Remittances Review
May 2024,
Volume: 9, No: S 2,pp. 970-978
ISSN : 2059-6588(Print) | ISSN 2059-6596(Online)

Received: 30 March 2024, Accepted: 05 May 2024
DOI: https://doi.org/10.33282/rr.vx9il.53

The Impact of Self-Regulated Learning Strategies on Writing Proficiency Among Visually Impaired Secondary Students in EFL Contexts

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Abstract

This study examines the role of self-regulated learning (SRL) strategies in enhancing writing proficiency among visually impaired secondary students in English as a Foreign Language (EFL) contexts in Pakistan. Using Pintrich's (2004) theoretical model, a quantitative design was employed to analyze data from 110 students collected via the Self-Regulated Writing Strategies and Learning Questionnaire (WSSRLQ) and a 200-word argumentative writing test. Statistical analyses, including correlation, t-tests, regression, and ANOVA, identified Course Memory as the strongest and most significant predictor of writing proficiency (r = 0.205, p = 0.031; B = 0.048, p = 0.037). Conversely, Goal-Oriented Monitoring revealed a negative relationship (r = -0.173, p = 0.070), indicating challenges in its application. Strategies like Peer Learning and Feedback Handling had minimal impact. The findings emphasize memory-based approaches, tailored monitoring strategies, and emotional regulation as critical for improving writing outcomes.

***Keywords*:** *Self-Regulated Learning (SRL), Writing Proficiency, Visually Impaired Students, EFL, Pakistan*

Introduction

Writing proficiency is a critical component of English as a Foreign Language (EFL) learning, serving as a foundation for academic success, professional growth, and social mobility (Lazaro & Medalla, 2004; Lee, 2012). In Pakistan, where English functions as a second language, students are introduced to it early in their education. However, many struggle to develop strong writing skills. Traditional teaching methods, such as the Grammar-Translation Method (GTM), prioritize rote memorization over critical thinking, creativity, and coherent written expression, leaving students ill-prepared to tackle complex writing tasks (Bilal et al., 2013; Fareed, Ashraf & Bilal, 2016). These challenges are even greater for visually impaired secondary students, who face additional barriers due to their unique learning needs.

Visually impaired students often struggle with mastering essential writing skills, including grammar, syntax, vocabulary, and coherence. Their difficulties are further compounded by limited access to assistive resources, such as Braille and audio materials, as well as a lack of trained educators who can address their specific needs (Sacks, 2017; Brodwin, 2016). Consequently, these students frequently face incoherent writing, poor language structures, and ineffective editing skills, which hinder their academic performance and professional opportunities (Brodwin, 2016). Addressing these obstacles requires innovative approaches that empower visually impaired students to manage their learning processes and improve their writing proficiency.

Self-Regulated Learning (SRL) strategies offer a promising framework for addressing these issues. SRL involves actively planning, monitoring, and evaluating learning processes, fostering independence and critical thinking essential for academic success (Zimmerman, 2002; Pintrich, 2004). Strategies such as course memory, text processing, self-monitoring, and self- motivation enable visually impaired students to approach writing tasks more effectively, adapt to

their individual needs, and improve their proficiency. While these strategies vary in their influence, collectively they provide students with tools to overcome barriers and achieve their academic goals.

Despite global recognition of SRL strategies in enhancing EFL writing proficiency (Yang, Schneller & Roche, 2015), little research has focused on their specific impact on visually impaired students, particularly in Pakistan. This study seeks to address this gap by investigating the relationship between SRL strategies and the writing proficiency of visually impaired secondary students. It aims to provide insights into how these strategies can empower students to overcome challenges and succeed academically and socially.

Research Question:

1. What is the impact of self-regulated learning (SRL) strategies on the writing proficiency of visually impaired secondary students in EFL contexts?

Review of Literature

Self-regulated learning (SRL) has become a central focus in educational research, emphasizing learners' ability to plan, monitor, and reflect on their learning processes. Zimmerman's (2000) model conceptualizes SRL as a cyclical process rooted in social-cognitive theory, emphasizing motivation and personal agency. Pintrich's (2004) framework further broadens this understanding by integrating cognitive, motivational, and contextual dimensions. Over the past decades, research in educational psychology has shifted from teacher-centered approaches to fostering SRL, highlighting its potential to promote autonomy, self-motivation, and lifelong learning (Schunk & Greene, 2018; Alraddadi, 2019).

