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Influence of Self-Regulated Learning on Prospective Teachers' Self-Efficacy, Study Habits, and Lifelong Learning Skills

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Abstract

This study examines the role of Self-Regulated Learning (SRL) in shaping selfefficacy and study habits of prospective teachers studying at the Institute of Education and Research, University of the Punjab. Self-Regulated Learning (SRL) is a key mediator of enhancing prospective teachers' self-efficacy, study habits, and lifelong learning skills. It profoundly affects their personal traits and enable them to foster independent learning in their future classrooms. Grounded in Zimmerman's cyclical model, it explores key SRL aspects like goal setting, selfregulation, reflection, and motivation for academic success. Using an interpretivist, qualitative approach, data were collected through semi-structured interviews with 10 prospective teachers (6 females, 4 males) studying at Institute of Education and Research University of the Punjab Lahore Pakistan. Thematic analysis revealed that SRL enhances intrinsic motivation, persistence, and proactive learning. Participants emphasized the importance of self-monitoring for progress, self-evaluation, performance and self-efficacy in overcoming challenges. They also reported that effective study time management and minimizing distractions further improved their academic performance. The respondents highlighted the potential of SRL to foster positive academic outcomes, advocating for its integration into learning environments for better academic results and future sustainability.

Key words: Self-Regulated learning, Self-efficacy, Undergraduate students

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Vol. 3 No. 8 (July) (2025)

Introduction

Self-Regulated Learning (SRL) is a process in which learners identify their goals, take responsibility for generating and evaluating their thoughts, emotions, and actions, and adjust their learning strategies accordingly (Pintrich, 2000). This concept plays a vital role in academic success, particularly among undergraduate students. According to McClelland, self-regulation can be socio-emotional (e.g., managing anger, improving relationships) or academic (e.g., enhancing reading comprehension, engaging in learning activities). Research highlights that high achievers demonstrate stronger self-regulation skills than low achievers, as they set precise learning goals, utilize strategic learning methods, and monitor their progress effectively (Zimmerman, 2002).

Zimmerman's cyclical model of self-regulated learning

Among the several self-regulated learning models, Zimmerman's (2013) cycle model, based on social cognitive theory, has gained widespread attention and is seen as successful, particularly among university students. According to the theory, self-regulated learning is made up of a variety of behavioral, motivational, meta-cognitive, and cognitive features that help with the process of organizing, monitoring, and assessing learning.



A MODEL OF SELF-REGULATORY LEARNING (ZIMMERMAN)

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Vol. 3 No. 8 (July) (2025)

Self-regulation is divided into three stages: task planning and evaluation before task execution, an assessment of the individual's current level of mental and motivational readiness, during-task monitoring of behavior governed by the plans and goals established in the forethought phase, and post-task analysis of self-performance.

Zimmerman, Bonner, and Kovach (1996) created a paradigm for converting low-self-regulatory students into those who use those multi-step strategies: (1) internal assessment and monitoring, (2) goal creation and planning for success, (3) strategy implementation and monitoring, and (4) tracking results as well as improving methods.

MOTIVATION AND SELF-REGULATED LEARNING

Motivation is a crucial component of SRL, influencing cognitive strategies and learning approaches. Butler (2022) highlighted how motivation, cognitive abilities, and social factors interact to shape students' learning experiences. SRL combines meta-cognition (e.g., planning, monitoring), motivation (e.g., self-efficacy, goal setting), and cognition (e.g., strategic learning approaches). Paris and Byrnes (2020) emphasized that students' cumulative knowledge and talents serve as the basis for SRL, allowing them to take control of their education.

SELF-REGULATED LEARNING FRAMEWORK

Cater et al. (2020) present an SRL framework that emphasizes three key components:

- **1. Forethought Phase:** Students foresee obstacles, establish goals, and devise methods.
- **2. Performance Phase:** Learners use a variety of ways to stay focused and manage their work effectively.
- **3. Self-Reflection Phase:** Students assess their own performance and learning results, changing tactics for future success.

