

MS Research Thesis

**RELATIONSHIP BETWEEN SELF-REGULATED LEARNING
STRATEGIES AND ACADEMIC ACHIEVEMENT OF
STUDENTS AT HIGHER SECONDARY LEVEL**



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A thesis submitted in partial fulfillment of the requirement for the degree of
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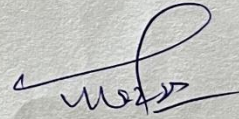
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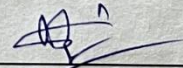
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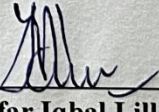
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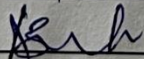
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AUTHOR'S DECLARATION

It is hereby declared that author of the study has completed the entire requirement for submitting this research work in partial fulfillment for the degree of MS Education. This thesis is in its present form is the original work of the author except those which is acknowledged in the text. The material included in the thesis has not been submitted wholly or partially for award of any other academic certification than for which it is being presented.

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SUPERVISOR'S CERTIFICATE

The thesis entitled “Relationship between Self-regulated learning strategies and Academic achievement of students at Higher Secondary level” submitted by Laiba Batool, 26-FOE/MSEDU/S23 is partial fulfillment of MS degree in Education, has been completed under my guidance and supervision. I am satisfied with the quality of student’s research work and allow her to submit this thesis for further process as per IIUI rules and regulations.

Dr. Munazza Mahmood

DEDICATION

I dedicate the outcome of this research to Allah (S.W.T.), the Creator of the universe, whose boundless insight and mercy have led me throughout this journey. I am deeply grateful for His never-ending blessings and supervision. I also dedicate this work to His beloved Prophet, Hazrat Muhammad (S.A.W.W.), through whom the creation was illuminated, and whose teachings continue to inspire and guide mortality toward righteousness.

With profound gratitude, I express my heartfelt thanks to my parents, whose love, prayers, and unwavering support have been my pillars of strength. Their sacrifices, encouragement, and belief in me have played a vital role in shaping my academic and personal growth. I am also deeply indebted to my honorable and esteemed supervisor, whose guidance, expertise, and encouragement have been invaluable during the course of this research. Their unwavering support, productive feedback, and thoughtful acumens have not only contributed to the completion of this work but have also enriched my intellectual growth. It is through their mentorship that I have been able to navigate the challenges of this research and achieve my goals.

I pray that Allah (S.W.T.) always blesses them with good health, happiness, and success and that they continue to be a source of direction and inspiration to many others. May Allah protect them always, and endowment them His endless mercy and blessings. Ameen.

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Abstract

Self-Regulated Learning Strategies are the purposeful and systematic techniques that students use to manage, monitor, and control their own learning process. Self-regulation allows students to become less reactive and more proactive in their learning. Self-regulated learning strategies have gained significant attention in educational research due to their potential to overcome the educational challenges of students across various educational levels. The objectives of the study were to find out the perceptions of higher secondary level students towards self-regulated learning strategies. To compare the use of self-regulated strategies among high achiever, middle achiever and low achiever students at higher secondary level. To identify the relationship between domains of self-regulated learning strategies and academic achievement of students at higher secondary level. To identify the relationship between self-regulated learning strategies and academic achievement of students at higher secondary level. The study employed quantitative and correlational research design. The population comprised of 600 female students from three public colleges in Islamabad. For the study, a sample size of 234 students were selected, and a random sampling technique was employed. The instrument was validated by the team of experts, and all the experts were belonged to the field of education. The data were collected through closed-ended questionnaire by personal visit of researcher to public colleges. The overall reliability of questionnaire is .893. Data were analyzed using descriptive statistics (mean and percentage) and inferential statistics (Pearson's product moment correlation, One-way Anova and Regression) to find out the relationship between Self-regulated learning strategies and academic achievement of students at higher secondary level. The major findings of the study indicated that significant and strong positive relationship exists between Self-regulated learning strategies and academic achievement of students at higher secondary level. It was found that students demonstrate confidence in their ability to learn independently and believe in the effectiveness of self-regulated learning strategies. It was found that the difference in use of self-regulated learning strategies and academic achievement among high, middle, and low achiever students is statistically significant. The analysis concluded a strong positive relationship between self-regulated learning strategies (SRL) and academic achievement. The study revealed clear difference in use of self-regulated learning strategies among high, middle, and low achievers. High achievers use more self-regulated learning strategies, which helps them perform better

academically, while low achievers use fewer of these strategies, leading to lower performance. Therefore, it was recommended that institutions provide targeted workshops or seminars to introduce students to a broader range of self-regulated learning strategies. Additionally, it was recommended that educators focus on teaching students how to select and apply different self-regulated learning strategies based on their individual needs and learning contexts. It is recommended that these strategies may be included in the syllabus and curriculum to help students develop their self-regulation skills throughout their studies.

Keywords: Self-regulated learning, Academic achievement, Female students, Higher-secondary level

CHAPTER 1

INTRODUCTION

A growing number of academics and educators have expressed interest in the self-regulated learning strategies that students are adopting in recent years. The term "self-controlled learning" labels the capacity of apprentices to follow and manage their educational surrounds. Students that involve in self-regulated learning use abilities such as self-taxation, regulation, and adjustment to rise their knowledge. Learners that use deliberate, methodical approaches to manage, monitor, and govern their own learning process are employing self-structured learning practices. Students that occupy in self-regulated learning are guided and controlled by their own goals, making it an energetic and valuable process. As a consequence, they become more self-aware, smart, and critical in their educational methods, without employing these strategies, students may defaulting to passive learning methods, which can lead to useless learning (Ergen & Kanadli, 2019). Academic achievement is closely associated with the marks we value, that's why it is vibrant. Academic accomplishment at the challenging secondary level plays a crucial role in shaping individuals' future informative and career openings. Higher secondary education often comes with a significant upturn in hypothetical load and difficulty across various subjects. Schoolchildren can better handle this increased workload by using self-regulated learning methods, with these practices, they can efficiently accomplish their time of study, set objectives, and consolidate work. Students need to understand the relationship between academic achievement and self-regulated learning practices (Elesio, 2023).

The elements of SRL are interrelated and recursive. Goal setting involves establishing precise, measurable marks for students to accomplish. Effective time management is setting aside and dealing time effectively in order to complete activities and attain targets. Self-Monitoring is the progression of methodically tracking one's advancement toward established objectives. During the education process, self-reinforcement entails praising oneself for accomplishments, progress, or exhibiting desired behaviors (Hapsari & Fatmasari, 2022).

When combined, these Self-Regulated Learning (SRL) components provide students with essential tools that empower them to take charge of their own learning process in a more proactive, self-governing, and effective manner. By honing these

skills, students are better equipped to navigate and overcome obstacles, manage their own educational journey, and engage in deeper, more meaningful learning. These skills enable students to become more independent and resourceful, allowing them to identify challenges, set clear and attainable goals, monitor their progress, and adjust their strategies when necessary. As they develop these competencies, students are able to engage in continuous reflection, recognize the effectiveness of their learning approaches, and enhance their motivation. In turn, this sense of ownership fosters greater resilience, confidence, and adaptability in the face of setbacks. It encourages students to become active participants in their learning process, rather than passive recipients of information. As they master the ability to regulate their cognition, emotions, and behaviors in pursuit of specific academic goals, they can better handle distractions, manage their time, and stay focused on what matters most. These self-regulation skills are not only essential for academic success but also prepare students for lifelong learning and personal growth. Ultimately, by developing self-regulated learning skills, students can take full responsibility for their educational experiences, engage in proactive problem-solving, and cultivate a deeper sense of accountability and motivation. This approach not only helps them achieve academic success but also fosters critical thinking, decision-making, and other valuable skills that extend beyond the classroom, shaping them into capable, independent learners prepared for future challenges (Sardareh & Saad, 2012).

The fast-paced, information-saturated world of the twenty-first century makes it more vital than ever to nurture self-regulated learners. Metacognitive methods are beneficial methods to nurture these abilities, and research from neuroscience and empirical psychology supports their guidance on acquisition. To help students comprehend the value of education and recollection at the right moment, effective techniques for proficient education must be imparted to them (Ghosh, 2024).

1.1 Background and the Context of the Study

The higher secondary level, where learners are expected to develop independence, self-discipline, and productive study habits, is a significant turning point in their academic careers. Higher secondary education works as the foundation for students' academic paths, formulating them for programs like functional training, college, or university. Achieving success now will have a significant power on their future academic and professional prospects. Academic achievement at the higher

secondary level is essential for promoting economic stability and rising mobility, as it opens doors to a broader series of professional selections and higher earning potential. Higher secondary learners need to do well academically in order to be prepared for further education, to have access to a multiplicity of profession options, to develop both intellectually and personally, to acquire critical skills, to obtain financial aid, to advance society, and to live better overall learners must take on a more challenging and complex curriculum at the upper secondary level, therefore they habitually face a lot of pressure from assignments, tests, and other academic obligations. As a result, their recital may depend on their willingness to successfully control their erudition processes. Examining how self-regulated learning practices influence students' academic success in this setting is crucial, given the increasing relevance of theoretical achievement throughout this segment of the curriculum (Elesio, 2023).

Previous studies have shown that when students take a dynamic part in their education, learning is more likely to be operative. "Self-regulated learning" is a term frequently used to characterize such a proactive method, which includes learning using students' own resourcefulness and strategies. An individual's ability to direct, influence, and maintain control over their own behaviors is known as self-regulation. Students overcome obstacles in the classroom by employing a variety of self-regulated learning techniques. Students must set goals, make tactics, choose their learning strategies, display their progress, appraise learning outcomes, and avoid external influences in order to participate in self-regulated learning. Self-regulated learning is a crucial factor that influences learners' motivation. Students may encounter difficulties at the higher secondary smooth if self-regulated scholarship strategies are not implemented. These difficulties could include low metacognitive skills, poor time supervision, difficulty in setting goals, low persistence and resilience, low self-efficacy and relying on ineffective learning stratagems (Zimmerman, 2001).

Although various studies has been done on the correlation between self-regulated learning techniques and achievement in academics at various educational levels, little of it has been done to look at how effective these strategies are in the context of higher secondary education. By carefully examining the construction between students' academic accomplishment and self-regulated learning strategies at college level, this research seeks to close these research gaps. The study can give teachers, students, and curriculum stylist's substantial insight by determining which

SRL methods are most closely associated with successful theoretical achievement. Self-regulated learning is not just about improving academic grades it's about empowering students with skills for lifelong learning. This may result in more focused interventions meant to help students develop their SRL abilities, which will ultimately improve their academic performance. This research addresses a gap in existing educational studies by focusing on the underexplored higher secondary level.

The selection of self-regulated learning (SRL) strategies and academic achievement as variables is based on the strong theoretical and empirical link between them. SRL strategies encompass goal setting, time management, self-monitoring, and reflection, all of which empower students to take control of their own learning processes. Numerous studies have demonstrated a positive relationship between the effective use of SRL strategies and higher academic achievement, suggesting that students who actively manage their learning tend to perform better academically. This relationship is particularly relevant in modern educational settings where learner autonomy is increasingly emphasized. By examining these two variables, the study aims to explore how students' ability to regulate their learning influences their academic achievement.

1.2 Problem Statement

Nowadays, students rely on passive learning methods like rote memorization, which may not result in effective learning. Self-regulated learning strategies empower students to take active control of their own learning process. Self-regulation allows students to become less reactive and more proactive in their learning. Higher secondary level education is a critical stage in students' academic journey, where they encounter increasing academic demands and responsibilities that require effective learning strategies. Students can better handle this increased workload by using self-regulated learning methods, which provide them the ability to organize their tasks, make clear goals, and manage their study time. Students need to realize and understand the relationship between self-regulated learning strategies and academic achievement.

The majority of the research conducted so far has focused on self-regulated learning strategies in relation to academic achievement in specific subject areas or within particular demographic groups. However, limited attention has been given to how self-regulated learning strategies influence the academic achievement of students

at the higher secondary level, a critical period in educational development where students face heightened academic challenges and the pressure of preparing for higher education. Therefore, this study aims to fill this gap by exploring the relationship between self-regulated learning strategies and academic achievement among higher secondary students.

1.3 Objectives of the Study

The objectives of this study were:

- i. To find out the awareness of students' regarding self-regulated learning strategies
- ii. To identify the relationship between domains of self-regulated learning strategies and academic achievement of students at higher secondary level
- iii. To compare the use of self-regulated learning strategies among high, middle and low achiever students at college level
- iv. To identify the relationship between self-regulated learning strategies and academic achievement of students at higher secondary level

1.4 Research Question

RQ1. What are the perceptions of higher secondary level students regarding the self-regulated learning strategies?

1.5 Hypotheses

- H₀₁ There is no significant relationship between goal setting and academic achievement of students at higher secondary level
- H₀₂ There is no significant relationship between time management and academic achievement of students at higher secondary level
- H₀₃ There is no significant relationship between self-monitoring and academic achievement of students at higher secondary level
- H₀₄ There is no significant relationship between self-reinforcement and academic achievement of students at higher secondary level
- H₀₅ There is no significant relationship between self-evaluation and academic achievement of students at higher secondary level

H₀₆ There is no significant difference between self-regulated learning strategies and academic achievement among high, middle and low achiever students

H₀₇ There is no significant relationship between self-regulated learning strategies and academic achievement of students at higher secondary level

1.6 Significance of the Study

This study would provide valuable insights for students, helping them understand the critical role that self-regulated learning strategies play in academic success. By exploring how these strategies influence academic achievement, students will be encouraged to take an active and intentional role in their own learning process. They will gain a deeper understanding of which techniques work best for them personally, allowing them to tailor their learning approaches to meet their unique needs. This empowerment can lead to increased motivation, better time management, and more effective study habits, ultimately improving their overall academic performance.

In addition, the findings of this study would be highly beneficial for educators and policymakers. By understanding the impact of self-regulated learning strategies, they will be better equipped to incorporate these methods into teaching programs and educational practices. This could lead to the development of more effective curricula, teaching techniques, and support systems that encourage students to take charge of their learning. For instructors, this means they can provide targeted guidance and resources to help students adopt these strategies and integrate them into their academic routines.

Moreover, this research will be important for understanding how self-regulated learning strategies affect the academic success of female students at the college level. Without an exploration of how these strategies specifically impact female learners, we would have a limited understanding of how to best support their academic achievements. Given the unique challenges that female students may face, such as gender-related stereotypes or different social expectations, understanding how they engage with self-regulated learning strategies could help tailor support systems that address their needs more effectively. Overall, this study aims to bridge gaps in knowledge about how self-regulated learning strategies influence academic outcomes.

1.7 Delimitations of the Study

The study was delimited to;

- i. Female students from 2nd year
- ii. Three public colleges of Islamabad
 - Islamabad Model College for Girls F10/2
 - Islamabad Model College for Girls G10/4
 - Islamabad Model College for Girls G11/1
- iii. Five Self-regulated learning strategies:
 - Goal-Setting
 - Time Management
 - Self-Monitoring
 - Self-Reinforcement
 - Self-Evaluation

1.8 Operational Definitions

1.8.1 Self-Regulated Learning

Self-regulated learning (SRL) is a dynamic process in which students take an active role in managing their own education practices. It involves setting clear goals, selecting and applying appropriate learning approaches, monitoring development, and reflecting on outcomes to adapt and improve future efforts.