In language learning, SRL strategies are critical for effective self-regulation. Frameworks such as Oxford's (2011) taxonomy of language learning strategies categorize these into cognitive, affective, and sociocultural-interactive groups, emphasizing their importance in developing complex skills like writing. Writing proficiency in EFL contexts requires integrating linguistic, cognitive, and meta-cognitive skills (Hayes & Flower, 1980; Graham, 2007). However, second- language writing presents unique challenges, including increased reliance on additional language proficiency and strategies for planning, revising, and critical thinking (Flower & Hayes, 1981; Hyland, 2019). SRL strategies like goal setting, self-monitoring, and reflection enable learners to navigate these challenges, fostering independence and improving writing quality (Zimmerman & Risemberg, 1997; Teng, 2022). Despite their effectiveness, the application of SRL strategies among visually impaired learners in EFL contexts remains underexplored.

Traditional educational methods like the Grammar Translation Method (GTM), widely used in EFL teaching, often emphasize rote memorization over critical thinking and creativity, limiting the development of writing skills (Teng & Zhang, 2020). For visually impaired learners, this reliance on text-based instruction neglects their auditory and tactile strengths, further hindering their progress (Andrade & Evans, 2013). These traditional approaches also fail to incorporate practices such as goal setting, task analysis, and reflective learning, which are core to SRL. Inclusive SRL-focused interventions can address these gaps by fostering critical thinking, creativity, and active engagement among visually impaired EFL learners.

Globally, visually impaired students face significant barriers to education, including insufficient resources, lack of trained teachers, and limited assistive technologies (WHO, 2018; Khan, 2015). In Pakistan, these challenges are compounded by societal prejudices and misconceptions about their abilities (Ajuwon, 2008; Farooq, 2012). Visually impaired learners rely heavily on auditory and tactile senses, necessitating vocabulary building and memory enhancement to compensate for their inability to use visual cues (Ghafri, 2015). Traditional teaching methods often isolate these learners by failing to integrate tailored instructional strategies (Ali & Hameed, 2015). Inclusive teaching practices and SRL strategies can bridge these gaps and support their academic growth.

Research indicates that SRL strategies tailored to visually impaired learners' needs, such as meta-cognitive and motivational interventions, significantly enhance their ability to manage the writing process

and improve proficiency (Boekaerts & Corno, 2005). Empirical studies have shown that auditory-dependent methods are particularly effective for visually impaired learners in acquiring language skills (Асроров, 2021). However, while SRL strategies have demonstrated efficacy among general learner populations (Graham et al., 2017), there remains limited research on their adaptation for visually impaired learners in diverse cultural and educational contexts.

Research Gaps and Future Directions

Despite the established benefits of SRL strategies for writing proficiency, their effectiveness for visually impaired secondary students in EFL contexts remains underexplored. Existing studies largely focus on general learner populations, overlooking the unique challenges faced by visually impaired students. Additionally, cross-cultural research on SRL strategy use is limited, particularly in contexts like Pakistan, where educational and accessibility barriers further complicate effective learning (Teng, 2022).

This study aims to fill these gaps by investigating SRL strategies employed by visually impaired secondary students in EFL settings, analyzing their patterns of use and influence on writing proficiency. The findings will provide actionable insights to inform inclusive teaching practices and support the academic growth of visually impaired learners.

Research Design and Methodology

This study investigates the impact of self-regulated learning (SRL) strategies on writing proficiency among visually impaired secondary students in EFL contexts through a quantitative research design. Drawing on Pintrich's (2004) SRL model, the research employed the Self- Regulated Writing Strategies and Learning Questionnaire (WSSRLQ), adapted from Teng (2022), to assess key dimensions such as planning, monitoring, memory, goal-setting, feedback handling, and emotional regulation. Writing proficiency was measured using a 200-word argumentative essay on *"The influence of social media on communication"*, scored with an analytical rubric adapted from Jacobs et al. (1981). Accommodations like Braille materials, assistive technologies, and transcription services ensured accessibility for visually impaired students.

The study recruited 110 visually impaired secondary students through a combination of convenience, purposive, and snowball sampling techniques to ensure diversity and representation. Convenience sampling targeted special education schools across Punjab, purposive sampling focused on Grades 9–10 students actively engaged in EFL writing, and snowball sampling included students from distance education programs. This approach minimized bias while aligning with research standards for inclusivity.

Data collection occurred in three phases. In the preparation phase, permissions were obtained from school administrations and guardians, and research assistants were trained to administer questionnaires and writing tests while addressing the unique needs of visually impaired students. During the administration phase, participants completed the WSSRLQ and writing tests in accessible environments with necessary accommodations such as Braille and transcription services. The collection phase ensured data anonymization, secure storage, and quality control for consistency and completeness.

The data analysis was conducted using SPSS and consisted of descriptive and inferential statistics. Descriptive statistics summarized demographic information, SRL strategy use, and writing proficiency levels, while inferential statistics examined relationships and group differences using Pearson's Correlation Coefficient, One-Way ANOVA, multiple regression analysis, and independent samples t-tests. The analysis adhered to statistical assumptions such as normality, linearity, and homoscedasticity to ensure validity and reliability.