El-Adl et al. (2020) define SRL as a cognitively driven strategy to information acquisition that connects self-regulation with academic achievement across several topics and educational levels.

www.thedssr.com

ISSN Online: 3007-3154 ISSN Print: 3007-3146



Vol. 3 No. 8 (July) (2025)

SELF-EFFICACY AND ITS ROLE IN LEARNING

Bandura's idea of self-efficacy relates to an individual's conviction in their capacity to complete activities and manage problems successfully. Self-efficacy impacts students' approaches to learning objectives, assignments, and academic problems.

High self-efficacy students view challenges as opportunities, remain engaged in learning, and persist despite setbacks.

Low self-efficacy students tend to avoid difficult tasks, doubt their abilities, and focus on negative outcomes.

ACADEMIC SELF-EFFICACY AND SRL

Schweder and Raufelder (2022) define self-efficacy as the "can" of motivation, which influences students' desire to participate in learning activities. Fryer and Ainley (2019) contend that motivation and competence perceptions promote students' cognitive engagement in learning. Similarly, Renninger and Su (2019) find that self-efficacy views influence learning behaviours and goal-setting techniques. Mastery-oriented educational settings can boost students' self-efficacy by offering positive role models, goal-oriented learning experiences, and constructive feedback (Schunk & Usher, 2019). Medaille et al. (2022) support Bandura's (1997) theory that self-efficacy develops through mastery experiences, vicarious learning, verbal encouragement, and emotional control.

ENHANCING SELF-REGULATED LEARNING IN HIGHER EDUCATION

Higher education institutions can support SRL by implementing evidence-based teaching strategies that enhance self-efficacy. These strategies include:

- 1. Encouraging goal-setting and self-monitoring.
- 2. Providing constructive feedback to reinforce learning.
- 3. Creating opportunities for reflection and self-assessment.

www.thedssr.com

ISSN Online: 3007-3154 ISSN Print: 3007-3146



Vol. 3 No. 8 (July) (2025)

4. Promoting time management and effective study habits.

According to Lidiawati et al. (2020), people with high self-efficacy see challenges as opportunities, stay devoted to their goals, and use strategic techniques to overcome obstacles. Yendork and Somhlaba (2015) emphasize that pupils who have a huge level of self-efficacy are more persevere and resilient in their academic efforts.

While this extensive study has shown the importance of self-regulated learning and self-efficacy in enhancing their studying accomplishment. There appears to be a vacuum in knowing how SRL and self-efficacy affect undergraduate students in university education settings. Furthermore, the fundamental interaction of SRL with socioeconomic factors, cultural diversity, and non-cognitive component such as inner regulation or stimulation has yet to be investigated; inscribe these break will give a more comprehensive perception of the role of SRL and self-efficacy enhanced the students accomplishment in diverse undergraduate circle in educational settings.

Self-regulated educational behavior (SRL) involves cognitive, metacognitive, and encouraging aspects that assist pupil arrange and manage their learning activities. Research indicates that learners with higher levels of selfmanagement tend to be more effective in their studies due to their ability to establish objectives, assess progress, and adjust approaches.

Students with a quickly developing rate of self-efficacy are considered to be more likely to use SRL methods, which leads to academic accomplishment comparable to college students. The idea discusses how personal efficacy influences which courses of action individuals take, how much effort they put into activities, how persistent people are in the face of adversity, and how people respond to failure. Higher levels of self-efficacy are favorably associated to motivation, perseverance, and maybe toughness.

In the light of the review of the related literature it may be concluded that Self-Regulated Learning (SRL) is a key mediator of enhancing self-efficacy, study habits, and lifelong learning skills of individuals. It also profoundly affects their personal traits and enable them to foster independent learning in their future. So this study was designed to identify the influence of Self-Regulated Learning on

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ISSN Online: 3007-3154 ISSN Print: 3007-3146



Vol. 3 No. 8 (July) (2025)

prospective teaches' study habits and Self-Efficacy.