1.8.2 Academic Achievement

Academic achievement is the result of the learning process, reflecting the success and proficiency of students in their educational accomplishments. In this context, academic achievement is measured by the percentage of students who successfully pass their first-year examinations.

1.9 Research Methodology

The research paradigm was positivist. The research study was quantitative in nature. The study was descriptive and a correlational research design was used in the study to find the relationship among self-regulated learning techniques and academic achievement of students at higher secondary level.

1.9.1 Population

The population selected for the study was higher secondary level students at public colleges in Islamabad. The population consisted of 600 female students from the 2nd year of the 2024-25 session from 3 public colleges in Islamabad. The 2nd year students were selected to categorize them on the basis of their 1st year results to assess their academic achievement.

1.9.2 Sampling

The sample size for the study was 234 female students, determined using Gay (2000) table for sample selection. This study uses simple random sampling to make sure every student has an equal chance of being selected. The sample was selected randomly using a lottery method, so no one is favored during the selection process. This method helps avoid bias and makes the sample fair and representative of the whole population, which was drawn from three public colleges in Islamabad.

1.9.3 Instrument

The study used two well-known questionnaires: the Motivated Strategies for Learning Questionnaire (MSLQ) by Paul Pintrich and the Online Self-Regulated Learning Questionnaire (SLQ) by Barnard and Brak. The survey included 50 statements with responses measured on a five-point Likert scale. Academic achievement was measured using students' final percentage in their first-year exams.

1.9.4 Data Collection

The researcher collected data from higher secondary level female students at selected public colleges in Islamabad. The researcher visited the colleges personally to distribute and collect the questionnaires. Before participating, students were given consent forms and information sheets clarifying the purpose and procedure of the study. After providing clear instructions on how to fill out the questionnaire, students were asked to complete it. Data related to academic achievement were measured using students' percentages in the most recent 1st-year annual exams. Student were categorized into 3 levels, High achiever (80% and above), middle achiever (51% - 79%) and low achiever (50% and below) on the basis of their percentages in 1st year exams.

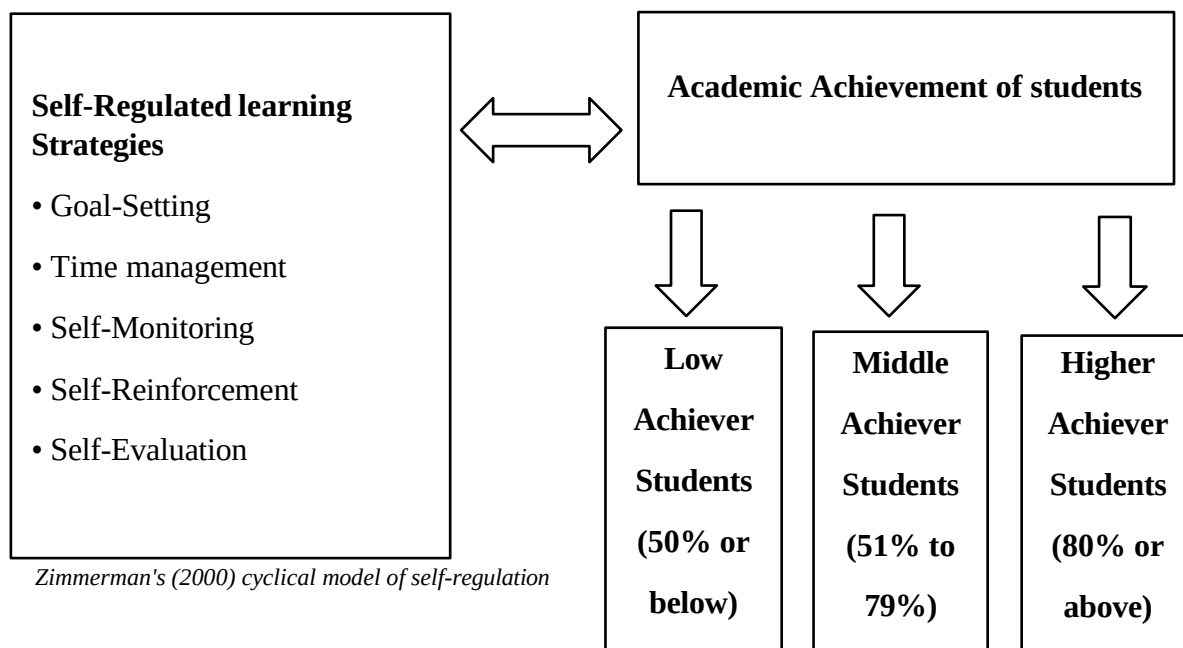
1.9.5 Data Analysis

Data were analyzed using descriptive statistics (mean and frequency) and inferential statistics (Pearson's product moment correlation coefficient, One-way ANOVA and Regression).

1.10 Conceptual Framework

Figure 1.1

Conceptual framework



Zimmerman's (2000) cyclical model of self-regulation

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CHAPTER 2

LITERATURE REVIEW

This chapter presents exhaustive review of existing literature related to the relationship between self-regulated learning (SRL) strategies and academic achievement among higher secondary apprentices. The literature reviewed in this chapter reconnoiters numerous SRL strategies employed by students and scrutinizes how these strategies sway academic conclusions at the higher secondary level. By synthesizing findings from preceding studies, this review highpoints key theories, models, and empirical evidence that link self-regulation to theoretical success. Additionally, it detects breaks in the literature and provides understandings into how SRL can be cultivated to enhance student recital and achievement. This chapter sets the step for the existing research by insertion it within the broader academic framework and illustrating the relevance of SRL in shaping students' academic trajectories.

2.1 Concept of Self-Regulated Learning

"Erudition to learn" refers to the capability to actively pursue and persist in acquiring knowledge, effectively organizing one's own learning process, including managing stretch and evidence. This concept is closely linked to the theory of Self-Regulated Learning (SRL) that emerged in the 1980s. In SRL, students actively observe and regulate their erudition strategies, which includes reviewing study materials, identifying learning happenstances, measuring progress, and foretelling learning outcomes. Since SRL is a multifaceted commotion, it involves an individual's cognizance, emotions, actions, and environment (Cheng, 2011). The foundation of self-regulated learning is the conviction that people are capable of acting as causal representatives in their own personal lives. It would seem that the core of self-regulated scholarship is the individual as negotiator who interacts with their surroundings: A person's agency is what allows them to make decisions and carry them out in ways that have an impact on their lives (Barnard-Brak, 2010).

Self-structured learning is an aspect of self-directive that concentrations on how apprentice makes dogmas for their wisdom, employs different tactics, and makes continuous brawls to achieve their projected goals. The idea of self-structured learning pertains to how people accomplish the way they learn, including how to track, manage, and assess their own learning as thriving as how to organize behavioral patterns and

educational actions that maximize the possibility of achieving goals. During this phase, the student selects their erudition objectives and makes an effort to take ownership of their interest, behavior, and thought processes. In the past two decades, self-regulated coaching has emerged as a prominent topic within educational research and has been studied in a number of different domains. Self-regulated approaches are a type of learning where students start and carry out their own exertions to learn skills and acquaintance, rather than depending on instructors, parents, and other agents of education. Put differently, character-regulated culture refers to the novice's full assigation in the process of learning in terms of behavioral, motivational, psychological, and cerebral abilities in order to enhance knowledge (Parveen et al., 2023).

The term "self-regulated wisdom" describes the capacity of students to comprehend and accomplish their educational surroundings. Motivational convictions, metacognitive pondering, and the application of neural techniques are all combined in self-regulated learning (Schraw et al., 2006). In self-regulated learning, students are engaged in the process of mastering what they are learning. To help apprentices learn efficiently self-regulated learning techniques, or SRLS, are used. Rehearsal, elaboration, organization, time management, peer learning, effort regulation, and monitoring are a few examples of SRLS. One of the most imperative skills for the twenty-first century is clearly self-regulation, which has been identified as an essential aspect of success. Self-regulated methods of learning have also been linked in the literature to boost student engagement. Students are therefore required to actively participate in the online learning process, which revenues they obligation self-regulate their learning. Erudition that is self-regulated has a strong correlation with both academic and non-academic performance (Anthonysamy et al. 2020).

Identity-regulated scholarship strategies, or SLRS, have been recognized as significant indicators of students' academic drive and accomplishment. Self-regulatory allows individuals to exercise self-control, maintain concentration, effectively oversee their conduct, and accomplish desired results in a variety of domains of life, such as job, education, and personal advancement. Students must autonomously organize, oversee, and assess their learning as part of this method (Shaine, 2015). Self-regulated learning, often called self-guideline, is vigorous, beneficial process where students set learning intentions and work to display, legalize, and rheostat their enthusiasm,

behavior, and cerebral processes. These efforts are guided and constrained by their objectives and the ecofriendly context. The core idea of self-regulated learning is that individuals can act as causal agents in their learning processes. Sometimes referred to as self-centered learning, this concept emphasizes the student's ability to influence their surroundings to enhance learning outcomes. The well-established framework of SRL includes various stratagems to overcome classroom contests and rally learning results. Self-delimited education involves students devising and implementing learning strategies aligned with their interests and boxes while regulating their perception, behavior, and incentive (Barnard-Brak et al., 2010).

The process of self-generated concepts, feelings, and actions that are intentionally prearranged and occasionally modified to meet one's own goals is known as self-regulated learning. Self-measured learners take charge of their edification by actively planning and scheduling their study sessions, establishing educational goals, and using practical techniques to reach those targets. They keep an eye on and assess their learning progress continually, modifying their approach to accelerate their intentions. A dynamic construct, SRL can evolve over time as a result of interactions between behavioral, contextual, and emotional factors (Buot, 2024). The process by which students convert their mental aptitudes into academic capabilities is known as self-directed learning (SRL). Ego-regulated erudition is demonstrated by the pupil preparing for a biology test by:

- Establishing a Goal: The student makes it designated that they want to pass the test with a minimum score of 85%.
- Planning: They make a study plan, setting out certain timeslots for reading chapters, going over notes, and rehearsing previous test questions.
- Tracking Progress: Each pupil assesses their comprehension during the study session by testing oneself on important ideas and modifying the study schedule if some subjects prove more challenging than expected.

Following a practice exam, the student judges their performance, looks for clarification on their weak areas, and revises those subjects. Changing Strategies: To stay emphasized in the face of distractions, students may choose to study in a calmer environment or employ strategies such as the Pomodoro method, which consists of studying for short phases of time interspersed with breaks. To put it further, SRL is a manner of supplementary students in controlling their feelings, ideas, and actions so that they may successfully direct their path (Yu, 2023).

Self-controlled scholarship is a process in which greenhorns identify their wisdom objectives and make stratagems based on them, choose appropriate learning techniques, review the study stuff and assess their advancement by conveying learning outcomes, and reflect by evaluating the learning challenges they encounter. The process of self-ruling, which involves self-awareness, intrinsic motivation, and behavioral abilities to apply the knowledge effectively, is a self-directed one that helps learners transform their mental authority into academic capabilities. Students' perceived self-efficacy with regard to educational accomplishment boosts when they develop self-regulated skills in learning. Self-regulated learning is a scheme which assists students control their emotions, behaviors, and judgments so they can effectively navigate the courses they take. When a student's intentional actions and procedures are focused on acquiring new knowledge or abilities, this process occurs action (Öz & ŞEN, 2021).

It can be characterized as a dynamic procedure in which students conventional the goals guiding their academic and professional lives and endeavor to observe, control, and legalize their motivation, behavior, and attitudes in demand to meet those targets. Self-regulated learners take an engaged part in their educational experiences by maintaining their conduct and employing successful educational methods to meet their own objectives (Rosario et al., 2010). According to Zimmerman, self-regulated education strategies encompass goal-scenery, effort regulation to achieve boxes, self-monitoring, time management, and social and physical environment regulation. Engagement in academic tasks, readiness to learn, and the ability to control the erudition environment are all aspects of self-synchronized learning. Students who can regulate their emotions tend to learn more actively and respond less reactively (Sardareh & Saad, 2012).

An active, fruitful process in which learners identify their educational goals and then make attempts to television, regulate, and control their enthusiasm, behavior, and cognitive processes as driven and constrained by these objectives and the contextual variables in the environment. In self-changeable learning, students take ownership of their ideas, procedures, and activities in order to achieve academic excellence. Three interpretive components compose self-controlled learning: (a) self-regulation; (b) wisdom; and (c) learning. Trendy the milieu of research and learning, self-definition can be characterized as an individual's effort in creating and accomplishing goals and objectives. Second, regulation describes the process by which a person might move

effectively from their current circumstance to their desired position. Finally, learning is a series of tests and assignments designed to help acquire knowledge (Stanikza, 2019).

Character-regulated erudition provides a comprehensive understanding of how students acquire knowledge, skills, and enthusiasm. Due to its importance, extensive research has been conducted on SRL. Studies have shown significant correlations between self-regulated scholarship and abstract achievement across various grade levels and subject areas, as well as learning motivation. Goal-setting, reflection, monitoring, and self-assessment are a few processes and tactics that are associated with self-regulated instruction (SRL). These techniques have been deemed essential by specialists in education to help students take responsibility for their education and succeed in the twenty-first century. The progression of controlling, guiding, and managing one's behavior is known as self-parameter. Self-regulated erudition is defined as a deliberate, profitable process in which students set private goalmouths, manage their motivation, thoughts, and comportment, all while being directed and controlled by their objectives and the contextual environment (El-Adl & Alkharusi, 2020).

A metacognitive process in which pupil take proactive charge of arranging and altering their own learning paths is known as a self-regulated learning method. This includes the establishment of clear goals, ongoing self-evaluation of development, introspective analysis of results, and subsequent strategy recalibration based on both internal and external adhering to insights. Throughout the learning continuum, trainees who contribute to the above procedure exert volitional oversight of their behavioral, emotional, and intellectual responses. The overall goal is to foster long-term drive, improve problem-solving skills, and facilitate a deeper, more comprehensive comprehension of the subject matter. Self-regulated learning is a willingness we have to comprehend to operate our learning environments. In order to accomplish this, we must establish objectives, choose and implement into practice tactics that will help us accomplish those targets, and analyze our progress. Ban-dura's (1997) social-cognitive learning scheme laid the groundwork for self-regulated learning theory. The modification from socialized to self-directed learning processes is the main emphasis of self-regulated scholarship. The first is that a comprehensive repertoire of perceptive, metacognitive, and motivational assistances is essential for self-regulated learners. Subsequent, self-regulated apprentices employ abilities in order to organize, establish objectives, carry out and supervise the application of strategies, and assess their

personalized learning outcomes. Third, learners that exhibit regulation itself employ a diverse range of techniques in adaptable manners, accompanying these techniques with a range of adaptive motivational beliefs, includes elevated self-assurance, attributions to internal, controllable factors contributing to hypothetical accomplishment, erudition objectives, and intrinsic get-up-and-go (Schraw et al., 2006).