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Data Analysis

This section presents the findings derived from the data analysis conducted in SPSS, examining the relationship between self-regulated learning (SRL) strategies and English writing proficiency among visually impaired secondary students. The analysis includes descriptive statistics and correlation analysis systematically addressing the research objectives.

Descriptive Statistics

Descriptive Statistics presents a summary of the demographic details and significant variables of the participants, encompassing their gender, age, academic standing, English writing ability, and the overall self-regulated learning techniques score.

Table 1: Descriptive Statistics of Participants

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Gender of Students	110	1	2	1.3364	0.47463
Age of students	110	2	4	2.9909	0.72309
Academic level of students	110	1	2	1.9636	0.18805
English Writing Proficiency	110	1	3	1.8909	0.81663
Self-Regulated Strategies	110	135	224	167.08	15.57705

Table 1 summarizes participants' demographic data and key variables, providing a foundation for subsequent analyses. The mean score for writing proficiency was moderate (M = 1.89, SD = 0.82), while SRL strategy use demonstrated variability (M = 167.08, SD = 15.58). These results indicate diverse engagement levels in self-regulated strategies.

Table 2: Descriptive Statistics of SRL Strategies

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Text Processing	110	10	32	23.736	4.79043
Course Memory	110	4	20	12.4	3.53021
Idea Planning	110	4	19	11.591	3.1776
Goal-oriented Monitoring	110	15	35	24.264	4.53058
Peer learning	110	4	56	12.709	5.5112
Feedback handling	110	6	49	16.673	5.45559
Interest enhancement	110	7	29	16.236	4.01357
Motivational self-talk	110	19	55	37.2	6.69903

Emotional control	110	3	21	12.273	3.74389

Table 2 presents detailed statistics on individual SRL strategies. Motivational Self-Talk was the most frequently employed strategy (M = 37.20, SD = 6.70), while Emotional Control showed the least usage (M = 12.27, SD = 3.74).

Table 3: Descriptive statistics of SRL strategies by year levels

Academic level of students		**N**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
9th	Text Processing	4	18.00	25.00	21.5000	3.10913
	Course Memory	4	12.00	18.00	14.7500	2.75379
	Idea Planning	4	9.00	14.00	11.7500	2.21736
	Goal-oriented Monitoring	4	18.00	23.00	21.7500	2.50000
	Peer learning	4	10.00	20.00	14.0000	4.32049
	Feedback handling	4	12.00	23.00	16.7500	4.85627
	Interest enhancement	4	13.00	22.00	16.5000	4.04145
	Motivational self-talk	4	37.00	50.00	42.2500	5.56028
	Emotional control	4	8.00	15.00	11.2500	3.77492
10th	Text Processing	106	10.00	32.00	23.8208	4.83203
	Course Memory	106	4.00	20.00	12.3113	3.53584
	Idea Planning	106	4.00	19.00	11.5849	3.21564
	Goal-oriented Monitoring	106	15.00	35.00	24.3585	4.56944
	Peer learning	106	4.00	56.00	12.6604	5.56158
	Feedback handling	106	6.00	49.00	16.6698	5.49757
	Interest enhancement	106	7.00	29.00	16.2264	4.03150
	Motivational self-talk	106	19.00	55.00	37.0094	6.68544
	Emotional control	106	3.00	21.00	12.3113	3.75528

The table shows the use of self-regulated learning techniques by students in grades 9 and

10. Four ninth-graders participated in the data collection; the mean score for motivating self-talk was the highest (M = 42.25, SD = 5.56) and the lowest (M = 11.25, SD = 3.77) for emotional regulation. Based on a larger sample of 110 students, goal-oriented monitoring had the greatest mean score for 10th graders (M = 24.36, SD = 4.57), while emotional control had the lowest (M = 12.31, SD = 3.76). Overall, there were differences in the diversity of students' tactics used across grades; students in the tenth grade showed more variation in their management of feedback and peer learning.

Correlation Analysis

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To answer the research question about the relationship between self-regulated learning strategies and English writing proficiency, an examination of Pearson correlation was carried out. The relationships between writing proficiency and the nine SRL methods are shown in Table 4.4.

Table 4: Correlation Between SRL Strategies and Writing Proficiency

Variable	Writing proficiency (r)	p- value
Text processing	.040	.679
Course memory	.205*	.031
Idea planning	.132	.170
Goal-oriented monitoring	-.173	.070
Peer learning	.061	.525
Feedback handling	-.048	.620
Interest enhancement	-.110	.253
Motivational talk	-.029	.763
Emotional control	.165	.084

*. Correlation is significant at the 0.05 level (2-tailed).

