild animals are facing extinction. Please write a short essay in English on the topic "How to Protect Wild Animals," explaining the importance of protecting wild animals and how to protect them. The main points are:

1. Why some wild animals are in danger;
2. The importance of protecting wild animals and the measures we should take to protect them.

Note: 1. The word count should be around 80 words;
2. You can add appropriate details to make the article coherent;

3. Please write your answer in the appropriate space on the answer sheet in the following format.

How to Protect Wild Animals

Subsection 2 (25 points)

Read the following passage. Based on its content and the given opening sentences of the paragraphs, continue the story by writing two paragraphs to complete the passage.

Mary Lee seemed to have everything. She was very beautiful with a wonderful figure and an attractive face. She was very rich. Her clothes were better than anyone else's and she had more of them. Her books were always new and expensive as were her pens, school bags and bicycle. She was very clever too and without appearing to do very much work. She was always the first in all the examinations and always answered all the questions, while the rest of the class were still thinking.

With all this, or really because of all this, no one liked Mary Lee. She was too good, too clever and she was also very proud. No one was quite good enough to talk to her or to be seen with her or to be her friend. And so, with all her proud ways and riches and brains, she was lonely but she did not care because she was always the best in everything. She was like a princess in the class. She always thought that the other students kept their distance from her because she was too excellent. "Lions and tigers are always lonely, and only the weak get together," she told herself.

As the end of term drew near, the pupils (小学生) including Mary Lee began to think about the most important prize of all. This was the prize, offered by the principal (校长), for the best essay (文章) to be written on one of two subjects: Happiness and Friendship. All the teachers and pupils paid close attention to the prize, for it was really a great honor. "I needn't worry about that," thought Mary Lee, as the others began to read and to think about the essay. "I shall easily win. After all, my compositions are always better than the other students'."

Note:
1. The continuation should be around 150 words;
2. Please answer in the appropriate section on the answer sheet according to the following format.

"Pride goes before a fall," they say and it certainly did in the case of poor Mary Lee.

Mary Lee suddenly realized that how silly (可笑的) she had been.

Grade 10 (Second Semester) Second Monthly Exam (2024)

English Subject

Notes:

1. Before answering, candidates must use a black ink pen to clearly write their name, admission ticket number, examination room number, and seat number on the answer sheet.
2. After selecting an answer for each question, use a 2B pencil to fill in the corresponding answer mark on the answer sheet. If you need to make changes, erase the original mark thoroughly before filling in another answer mark. Answers written on the test paper are invalid.
3. After the exam, please submit both the test paper and the answer sheet. The total score is 150 points, and the exam duration is 120 minutes.

Part 1: Listening Section (total of two subsections, 30 points)

While answering, first mark your answers on the test paper. After the recording ends, you will have two minutes to transfer your answers from the test paper to the answer sheet.

Subsection 1 (total of 5 questions; each question 1.5 points, total 7.5 points)

Listen to the following 5 conversations. After each conversation, there is a question. From the three options given (A, B, C), choose the best answer. After each conversation, you will have 10 seconds to answer the related question and read the next question. Each conversation will be played only once.

1. What do the speakers decide to give Nicola?
A. Flowers. B. Gift cards. C. Dresses.
2. What is the probable relationship between the speakers?
A. Friends. B. Mother and son. C. Father and daughter.
3. What probably is Lucky?
A. A boy. B. A dog. C. A cat.
4. What sport does the woman like?
A. Basketball. B. Golf. C. Yoga.
5. Where does Grandma live now?
A. In the town. B. In the city. C. In the country.

Subsection 2 (total of 15 questions; each question 1.5 points, total 22.5 points)

Listen to the following 5 conversations or monologues. After each conversation or monologue, there are several questions. From the three options given (A, B, C), choose the best answer. Before listening to each conversation or monologue, you will have time to read the questions, 5 seconds for each question; after listening, you will have 5 seconds to answer each question. Each conversation or monologue will be played twice.

Listen to the following conversation and answer questions 6 and 7.
6. Where does the woman intend to go abroad at first?
A. To China. B. To Australia. C. To Japan.

7. What does the woman want to do in China?
A. See her friends.
B. Eat Chinese food.
C. Visit the Great Wall.

Listen to the following conversation and answer questions 8 and 9.
8. What is the woman's comfort food?
A. Rice. B. Hot pot. C. Fish.
9. What is Gary's nationality?
A. Spanish. B. American. C. Chinese.