2.2 Importance of Self-Regulated Learning

Gradation of rheostat that learners have over their surroundings as well as sequestered circumstances through the learning process is notorious as self-regulated erudition. Pupils should be able to engage more effectively with others, manage the atmosphere of the classroom, and independently control their emotions as well as ideas, motivations, and behaviors. In physical and online learning environments, self-regulated learning is seen as a critical component of the learning procedure. Students' deliberate attempts to acquire knowledge and their decisions on their own are instances of self-regulated learning processes. It supports learners in maintaining order and control over the classroom setting. Students who employ self-regulated learning strategies develop goals, devise plans, maintain high levels of inspiration and confidence in themselves beliefs, track their own progress, and gauge themselves. Self-regulated learning techniques can help students be proactive in the cognitive, motivational, and emotional facets of learning. Self-regulated knowledge offers a framework for appreciating these aspects of learning (Öztürk & Türker, 2024).

The process of self-spawned ideas, emotions, and behaviors that are deliberately prearranged and periodically modified to meet one's individual goals is known as self-regulated learning, or SRL. By encouragement self-awareness and adaptation, SRL helps greenhorns dazed obstacles, efficiently cope their time, and consistently enhance their learning outcomes. In final analysis, these techniques foster intrinsic motivation and give learners the tools to successfully negotiate a variety of learning settings and intricate information landscapes, sustaining their adaptability and ability to succeed in both the classroom and their professional lives. Students can rally their critical discerning, effort administration, metacognitive, and time management abilities by participating in self-parameter activities (Buot, 2024).

Being a self-directed student is becoming increasingly important in the context of education. It refers to students currently who can study at an independent pace by

accepting responsibility and engaging fully in the learning procedure. As a learning method, self-regulated learning is necessary to help individuals develop more independent both within and outside of the classroom. Self-regulated students concentrate less on external stimuli like parents, professors, or friends and more on their unique internal motivation. Greater perseverance in the face of difficulties is subsequently stimulated by this autonomy, which cultivates a sense of accountability and personal ownership of the educational procedure. For instance, a student who is genuinely motivated—driven by a desire to understand the material or execute a long-term objective—may continue studying for an exam even in the absence of an urgent deadline or outside constraint. The educational process known as self-regulation (SRL) permits students to exercise self-control in selecting ideas or concepts and changing their learning tactics to achieve realistic goals. In contrast to traditional teaching methods, these approaches to learning focus on the pursuits of the pupils and emphasize their voices as the foundation of the learning experience. It appears that the SRL techniques' ability to cultivate student creativity, critical thinking, problem-solving, and collaboration throughout the course of study should come as no surprise (Wardani & Munir, 2023).

Students that practice self-structured learning employ conducts to manage resources and control their cognitive processes, which entails running and controlling the setting. Self-regulation exercises aid as a connection between students, their learning environments, and their general academic achievements. Self-regulated learning influences individuals' learning achievements. To be able to regulate, supervise, and manage one's own behavior, emotions, or attitudes in order to achieve a goal is recognized as self-regulation. Consolidating and arranging learning activities is a prerequisite for self-regulation, and it has a direct effect on the capacity of learners for efficient handling of time. Successful time management is essential for balancing one's life, handling many obligations, and lowering stress levels in addition to academic achievement. For instance, a apprentice is less likely to suffer from the stress of last-minute cramming or missed deadlines if they utilize time-blocking to set apart certain times for studying, going to class, and getting involved with extracurricular activities. Self-regulation is not a quality or trait of somebody. Rather, it is a skill that can be acquired and refined (Cheng, 2011).

SRL promotes more extensive involvement with the course material through the promotion of critical thinking and engaged involvement. People who use self-regulated learning appear more confident in academic outcome. Beyond academic success, SRL contributes to complete personal evolution. Adolescents that utilize self-regulated learning technique are more deliberate in their learning, which improves their academic achievement. Students can find knowledge gaps, strengthen their foundations, and correct their weaknesses by proactively planning, organizing, and reviewing their work. For instance, a student is more likely to hold onto information over time if they employ tactics for self-regulation like spaced repetition, which involves studying material over multiple sessions, as versus cramming one night prior to an exam. It fosters self-awareness, resilience, and a proactive approach to challenges. Students acquire to take responsibility for their learning, which boosts their confidence and autonomy (Barnard, 2010).

Self-directive techniques are necessary for the learning process. It can assist students in strengthening their study techniques and developing enhanced learning habits. It can also help them implement strategies for learning to improve academic results, track their progress, and investigate their performance. The proactive traits and self-motivating skills of self-regulated learners set them apart from other students. Studies reveal that pupils who exhibit self-regulation are more invested in their education. Most importantly, self-planned apprentices also manipulate their education environments to meet their essentials. Self-measured students enthusiastically participate in the learning procedure, which aids in developing critical thinking and problem-solving activities. They gain the ability to independently unravel difficult problems, evaluate information, and make wise decisions. These abilities help them overcome a variety of obstacles and are beneficial in both the classroom and the factual world. Although SRL prioritizes personal accountability, it also fosters teamwork abilities. Self-controlled learners can contribute to side objectives, work well in groups, and aid in the instruction of their peers. Effective communication, feedback-giving, and help-seeking are critical abilities in both academic and professional settings (Panadero & Tapia, 2014).

Self-regulating procedure is associated with students emergent into flexible, ultimate learners who can exertion and study both discretely and cooperatively. They are also critical and inventive thinkers, tricky solvers, and intellectuals. One important

factor contributing to student success inequalities is the growth of SRL. Self-regulation is a developmental skill that may be developed by all students, even those with special learning needs, and used to promote their academic progress. Students require self-regulating learning strategies as they generate motivation, autonomy, and successful learning outcomes. Students can actively monitor, resistor, and regulate their incentive, behavior, and mental procedures in order to succeed professionally by utilizing these tactics. With the help of such an approach, pupils can prioritize their assignments, make goals, track their accomplishments, and analyze their work, which strengthens their metacognitive abilities and assists them to comprehend the subject matter in greater detail. Self-regulatory strategies for promotion comfort pupils become more motivated, metacognitive discerning, and capable of taking calculated risks. The hypothetical, community, emotional, and career realizations of students can improved by these life-threatening learning competencies (Poole, 2015).

Self-generated concepts, mindsets, and actions that are cyclically adjusted and arranged to achieve personal objectives, involving problem-solving, are referred to as self-directive Models of self-regulation seek to explain why students take initiative in order to acquire novel abilities and data. SRL is a learning in which students initiate and focus their efforts on gaining knowledge and skills on their own, independent of instructors or other people. By encouraging students to reflect on their learning process, areas of strength, and areas for development, self-synchronized learning helps them become more self-aware and advance their metacognitive skills. For students to become lifelong learners, it is critical that they take ownership of their learning and use it to attain the knowledge and skills they need. They are able to self-police because they are conscious of what and how they have scholarly, as well as their deficiencies in knowledge and abilities while they are still learning. People benefit from this by doing better academically and acquiring the skills needed to be lifelong learners (Panadero & Tapia, 2014).

Active participation in the educational experience by students allows them to govern themselves from a metacognitive, motivational, and behavioral perspectives. The overall objective of self-regulated scholarship is to maximize learning and strengthen students' perceptions of their own effectiveness while maintaining authority over the process of learning. Setting goals gives students a clear direction and purpose, which boosts motivation. Self-monitoring also helps students

keep track of their progress and stay on track. Increased perseverance and lower educational dropout rates can result from this internal drive. As an illustration, a student attainment ready for an examination can establish more achievable objectives, such going over a particular chapter every day. They feel a sense tremendous pleasure when they fulfill these small tasks, which increases their drive to keep going. Scholars generally agree that one of the most important competencies for students to have, especially in this information era, is self-regulated learning. Apprentices who use SRL techniques frequently perform better academically. They are more adept at time management, goal-setting, and applying efficient learning strategies. Because they can organize, track, and assess their own learning, self-regulated learners regularly do better on exams, assignments, and overall grades, according to research (Elesio, 2023).

Students' ability to self-regulate their learning process significantly enhances their academic results, SRL has played an instrumental part in research into education over the past two decades. Self-controlled learning stimulates personal growth and accomplishment by forming long-term learning habits and equipping students with the ability to navigate demanding tasks and jobs on their own. Thus, promoting and putting into practice self-delimited learning techniques gives kids the tools they need to transform into resilient, self-focused learners who can adjust to a variety of learning milieus and thrive there. SRL is viewed as a method that helps students become autonomous so they can persist in charge of their own tutoring and develop their motivation, behavior, and metacognition. In order to concoct youngsters to be agentic lifelong learners in a culture that is self-motivated, unpredictable, and continually changing, self-regulated learning is imperative Using cognitive, metacognitive, and motivational components, undergraduates may contrivance self-planned learning strategies to regulate their own educational process and get beyond obstacles (Öztürk & Türker, 2024).

Self-measured learning is an energetic and advantageous process that allows students to keep trajectory and govern their motivation, conduct, and thought processes in addition to establishing targets. It is also described as a self-directive process considering learners can conversion their academic talents because of their beliefs in oneself. Pupils who participate in SRL acquire skills necessary for lifelong learning. People who possess the capacity to self-regulate their learning processes are more able to regulate to changing situations and advance over time. This flexibility is especially

vital in the quickly evolving world of today, when ongoing education is essential for both professional and personal growth. Since self-regulated learners set goals for themselves and see intrinsic value in their studies, they are usually more motivated. Rather than being motivated by incentives or demands from without, they are driven by their own goals. Acknowledging their accomplishments and progress helps them keep a positive outlook on learning, which keeps them interested over time (Zheng, 2016).

Actively, motivationally, and sensitively pro-active participants in their own educational process" are defining features of students who are self-regulated. Apprentices gain resilience through SRL to deal with obstacles and failures. They pick up perseverance, look for different approaches, and acquire knowledge from mistakes. In order to successfully navigate the intricacies of professional and educational situations, suppleness is a necessary talent. Hypothetical success, personal growth, and long-term success all depend on nature-regulated erudition. SRL gives publics the gears they need to take switch of their edification and appreciate their full budding by hopeful motivation, autonomy, perilous thinking, and emotional control (Sardareh & Saad, 2012).

2.3 Theories and Models of Self-Regulated Learning

Research on self-parameter was made promising by Bandura's illustration of social cognitive theory. Since Zimmerman first proposed the idea of "self-synchronized learning" (SRL) in 1986, educational mindset experts have technologically advanced it in a number of ways. Adolescents who energetically create learning goals and then track, modify, and assess their impetus, comportment, mood, and backdrops to meet those goals have been validated to engage in self-regulated scholarship. Four conventional approaches in edifying psychology describe how apprentices come to rheostat their own erudition. The stages and goal mouth of self-regulation vary throughout altered models, despite the circumstance that they all see SRL as a cyclical process (Yu, 2023).

The majority of self-instruction models make the assumption that self-regulatory conduct and outcomes like performance and achievement are closely connected. Numerous educational studies have shown how SRL may inspire students to learn and improve their performance. In order for learners to become independent, SRL theory addresses "How and why participants involve themselves in their

educational experiences," as well as what they ought to comprehend concerning themselves and their academic pursuits. Put away, this approach instructs pupils how to take control of their own learning and how to hand-picked behavioral, cognitive, and the metacognitive tactics that will require enough work in order to realize their predetermined objectives. The acquaintance and fundamental assumptions of the learners can serve as the initial starting point of SRL, which comprises of a number of cyclical periods. When SR learners engage in instructional endeavors, they first make use of their knowledge, beliefs, and research to evaluate the skills and resources needed for these endeavors. They then decide on their "goals" in light of their assessment. Eventually, people reach their predetermined goals through applying tactics that produce cognitive, affective, and behavioral effects (Sardareh & Saad, 2012).

The first premise of the idea of self-delimited learning is that undergraduates can enhance their wisdom abilities by hiring appropriate metacognitive and motivational techniques. The ability for schoolchildren to handpicked, plan, and establish a conducive learning atmosphere is the subsequent. The third is that apprentices have authority over the kind and magnitude of instructions they require. Self-delimited erudition has the benefit of allowing apprentices to actively and constructively delineate learning objectives and then attempt to display, normalize, and control their motivation and cognitive activity in their surroundings with the relief of contextual goal guidance (Rahmawati et al., 2023).

Identity-regulated wisdom is regarded as a paradigm that has considerable illuminating significance. It has drawn the interest of multiple academics and served as the basis for several significant theoretical frameworks. In the field of cognitive psychology, scholarship that is self-measured is a relatively recent expanse of study. Self-regulated learning is viewed separately by altered philosophers. Three primary elements of SRL are intellect, metacognition, and motivation. The first archetypal, dubbed the Good Information Processor model is based on the research of Michael Pressley and associates. This approach emphasizes the importance of cognitive techniques in particular. The second model, dubbed the Self-planned Learning model, is based on the research of Philip Winne and associates. This prototypical is unlike from the good information supercomputer model in that it places more emphasis on the role of metacognition, particularly the role of monitoring and criticism, while still emphasizing the interdependent linkages among cognitive, metacognitive, and

motivational components. The third model, often known as the Segments of Self-regulation archetypal, is based on the study's findings of Barry Zimmerman. The phases of self-by-law model differentiates the aforementioned from Winne's self-regulated erudition model, although being largely comparable in that it has lesser phases and places a greater focus on the aid of personal will (Schraw et al., 2006).

2.3.1 Pintrich's Model of Self Regulated Learning

Pintrich (2000) proposed a model that separates down SRL into four phases: (1) forecasting, activation, and forethought; (2) monitoring; (3) rheostat; and (4) reaction and reflection. The four spheres of regulation for each of them are context, behavior, motivation/affect, and cognition. That arrangement of sections and phases provides a thorough picture encompassing a sizable number of SRL occurrences (Panadero,2017).

2.3.2 Motivated Strategies for Learning Questionnaire

An imperative development in the pitch of self-regulated learning (SRL) is the Motivated Strategies for Learning Questionnaire (MSLQ). It has 15 gauges that are separated into two subdivisions: one with 50 items that focuses on education techniques (SRL) and another with 31 items that concentrations on stimulus. Cognitive, metacognitive, and resource administration are the three primary scale categories that make up the SRL slice. The MSLQ is the most widely used appliance for evaluating self-by-law and self-reported life eminence, according to two reviews accompanied more recently. This highlights how profoundly influential Pintrich's work proved to be in SRL (Panadero, 2017).

The MSLQ is a self-reporting implement consisting of 81 items: 31 items for self-delimited learning strategies and 50 items for motivational philosophies scales and subscales. It is centered on the motivational model of expectancy times values and measures various submission of erudition stratagems in a vague course or subject matter. It employs a seven-point Likert measure, with 1 representing "not at all accurate of me" and 7 indicating "very exact of me," with no labels assigned to the other response categories. This instrument's application and endorsement at many scholastic levels. The MSLQ instrument has been extensively utilized in plentiful nations, including Australia and Arabia, Japan, China, Canada, Taiwan to investigate the motivation and learning practices of students (Sardareh & Saad, 2012).

2.3.3 Zimmerman's cyclical exemplary of Self-Regulated Learning

One of the researchers who constantly studied SRL is Zimmerman (1998), who described the SRL procedure in standings of goal setting, task strategies, self-instruction, time management, self-monitoring, self-evaluation, self-consequences, environmental structuring, and help-seeking (Hapsari & Fatmasari, 2022).

The cyclical progressions that learners employ to rheostat their thoughts and behaviors prior to, during, and following culture experiences are described by the majority of SRL reproductions. In particular, Zimmerman's SRL model distinguishes three distinct phases: the recital phase, wherever learners focus, actively partake in tasks, apply and refine strategies, and television their progress; the self-reflection phase, where learners assess themselves, the task, and their recital; and the forethought phase, where learners set goals, approximation their motivation and abilities, and get ready to finish the commission and make plans for engaging in the task (Poole, 2015).