OBJECTIVES OF THE STUDY

The study was conducted to attain the following objectives:

- 1. To analyze the impact of self-regulated learning on student's self-efficacy of prospective teachers.
- 2. To explore how prospective teachers perceive the interaction between self-regulated learning (SRL) and self-efficacy.
- 3. To discover the contribution of self-regulated learning in improving the study habits of undergraduate students by exploring their time management, goalsetting, and self-reflection practices.

RESEARCH QUESTIONS

The study was conducted to find out the answers of the following research questions:

- 1. What is the impact of self-regulated learning on student's self-efficacy of prospective teachers?
- 2. How prospective teachers perceive the interaction between self-regulated learning (SRL) and self-efficacy?
- 3. What is the contribution of self-regulated learning in improving the study habits of undergraduate students by exploring their time management, goal-setting, and self-reflection practices?

METHODOLOGY

RESEARCH DESIGN

This study used a phenomenological research design, that is better to comprehend people's lived experiences, focusing on the substance of their experiences. The researcher explored how self-regulated learning affects undergraduate students' self-efficacy and study habits. Semi-structured interviews, a hallmark of qualitative research, were employed to get detailed accounts of the students' thoughts. This strategy allows the scholar to focus on particular subjects and gain a greater understanding of the background for students' autonomous learning, self-efficacy, and ways of learning.

www.thedssr.com

ISSN Online: 3007-3154 ISSN Print: 3007-3146



Vol. 3 No. 8 (July) (2025)

RESEARCH PARADIGM

An interpretivist approach has been followed in this study. This approach focuses on understanding things within their specific context. Instead of relying on numbers and measurements, it explores how people personally experience and interpret reality. To do this, researchers used two meaning-based methods: observing participants and conducting interviews. One key feature of the interpretivist approach is qualitative research, which studies small, specific groups rather than trying to collect data that applies to an entire population (as in quantitative research) (Creswell, 2014).

PARTICIPANTS AND SAMPLING

The sample of the study was selected through homogeneous random sampling techniques and there were 10 prospective teachers from the Institute of Education and Research University of the Punjab. Consents were sought and only those individuals were interviewed who could provide in-depth interviews and diverse opinions on the topic under study.

INTERVIEW PROTOCOL

An interview protocol was developed and semi-structured interviews were conducted to collect the data. Interview protocol consisted of open ended questions. The questions aimed at exploring personal experiences and perception of the participants for the influence of Self-Regulated Learning on their Self-Efficacy and also gave recommendations in this regard.

CONDUCTING INTERVIEWS

Interviews were performed independently in an informal and confidential context, whether it was in person or through online platforms, depending on the participants' choices. This layout aims to provide a comfortable environment for open discussion. The interviews lasted 15-20 minutes and were audio-recorded with participants' agreement. This enables proper record keeping for further transcribing and analysis.

www.thedssr.com

ISSN Online: 3007-3154 ISSN Print: 3007-3146



Vol. 3 No. 8 (July) (2025)

FIELD NOTES

Detailed notes were collected during interviews to capture contextual variables including body language and emotional reactions, offering insights beyond spoken content. After conducting interviews, the audio was listened to several times in order to thoroughly record all of the material. Initial codes were created. The majority of data were acquired through semi-structured interviews. Major themes and sub-themes were produced in order to assess and define the themes for the next stages.

ANALYSES

THEME 1: ROLE OF GOALS IN MOTIVATION AND PERFORMANCE

Goal setting is a key aspect of Zimmerman's SRL model, lying under the planning phase when pupils plan their learning and establish targets. Motivation, both intrinsic and extrinsic, helps students stay dedicated to their goals, which is essential for academic perseverance. Participants identified goal-setting as a key factor in maintaining attention and enhancing performance.