Listen to the following conversation and answer questions 10 to 12.
10. How many countries has the man been to?
A. Seven. B. Six. C. Five.
11. What does the man think of his trip to Thailand?
A. It was quite convenient.
B. It had a low cost of living.
C. It was interesting.
12. In which country does the man live a relaxing life?
A. China. B. Russia. C. Malaysia.

Listen to the following conversation and answer questions 13 to 16.
13. Who planted the trees?
A. The man's wife. B. The man. C. The woman.
14. What makes the speakers argue?
A. Cleaning the garden.
B. Cutting branches.
C. Getting property.
15. What do we know about the woman?
A. She cleans up her yard every day.
B. Her dog was hurt.
C. She is a lawyer.
16. What is the probable relationship between the speakers?
A. Brother and sister.
B. Husband and wife.
C. Neighbors.

Listen to the following conversation and answer questions 17 and 20.
17. What is the speaker doing?
A. Telling jokes.
B. Giving a lecture.
C. Hosting a TV show.

18. What makes people feel more difficult to understand English jokes?
A. The cultural background.
B. The vocabulary.
C. The sound.
19. What is the second joke about?
A. The web.
B. The bicycle.
C. The well.
20. What does the speaker mainly talk about?
A. How to make jokes.
B. How to understand jokes.
C. How to learn English expressions.

Part 2: Reading Section ((total of two subsections, 50 points)

Subsection 1 (total of 15 questions; each question 2.5 points, total 37.5 points)

Read the following passages and choose the best answer from the four options given (A, B, C, and D).

A

Biggest Carnival (狂欢节) in the World — Rio de Janeiro, Brazil

It's the biggest carnival festival being organized in the world which is held in February or March. This carnival doesn't just have a regular parade, but they have a city-wide parade. It means everyone has to watch it. Brazil is like shut down and all the citizens just enjoy the festival.

Duration: 4-6 days

Rio Carnival Dates: 9th February to 14th February

Notting Hill — London, UK

The festival focuses heavily on music, with live performances everywhere and sound systems. For the help of the people, an app "Notting Hill Carnival" has been made, which can help guide you in different directions through the festival. You can find stalls (小摊) selling many kinds of foods, etc.

Duration: only two days

Notting Hill carnival date: 25th August

Tomorrowland — Boom, Belgium

Have you heard of names like Axwell, Carl Cox, etc.? If yes, then this biggest carnival in the world is for you. The music lovers, for whom music is their life, can listen to it many times. It is a chance to step out of your comfort zone and feel the depth of music.

Duration: 2 weekends

Time to be held: 12th August

La Tomatina — Valencia, Spain

It's a festival in which participants throw tomatoes at each other and fight with each other just for the fun purpose. One just needs to have fun at this amazing festival, so don't even think of wearing new clothes at the festival. This festival has got some ground rules, so that no one gets hurt and all enjoy the festival.

Duration: one day

Tomatina festival date: 29th August

21. How is the Biggest Carnival in the World different from the other three festivals?
A. It lasts for the shortest time.
B. It has the longest history.
C. It is held in a different month.
D. It just has a regular parade.
22. What do Notting Hill and Tomorrowland have in common?
A. They attract music lovers.
B. They provide delicious foods.
C. They provide you with tomatoes.
D. They have an app to guide you.
23. Which festival should you choose if you want to enjoy some fun fights?
A. Notting Hill — London, UK.
B. La Tomatina — Valencia, Spain.
C. Tomorrowland — Boom, Belgium.
D. Biggest Carnival in the World — Rio de Janeiro, Brazil.

B

I learned chess when I was young. By the age of eight I was an ordinary child, but through chess I knew the excitement of playing in the same primary school team as my older brother three years ahead, and soon afterwards I experienced the pride of representing my city. My love for chess offered periodic escape from my ordinary life.

By the time I was 10 my family had fallen apart. And I came to live with my grandfather. The family's chess set was laid in the back window. That space was soon surrounded by games collections, endgame strategy books and books on opening theory. I played out book contents on the board, typically with the left hand holding the book open, the right hand moving the pieces, and the eyes moving between book and board, as if watching a very slow tennis match of my own staging. That square metre of space changed my life. That was the space where I "got good".