Zimmerman's cyclical emphasizes the cyclical character of SRL, in which students participate in three junctures of learning: foresight (planning and goal-setting) performance (via strategies and self-monitoring), self-reflection (self-estimation and adaptation). Task scrutiny and rousing attitudes are the two primary machineries of Zimmerman's model's forethought phase. Scenery objectives and planning are two illustrations of task analysis variables that are comparable to those mentioned by Winne and Perry (2000). Zimmerman emphasizes the reputation of self-efficacy, goal orientation, and intrinsic motivation, encompassing more motivational elements. The recital phase likewise includes components of self-control and self-observation. Attention-focusing *modus operandi* that help schoolgirls block out unwanted distractions are part of self-control. This component also covers the application of numerous study techniques to manage learning. Furthermore, students can employ an instructional method known as self-guided instruction, as described by Zimmerman, in which people speak instructions to themselves that illustrate how to do a task or assess their own understanding. A range of record-keeping actions form part within the one's own self ingredient, where students monitor their emotional and cognitive development. Self-judgments and self-reactions are both a part of the self-reflection phase. Monitoring one's cognitive performance, assessing subjective responses to execution, and assigning the proper causality are examples of self-judgments. In this stage, students keep track of whether they have achieved their previously set targets for

learning. Valuations of progress are based on several factors, such as whether fundamental objectives have been met, how well the individual has performed in comparison to others, and how well the entities has performed in reference to their previous undertakings. The majority of self-reactions are judgments about their emotive commitment (Schraw et al. 2006).

In accordance with Zimmerman's (2000) self-instruction model, students engaged in a cyclical practice of performance, self-reflection, and forecasting during which they formulate objectives, make plans for tactics, carry out actions, and appraise results. Self-regulated learning is cyclical, which underscores the constantly shifting interaction of cognitive, metacognitive, and motivational processes that synergistically support instructional effectiveness (Alhafidh, 2024).

2.4 Phases and Process of Self-Regulation

The field has advanced significantly as a result of Zimmerman's self-synchronized book learning models. Zimmerman's cyclical model covers aspects of behavior, motivation, along with cognition and consequently provides a more comprehensive outline of all aspects of self-regulation. There are several schemes that explain how self-structured learning (SRL) occupations. All of these theories agree that self-directive is cyclical, import that each task's recital informs the approach employed in subsequent tasks, and that it is prepared up of various processes (such as goal-locale and intensive care). However, the mainstream of studies identify Zimmerman's cyclical phase model as the chief model (Panadero & Tapia, 2014).

2.4.1 Forethought Phase

The ability to plan ahead, which encompasses steps that come before and serve as the cornerstone of the learning process and the growth of the self-regulation process, especially in setting goals (Alhafidh,, 2024). It is the first stage where undergraduates approach their assignment, analyzing it, determining how effectively they are capable of liability it, then establishing goals and a strategy on how to varnish it. To ensure proper organization and task execution, the task attentiveness and goal orientation are essential components. The pupils engage in two vital tasks through this phase. They begin with an examination of the task characteristics and then building a preliminary depiction of the intended execution. Secondly, they evaluate the task's relevance to them, which determines their drive and exertion and, consequently, the focus they will

have throughout the performance; to put it another way, this activates their self-control mechanisms (Panadero & Tapia, 2014).

The learner evaluates and decides which tasks (such as task analysis) are necessary to finish the assignment during the forethought phase. A plan is created and goals are established. By using a calendar or day planner for planning and creating objectives, students may be able to mark off certain times for reading or finishing homework. Motivational beliefs and expectations about the task's outcome (such as self-efficacy and outcome expectations) determine the learner's goals. A student will devote more hours to going over course contents before an exam if they think that studying more will improve their mark (Price, 2017).

2.4.2 Performance Phase

Performance is the outcome of the processes that occur during the learning activity and influence focus and decision-making (Alhafidh,, 2024). For two reasons, it is imperative that students maintain their concentration and utilize appropriate instructional techniques throughout their performance. First, to ensure that their incentive does not wane, and second, to display their advancement toward their objectives. Provisional on the self-directive paradigm being utilized, each imply distinct behaviors and measures (Panadero & Tapia, 2014).

The performance phase encompasses all of the behavior that a learner may take when completing a task because it is all about action. In the performance phase, a student might create a context that best supports learning, recognize the cognitive methods that help them finish an assignment, and ask for assistance from a peer, teacher, or tutor when they recognize that they need it. There may occasionally be a recognized reward or consequence connected to effort control. The student is tracking how well they are learning the material and how well they are performing on an assignment (Price, 2017).

2.4.3 Self-Reflection Phase

Self-reflection is a process that occurs follows a task is completed. It explains the cognitive and motivational reaction to the educational experience and serves as the foundation for the forethought phase in the learning cycle's subsequent tests (Alhafidh,, 2024). In this stage, learners calculate their own work and develop explanations for their outcomes. Depending on their attributional style, they feel either happy or negative

emotions when they rationalize their success or failure. These feelings are going to stimulate their drive and self-control later on (Panadero & Tapia, 2014).

The link between self-verdict and self-rejoinder oscillates during the self-reflection phase. Through character-evaluation, apprentice analyses their own endeavors. Their assessment is linked to both the learner's performance level goal and an external standard, such as a rubric. An exam consequence of 80 might be viewed as a success, leading to a sense of contentment with oneself. On the other hand, the student may have faith in that the 80 is the product of chance or teaching. Whether a scholar will put in effort or use learning tactics going forward is also influenced by their affective or cognitive response to how they explain their success or failure (Price, 2017).

2.5 Domains of Self-Regulated Learning

Self-ruling is the ability for apprentices to use their own personal tactics to reach their penalty area and sustain control over their impetus, emotions, behavior, and thought processes. Self-planned learning (SRL) comprises various approaches that qualify novices to effectively accomplish their own erudition processes. Key realms of SRL strategies include goal setting, time management, self-monitoring, self-reinforcement and self-estimation (Panadero & Tapia, 2014).

2.5.1 Goal-Setting

Setting goals is a fundamental element of person-regulated culture, in where pupils create specific, feasible goals to direct their learning activities. Proximal goals, which are short-term and precise, and distal goals, which are longer-term and less concrete. Through goal-locale, students give itself focus and drive, enabling them to direct their focus and enthusiasm toward activities that are pertinent to their learning objectives. Students with goals tend to be more persistent and tough. They are more resilient to setbacks and see impediments as chances for advancement rather than as barriers. Resilience like this is vital for long-term academic achievement. Goal-setting also helps apprentices keep track of and gauge their own routine since they may equate what they have achieved to their intended outcomes and modify their tactics accordingly (Alhafidh, 2024).

Setting goals is defined as a manner of determining the intended results while devising a strategy for obtaining them. Setting goals is an essential component in social-

cognitive learning frameworks. It is among the requirements necessary for successful autonomous education. One common strategy for facilitating modifications in behavior in students is to encourage them to develop objectives. One of the main tools ensuring that pupils utilize to control their own academic development is goal-setting. Objectives offer guidance, inspiration, and a means of tracking advancement. They support students in efficiently allocating their spare time and concentrating their efforts. There is a significant influence on learning conduct and accomplishment when the goals are obvious, attainable, optimally challenging, and reasonably near (Saks, 2024).

Establishing goals entails selecting SMART objectives to direct students' work. Setting and achieving goals that are effective will help students concentrate, become more motivated, and give their learning activities direction. Short-term goals are those that can be accomplished quickly, such finishing a homework assignment or getting ready for an impending test. Long-term Goals: These include more expansive targets that require more time to accomplish, including finishing a semester with honors or becoming a subject matter expert (Barnard-Brak, 2010).

2.5.2 Time Management

Organizing and planning how to split your time between various tasks is part of time management. Erudition how to manage their time well can help students use their time more productively and with less stress. Setting primacies means deciding which things are most important to widespread first and concentrating on them. Locale aside certain hours for studies, breaks, and other activities might be facilitated by making a daily or weekly timetable. Endways with other tactics like managing mental and physical assets, time administration is frequently regarded as a component of resource management. It entails inaugurating reasonable objectives, allotting work into digestible portions, and rub on strategies like scheduling, deadline setting, and progress tracking.

A key ability that aids undergraduates in organizing their homework stint, setting priorities, and maintaining devotion throughout the learning process is time management. Erudition how to succeed their time well reliefs apprentices avoid procrastination, balance numerous demands, and make steady evolution toward their goals. Gaining proficiency in time management can help students better controller other areas of their learning, such incentive, effort, and task concert, which will ultimately

mend their academic triumph. Time management solicitations, calendars, and planners are specimens of valuable tools (Barnard-Brak, 2010).

2.5.3 Self-Reinforcement

Self-reinforcement entails giving students' rewards for reaching predetermined milestones or finishing assignments. The foundation of this tactic is operant conditioning, which holds that desired behaviors are strengthened by positive reward. Self-reinforcement is a tool used in SRL to inspire students and promote perseverance. Material goods that students give to themselves after achieving a goal, such as snacks, new books, or other indulgences.

Self-corroboration is a key sphere within person-regulated, referring to the route by which novices reward themselves for triumphing specific learning goals or demonstrating desired behaviors. This form of self-regulation is crucial for maintaining motivation, reinforcing encouraging behaviors, and promoting sustained effort in the face of challenges.

In SRL facsimiles, self-buttressing sprays under the broader grouping of self-regulatory stratagems that support learners succeed their emotions, impetus, and behavior. Greenhorns who effectively use self-underpinning set personal rewards for accomplishing tasks or reaching milestones, such as compelling a break, treating themselves, or acknowledging their headway. This progression services sustain motivation by creating positive feedback loops, encouraging learners to stay promised and linger working toward their goals. Congratulation or cheering words from oneself or others, like "well done" or sharing accomplishments with loved ones. By making learning tasks more challenging, self-reinforcement can increase intrinsic motivation (Hapsari & Fatmasari, 2022).

2.5.4 Self-Monitoring

A crucial component of identity-regulated wisdom is reflection and one-to-one care, which let individuals review their enlargement, pinpoint their areas of gift and weakness, and amend their approach to book learning. Monitoring is the progression of continuously evaluating one's performance and grasp of information while engaging in educational activities. Self-specialist care is indispensable for ensuring that greenhorns stay on track with their goals, distinguish when they are besieged, and identify areas for improvement. It can consist of checking one's conception, weighing the effectiveness

of stratagems being applied, and gauging time running. Through self-monitoring, novices can ascertain when they need to rework their methodology, hunt for help, or invest more sweat in certain areas. This is recurrently carried out via self-testing, self-questioning, or self-observation (Alhafidh, 2024).

When students actively examine their own learning habits, processes, and results, they are engaging in self-monitoring. This tactic is essential for determining assets and liabilities, fine-tuning tactics, and guaranteeing advancement toward learning objectives. Monitoring one's own behavior and advancement toward objectives is known as "observing performance." This can entail using checklists, keeping a learning journal, or taking notes. Evaluating Performance: Determining areas for improvement and gauging effectiveness by comparing actual performance to predetermined standards. Bigger Awareness: Assists students in becoming more conscious of their thoughts and whereabouts. It emboldens reflection, self-correction, and the ability to acclimate stratagems based on unending criticism, which is key to improving academic performance and fostering an unfathomable indulgent of the learning process. Erudition that is more operative is made possible by adaptive learning, which enables students to modify their tactics in response to continuous performance assessments (Hapsari & Fatmasari, 2022).

2.5.5 Self-Evaluation

Conversely, reflection is consciously analyzing one's learning experiences, encompassing the causes of either accomplishment or failure, the potency of the measures executed, and the implications for learning in the future. Learners build metacognitive awareness and self-efficacy through inspection and reflection, which are crucial in facilitating flexible and independent learning processes (Alhafidh, 2024).

Self-evaluation entails evaluating one's own performance and advancement toward objectives. Through self-reflection, students can identify their areas of strength and growth, which helps shape their future approach to learning. Checklists and Rubrics: Students can more objectively appraise their work by using checklists and rubrics to compare finished tasks to predetermined criteria. Utilizing feedback: To identify performance gaps and areas for development, ask teachers, classmates, or self-assessment tools for their estimations. Self-Awareness: Through focused improvements, self-evaluation raises awareness of one's learning processes, strengths,

and shortcomings. It is particularly cherished for pleasing to the eye self-parameter, as it encourages greenhorns to take obligation for their own wisdom, make obligatory adjustments, and build a sagacity of ownership over their academic progress. Continuous Improvement: Students who often estimate themselves are more likely to adopt a mindset of continuous improvement, which pushes them to cultivate and make modifications (Barnard-Brak, 2010).

2.6 Characteristics of Self-Regulated Learner

Having the capacity to manage one's studies is known as autonomy. Since this talent was not innate, anyone may acquire autonomy. Likewise, autonomy was a quality of the learner as opposed to a product of the setting of instruction, meaning that with the right assistance, students could develop this capacity. The term "learner autonomy" describes the capacity to consolidate, carry out, and assess learning as well as solve related issues on one's own. "Those who have the dimensions for being active and free in the learning progression; they can identify goalmouths, formulate their own penalty area, and can conversion goals to suit their own erudition prerequisites and interests; they can use learning strategies, and to monitor their learning," is how self-sufficient greenhorns are defined. Self-guideline in the wisdom process is allied to learner sovereignty. That is demarcated as "self-generated judgments, feelings, and arrangements that are intended and intermittently adapted to the realization of gentle goals." It refers to understanding and controlling one's learning by setting goals, putting strategies into place, and tracking evolvment in the direction of goal achievement. Self-regulatory initiates are able to use and sustain their own thoughts, emotions, and behaviors in order to accomplish intentions. In addition to being adaptive, self-regulated apprentices make adjustments to achieve their objectives. They can track and gauge their learning by establishing a self-oriented feedback loop (Marzuki et al., 2023).

Self-regulated learners take charge of their educational experience by actively arranging their study sessions, establishing marks for learning, and using practical techniques to reach those objectives. They keep an eye on and examine their learning progress constantly, modifying their slant to accelerate goal triumph. Self-regulated learners possess the motivated insolences and beliefs necessary to comprehend, monitor, and guide their own wisdom in addition to the perceptive and metacognitive assistances. In order for erudition to be deemed self-regulated, it is obligatory to take into account the following traits: using a assortment of learning performances, being

efficient in the application of the strategies, and being dedicated to realization objectives. Strong feelings of self-efficacy and confidence in their skills are also characteristics of learners who regulate their own learning. Even in the face of impediments, they have faith in their ability to succeed through hard work and perseverance. These pupils are tenacious in conquering barriers and see shortcomings as chances for personal development. For example, a student may modify their study methods if they don't pass a practice test, interpreting it as a chance to get smarter rather than a failure. A self-regulating culture's main dispassionate is to guarantee that the entity engaged in it is able to hunt for and mend its intrinsic quality and that participants of the culture voluntarily contribute to its creation. Because of this, self-regulated learners typically take a full of life role in their edification (El-Adl & Alkharusi, 2020).

