

Demographic Differences in Self-Regulated Learning Strategies among Higher Secondary Students

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ABSTRACT

Self-regulated learning strategies (SRLS) play a vital role in enhancing students' academic success by enabling them to effectively plan, monitor, and regulate their learning processes. The present study examined the demographic differences in self-regulated learning strategies among higher secondary students based on gender, locality of school, medium of instruction, and district. The study adopted the survey method, and a sample of 1,044 higher secondary students studying under the Tamil Nadu State Board curriculum was selected from the districts of Thoothukudi, Tirunelveli, Kanyakumari, and Tenkasi using the stratified random sampling technique. Data were collected using Self-Regulated Learning Strategies Scale (SRLSS) developed and validated by the investigator. The findings revealed significant differences in self-regulated learning strategies based on gender, medium of instruction, and district, whereas no significant difference was observed based on locality of school. Female students exhibited significantly higher self-regulated learning strategies than male students, English medium students outperformed Tamil medium students, and students from Kanyakumari and Tenkasi demonstrated higher levels of self-regulated learning strategies than those from Thoothukudi and Tirunelveli.

Keywords: Self-regulated learning strategies, higher secondary students, gender, medium of instruction, district, demographic variables, educational psychology.

INTRODUCTION

In today's learner-centred educational environment, students are expected to take greater responsibility for their own learning by planning, monitoring, and evaluating their academic activities. This has increased the importance of ****self-regulated learning (SRL)****, a key construct in educational psychology that enables learners to effectively manage their cognition, motivation, emotions, and behaviour to achieve academic goals. Self-regulated learners actively set learning goals, employ appropriate strategies, monitor their progress, and reflect on their performance to improve learning outcomes (Zimmerman, 2002).

Self-regulated learning is a goal-directed and constructive process in which learners regulate their thoughts, motivation, and behaviours within their learning environment (Pintrich, 2000). It encompasses motivational regulation, metacognitive regulation, cognitive strategies, emotional regulation, and behavioural regulation, all of which contribute to effective and independent learning. Students with well-developed self-regulated learning strategies tend to exhibit greater persistence, better time management, and higher academic achievement than those with poor self-regulatory skills (Zimmerman, 1989; Paris & Paris, 2001).

Although self-regulated learning has been widely recognized as an important determinant of academic success, its development may vary across demographic factors such as gender, locality of school, medium of instruction, and district. Understanding these differences is essential for designing appropriate educational interventions that foster self-regulated learning among diverse groups of students. Therefore, the present study examines the

demographic differences in self-regulated learning strategies among higher secondary students based on selected demographic variables.

Objectives of the Study

The present study was undertaken with the following objectives:

1. To find out if there exists any significant difference in the self-regulated learning strategies among higher secondary students based on gender.
2. To find out if there exists any significant difference in the self-regulated learning strategies among higher secondary students based on locality of school.
3. To find out if there exists any significant difference in the self-regulated learning among higher secondary students based on medium of instruction.
4. To find out if there exists any significant difference in the self-regulated learning strategies among higher secondary students based on district.

Significance of the Study

The present study contributes to the growing body of research on self-regulated learning by providing empirical evidence on the influence of selected demographic variables on the self-regulated learning strategies of higher secondary students. By examining differences based on gender, locality of school, medium of instruction, and district, the study offers valuable insights into how students' learning behaviours vary across different educational contexts.

The findings have practical implications for teachers, school administrators, curriculum developers, and policymakers. The observed differences based on gender, medium of instruction, and district highlight the need for targeted instructional strategies and supportive learning environments that foster students' ability to plan, monitor, and regulate their own learning. At the same time, the absence of significant differences based on locality suggests that efforts to promote self-regulated learning should be strengthened across all school settings.

The study is also significant because it employed a researcher-developed and validated ****Self-Regulated Learning Strategies Scale (SRLSS)**** with satisfactory validity and high reliability, providing a useful instrument for assessing self-regulated learning among higher secondary students. Furthermore, the findings may serve as a reference for future researchers investigating self-regulated learning in relation to other psychological, educational, and contextual variables and for designing interventions aimed at enhancing students' independent learning and academic success.

METHODOLOGY

Method Used

The present study employed the survey method to examine the demographic differences in self-regulated learning strategies among higher secondary students. This method was considered appropriate as it facilitates the collection of data from a large and representative sample and enables comparison across different demographic groups.

Population and Sample

The population comprised higher secondary students studying under the Tamil Nadu State Board curriculum in the districts of Thoothukudi, Tirunelveli, Kanyakumari, and Tenkasi. A total of 1044 students participated in the study. The sample was selected using the stratified random sampling technique to ensure adequate representation from each district and to improve the representativeness of the study.

Tool Used

Data were collected using Self-Regulated Learning Strategies Scale (SRLSS) developed and validated by the investigator and the research guide (2024). The SRLSS was designed to assess students' self-regulated learning strategies across five dimensions: Motivational Regulation, Metacognitive Regulation, Cognitive Strategies, Emotional Regulation, and Behavioural Regulation. Following an extensive review of the literature and expert consultation, the initial pool of items was prepared. A pilot study involving 100 higher secondary students from selected schools in the four districts was conducted to evaluate the quality of the items. Item analysis was carried out using the item–total correlation method

The validity of the tool was established through face validity and concurrent validity, confirming that the scale adequately measured the intended construct. The reliability of the SRLSS was determined using the test–retest method, with a two-week interval between administrations. The obtained Pearson's product–moment correlation coefficient ($r = 0.87$) indicated a high level of reliability and temporal stability.