SUB-THEME 1: GOAL SETTING AND ACHIEVEMENT

Establishing goals has developed to become one of among the most used motivational strategies in academics. Clearly established precise and measurable goals aided respondents in adhering to their scheduled study schedules and staying concentrated on their objectives; for the majority of learners, these targets gave clarification and a blueprint for academic achievement.

Student 1 said:

Setting study objectives empowers me to manage my time and enhance my performance, allowing me to stay organized and focused.

Student 5 said:

Emphasized the positive feedback loop that goal-setting created:

Setting objectives helps guide my academic path and motivates me to work towards them, leading to improved performance and a sense of purpose.

www.thedssr.com

ISSN Online: 3007-3154 ISSN Print: 3007-3146



Vol. 3 No. 8 (July) (2025)

SUB-THEME 2: INTRINSIC MOTIVATION AND EXTRINSIC MOTIVATION

Intrinsic motivation is an impulse to pursue action for own fulfillment or delight instead of for external reward.

Student 7 said:

Identifying goals provides a clear sense of direction, increasing motivation, concentration, and willingness to put up extra effort at each stage.

Extrinsic motivation:

Extrinsic motivation refers to influencing the ways students learn in exchange for other advantages or meeting external demands, such as receiving high marks, recognition, or meeting deadlines established by others. Although it can facilitate actions focused at certain goals, over reliance on external factors may impede the formation of genuine enthusiasm in the entire procedure.

Student 3 said:

"I work hard in my studies because I want to achieve high grades and make my family proud. Knowing that good academic performance can lead to better job opportunities and a scholarship keeps me motivated to stay consistent with my study routine."

Student 10 said:

Acknowledged the dual nature of extrinsic motivation:

Achieving objectives drives me to work more, but it may be daunting at times, especially with several projects and deadlines.

THEME 2: SELF-MONITORING AND SELF-REFLECTION IN LEARNING

Self-monitoring is part of the performance phase in SRL, where students track progress and make adjustments. Reflection helps students evaluate their learning strategies, leading to improvements. Participants described how self-assessment and reflection helped them refine their study techniques, making it a distinct theme.

www.thedssr.com

ISSN Online: 3007-3154 ISSN Print: 3007-3146



Vol. 3 No. 8 (July) (2025)

SUB-THEME 2.1: SELF-ASSESSMENT:

Self-evaluation has become an important tool for students to assess how they are functioning, make required modifications to their approach, and carefully reflect on work completed.

Student 1 said:

"At the end of each semester, I review my grades to assess my progress and identify subjects where I need improvement. This self-evaluation helps me adjust my study strategies and focus on areas that require more effort."

SUB-THEME 2.2: STRATEGIES BASED ON SELF-REFLECTION

The students established personal adaptive techniques through self-reflection, and they were able to adjust their ways for better results by considering both their triumphs and mistakes.

Student 5:

Reflective practice is key to my learning. Each week, I review what I studied, assess the effectiveness of my approaches, and ask myself questions like:

What did I understand? What could I have done differently? This strengthens my understanding and inspires me to adjust my study patterns. Writing these reflections gives me clarity on my progress and areas to improve.

SUB-THEME 2.3: META-COGNITIVE AWARENESS:

The capacity to critically reflect on mental procedures that contribute to conscious awareness has developed as an identifiable trait. With such understanding, students were capable of to successfully manage their learning and acquire faith in their talents.

Student 3 said:

Every day, I take a few minutes to think and ask myself what I learned. What works? What doesn't work? What might I do better? As a result, this technique allows me to better grasp my own strengths and flaws.

www.thedssr.com

ISSN Online: 3007-3154 ISSN Print: 3007-3146



Vol. 3 No. 8 (July) (2025)

THEME 3: THE ROLE OF SELF-REGULATED LEARNING AND SELF-EFFICACY

Self-efficacy is closely linked to SRL students with high self-efficacy are more likely to engage in self-regulation. This theme highlights how students develop confidence through goal achievement, overcoming challenges, and learning persistence. The data showed that students

SUB-THEME 3.1: CONFIDENCE THROUGH GOAL ACHIEVEMENT

These significantly increased the pupils' self-confidence and believe in themselves. Higher self-confidence pushed them to set higher goals than their past performance levels.