Learners who take obligation of their education and make attempts to attain knowledge and skills rather than trusting assistance from maternities or teachers. A self-regulated learner uses motivation, behavioral initiative, and metacognition to take the lead in their own edification. In the process of self-structured learning, greenhorns need to set their scholarship areas, make their acquaintance plans, signpost their learning strategies, demonstration their wisdom processes, consider their wisdom conclusions and suppress interfering. Students that are proficient of identity-changeable their training have a clear thoughtful of how to apply each self-regulation strategy in the right situation. Being adaptable and flexible are also vital attributes. Character-regulated students are prepared to modify their approach if necessary. When required they look for other resources or assistance and are quick to attempt new things. One method for progress is constructive criticism from classmates, teachers, or self-evaluations. They are energetic learners in terms of inspiration, activity control, and metacognition. As, they may attention on enhancing their knowledge objectives, adjust their pedagogical approaches, give themselves feedback, and then build on that feedback to enhance their learning even more. Higher levels of problem-solving and critical thinking abilities are typically displayed by self-regulated learners since they actively interact with the content and look for answers on their own (Sardareh & Saad, 2012).

1. Self-structured learners are adept at applying cognitive techniques, such as practice, elaboration, and association that support them in taking in, organizing, transforming, elaborating on, and recovering information.

2. Self-regulated learners reflect on their learning experiences to understand what mechanisms and what doesn't. They are able to enrich their performance in the future and improve their strategies thanks to this consideration
3. Self-regulated learners are capable of learning on their own, but they also function well in group environments.
4. Self-regulatory undergraduates are attentive of when and how to ask for assistance. To get over challenges and deepen their understanding, they variety use of the properties at their clearance, including peers, teachers, and internet resources.
5. They are driven by internal armies like interest, curiosity, and the need to developed experts in a field. Their deep engagement with the material is fueled by intrinsic motivation.
6. They know how to consolidate and construct conducive circumstances, such as finding upright spot to revision and asking coaches and fellow apprentices for assistance when they run into difficulties. They also disposition and accomplish the amount of time and determination to be spent on assignments (Sardareh & Saad, 2012).

The ability of trainees to set goals pathway their progress, and governor their motivation, behavior, and cognitive routes in order to magnificently accomplish those goalmouths is known as self-delimited learning. It entails using a variety of tactics to manage and enhance the learning process as well as being conscious of oneself as a learner. Self-regulation assist youngsters in developing through guided instruction and criticism, refining their mental aptitudes into expertise and habits. Through proactive learning, students are seeking opportunities to learn and tweak their approaches as necessary. They become self-reliant lifelong initiates because they take control over their educational experience and are compelled to accomplish their objectives. Self-regulated students show self-motivation, assume accountability for their edification, see learning as a proactive endeavor, and use strategies to assist them achieve their desired academic fallouts (Ghosh, 2024).

It is commonly known that having self-control over one's learning is beneficial for students' academic enactment, inspires learning, and is thought to be essential for healthy lifelong erudition. The ways in which apprentices define objectives, draw on existing knowledge, elect and modify cognitive techniques, activate task value and interest, mechanism their behavior, and apprehend the task and context of the reading

activities are all patterns of self-structured erudition through the use of augmented reality. The processes by which apprentices actively engage and maintain ideas, emotions, and behaviors that are uninterruptedly directed toward reaching their own areas are referred to as self-planned culture and recital. In order to achieve specific learning objectives, students who drill self-regulated learning make systematic endeavors to rheostat and accomplish their learning process. A variety of traits that self-regulated learners display help them succeed in educational settings. Being focused on objectives is one fundamental quality. These students establish both short-term and long-term objectives that are precise, quantifiable, and easy to understand. Instead of being stimulated by outside incentives, they are frequently intrinsically motivated by a sincere desire to become authorities in the field. The outcome of learners' efforts to set goals, apply strategies for learning to grasp those goals, trajectory their own development, and regularly assess it is self-regulated learning (Yulian, 2024).

2.7 Self-regulated learning and Academic Achievement

In general, academic achievement is the successful achievement or attainment of curricular goals, which is usually assessed using grades, test scores, and other methods. It shows the extent to which a student does and how fully-versed in a variety of academic subjects or fields they are in terms of knowledge, abilities, and competencies. According to a correlational study, learner profiles as a self-regulators and academic outcomes, as measured by grade point average (GPA), were positively correlated. Students who were categorized as great self-regulators, for instance, had higher GPAs; nevertheless, this positive connection does not always indicate causation. Although there can be a greater frequency of using studies look at particular SRL strategies, or a set of SRL methods, are correlated with academic success. The researcher expected that SRL would be positively associated to achievement. SRL tactics among learners with better GPAs. The meta-analysis indicates that the program of teaching self-regulation is effective for students' success, based on a comparison of the findings of 48 studies on the impact of self-regulation learning on elementary children (Price, 2017).

Since academic achievement has a direct connection with the results we value, it is vital. As a result, a student's academic success will heavily impact their career and prospects in school. Furthermore, academic achievement by a pupil opens the door to prosperity for any nation, therefore educational institutions must generate well-rounded

graduates in order to achieve their academic goals. Academic performance is influenced by a wide range of parameters, including curriculum, instructional materials, home and school environments, individuals' cognitive and emotional intelligence, socioeconomic background, and instructional materials. Academic performance was found to be higher for students with higher emotional intelligence than for those with lower emotional intelligence. Hard work and a high intelligence quotient are not always linked to excellent academic achievement. Academic success can be defined as a person's performance on a knowledge test designed to evaluate particular knowledge components. Self-parameter calisthenics serve as a connection between students, their environments, and their academic achievement. Erudition accomplishments are highly influenced by self-delimited learning. Furthermore, the area under character-regulated erudition policies that significantly affect the academic recital is the reasoning strategy use (Elesio, 2023).

Self-planned learning is an essential forecaster of speculative achievement and motivation of apprentices. Self-regulated activities gives student the capacity to better manage their own resources and the learning process as a whole. Academic success is the outcome of the progression of learning. Self-measured learning is one of several features that affect academic attainment itself. Many revisions suggest that person-regulated wisdom is one of the best conjecturers of speculative achievement (Ergen & Kanadli, 2019).

Students who can control themselves perform better in class. High school students who perform better academically are more adept at using self-regulated learning strategies and a wider variety of strategies to deal with different situations. Conversely, students who perform worse reported using fewer strategies and expressing a lack of specific methods for scientific studies. Self-regulated strategies are beneficial to students who are aware of them and apply them to achieve desired outcomes or part of the learning objectives listed in learning activities. They also keep an eye on how well they are doing as they work, appraise how far they have come, and choose study techniques that will help them finish their assignments. The results of the study indicate that students can enhance their academic performance through the development of self-regulation skills. Numerous studies establish a strong positive correlation between the use of SRL strategies and academic success. Apprentices who effectively employ SRL techniques, such as goal mouth-setting, self-intensive care, and self-reflection,

consistently achieve sophisticated grades and recovering learning outcomes (Zimmerman, 2001).

Self-directive gives individuals the tools they need to accomplish objectives that may come via social pressures or personal passions. Since self-controlling learning offers student legitimacy over their education, it aids in the achievement of more powerful academic goals. Self-regulatory individuals continually tackle problems and strive for ways to boost their work code and capabilities. Self-regulating people succeed at assignments because they try to bridge the gap amongst their current situation and the goals they have set. Self-regulation tactics are self-initiated techniques intended to improve learning, such a multistep approach to solving arithmetic story problems. Students influence their learning through procedures. Research designates that pupils who prepare their approaches ahead of time for an academic assignment outperform those who don't (Sirazieva, 2017).

Research consistently shows a robust positive link between self-controlled learning and academic success across diverse enlightening settings. Personality-regulated apprentices take proactive steps by background clear learning objectives, monitoring their progress, and adjusting their study methods accordingly, all of which significantly enhance their academic performance. Through metacognitive processes like planning, self-assessment, and reflection, these students effectively manage their study environs and optimize their learning strategies. Readings consistently reveal that students with strong SRL skills achieve higher grades, perform better on standardized assessments, and demonstrate deeper understanding of their coursework equated to peers who exhibit lower echelons of self-regulation. Furthermore, SRL not only supports immediate academic achievements but also cultivates lifelong learning competencies and adaptable behaviors essential for continuous personal and professional development. Zee and Bree (2017) discovered a constructive correlation between elementary kids' proficiency in arithmetic and reading skills and their ability to self-regulate. Similarly, metacognition and self-regulation were found to positively contribute to Punjabi secondary school students' academic progress. Furthermore, compared to female students, male students typically reported better levels of academic self-regulation (El-Adl & Alkharusi, 2020).

SRL techniques significantly increase pupils' capacity for remembering. A heightened sagacity of self-usefulness and disposition to take on tasks is the outcome

of situation and tracking severe yet feasible targets and guardianship track of accomplishments. A student's capability to learn individually is decisive to their future educational triumph. It is well recognized that the appetite of learners and capacity to exercise authority over their thought processes have a significant influence on the caliber of their education and degree of success. Significant boosts in student achievement as well as profound and worthwhile learning can be fostered by SRL. Numerous intervention studies demonstrate that teaching children how to learn self-regulated improves their academic performance. Additionally, it is believed that learning that is self-regulating combines skill and willpower. The learner's ambition is the will component, while their erudition tactics are the skill component (Sundaramoorthy, 2020).

2.8 Critical Summary of Literature Review

The literature review highlights the significance and importance of self-regulation in the learning process, emphasizing how it plays a crucial role in achieving academic success. Self-regulated learning is a multifaceted approach that involves individuals taking charge of their own learning journey by influencing, directing, and managing their behaviors, thoughts, and emotions. This proactive strategy allows learners to set specific goals, monitor their progress, and adjust their actions to achieve educational outcomes effectively. It encompasses a conscious and deliberate effort where learners control their motivation, cognition, and behaviors, aligning them with the demands of the erudition environment. By doing so, they acclimate to various contextual factors such as challenges, distractions, and personal limitations, all while remaining attentive on their objectives. The progression of self-regulation authorizes students to become more independent and self-directed, allowing them to take ownership of their learning. As they ripen these skills, they are better able to navigate complex tasks, overcome obstacles, and achieve academic areas without needing constant external guidance. Over time, apprentices who successfully engage in self-regulated learning not only enhance their academic performance but also build skills that contribute to lifelong learning, critical thinking, and subjective growth. Ultimately, the development of self-regulation enables learners to gain greater control over their educational experiences, enhancing their capacity for independent, self-directed, and effective learning throughout their academic and professional lives.

Self-Regulated learning is a crucial factor influencing academic success, particularly at the higher secondary level, where students face increasing academic demands. The literature climaxes that SRL involves three key domains: cognitive, metacognitive, and motivational. Cognitive strategies like summarization and rehearsal help students process and retain information, while metacognitive skills such as self-monitoring and replication allow learners to evaluate and adjust their learning strategies. Motivational beliefs, including self-efficacy and goal-setting, significantly impact students' determination and rendezvous in their studies. Research consistently shows that SRL is confidently allied with academic reaching, as students who effectively legalize their learning tend to accomplish better academically. SRL enhances self-efficacy, intrinsic motivation, and goal-oriented behavior, all of which contribute to improved hypothetical upshots. However, there are encounters in fostering SRL, including individual alterations in apprentices' abilities, the need for teacher support in teaching SRL strategies, and the stimulus of cultural and contextual factors. Furthermore, measuring SRL accurately remains difficult, with much of the research relying on self-rumors, which may not fully capture the complexity of SRL behaviors. Despite these contests, SRL remains a promising circumstantial for refining academic performance at the higher subordinate level, and future research should focus on tailoring SRL interpolations to diverse apprentice residents and developing more objective measures of SRL.

Students who involved in these learning strategies are not only aware of the specific strategies mandatory to regulate their learning but also recognize how and when to apply them effectively. For instance, these learners incessantly strive to improve their learning performance by adapting their approaches in response to feedback, reflecting on their progress, and making necessary amendments to optimize outcomes. Through self-reflection and active engagement with the material, self-regulated learners are able to refine their learning methods, ensuring that they are best suited to the tasks at hand. Additionally, self-structured learners demonstrate enriched problem-solving and critical discerning assistances as they are more likely to engage deeply with the content, assess their understanding, and seek clarifications independently. Their ability to monitor their progress and make informed pronouncements about their learning process allows them to approach challenges with grander assurance and resilience.

Self-regulated learning (SRL) has garnered considerable attention in educational research over the past few decades. Researchers such as Zimmerman (2000) and Pintrich (2004) have provided foundational frameworks, highlighting SRL as a multidimensional construct encompassing cognitive, metacognitive, motivational, and behavioral components. Studies have shown that students who employ self-regulated learning strategies tend to perform better academically due to their ability to set goals, monitor progress, and reflect on outcomes (Schunk & Zimmerman, 2012). At the higher secondary level, these strategies become even more crucial, as students face complex curricular demands and increasing academic pressure. Previous studies have emphasized the positive correlation between SRL strategies and academic performance, particularly in college and secondary education settings. However, most of these studies have focused on general secondary school populations, often in Western contexts.

Additionally, existing literature tends to focus on individual components of SRL such as goal setting or time management, rather than a holistic analysis of various strategies in conjunction with each other. There is also limited research exploring contextual factors such as socio-economic background, instructional methods, and school environment, which may mediate the SRL achievement relationship. Despite the growing body of literature on self-regulated learning, there remains a notable gap in empirical studies specifically focusing on the higher secondary level, particularly within the context of diverse cultural and educational settings. Most prior studies have emphasized tertiary education or have examined SRL components in isolation, thereby overlooking the comprehensive application of SRL strategies among adolescents transitioning into adulthood. Furthermore, there is a scarcity of research that explicitly investigates how these strategies directly relate to measurable academic outcomes in standardized educational settings at this critical academic stage. This study seeks to address this gap by examining the relationship between self-regulated learning strategies and academic achievement among higher secondary students, offering insights that could inform targeted interventions and instructional practices tailored to this specific age group.

However, measuring self-regulated learning (SRL) presents a significant challenge due to its inherently complex and multidimensional nature. Self-regulated learning encompasses various cognitive, emotional, and behavioral aspects, all of which are interdependent and difficult to assess accurately through conventional

methods. Many existing studies on SRL rely heavily on self-report questionnaires as tools for assessing learners' self-regulating behaviors. While these instruments can offer useful insights into how students perceive their own learning strategies, they are often limited in their accuracy due to several inherent biases. One major issue is social desirability bias, where learners may report behaviors they believe are more socially acceptable or expected by others, rather than those they actually engage in. Additionally, self-reports can be influenced by inaccurate self-perception, as individuals may overestimate or underestimate their abilities to regulate their learning, based on personal beliefs or past experiences. These biases can create discrepancies between what apprentices report about their self-regulation practices and their actual behaviors in real learning situations, making it challenging for researchers to obtain a clear, accurate picture of SRL in action. As a result, there is a growing recognition that the traditional self-report methods are insufficient to fully capture the complexity and range of self-regulated learning activities. This challenge underscores the urgent need for more reliable, objective, and comprehensive assessment methods in future research. Researchers must explore and develop alternative tools and techniques that can provide a more accurate demonstration of self-regulated erudition. This could involve combining self-reports with behavioral observations, performance-based assessments, or other data collection methods that are less prone to bias. Furthermore, advances in technology, such as the use of learning analytics and digital platforms, offer promising avenues for more precise and real-time tracking of self-regulation in educational settings. In summary, while self-report questionnaires have their place in SRL research, there is a pressing need to refine and expand assessment methods to ensure a more accurate and holistic understanding of how learners regulate their own learning, both in controlled settings and in real-world applications (El-Adl & Alkharusi, 2020).