Chess achievement gave me intellectual confidence that I might otherwise not have had. Many teachers had long told me, "If you are good at chess you should be able to do this." Rejecting this idea for years, mostly because it meant I had to try harder yet at 15, I decided they might be right after all. I began to love reading and learning and thinking and writing and speaking. I'd go on to Oxford, Harvard and a PhD, but there was nothing unavoidable about this development. I was not a particularly promising pupil and could have been a loss, doing badly at school or even worse.

Aldous Huxley famously wrote that "experience is not what happens to you, it is what you do with what happens to you". Our life experience is not even one event after another but a series of opportunities for us to grow. With chess and then exam success, I decided to be less defined by my circumstances (境遇) and more capable of shaping them.

24. What was the author proud of?
A. Learning chess at an early age.
B. Beating his brother in chess.
C. Escaping from ordinary life.
D. Playing chess for the city.

25. What can we learn about the author from paragraph 2?
A. He lost himself in chess.
B. He started watching tennis matches.
C. He took every chance to read.
D. He practiced chess with his grandfather.
26. Which is closest in meaning to the underlined part in paragraph 3?
A. I seldom kept my word.
B. I was an average student.
C. I accepted my weaknesses.
D. I refused to go to college.
27. Which rhetorical device is used in the last paragraph?
A. Metaphor. B. Quote.
C. Repetition. D. Personification.

C

Whilst most musicians work with other artists when creating their music, Holly Herndon, an American musician and sound artist who is now based in Berlin, takes a different way, working with the machine learning software called Spawn. The software uses artificial neural (神经的) networks modeled after the structure of the human brain. These networks learn patterns from datasets during the training process. Based on the data, the networks create new material that includes Herndon's own voice.

When producing her album, PROTO, Holly trained datasets to write new music. The process requires the input data of music written by people or by artificial intelligence (AI). The neural networks then produce variations (变体) of that music. "Computers surprise you in a way that an instrument doesn't," Holly said. So what does music sound like when composed by what is essentially a robot? It sounds like music from the future!

But Holly Herndon isn't the only one exploring AI in composition. Machines have played an increasingly important role in music over the last century. The godfather of computer science, Alan Turing, developed the first computer generated music in 1951. Then in 1980, David Cope from the University of California, Santa Cruz developed EMI — Experiments in Musical Intelligence, a system that analyzes existing music and produces new pieces based on it.

AI might not take over the job of the "pop star" anytime soon, or will it? Miquela Sousa is a computer-generated artist with one million followers on Instagram. "I'm a model and a singer. And I'm a robot," Miquela said. This then raises the question: Can we reproduce creativity using a computer?

Though those questions are not easy to answer, I believe the next frontier (前沿领域) of music lies somewhere in between. I can see the path forward with a new dawn of creativity that combines human inventiveness with AI. And the next chapter of music will certainly become wonderful as music and AI become even more closely related.

28. What plays an important role in producing PROTO?
A. Holly's special voice.
B. The input of existing music.
C. Holly's rich knowledge.
D. The use of an instrument.
29. Why does the author mention the example of Miquela Sousa?
A. To promote deep thinking on AI musicians.
B. To show the popularity of smart robots.
C. To explain the tasks of computer-generated artists.
D. To make comparisons between human and robotic artists.
30. What is the author's attitude towards music co-created by AI and humans?
A. Doubtful.
B. Surprised.
C. Confused.
D. Confident.
31. What does the text mainly talk about?
A. The increasing diversity of AI music.
B. The development of musical composition.
C. The history of computer-generated music.
D. The combination of AI and musical composition.

D

Mammoth Cave National Park, in the state of Kentucky, is a unique and historical natural wonder. It has the world's longest cave system. There may be another 600 miles of cave passageways that have yet to be explored. In addition, more than 200 caves that are disconnected from the larger system can be found in the park.

The underground caves were created naturally by the process of limestone(石灰岩) erosion. Rain and rivers slowly dissolve (溶解) and shape soft limestone. The system is still being shaped today. Not only are they an amazing destination to visit, but the system also provides drinking water for about 40% of the US population.

The caves' first explorers were Native Americans, who mined(采矿) the upper levels of Mammoth Cave. Later, the sites were left in great shape and began to draw public interest.