Results

Table 1.4.1 Differences in the Self-Regulated Learning Strategies of Higher Secondary Students based on Gender, Locality of School and Medium of Instruction

Demographic Variable	Group	N	Mean	SD	<i>t</i>	<i>p</i>	Result
Gender	Male	421	142.70	7.71	16.34	0.001	Significant
	Female	623	150.63	7.90			
Locality of School	Rural	509	144.21	7.73	0.45	0.653	Not Significant
	Urban	535	144.42	7.48			
Medium of Instruction	Tamil	444	143.56	7.87	5.23	0.006	Significant
	English	600	145.89	7.95			

Table 1.4.2a Differences in the Self-Regulated Learning Strategies of Higher Secondary Students based on District

Source	Sum of Squares	Mean Square	<i>F</i>	<i>p</i>	Result
Between Groups	3503.05	1167.68	21.40	0.001	Significant
Within Groups	56758.44	54.58			

Table 1.4.2b Post Hoc (Scheffé) Test Showing the Differences in the Self-Regulated Learning Strategies of Higher Secondary Students based on District

District	N	Mean Score
Tirunelveli	410	142.71
Thoothukudi	198	142.89
Tenkasi	238	146.34
Kanyakumari	198	146.65

DISCUSSION OF RESULTS

The present investigation demonstrated that gender is an important factor influencing self-regulated learning strategies among higher secondary students. Female students achieved significantly higher scores than male students, indicating a greater tendency to engage in goal-directed learning behaviours such as planning, monitoring progress, regulating study activities, and sustaining effort toward academic tasks. These differences may reflect higher levels of academic responsibility, persistence, and organized learning habits among female students. The present finding is consistent with earlier research by Parveen and Jan (2023) and Bidjerano (2005), who likewise reported that female learners exhibit stronger self-regulatory behaviours than their male counterparts.

With regard to the locality of school, no statistically significant difference was observed between students studying in rural and urban schools. This finding indicates that the learning environments in both settings may provide comparable opportunities for developing self-regulatory skills. The increasing availability of digital learning resources, improved educational facilities, and the wider implementation of similar curricular and instructional practices across schools may have contributed to minimizing locality-based differences in students' self-regulated learning strategies.

The findings further revealed that medium of instruction significantly influenced students' self-regulated learning strategies. Students enrolled in English-medium schools demonstrated better self-regulation than those studying through the Tamil medium. This difference may be associated with greater exposure to learner-centred pedagogical approaches, wider access to academic resources, and increased opportunities to engage with technology-enhanced learning environments. Such experiences are likely to encourage independent learning, strategic thinking, and effective monitoring of learning activities. This observation is in line with the findings of Wang et al. (2013) and Kizilcec et al. (2017), who emphasized the contribution of language proficiency and learning resources to the development of strategic and metacognitive learning skills.

A significant variation in self-regulated learning strategies was also evident across the districts included in the study. Students from Kanyakumari and Tenkasi recorded comparatively higher levels of self-regulation than those from Thoothukudi and Tirunelveli. These differences may be attributed to variations in educational infrastructure, school culture, instructional quality, and the academic support available to learners in different regions. The findings correspond with those of Ha et al. (2023), who reported that contextual and institutional factors substantially influence the development of self-regulated learning. Overall, the results suggest that demographic characteristics and educational context together contribute to shaping students' self-regulatory learning behaviours, highlighting the importance of designing context-specific educational interventions to strengthen learner autonomy and academic success.

RECOMMENDATIONS

Based on the findings of the present study, the following recommendations are suggested:

1. Since female students demonstrated stronger self-regulated learning strategies than male students, schools may consider implementing structured guidance programmes that encourage male students to develop effective study planning, self-monitoring, and goal-setting skills. Regular mentoring and reflective learning activities may help bridge this gap.
2. Although no significant difference was found between rural and urban students, efforts to strengthen self-regulated learning should continue across all schools. Equal emphasis should be placed on creating learning environments that encourage students to take responsibility for planning, monitoring, and evaluating their own learning, irrespective of school locality.
3. The comparatively higher self-regulated learning strategies observed among English medium students indicate the need to strengthen independent learning practices in Tamil medium classrooms. Teachers may be

encouraged to integrate activities such as learning journals, self-assessment, peer learning, and problem-solving tasks that actively engage students in regulating their own learning.

4. The variation observed across districts highlights the importance of examining local educational practices. Successful instructional approaches adopted in Kanyakumari and Tenkasi may be documented and, where appropriate, adapted by schools in Thoothukudi and Tirunelveli to enhance students' self-regulated learning skills.
5. Teacher education institutions and school managements should organize continuous professional development programmes that equip teachers with practical strategies for nurturing self-regulated learning, including metacognitive questioning, formative feedback, reflective practices, and student-centred instructional techniques.
6. Schools should encourage students to participate in learning experiences that promote autonomy, such as project-based learning, collaborative tasks, and technology-supported activities. Such experiences can gradually strengthen students' confidence in managing their own learning and improve their ability to apply self-regulated learning strategies across academic contexts.
7. Curriculum developers may consider embedding opportunities for motivational, cognitive, metacognitive, emotional, and behavioural regulation within classroom activities so that self-regulated learning becomes an integral component of the teaching-learning process rather than a supplementary skill.
8. Future investigations may extend the present work by examining additional psychological and contextual variables that influence self-regulated learning. Experimental and longitudinal studies could also be undertaken to evaluate the effectiveness of intervention programmes designed to improve self-regulated learning among higher secondary students.

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