CHAPTER 3

RESEARCH METHODOLOGY

The prime purpose of this research was to inspect the relationship between self-regulated learning strategies and theoretical achievement among higher secondary level students. This section of the thesis provides a comprehensive overview of the research methodology used in the study. It includes a detailed description of the research design, which outlines the approach and structure of the study. The population targeted for the study consisted of higher secondary level students enrolled in public colleges in Islamabad. The sampling technique employed for participant selection is also discussed. The data analysis methods employed in the study are also detailed, which include statistical performances such as mean, correlation analysis, and regression analysis, aimed at uncovering potential associations between self-regulated learning and theoretical performance. Ethical considerations are addressed, ensuring that the study adhered to ethical standards related to confidentiality and the integrity of the data collection process. This comprehensive methodology ensures the reliability and validity of the findings, contributing to a deeper understanding of how self-delimited learning stratagems impact academic achievement.

3.1 Research Design

The research paradigm was positivist. The positivist paradigm is grounded in the belief that reality is objective and can be observed, measured and analyzed through empirical methods. The study was descriptive and a correlational research design was used in the study to find the relationship among self-regulated learning techniques and academic achievement of students at higher secondary level.

3.2 Population

The Population for the study were higher secondary level students at public colleges in Islamabad .Population was comprised of 600 female students of 2nd year from session 2024-25 from 3 public colleges of Islamabad. The 2nd year students were selected to categorize them on the basis of their 1st year results to assess their academic achievement.

Table 3. 1*Population of the Study*

S. no	Public colleges	2 nd Year students'
1	IMCG G11/1	120
2	IMCG G10/4	250
3	IMCG F10/2	230
4	Total Population	600

(Source : Academic record 2024)

3.3 Sample and Sampling Technique

The sample size for the study was 234 female students, sample size was obtained by using Gay (2000) table of sample selection. Random sampling technique was used for selection of sample.

3.4 Instrument

The two instrument used in the study: Motivated Strategies for Learning Questionnaire (MSLQ) by Paul Pintrich (1991) and the Online Self-Regulated Learning Questionnaire (OSLQ) by Barnard and Brak were adapted. The survey comprised of 50 closed-ended statements, responses were measured using a five-point Likert scale, with the subsequent options: "Strongly Agree" (SA) scored as 5, "Agree" (A) scored as 4, "Neutral" (N) scored as 3, "Disagree" (D) scored as 2, and "Strongly Disagree" (SD) scored as 1. The academic achievement variable was restrained using students' final percentage in their first-year results.

Self-Regulated Learning Strategies (50 items)

Awareness 1-8

Goal setting 9-16

Time management 17-24

Self-Monitoring 25-32

Self-Reinforcement 33-41

Self-Evaluation 42-50

3.5 Procedure (Validity, Pilot Test, Reliability)

3.5.1 Validity

The instrument was developed in accordance with the objectives of the study and insights derived from the literature review. The instrument was validated by the team of experts, and all the experts were belonged to the field of education. To determine the validity of the instrument, questionnaire were distributed among five teachers to check construct and face validity. Based on their feedback, the researcher modified certain items, refined wording, and corrected grammatical or language-related errors. After incorporating the suggested revisions, the questionnaire was subjected to a pilot test to further assess its clarity and effectiveness.

3.5.2 Pilot Testing

The instrument was piloted before implementation of the actual sample of the study to check the reliability of the instruments. 30 students were selected for pilot testing 10 students from each public college. The researcher visited colleges in person to distribute the questionnaires. The researcher faced no exertion while administering the instruments. Pilot testing was done on the actual population but not included in the sample of this study. The reliability coefficient of instrument was premeditated by applying Cronbach's Alpha reliability method.

3.5.3 Reliability

In order to check the reliability of the instruments, the data gathered through pilot testing was analyzed through SPSS by applying Cronbach Alpha. The overall reliability of questionnaire is .893. Cronbach's alpha values are calculated independently for each domain. The high level of reliability indicates that the items in the scale are consistently measuring the intended constructs.

Table 3.2*Reliability of the Questionnaire*

Variables	Number of Items	Cronbach's Alpha
Awareness	8	.887
Goal Setting	8	.761
Time Management	8	.881
Self-Monitoring	8	.787
Self-Reinforcement	9	.877
Self-Evaluation	9	.789
Overall	50	.893

3.6 Data Collection

Data were collected from higher secondary level learners at selected public colleges in Islamabad. The researcher personally visited the colleges to dispense and collect the questionnaires. Prior to participation, students were provided with consent forms and evidence sheets outlining the resolution and procedures of the study. After giving detailed commands on how to complete the questionnaire, apprentices were asked to respond. Additionally, data related to academic achievement were obtained from the students' percentage in the most recent annual examinations (1st year exams).

3.7 Data Analysis

The study employed a quantitative research design. The composed data were analyzed and accessible using SPSS software. Self-measured learning strategies data were gathered through questionnaires completed by the students, while academic attainment was assessed based on the percentages attained in their most recent annual exams (1st-year exams). The following statistical procedures were applied to analyze the data: descriptive statistics (Mean), Pearson's correlation (r), analysis of variance (ANOVA), and regression analysis. All hypotheses were tested at a 0.05 level of

significance. The consequences were subsequently organized and presented in tabular form.

3.8 Ethical Consideration

The researcher provided a thorough explanation of the research intentions and goal line to all contestants, guaranteeing they fully understood the purpose and target of the study. Additionally, the researcher committed to safeguarding the secrecy of the students, ensuring that their names and any other identifiable information would not be made available to third parties or encompassed in any published materials. The research did not involve any inquiries deemed inappropriate or unethical. Furthermore, the data collected from the accused was used solely for the purposes of this study and will not be applied for any other intentions. The confidentiality and integrity of the participants' information were strictly maintained throughout the research process.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

This chapter presents the analysis and interpretation of the data collected for the study on the relationship between self-regulated learning (SRL) strategies and academic achievement of higher secondary students. The aim of this chapter is to provide a detailed examination of the data, including an assessment of students' awareness of SRL strategies, a comparison of SRL strategies among high, middle, and low achievers, and an analysis of the relationship between SRL strategies and academic performance. The study utilized a quantitative research approach to analyze the collected data, which were processed and examined using SPSS software. The questionnaire consisted of 50 closed-ended statements, with responses measured on a five-point Likert scale. Data on self-regulated learning strategies were obtained through questionnaires completed by the students, while academic achievement was measured based on the percentages from their most recent annual exams (1st-year exams). To analyze the data, several statistical methods were employed, including descriptive statistics (Mean), Pearson's correlation (r), analysis of variance (ANOVA), and regression analysis. The results were then organized and presented in tables for clarity.

Objective 1: To find out the awareness of students' regarding self-regulated learning strategies

Table 4.1

Student's Awareness about Self-Regulated Learning Strategies

Statements	N	M
I am aware of learning strategies I use, when I study.	234	4.09
I am aware of various learning strategies that can help me to learn more effectively.	234	3.45
I have a specific purpose for each learning strategy that I use.	234	3.67
I feel confident in my ability to learn independently.	234	4.12
I maintain a positive attitude towards learning and growth.	234	4.15
I reflect on my learning strategies regularly.	234	3.53
I change my learning strategies whenever I notice that my learning progress is slow.	234	3.51
I believe that self-regulated learning strategies can improve academic performance.	234	4.19

Table 4.1 reveals that students show moderate level of awareness of self-regulated learning strategies, with high confidence in their ability to learn independently (M = 4.12) and a positive attitude towards learning (M = 4.15). They also believe that these strategies can improve academic achievement (M = 4.19). However, their awareness of various learning strategies (M = 3.45) and the regular reflection on their strategies (M = 3.53) is moderate. While they are aware of the

learning strategies they use ($M = 4.09$) and tend to have specific purposes for them ($M = 3.67$), they don't always adapt strategies when progress is slow ($M = 3.51$), indicating some gaps in consistent self-regulation.

The highest mean is for the statement "I believe that self-regulated learning strategies can improve academic performance," with a mean of 4.19 ($SD = 0.661$). This indicates that students strongly believe in the efficiency of self-regulated learning strategies in enhancing educational results.

On the other hand, the least mean is for the statement "I am aware of various learning strategies that can help me to learn more effectively," with a mean of 3.45 ($SD = 0.725$). This suggests that students are somewhat neutral or slightly less confident in their awareness of the variety of learning strategies available to advance their effectiveness.

The computed mean of 4.166 for students' awareness of Self-Regulated Learning (SRL) strategies indicates a relatively high level of understanding and awareness among students. This score suggests that, on average, students are well-informed about the Self-regulated learning strategies.

Table 4.2*The domains of Self-Regulated Learning*

Domains	M
Goal-Setting	3.72
Time Management	3.51
Self-Monitoring	3.32
Self-Reinforcement	3.01
Self-Evaluation	3.63

The table shows that higher secondary students are most engaged in Goal-Setting (mean score: 3.72), reflecting their strong focus on setting clear objectives for their learning. They also show moderate engagement with Self-Evaluation (3.63) and Time Management (3.51), indicating that students generally evaluate their performance and manage their time well. However, Self-Monitoring (3.32) suggests a moderate level of tracking their progress, while the lowest engagement is seen in Self-Reinforcement (3.01), indicating that students are least likely to reward themselves for their achievements.

The domain of Goal-Setting has the highest mean score (3.72), indicating that students prioritize and engage most with setting clear, structured objectives for their learning. This suggests that they recognize the importance of having specific goals to guide their academic efforts, which is a key component of Self-Regulated Learning (SRL). In contrast, the domain of Self-Reinforcement has the lowest mean score (3.01), highlighting that students engage least in reinforcing themselves through positive rewards or incentives for their progress or achievements.

Hypotheses Testing

H₀₁ There is no significant relationship between goal setting and academic achievement of students at the higher secondary level

Table 4.3

Relationship between Goal setting and Academic Achievement of Students

Variables	N	R	p-value
Goal setting	234	.851	0.000
Academic Achievement	234		

This table represents the relationship between goal setting and academic achievement of higher secondary level students. The correlation value (r) is 0.891, and the significance (p) value is 0.000, which is less than 0.05. This indicates that there is a significant, very strong positive relationship between goal setting and academic achievement. The positive correlation suggests that as goal setting improves, academic achievement also tends to improve. Therefore, the null hypothesis stating that there is no significant relationship between goal setting and academic achievement is failed to accept. As there is a positive and significant relationship between goal setting and academic achievement of students at higher secondary level.

H₀₂ There is no significant relationship between time management and academic achievement of students at the higher secondary level

Table 4.4

Relationship between Time Management and Academic Achievement of Students

Variables	N	R	p-value
Time management	234	.789	0.000
Academic Achievement	234		

This table represents the relationship between time management and academic achievement of higher secondary level students. The correlation value (r) is 0.789, and the significance (p) value is 0.000, which is less than 0.05. This indicates that there is a significant, strong positive relationship between time management and academic achievement. The positive correlation suggests that students who manage their time effectively are more likely to perform better academically. Therefore, the null hypothesis stating that there is no significant relationship between time management and academic achievement is failed to accept. As there is a positive and significant relationship between Time management and academic achievement of students at higher secondary level.

H₀₃ There is no significant relationship between self-monitoring and academic achievement of students at the higher secondary level

Table 4.5

Relationship between Self-Monitoring and Academic Achievement of Students

Variables	N	R	p-value
Self-Monitoring	234	.815	0.000
Academic Achievement	234		

This table represents the relationship between self-monitoring and academic achievement of higher secondary level students. The correlation value (r) is 0.875, and the significance (p) value is 0.000, which is less than 0.05. This indicates that there is a significant, strong positive relationship between self-monitoring and academic achievement. The positive correlation suggests that as self-monitoring increases, academic achievement also tends to increase. Therefore, the null hypothesis stating that there is no significant relationship between self-monitoring and academic achievement is failed to accept. As there is a positive and significant relationship between self-monitoring and academic achievement of students at higher secondary level.

H₀₄ There is no significant relationship between self-reinforcement and academic achievement of students at higher secondary level

Table 4.6

Relationship between Self-Reinforcement and Academic Achievement of Students

Variables	N	R	Sig.
Self-Reinforcement	234	.521	0.002
Academic Achievement	234		

This table represents the relationship between self-reinforcement and academic achievement of higher secondary level students. The correlation value (r) is 0.521, and the significance (p) value is 0.000, which is less than 0.05. This indicates that there is a significant, moderate positive relationship between self-reinforcement and academic achievement. Therefore, the null hypothesis stating that there is no significant relationship between self-reinforcement and academic achievement is failed to accept. As there is a positive and significant relationship between self-reinforcement and academic achievement of students at higher secondary level.

H₀₅ There is no significant relationship between self-evaluation and academic achievement of students at higher secondary level

Table 4.7

Relationship between Self-Evaluation and Academic Achievement of Students

Variables	N	R	p-value
Self-Evaluation	234	.853	0.000
Academic Achievement	234		

This table represents the relationship between self-evaluation and academic achievement of higher secondary level students. The correlation value (r) is 0.853, and the significance (p) value is 0.000, which is less than 0.05. This indicates that there is a significant, strong positive relationship between self-evaluation and academic achievement of students at the higher secondary level. Therefore, the null hypothesis stating that there is no significant relationship between self-evaluation and academic achievement is failed to accept. As there is a positive and significant relationship between self-evaluation and academic achievement of students at higher secondary level.

H₀₆ There is no significant difference between use of self-regulated learning strategies and academic achievement among high, middle and low achiever students

Table 4.8

Difference between self-regulated learning strategies and academic achievement among high, middle and low achiever students

Source of Variation	Sum of Squares	df	Mean Square	F	p-value
Between Groups	195.123	2	97.561	320.770	0.000
Within Groups	70.258	231	0.304		
Total	265.381	233			

This table represents F-value is 320.770, and the p-value was 0.000, which is less than 0.05. This indicates that the difference between self-regulated learning strategies and academic achievement among high, middle, and low achiever students is statistically significant.

The results suggest that use of self-regulated learning strategies and academic achievement vary significantly across the three categories of students (high, middle, and low achievers). High achievers use more effective self-regulated learning strategies compared to middle and low achievers, middle achievers using fewer self-regulated learning strategies, and low achievers using the least self-regulated learning strategies. This shows that the null hypothesis (which proposed no significant difference between the three groups) is failed to accept, as there is a significant difference in the mean academic achievement and self-regulated learning strategies across the three groups.

H₀₇ There is no significant relationship between self-regulated learning strategies and academic achievement of students at higher secondary level

Table 4.9

Relationship between self-regulated learning strategies and academic achievement

Models	R	R ²	Adjusted R ²	t-value	p-value
1	0.85	0.722	0.720	8.56	0.000

The statistical analysis, as shown in the model, reveals a strong positive correlation between self-regulated learning strategies and academic achievement among students at the higher secondary level. The correlation coefficient ($R = 0.85$) indicates a very high level of association between the two variables, suggesting that students who employ effective self-regulation strategies tend to achieve better academic outcomes.

The coefficient of determination ($R^2 = 0.722$) indicates that approximately 72.2% of the variance in academic achievement can be explained by self-regulated learning strategies. The adjusted R^2 value of 0.720 indicates that the model accounts for a similar proportion of variance, even after adjusting for other variables.