Student 7 stated:

That will boost my confidence in studying: if I grasp a particularly difficult concept, my exam scores improve, or I complete my study objectives ahead of schedule. All of this demonstrates that I am making progress and motivates me to keep going.

Student 9 said:

Small wins, such as grasping a subject, completing an assignment, or concluding a study session, can improve confidence. For example, receiving 100% marks in an exam can lead to acclaim and recognition.

THEME 6: OVERCOMING DISTRACTION AND MAINTAIN FOCUS SUB-THEME 6.1: MANAGING DISTRACTIONS

Distraction management is a key self-regulation skill—students need strategies to stay focused and optimize their study environment. The data revealed that students actively developed techniques (e.g., Pomodoro technique, reducing phone use) to enhance concentration. This theme was necessary because students who struggled with distractions faced greater academic challenges, linking it to SRL effectiveness.

Student 1said:

To minimize distractions, I turn off my phone and concentrate in a quiet area.

Although true, removing distractions is necessary for productive work.

www.thedssr.com

ISSN Online: 3007-3154 ISSN Print: 3007-3146



Vol. 3 No. 8 (July) (2025)

SUB-THEME 6.2: FOCUSING TECHNIQUE:

When distractions were reduced during study time, students adopted comparable tactics. Participants used a variety of approaches, including the Pomodoro Technique, mindfulness, and setting specific time targets.

Student 3 said:

I employ the Pomodoro approach, stopping after 25 minutes and taking a 5-minute break after studying for an hour. This improves concentration, reduces tension and exhaustion, and prevents boredom.

SUB-THEME 6.3: SUPPORT SYSTEM:

Having a support system was a significant success factor for some participants in avoiding distractions and anchoring themselves.

Student 2 said:

Both of my parents are really supportive of me. They remind me of my mission, and I want to avoid disappointing them again.

This response exemplifies how existing mechanisms, such as parental support care, motivate students to work towards academic goals. It suggests that such expectations to accomplish family goals might provide students with the motivation to study hard and concentrate. Students who complain about difficult times understand that it provides them with an opportunity to seek assistance from their adviser and begin again. Mentors can provide personalized counseling, time management tips, and moral support, all of which help to motivate people.

RESULTS

The study revealed key factors influencing the self-efficacy and study habits of undergraduate students, based on thematic analysis and participant responses. Students showed varying levels of self-efficacy, influenced by their ability to set goals, reflect on learning, and maintain motivation. Consistent support from family, peers, and educators enhanced students' resilience and academic confidence. Goal-setting and self-reflection were identified as crucial practices for improving study habits and academic outcomes. Resource limitations in diverse backgrounds posed challenges for fully adopting self-regulated learning practices. Positive teacher-student relationships and peer support were essential

www.thedssr.com

ISSN Online: 3007-3154 ISSN Print: 3007-3146



DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 8 (July) (2025)

for boosting confidence and fostering effective study habits. Educators helped students develop motivational techniques to overcome obstacles and stay focused on their goals. Higher self-efficacy was linked to better academic performance and social connections, while lower self-efficacy led to academic and relational difficulties. Providing access to workshops, reflective activities, and digital tools improved student engagement with self-regulated learning.