Table 3 shows that Course Memory had a significant positive correlation with writing proficiency ($r = 0.205$, $p = 0.031$). Other strategies, such as Text Processing and Goal-Oriented Monitoring, displayed weak or non-significant correlations.

Findings and Discussion

This section interprets the findings in relation to the research questions, objectives, and existing literature, while exploring the implications of self-regulated learning (SRL) strategies on English writing proficiency among visually impaired secondary students in EFL contexts.

The analysis revealed Course Memory as the most impactful SRL strategy for writing proficiency, with a significant positive correlation ($r = 0.205$, $p = 0.031$) and predictive value ($B = 0.048$, $p = 0.037$). Its importance is underscored for visually impaired students who rely heavily on memory-based methods to compensate for limited visual cues. These findings align with Zimmerman's (2002) model, emphasizing memory strategies as pivotal for academic success. To harness this, educators should integrate memory-enhancing techniques such as repetition, summarization, and mnemonic aids into their teaching practices.

Conversely, Goal-Oriented Monitoring showed a weak negative correlation with writing proficiency ($r = -0.173$, $p = 0.070$) and emerged as a negative predictor ($B = -0.036$, $p = 0.038$). This counterintuitive finding suggests that without adequate resources and feedback, this strategy may induce frustration rather than improve outcomes. Tailored interventions that provide structured guidance and accessible tools are necessary to enhance its effectiveness for visually impaired learners.

Other SRL strategies, including Text Processing, Feedback Handling, and Peer Learning, did not exhibit significant relationships with writing proficiency. These findings highlight the unique challenges faced by visually impaired students when processing written material or engaging in collaborative activities reliant on visual interaction.

The independent t-test results further emphasized the significance of Course Memory, with high-

proficiency students scoring significantly higher ($M = 13.52$, $SD = 3.05$; $t = -2.561$, $p = 0.037$) than their low-proficiency counterparts. This underscores its role in distinguishing proficient writers. In contrast, Goal-Oriented Monitoring did not differ significantly between the two groups, indicating that both struggled to utilize this strategy effectively, reinforcing the need for tailored adaptations.

The findings suggest actionable strategies to enhance writing proficiency among visually impaired EFL learners. Teachers should emphasize repetition, summarization, and mnemonic aids, aligning activities with auditory and tactile strengths of visually impaired students. Implementing structured support systems, such as digital tools and scaffolding, can make Goal-Oriented Monitoring more effective and user-friendly. Addressing Emotional Control through stress management workshops and motivational interventions can build resilience, enabling students to better handle writing challenges. Peer collaboration and text analysis should be adapted to suit non-visual modalities, such as auditory-based discussions and tactile resources.

While this study provides valuable insights, it is essential to acknowledge its limitations. The focus on a specific population in Punjab's special education schools limits generalizability to other contexts. Moreover, the scope was confined to SRL strategies, excluding other influential factors like motivation, instructional quality, and socio-cultural dynamics.

Future research should explore the integration of assistive technologies to enhance SRL implementation, cross-cultural applications of SRL frameworks, the role of motivational and socio-emotional factors, and longitudinal studies examining the sustained impact of SRL strategies on academic outcomes. Such studies will contribute to the development of inclusive and effective teaching practices tailored to the unique needs of visually impaired learners.

Conclusion

This study examined the impact of self-regulated learning (SRL) strategies on the writing proficiency of visually impaired secondary students in EFL contexts, utilizing a quantitative design grounded in Pintrich's (2004) model. Data from 110 students revealed the critical role of SRL strategies, particularly Course Memory, which emerged as the strongest predictor of writing proficiency. Its significant correlation and predictive power underscore the importance of memory- based approaches for students relying on auditory and tactile learning modalities. Conversely, Goal-Oriented Monitoring showed a negative relationship with proficiency, highlighting the need for structured support to enhance its effectiveness. Other strategies, including Peer Learning, Text Processing, and Feedback Handling, demonstrated limited impact, emphasizing the necessity of tailored interventions to address the unique challenges faced by visually impaired learners.

The findings advocate for inclusive educational practices, prioritizing memory-based techniques, structured monitoring strategies, and emotional regulation training. Adapting collaborative methods to align with sensory strengths can further enhance engagement and participation. While the study provided valuable insights, its focus on a specific population in Punjab limits broader generalizability. Future research should explore diverse populations, motivational and socio-cultural influences, and cross-cultural applications of SRL strategies in EFL contexts.

By addressing the distinct needs of visually impaired students, this research highlights the potential of SRL strategies to empower learners, improve academic outcomes, and foster social inclusion. It offers a foundation for developing inclusive and adaptive teaching practices to support this underserved population effectively.

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