The t-value of 8.56 and p-value of 0.000 strongly suggest that SRL significantly predicts academic achievement. The null hypothesis that there is no significant relationship between self-regulated learning strategies and academic achievement of students at higher secondary level has been rejected. As there is a positive and significant relationship between self-regulated learning strategies and academic achievement of students at higher secondary level.

CHAPTER 5

SUMMARY, FINDINGS, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

This chapter includes, summary of the study, findings based on analysis of data, conclusions based on results and findings and finally recommendations.

5.1 Summary

This study explores self-regulated learning strategies among higher secondary students, aiming to understand their perceptions and examine the relationship between these strategies and academic achievement. The research focused on comparing the use of self-regulated learning strategies among high, middle, and low achievers, as well as detecting how diverse domains of these strategies correlate with students' academic performance. The study was directed by the following research objectives: To find out the awareness of students' regarding self-regulated learning strategies, to compare the self-regulated learning strategies among high, middle and low achiever students at college level, to identify the relationship among domains of self-regulated learning strategies and academic attainment of students at higher secondary level, to identify the relationship between self-regulated learning strategies and educational achievement of students at higher secondary level.

A sample of 234 female students from public colleges in Islamabad was nominated using random sampling, and data were collected through a closed-ended questionnaire. The study used an adapted instrument grounded on two established questionnaires: the Motivated Strategies for Learning Questionnaire (MSLQ) and the Online Self-Regulated Learning Questionnaire (OSLQ). The survey included 50 closed-ended statements, with responses measured on a five-point Likert scale (Strongly Agree to Strongly Disagree). Academic achievement was measured by students' final percentage in their first-year outcomes. Questionnaire was validated by a team of experts, who assessed its construct and face validity. After receiving feedback from five experts, some statements were simplified and revised to improve clarity and effectiveness. A pilot test was conducted with a small sample to assess the suitability of the instruments for the target population. The researcher personally visited the colleges to administer the questionnaires. Based on feedback from the pilot study, statements that needed modification were revised to incorporate participants'

suggestions. To evaluate the reliability of the instruments, the data from the pilot test were analyzed using SPSS, applying the Cronbach's Alpha method.

The data analysis involved descriptive statistics (Mean) and inferential statistics (Pearson Product-Moment correlation, One-way ANOVA, and Regression). Hypotheses being tested at a 0.05 significance level. The results were organized and showed in tables for clarity and interpretation. These procedures certified the researcher to explore the relationship between learning strategies and academic performance at higher secondary level.

5.2 Findings

On the basis of data analysis, following findings were drawn:

1. The mean score of 4.16 for the level of awareness among students regarding Self-Regulated Learning (SRL) strategies proposed a relatively high level of awareness. This suggests that most students are aware of the various techniques that can help them manage their own learning, such as goal-setting, self-monitoring, time management, and self-reflection. Students exhibit strong belief in their freedom and capability to learn independently, along with a positive attitude toward knowledge. Additionally, they are self-confident that these approaches contribute to academic success (Table 4.1).
2. The domain of Goal-Setting has the highest mean score (3.72), indicating that students focus most on setting goals for their learning. The Self-Reinforcement domain has the lowest mean score (3.01), indicating that students engage least in rewarding themselves for their achievements (Table 4.2).
3. The results revealed a significant, strong positive relationship between goal setting and academic achievement among higher secondary level apprentices. The correlation value (r) is .851, and the p -value is 0.000, which is less than 0.05. This designates that as goal setting increases, academic achievement also inclines to advance. Consequently, the null hypothesis, which posited that there is no significant relationship between goal set and theoretical achievement, is failed to accept (Table 4.3).
4. The study revealed a strong and significant positive relationship between time management and academic achievement among higher secondary level students. The correlation value ($r = .789$) is substantial, and the p -value (0.000) is under the 0.05 therefore, indicating statistical implication. This proposed that students who effectively succeed their time are more likely to attain improved academic results. Consequently, the null hypothesis, which suggested no significant relationship between time management and academic achievement, is failed to accept (Table 4.4).
5. The analysis revealed a strong and significant positive relationship between self-Monitoring and academic achievement midst higher secondary level students. The correlation value ($r = .815$) is high, and the p -value (0.000) is below the 0.05. This signposts that as self-monitoring increases, academic achievement tends to

evolution as well. Hence, the null hypothesis, which proposed no significant relationship between self-monitoring and academic achievement, is failed to accept (Table 4.5).

6. The analysis revealed a significant, enough positive relationship between self-reinforcement and academic achievement among higher secondary level students. The correlation value (r) is .421, and the p -value is 0.002, which is below the 0.05. This suggests that as self-reinforcement increases, academic achievement tends to improve as well. Hence, the null hypothesis, which proclaimed no significant relationship between self-reinforcement and academic achievement, is failed to accept (Table 4.6).
7. The results revealed a significant, strong positive relationship between self-evaluation and academic achievement among higher secondary level students. The correlation value (r) is .853, and the p -value is 0.000, which is less than 0.05. This indicates that as self-evaluation progresses, academic achievement also tends to improve. Therefore, the null hypothesis, which proposed no significant relationship between self-evaluation and academic achievement, is failed to accept. As there is a positive and significant relationship between self-evaluation and academic achievement of students at higher secondary level (Table 4.7).
8. The analysis revealed a statistically significant transformation in the use of self-regulated learning strategies and academic achievement among high, middle, and low achiever students. The F -value of 320.770 and the p -value of 0.000, which is less than the 0.05 significance level, suggest that the mean scores of academic achievement and self-regulated learning strategies contrast significantly across these three groups. The findings signpost a clear pattern where high achievers engage in more operative self-regulated learning strategies, which contribute to their higher hypothetical success. In contrast, low achievers revelation less self-regulated strategies, resulting in lower academic performance. This shows that the null hypothesis (which proposed no significant difference between the three groups) is failed to accept (Table 4.8).
9. The statistical analysis revealed a strong positive correlation ($R = 0.85$) between self-regulated learning strategies (SRL) and academic achievement, with SRL explaining 72.2% of the variance in academic performance ($R^2 = 0.722$). The adjusted R^2 value of 0.720 confirms the model's robustness. The t -value of 8.56 and p -value of 0.000 indicate that the relationship is statistically significant, Therefore,

the null hypothesis, which proposed no significant relationship between self-regulated learning strategies and academic achievement, is failed to accept (Table 4.9).

5.3 Discussion

The present study was focused on investigating the relationship between self-regulated learning strategies and academic achievement of students at higher secondary level. The positive relationship between self-regulated learning (SRL) strategies and academic achievement in this study aligns with previous research in the field. According to Zimmerman (2002), students who actively engage in self-regulation, counting goal setting, self-monitoring, self-evaluation and time management, tend to perform better academically. This finding is reliable with the study by Pintrich and De Groot (1990), which demonstrated that students who utilized SRL strategies exhibited higher echelons of academic realization. Additionally, a study conducted by Schunk (2005) underscored that self-regulated apprentices are better able to adapt their erudition strategies based on reaction and reflection, which leads to improved academic outcomes. These discoveries support the notion that self-delimited knowledge is not only decisive for academic triumph but also promotes long-term academic evolution. Therefore, the results of the present study further accentuate the prominence of incorporating SRL strategies in enlightening settings to enhance students' academic performance at the higher secondary level.

The findings of the correlational study indicate a positive and strong relationship between key self-regulated learning strategies—goal setting, time management, self-monitoring, self-reinforcement and self-evaluation—and the academic achievement of higher secondary students. This is dependable with a treasure of previous research that underscores the prominence of these strategies in augmenting student performance.

Goal setting, for instance, has been shown to significantly influence academic outcomes. According to Locke and Latham (2002), students who set specific, measurable, and exciting goals tend to achieve higher academic success because they are more focused and encouraged. Similarly, a study by Schunk (1990) found that goal setting leads to greater persistence and more effective use of study strategies, which are crucial for hypothetical success. Time management, another essential module of self-regulation, has long been recognized as a critical factor in academic achievement.

Britton and Tesser (1991) initiate that students who effectively cope their time experience compact stress levels and perform grander in academic settings. Moreover, a study by Zimmerman and Kitsantas (2014) highlighted that apprentices who design and organize their study schedules consuming time management stratagems show higher academic recital due to their talent to balance several tasks and prioritize effectively. Time management is particularly imperative in higher secondary education, where apprentices face a range of academic anxieties and accountabilities.

The positive and significant relationship between self-monitoring and academic achievement submits that students who actively trajectory their erudition progress and make adjustments when needed tend to implement better academically. This finding is consistent with Zimmerman's (2002) model of SRL, which proposes that self-monitoring qualifies students to estimate their learning progress, set realistic goals, and modify their stratagems accordingly. The capacity to appoint in self-monitoring promotes better academic enactment because it fosters more effective byelaw of learning efforts. Numerous studies support the idea that self-monitoring is positively correlated with academic achievement. Schunk (2005) found that students who engage in self-monitoring of their erudition behaviors and progress tend to exhibit higher levels of motivation and academic achievement. Moreover, Pintrich (2000) emphasized the importance of self-monitoring in SRL, suggesting that students who can evaluate their learning and correct their strategies tend to achieve superior academic outcomes. Self-Evaluation, the ability to weigh one's own humdrum and amend learning schemes consequently, also dramas a pivotal role in hypothetical achievement. A study by Pintrich (2004) found that students who partake in self-evaluation are more likely to monitor their progress, distinguish extents for perfection, and take educative actions, which ultimately leads to better theoretical endings. Furthermore, research by Dinsmore and Alexander (2012) emphasized that apprentices who recurrently assess their own erudition processes renovation metacognitive alertness, which heightens their problem-explaining skills and academic enactment.

The findings clearly indicate that high achievers tend to engage in more effective and advanced SRL strategies, such as goal-setting, self-monitoring, time management, and self-reflection. These strategies likely help high achievers stay motivated, regulate their learning processes, and maintain focus, ultimately leading to higher academic performance. On the other hand, low achievers demonstrate less

frequent or less effective use of SRL strategies, which correlates with lower academic performance. This pattern highlights the significant role SRL plays in academic success, with students who are adept at self-regulation outperforming those who are less skilled in managing their learning. This analysis aligns with the work of Zimmerman (2002), who found that students with strong SRL skills are more likely to set specific learning goals, monitor their progress, and make necessary adjustments, leading to better academic outcomes. Research by Schunk and Zimmerman (2012) further supports the idea that SRL is crucial for academic achievement, as students who are self-regulated are better equipped to deal with challenges, maintain motivation, and take ownership of their learning.

Studies have also shown that high-achieving students tend to engage in more sophisticated forms of SRL. For instance, Artino (2009) emphasized that successful students use a variety of SRL strategies to actively regulate their cognition, emotions, and behaviors, which helps them perform better academically. In contrast, low achievers often struggle with self-regulation, as highlighted by Pintrich (2000), who pointed out that students with weaker SRL skills often show less persistence and lower motivation, factors that contribute to lower academic performance. Boekaerts (1997) also emphasized that students with higher self-regulation capabilities are more likely to set achievable academic goals, monitor their progress, and adjust their strategies to enhance learning, all of which contribute to better academic performance.

The high correlation value of 0.85 suggests that SRL strategies have a significant, positive relationship with academic outcomes. A meta-analysis by Donohoe et al. (2016) showed that SRL is a significant predictor of academic performance, with students who utilize SRL strategies consistently outperforming those who do not. Similarly, Pintrich (2000) identified SRL as a crucial factor in promoting deeper learning and better academic outcomes, emphasizing its importance across different educational levels and disciplines. The results also resonate with the work of Boekaerts (1997), who argued that students' ability to self-regulate their learning not only enhances their academic outcomes but also fosters lifelong learning skills, which are essential for success in an increasingly complex world. Additionally, research by Artino (2009) found that SRL strategies help students adapt to diverse learning environments and challenges, enhancing their academic resilience and overall performance.

5.4 Conclusions

On the basis of findings the following conclusions are made:

1. It is concluded that students demonstrate a high level of awareness regarding self-regulated learning strategies. They strongly believe in their capacity to learn independently and sustain a positive attitude toward acquiring knowledge. Furthermore, they are assured that these strategies contribute significantly to their academic success (Finding 1).
2. It is concluded that goal-setting is the most powerful self-regulated learning strategy in predicting academic success, while self-reinforcement, though still valuable, but has a relatively smaller impact on academic achievement (Finding 2).
3. It is concluded that there is a significant positive relationship between domains of self-regulated learning strategies and academic achievement among higher secondary level students. (Finding 3-7).
4. It is concluded that there is a significant difference in the use of self-regulated learning strategies among high, middle, and low achievers students. High achievers use more self-regulated learning strategies, which helps them perform better academically, while low achievers use fewer of these strategies, leading to lower performance. (Finding 8).
5. It is concluded that there is a strong positive relationship between self-regulated learning strategies (SRL) and academic achievement. SRL enlightens a significant portion of the variance in academic performance, demonstrating that students who meritoriously use SRL techniques incline to achieve better academic outcomes. This emphasizes the prominence of self-regulation as a key predictor of academic success at the higher secondary level (Finding 9).

5.5 Recommendations

According to the findings and conclusions the following recommendations were formulated:

1. As the findings indicated that students determine confidence in their ability to learn independently and have faith in the efficacy of self-regulated learning strategies, institutions may convey targeted awareness rising workshops or seminars to familiarize students to a broader range of self-regulated learning strategies.
2. As the results showed that students tend to struggle with adapting learning strategies, it is recommended that educators may provide guidance on how to adjust learning techniques, according to learning need.
3. There is a positive correlation between domains of self-regulated learning and academic achievement, it is recommended that curriculum developers integrate goal setting, self-monitoring and time management activities into the syllabus to further boost academic achievement. Curriculum developers may integrate self-evaluation procedures into the prospectus to boost students' reflective practices.
4. As the findings designated a significant difference in the use of self-regulated learning (SRL) strategies among high, middle, and low achiever students, enhancing the use of self-regulated learning strategies is essential for improving academic achievement across all student groups. Institutions, students, and teachers may collaborate to foster an environment where SRL is valued and practiced consistently. Institutions may provide the resources and structured programs to support SRL development, students may actively occupy with these strategies and seek help when necessary, and teachers can play a critical role in integrating and modeling SRL skills in the classroom.

5.6 Recommendations for Future Research

Some recommendations for further research are given below:

1. Future studies could include a variety of schools, both public and private, to see if the findings are the same across different types of institutions.
2. Future research could focus on male students, since this study only looked at female students. This would give a better understanding of how self-regulated learning strategies affect academic performance for both genders.
3. Future studies could explore different school levels, such as secondary, to see how self-regulated learning strategies relate to academic performance at various stages of education.
4. Future research could include a broader range of self-regulated learning strategies beyond the five strategies (goal-setting, time management, self-monitoring, self-reinforcement, and self-evaluation) used in this study. This would allow for a more comprehensive examination of other strategies that may influence academic achievement, such as metacognitive strategies, resource management, and emotional regulation.