Mammoth Cave was made into a national park thanks to strong support. Back in the 1920s, the Southern Appalachian National Park Commission was set up in 1925. After years of work, as well as building roads and public facilities, the park was completed on July 1, 1941.

The park now receives around 2 million visitors a year, with about a quarter taking a tour of the caves---- everything from a cultural tour to the more adventurous tours on offer. The cave supports more than 130 wildlife species. The park is also much more than just a cave; the forest around has a diverse(多种多样的) range of species. There are miles of trails open for horseback riding, with canoe trails and great fishing spots. There are also more than 1,300 flowering species in the forest, and animals like wood warblers, thrushes, and bald eagles can regularly be seen.

32. What can we learn about Mammoth Cave from the first two paragraphs?
A. It was made by ancient people.
B. It has the length of 600 miles.
C. It is made up of 200 connected caves.
D. It has a large underground system.

5 6

33. How do the caves form?
A. Explorers mine the upper levels.
B. The government searches for drinkable water.
C. Water dissolves limestone.
D. People build roads and public facilities.
34. What can we learn from the last paragraph?
A. More than 1,300 flowers grow in the caves.
B. The park offers visitors diverse experiences.
C. Most visitors come to the park just for caves.
D. Two million people have visited the park till now.
35. What is the best title for the text?
A. Planning cave tours around the world.
B. Exploring the world's longest cave system.
C. Learning about the explorers of Mammoth Cave.
D. Predicting the future of Mammoth Cave National Park.

Subsection 2 (total of 5 questions; each question 2.5 points, total 12.5 points)

Read the following passage and choose the best option to fill in the blanks from the options given after the passage. There are two extra options.

Music can be a great mental treat, allowing you to relax and get lost in your favorite songs. __36__ Here are some ways music can make you a better person and positively impact your everyday life.

Boost（增强）your creativity. Music is a creativity booster. When you turn up the songs that make you joyful, your brain gets more creative. __37__ Find the music that makes you feel positive and cheered up, so your creative juices can flow.

Build cooperation and connection with people. Playing a musical instrument helps you connect with people with similar interests. __38__

__39__ Music has a magical power to promote emotions. Listening to joyful music lifts your happiness levels, which can make you more generous. It's like a happy circle where feeling good makes you want to give back, and giving back makes you feel even better.

Improve physical health and performance. __40__ Music improves our energy and endurance, and makes exercise more fun. And if you have your headphones on during works, you're more likely to stick with your fitness routines.

A. Relieve stress and pains.
B. Make you happier and more generous.
C. Music can turn someone into a seriously big-hearted person.
D. It enables you to make new friends who share your musical passion.
E. There's a reason you play music in the background when you hit the gym.
F. It helps ease the pressure off your mind and puts it in a creation-ready mode.
G. While most people are addicted to music, few have considered the real impact of music.

7

Part 3: Language Use Section (total of two subsections, 30 points)

Subsection 1 (total of 15 questions; each question 1 point, total 15 points)

Read the following passage and choose the best option to fill in the blanks from the four options given (A, B, C, and D).

For the past four years I had been having up to 30 seizures (癫痫发作) a day. It made me 41 a lot.

Despite 42 visits to hospitals, no doctor could tell me the cause of it. At night, my family had to check on me just in case I wasn't 43. So I could never be in a room alone and as a 21-year-old young man, I was finding the lack of 44 getting me down.

One day, my friend Kerri asked if I wanted an assistance dog. I knew there were guide dogs for the 45 , but I wasn't sure how a dog could help me. A few days later, Kerri told me she'd done some search and found a company "Dogs For Life". From the website of the company, I 46 that they teach dogs to smell a chemical change in the body and 47 people when a seizure is about to 48.

Soon after, I 49 Baloo, a dog trained by Dogs For Life. It sat silently in the corner. As I sat down, Baloo suddenly 50 and jumped on me. Minutes later, I had my seizure. It had 51 the chemical changes in my body and tried to warn me. It was by my side until the 52 came. Instantly, I knew it was a good 53 for me, and I took her back home.

It's 54 my life more than a handful of times and I couldn't be more 55 for it.