DISCUSSIONS

The findings of this study align with previous research, particularly Zimmerman's Model of Self-Regulated Learning (SRL) and Bandura's Social Cognitive Theory, which emphasize the role of goal-setting, self-monitoring, and motivation in enhancing self-efficacy and academic performance. Similar to Ortiz et al. (2022), this study confirms that structured study habits and time management contribute to students' confidence in their academic abilities. However, some differences emerge when compared to prior research. While Zhao and Cao (2023) highlighted the importance of SRL in digital learning, this study focuses on a traditional classroom setting in Lahore's public sector university, revealing the influence of cultural and institutional factors on SRL practices. Additionally, the past research Alvi and Gillies (2020) emphasized teacher-directed SRL strategies, while the current study revealed that students rely more on independent learning approaches, particularly self-reflection and overcoming challenges. Another key difference is in motivational factors—unlike studies that stress extrinsic rewards such as grades and peer recognition, result of this study exposed that students are more driven by intrinsic motivation, seeking self-improvement and academic growth.

Despite these similarities, there were various paradoxes and surprising results. While prior research indicated that individuals with strong SRL abilities do better academically, this study discovered that certain participants, despite displaying self-regulated learning behaviors, under performed academically. External variables such as institutional support, socioeconomic situations, and varied instructional styles might all contribute to this discrepancy. Furthermore, despite Winne and Hadwin's (2021) suggested that self-monitoring leads to higher performance results, results of this study discovered that students who

www.thedssr.com

ISSN Online: 3007-3154 ISSN Print: 3007-3146



Vol. 3 No. 8 (July) (2025)

engaged in excessive self-monitoring reported greater anxiety, which had a detrimental influence on their learning efficiency. These differences underscore the intricacy of SRL and imply that its efficiency may depend on a balance of self-regulation and external learning settings. The findings advanced the understanding of SRL in a specific educational and cultural setting, providing insights for future interventions targeted at encouraging self-regulated learning among undergraduate students.

CONCLUSION

This study explored the use of self-regulated learning (SRL), self-efficacy, and study skills as a coherent framework for improving prospective teachers' academic experiences and preparing them to overcome academic difficulties. It emphasized the importance of resources, support, and feedback in enabling students to effectively employ SRL techniques, with well-supported contexts promoting success and under-resourced settings providing challenges. The findings leaded towards the suggestions for strengthening student support services, learning interventions, and educational policies to promote self-regulated learning (SRL), self-efficacy, and study skills. Practical ideas include implementing SRL approaches into teaching, mentoring programme, and promoting self-efficacy in order to build inclusive educational settings in which teachers may take responsibility of their learning and that of their students.

RECOMMENDATIONS

The following were the recommendations of the study:

- 1. To stay motivated and engaged, prospective teachers should create clear, attainable objectives and divide them down into smaller sub-goals.
- 2. Developing pupil teachers' reflective skills can enhance their capacity to track their progress and identify chances for growth. Some reflective activities, such as a learning journal or peer conversation, can provide interesting information about learning processes and performance.
- 3. Teachers can incorporate goal-setting, self-tracking, self-assessment, and time management skills into workshops or academic skill sessions to help prospective teachers overcome problems and continue progress.

www.thedssr.com

ISSN Online: 3007-3154 ISSN Print: 3007-3146



Vol. 3 No. 8 (July) (2025)

- 4. Collaborative initiatives, such as group assignments, study circles, and mentor-ship, can increase student engagement and emphasis on shared goals.
- 5. Universities may promote SRL practices by offering goal-setting sessions, study skills seminars, reflective writing, mentorship, and peer tutoring to assist students negotiate academic and personal problems successfully.
- 6. Institutions should implement policies that provide timely constructive feedback, offer scholarships and resources for low-funded students, and address socioeconomic disparities to enhance learning opportunities and student success.

LIMITATIONS AND FUTURE DIRECTION

This research was undertaken in one institution and involving only a limited number of participants is somewhat limiting and the results might not apply to a wider group of students. It also looked more at personal perceptions as opposed to aspects such as socioeconomic background or institutional support. In future studies, the researchers may include more participants with a different variety of universities to examine SRL in the digital or mixed-learning environment. Moreover, it might be useful to measure SRL effects on academic performance through an intervention on the long-term basis.

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www.thedssr.com

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Vol. 3 No. 8 (July) (2025)

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