REFERENCES

- Alhafidh, F. K. Y. (2024). Exploring the Impact of Using AI in support of the Self-Regulated Learning Process. *The Journal of Higher Education*, 476–479. <https://doi.org/10.13140/RG.2.2.34317.96481>
- Anthonyamy, L., Koo, A.-C., & Hew, S.-H. (2020). Self-regulated learning strategies and non-academic outcomes in higher education blended learning environments: *A one decade review*. *Education and Information Technologies*, 25, <https://doi.org/10.1007/s10639-020-10134-2>
- Artino, A. R., & Stephens, J. M. (2009). Academic motivation and self-regulation: A comparative analysis of undergraduate and graduate students learning online. *The Internet and Higher Education*, 12(3-4), 146–151. <https://doi.org/10.1016/j.iheduc.2009.02.001>
- Barnard-Brak, L., Paton, V. O., & Lan, W. Y. (2010). Profiles in self-regulated learning in the online learning environment. *The International Review of Research in Open and Distributed Learning*, 11(1), 61. <https://doi.org/10.19173/irrodl.v11i1.769>
- Boekaerts, M. (1997). Self-regulated learning: A new concept embraced by researchers, policy makers, educators, teachers, and students. *Learning and Instruction*, 7(2), 161–186. [https://doi.org/10.1016/s0959-4752\(96\)00015-1](https://doi.org/10.1016/s0959-4752(96)00015-1)
- Boekaerts, M. (1999). Self-regulated learning: where we are today. *International Journal of Educational Research*, 31(6), 445–457. [https://doi.org/10.1016/s0883-0355\(99\)00014-2](https://doi.org/10.1016/s0883-0355(99)00014-2)
- Britton, B. K., & Tesser, A. (1991). Effects of time-management practices on college grades. *Journal of Educational Psychology*, 83(3), 405–410. <https://doi.org/10.1037/0022-0663.83.3.405>
- Cheng, E. C. K. (2017). The Role of Self-regulated Learning in Enhancing Learning Performance. *International Journal of Research & Review*, 6(1). <https://doi.org/10.3389/fpsyg.2017.00422>
- Collins, N. (2009). Motivation and Self-Regulated Learning: Theory, Research, and Applications. *The Journal of Higher Education*, 80(4), 476–479. <https://doi.org/10.1080/00221546.2009.11779027>

- Dignath, C., & Büttner, G. (2008). Components of fostering self-regulated learning among students: A meta-analysis on intervention studies at primary and secondary school level. *Metacognition and Learning*, 3(3), 231–264. <https://doi.org/10.1007/s11409-008-9029-x>
- Dent, A. L., & Koenka, A. C. (2015). The Relation between Self-Regulated Learning and Academic Achievement Across Childhood and Adolescence: A Meta-Analysis. *Educational Psychology Review*, 28(3), 425–474. <https://doi.org/10.1007/s10648-015-9320-8>
- El-Adl, A., & Alkharusi, H. (2020). Relationships between self-regulated learning strategies, learning motivation and mathematics achievement. *Cypriot Journal of Educational Sciences*, 15(1), 104–111. <https://doi.org/10.18844/cjes.v15i1.4461>
- Elesio, J. M. (2023). The Influence of Self-Regulated Learning Strategies towards Academic Performance of College Students. *East Asian Journal of Multidisciplinary Research (EAJMR)*, 02. <https://doi.org/10.55927/eajmr.v2i2.3029>
- Ergen, B., & Kanadli, S. (2017a). The Effect of Self-Regulated Learning Strategies on Academic Achievement: A Meta-Analysis Study. *Eurasian Journal of Educational Research*, 17(69), 55–74. <https://doi.org/10.14689/ejer.2017.69.4>
- Ergen, B., & Kanadli, S. (2017b). The Effect of Self-Regulated Learning Strategies on Academic Achievement: A Meta-Analysis Study. *Eurasian Journal of Educational Research*, 17(69), 55–74. <https://doi.org/10.14689/ejer.2017.69.4>
- Ghosh, S. (2024). Perspective Chapter: Metacognitive Strategies – Preparing Self-Regulated Learners in the Twenty-First Century. *IntechOpen EBooks*. <https://doi.org/10.5772/intechopen.114093>
- Haftu Shaine, M. (2015). The Effect of Self-Regulated Learning Strategies and Self-Efficacy on Academic Achievement of Primary School Students. *Psychology and Behavioral Sciences*, 4(3), 107. <https://doi.org/10.11648/j.pbs.20150403.14>
- Hapsari, A., & Fatmasari, T. A. (2022). Online Self-Regulated Learning Strategies in the Process of Writing undergraduate thesis. *Journal of English and Education (JEE)*, 31(6). <https://doi.org/10.20885/jee.v8i2.24333>

- Jakesova, J., & Hrbackova, K. (2014). The Czech Adaptation of Motivated Strategies for Learning Questionnaire (MSLQ). *Asian Social Science*, 10(12). <https://doi.org/10.5539/ass.v10n12p72>
- John Mart Elesio. (2023). The Influence of Self-Regulated Learning Strategies Towards Academic Performance of College Students. *East Asian Journal of Multidisciplinary Research*, 2(2), 823–838. <https://doi.org/10.55927/eajmr.v2i2.3029>
- Kistner, J., Klieme, E., & Reusser, K. (2008). Focusing the conceptual lens on metacognition, self-regulation, and self-regulated learning. *Educational Psychology Review*, 20(4), 391–409. <https://doi.org/10.1007/s10648-008-9083-6>
- Lavasani, M. G., Mirhosseini, F. S., Hejazi, E., & Davoodi, M. (2011a). The Effect of Self-regulation Learning Strategies Training on the Academic Motivation and Self-efficacy. *Procedia - Social and Behavioral Sciences*, 29, 627–632. <https://doi.org/10.1016/j.sbspro.2011.11.285>
- Lavasani, M. G., Mirhosseini, F. S., Hejazi, E., & Davoodi, M. (2011b). The Effect of Self-regulation Learning Strategies Training on the Academic Motivation and Self-efficacy. *Procedia - Social and Behavioral Sciences*, 29, 627–632. <https://doi.org/10.1016/j.sbspro.2011.11.285>
- Marzuki, D., Sariani, & Sumira. (2023). The Effects of Self-Regulated Strategy Development (SRSD) Instruction on EFL Learners' Autonomy and Writing Proficiency. *International Journal of English and Applied Linguistics (IJEAL)*, 3(3), 266–278. <https://doi.org/10.47709/ijeal.v3i3.3095>
- Mücahit Öztürk, & Pınar Mıhcı Türker. (2024). Analysis of self-regulated learning strategies used by online learners. *E-Learning and Digital Media*. <https://doi.org/10.1177/20427530241251420>
- Panadero, E. (2017a). A Review of Self-regulated Learning: Six Models and Four Directions for Research. *Frontiers in Psychology*, 8(422). <https://doi.org/10.3389/fpsyg.2017.00422>

- Panadero, E. (2017b). A Review of Self-regulated Learning: Six Models and Four Directions for Research. *Frontiers in Psychology*, 8(422). <https://doi.org/10.3389/fpsyg.2017.00422>
- Panadero, E., & Tapia, J. (2014). How do students self-regulate? Review of zimmerman's cyclical model of self-regulated learning. How Do Students Self-Regulate? *Review of Zimmerman's Cyclical Model of Self-Regulated Learning*, 30(2), 450–462.
- Paris, S. G., & Paris, A. H. (2001). Classroom Applications of Research on Self-Regulated Learning. *Educational Psychologist*, 36(2), 89–101. https://doi.org/10.1207/s15326985ep3602_4
- Parveen, A., Jan, S., Rasool, I., Waseem, R., & Rameez Ahmad Bhat. (2023). Self-Regulated Learning. *Advances in Educational Technologies and Instructional Design Book Series*, 388–414. <https://doi.org/10.4018/978-1-6684-8292-6.ch020>
- Pekrun, R., Goetz, T., Titz, W., & Perry, R. P. (2002). Academic Emotions in Students' Self-Regulated Learning and Achievement: A Program of Qualitative and Quantitative Research. *Educational Psychologist*, 37(2), 91–105. https://doi.org/10.1207/s15326985ep3702_4
- Pintrich, P. R. (2004). A Conceptual Framework for Assessing Motivation and Self-Regulated Learning in College Students. *Educational Psychology Review*, 16(4), 385–407. <https://doi.org/10.1007/s10648-004-0006-x>
- Price, J. L. (2017). An Analysis of Self-Regulated Learning Strategies, Academic Performance, and Satisfaction among Recent Online High School Graduates. *Old Dominion University*. <https://doi.org/10.25777/vxxn-4j83>
- Poole, J. S. (2015). Promoting Self-Regulated Learning Promoting Self-Regulated Learning. *PsycCRITIQUES*, 6060(4242). <https://doi.org/10.1037/a0039762>
- Rahmawati, A. J., Gunarhadi, G., & Muchtarom, M. (2023). Self-Regulated Learning Enhancing Scientific Literacy for Higher Educations in 21st Century Education: A Systematic Literature Review. *AL-ISHLAH: Jurnal Pendidikan*, 15(2), 2625–2635. <https://doi.org/10.35445/alishlah.v15i2.2353>

- Saks, K. (2024). The effect of self-efficacy and self-set grade goals on academic outcomes. *Frontiers in Psychology*, 15. <https://doi.org/10.3389/fpsyg.2024.1324007>
- Schraw, G., Kauffman, D. F., & Lehman, S. (2006). Self-Regulated Learning. *Encyclopedia of Cognitive Science*. <https://doi.org/10.1002/0470018860.s00671>
- Schunk, D. H. (2005). Self-regulated learning: The educational legacy of Paul R. Pintrich. *Educational Psychologist*, 40(2), 85-94. https://doi.org/10.1207/s15326985ep4002_3
- Schraw, G. (1998). Promoting general metacognitive awareness. *Instructional Science*, 26(1-2), 113-125. <https://doi.org/10.1023/A:1003044231033>
- Sundaramoorthy, J. (2018). Self-Regulated Learning Strategies of Active Procrastinating Pre-University Students. *Electronic Journal of Research in Education Psychology*, 16(45), 325. <https://doi.org/10.25115/ejrep.v16i45.2096>
- Yu, B. (2023). Self-regulated learning: A key factor in the effectiveness of online learning for second language learners. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.1051349>
- Yulian, R. (2024). Examining the Roles of Self-Efficacy, Attitude and Self-Regulated Learning through Augmented Reality in Reading for EFL Learners. *Journal of Education Technology*, 7(4), 715–723. <https://doi.org/10.23887/jet.v7i4.64567>
- Zheng, L. (2016). The effectiveness of self-regulated learning scaffolds on academic performance in computer-based learning environments: a meta-analysis. *Asia Pacific Education Review*, 17(2), 187–202. <https://doi.org/10.1007/s12564-016-9426-9>
- Zimmerman, B. J. (1990). Self-Regulated Learning and Academic Achievement: An Overview. *Educational Psychologist*, 25(1), 3–17. https://doi.org/10.1207/s15326985ep2501_2

APPENDIX A

Questionnaire for Higher Secondary level (2nd year) Students

Dear student, I am Laiba Batool MS scholar from Department of Educational Leadership and Management at International Islamic University Islamabad, conducting the research on Relationship between Self-regulated Learning Strategies and Academic Achievement at Higher Secondary Level Students. This questionnaire contains various statements to find out the awareness of students' towards self-regulated learning strategies. Your Responses will be confidential and only used for research purposes.

Name (optional): _____

Group:

- Pre-Medical ☐
- Pre-Engineering ☐
- Fine Arts ☐

Percentage in 1st year exams:

- 80% or above ☐
- 51% - 79% ☐
- 50% or below ☐

Note: Carefully read the statements and tick the box against each statement according to your level of agreement.

- Strongly Agree (SA) = 5
- Agree (A) = 4
- Neutral (N) = 3
- Disagree (D) = 2
- Strongly Disagree (SD) = 1

No.	Statements	S.A	A	N	D	S.D
Awareness of students' towards Self-regulated learning						
1.	I am aware of learning strategies I use, when I study.					
2.	I am aware of various learning strategies that can help me to learn more effectively.					
3.	I have a specific purpose for each learning strategy that I use.					
4.	I feel confident in my ability to learn independently.					
5.	I maintain a positive attitude towards learning and growth.					
6.	I reflect on my learning strategies regularly.					
7.	I change my learning strategies whenever I notice that my learning progress is slow.					
8.	I believe that self-regulated learning strategies can improve academic performance.					
Goal Setting						
9.	I regularly set academic goals.					

10.	I set short-term (daily or weekly) goals for my study.					
11.	I feel more focused when I have clear study goals.					
12.	I make sure to stay aligned with my study goals.					
13.	I seek feedback on my study goals from teachers.					
14.	I review my study goals regularly to track my progress.					
15.	I reward myself for achieving study goals.					
16.	I noticed improvements in academic performance since I started setting goals.					
Time Management						
17.	I allocate specific time slots for studying each subject.					
18.	I use a planner or digital calendar to effectively organize my study time.					
19.	I set specific deadlines for my academic tasks.					
20.	I plan my homework/study time in advance.					
21.	I manage time to discuss course material with my class fellows.					
22.	I prioritize tasks based on their importance and deadlines.					
23.	I review my time management strategies regularly to identify areas for improvement.					

24.	I feel that time management strategy help to achieve better academic outcomes.					
Self-Monitoring						
25.	I ask myself questions about how well I am doing while learning something.					
26.	I use self-testing as a way to monitor my learning.					
27.	I adjust my study habits based on self-assessment.					
28.	I do review my past performance to identify areas for improvement.					
29.	I ask myself questions to make sure I understand the material I have been studying.					
30.	After completing a study task, I evaluate my performance to identify areas for improvement.					
31.	I keep track of my study progress.					
32.	I believe that self-monitoring strategies can improve my learning outcomes.					
Self-Reinforcement						
33.	I do positive self-talk to motivate myself when I feel discouraged during studying.					
34.	When I study I write important ideas in my own words for better understanding.					

35.	When I feel bored while studying, I make an effort to pay attention.					
36.	I reward myself after completing a challenging study task.					
37.	I give myself consequences when I don't achieve my study goals.					
38.	I actively try to participate in class discussions and activities.					
39.	I work hard to do well in my studies.					
40.	When I face difficulty in understanding a study task, I ask my class fellows for help.					
41.	Self-reinforcement learning strategy helps me in improving my academic performance.					
Self-Evaluation						
42.	I am aware of my strengths and weaknesses in studies.					
43.	I seek feedback from classmates to find out areas of improvements in my studies.					
44.	I summarize my learning to examine my understanding of what I have learnt.					
45.	I reflect on what worked well and what didn't after completing academic task.					
46.	I reflect on my academic performance and think about ways to improve.					

47.	I seek feedback from teachers and use it to improve my learning.					
48.	I believe self-evaluation helps me grow as a learner.					
49.	I set new learning goals based on self-evaluation.					
50.	I feel that self-evaluation strategy help me to achieve better academic outcomes.					

APPENDIX B

Experts who validated research instruments

S.no	Experts	Designations
1.	Dr.Zarina Akhtar	Assistant Professor, Department of Teacher Education, IIUI
2.	Dr. Humaira Akram	Assistant Professor, Department of Teacher Education, IIUI
3.	Dr. Fatima Batool	Assistant Professor, Department of Teacher Education, IIUI
4.	Dr.Fatima Maqsood	Assistant Professor, Department of ELM, IIUI
5.	Ma'am Sumaira Batool	Teaching/Research Associate, Department of ELM, IIUI