41. A. think	B. hide	C. suffer	D. learn
42. A. personal	B. countless	C. formal	D. impressive
43. A. sleeping	B. working	C. replying	D. breathing
44. A. warmth	B. fun	C. safe	D. independence
45. A. deaf	B. blind	C. injured	D. elderly
46. A. wrote	B. learnt	C. overheard	D. planned
47. A. warn	B. attract	C. follow	D. hit
48. A. burn out	B. break in	C. come on	D. drop by
49. A. saved	B. addressed	C. met	D. invited
50. A. rose	B. lay	C. struggled	D. played
51. A. sensed	B. caused	C. touched	D. cried
52. A. action	B. attack	C. guide	D. help
53. A. boss	B. teacher	C. partner	D. listener
54. A. risked	B. stopped	C. kept	D. saved
55. A. thankful	B. anxious	C. excited	D. patient

Subsection 2 (total of 10 questions; each question 1.5 points, total 15 points)

Read the following passage and fill in the blanks with one appropriate word or the correct form of the word given in parentheses.

With its attractive charm and pleasing attractions, Harbin, the picturesque ice city of Heilongjiang province in Northeast China, 56 (become) a hit on social media since mid-January

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this year, leaving netizens fascinated by its abundant treasures.

Among these sights are a group of 11 adorable children from Nanning, Guangxi Zhuang autonomous region in South China, 57 began an educational trip to Harbin, instantly winning the hearts of online communities.

58 (dress) in energetic orange clothes, they are fondly referred to as the "little tangerines". The nickname symbolizes both their orange clothes 59 Guangxi's remarkable citrus (柑橘) production.

Each day, their 60 (attract) look is popular on various social media platforms. Wherever they go, they were showered with affection by the 61 (local).

Liang, the lead teacher of the tour, confirmed their arrival in Mohe, 62 key destination in their adventure. On their arrival, the tour group was 63 (warm) welcomed by a local travel agency working together with the city's tourism bureau.

At the northernmost police outpost (前哨站) of China, they sang the national anthem and saluted (敬礼)the border guards, 64 (mark) an important part of their educational trip. Moreover, the police officers at the station prepared snow sculptures and snowmen 65 (treat) the "little tangerines".

Part 4: Writing Section (total of two subsections, 40 points)

Subsection 1 (15 points)

Last weekend, you attended a music festival organized by your school. Please write an article for the school English newspaper introducing this event, including:

1.The time of the event;

2.Your gains and impressions.

Note: 1. The article should be around 80 words;

2.Please answer in the appropriate section on the answer sheet.

The School Music Festival

Subsection 2 (25 points)

Read the following passage. Based on its content and the given opening sentences of the paragraphs, continue the story by writing two paragraphs to complete the passage.

My family went on our annual (每年的) summer vacation in a small house on a lake. Every day we kids are busy swimming, fishing and building sand castle on the beach. By the third day of our vacation, however, something caught my attention. I noticed my 10-year-old sister, Kate, was always watching videos and looking through online shops indoors. She was so addicted to her cell phone! Over dinner, I asked Kate whether she would like to go hike to the top of the mountain across the lake the following morning. "Maybe you need put your phone away and enjoy the wonderful scenery. It's really amazing."

"Well," Kate replied unhappily, "there are some bargains (减价品) tomorrow in the online shops, so I'll not be available tomorrow."

"You can't miss the fresh air and beautiful views here. Hiking is really fun!"

"I cannot walk so hard," she didn't look at me directly and mumbled (嘟囔), "and the journey sounds more like punishment (惩罚) for me."

When I said it only took us an hour and half of peaceful walk to climb to the top, though still unpleasant, she nodded, "Fine, I'll go."

The weather was fine as usual with clear skies and gentle winds. After packing, I found Kate walking slowly downstairs and in a very unenthusiastic (不热情的) voice, "Ok, I'm ready to go, Tom."

Anyway, when we stepped out of our house, quite a different view spread before our eyes. Sunlight brightened on the glassy surface of the lake. Not far away, a rough path wound (蜿蜒) to the top of the mountain across the lake with flowers and grass on both sides. We began from the path.

"Tom, I'm wondering if it is a good idea to go hiking." Kate said, frowning (皱眉)。

Note:

1. The continuation should be around 150 words;

2. Please answer in the appropriate section on the answer sheet according to the following format.

She followed me but kept some distance, thinking something else. _____

Reaching the top, Kate widened her eyes, shouting, "How wonderful!" _____

BIOGRAPHY

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