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Academic Self-Regulation of Higher Secondary Students

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Abstract:
This study investigates the academic self-regulation levels of higher secondary students and examines how these levels vary based on students' nativity (rural/urban) and the nature of their institutions. Academic self-regulation, encompassing goal setting, proactiveness, and self-evaluation, is essential for student autonomy, motivation, and academic success. A sample of 937 students from 21 randomly selected schools in the Tenkasi Revenue District participated in the study, and data were collected using the validated Academic Self-Regulation Scale (ASRS). The findings revealed that a majority of students exhibited average levels of academic self-regulation, with goal setting emerging as a relatively stronger dimension. Chi-square analysis showed a significant association only in the goal-setting dimension with respect to the nature of the institution, while other dimensions showed no significant differences. Independent samples t-tests revealed that rural students significantly outperformed their urban counterparts in proactiveness and self-evaluation, although no significant difference was found in overall self-regulation or goal setting. The results highlight the need for targeted interventions, particularly in enhancing proactiveness and reflective practices among urban students, to foster holistic academic development.

Keywords: *Academic Self-Regulation, Goal Setting, Proactiveness, Self-Evaluation, Higher Secondary Students, Institutional Influence, Rural-Urban Differences*

Background of the study

Academic self-regulation refers to the deliberate and calculated modification of learning procedures to alter behavioural, motivational, and cognitive consequences. The application of broad ideas of control and self-regulation to learning problems, specifically academic learning that takes place in classroom or school settings, is known as self-regulated learning [13] (Zimmerman, 2002). The cognitive, metacognitive, behavioural, motivational, and emotional/affective facets of learning are all included in academic self-regulation. Therefore, it is a remarkable umbrella under which a significant number of learning-influencing factors (such as self-efficacy, volition, and cognitive strategies) are examined in a thorough and integrated manner [5]. (Schunk & Zimmerman, 2023). It is a proactive, positive process in which students establish learning objectives and then work to track, manage, and control their motivation, thinking, and behavior, led and limited by their objectives and the environmental context. [10] (Zimmerman, 2022).

Review of Related Studies

Several studies have explored the concept of academic self-regulated learning (SRL) and its impact on

students' academic performance. Zimmerman (2002) highlighted that self-regulated learners actively set goals, monitor their learning, and reflect on outcomes, which significantly enhances their academic success [13]. Similarly, Perry, VandeKamp, Mercer, and Nordby (2002) demonstrated that elementary students who were taught SRL strategies showed improved reading comprehension and motivation [3]. In the context of high school students, Sungur and Senler (2009) found that the use of SRL strategies was a significant predictor of achievement in science subjects [8]. Panadero and Alonso-Tapia (2014) emphasized the importance of metacognitive skills and motivation in their review of Zimmerman's model of SRL, noting its relevance to secondary school students [2]. Furthermore, Usher and Schunk (2007) pointed out that students with higher academic self-efficacy were more likely to engage in self-regulated learning behaviours, resulting in better academic outcomes [9]. These studies collectively underscore the importance of SRL strategies in enhancing student learning and achievement across different educational levels.

Need and Significance of the Study

Academic self-regulation plays a pivotal role in empowering students to refine their thinking, take control of their learning processes, and actively participate in academic activities through the use of effective self-regulation strategies [13] (Zimmerman, 2002). As an internal cognitive mechanism, self-regulation supports mindful, intentional, and reflective behavior in both children and adults [2][7][11] (Schunk & Zimmerman, 2008, 2013). It enables learners to manage impulses and reduce negative reactions, thereby fostering the ability to critically evaluate situations, consider alternative responses, and anticipate consequences before taking action [1] (Baumeister & Vohs, 2004).

In educational settings, self-regulation helps students meet academic and behavioural expectations such as adhering to classroom rules even in the absence of immediate external motivation. For higher secondary school students, in particular, self-regulation is vital in promoting academic independence, enhancing problem-solving skills, and improving time management [4] (Pintrich, 2004). It allows them to set realistic academic goals, navigate complex learning environments, and build resilience in the face of academic challenges. By developing strong self-regulatory practices, higher secondary students can increase their metacognitive awareness, sustain motivation over time, and optimize their academic performance [12] (Zimmerman & Schunk, 2011). Therefore, studying academic self-regulation at this crucial stage of education is essential to understanding and fostering the skills necessary for lifelong learning and academic success.

Objectives of the study

This study undertakes two objectives as follows

a) To find out the level of academic self-regulation of higher secondary students.

b) To assess the academic self-regulation of higher secondary students with respect to their nativity and the nature of their institution.

Null Hypotheses

Based on the objectives of this study, the following hypotheses were famed to be tested and analysed.

a) There is no significant association between nature of the institution of higher secondary students and their academic self-regulation and its dimensions.

b) There is no significant difference between the higher secondary students from rural and urban schools in their academic self-regulation and its dimensions.

Methodology

The survey method was employed to assess the academic self-regulation of 937 higher secondary students from 21 randomly selected schools in the Tenkasi Revenue District. The data were collected using the Academic Self-Regulation Scale (ASRS), developed and validated by Nicholas Jegan and Antony Raj (2017). The scale comprises 43 items distributed across three dimensions namely goal setting, proactiveness, and self-evaluation as conceptualized by Zimmerman (2000) [14]. Responses were

recorded on a five-point Likert scale: *Strongly Agree, Agree, Undecided, Disagree,* and *Strongly Disagree*.

Analysis of Data and Findings

The study aims to assess the level of academic self-regulation among higher secondary students and examine its association with their nature and locality of the institutions. Accordingly, the following section presents the tabulated data analysis aligned with the research objectives and hypotheses.

Objective 1: Level of academic self-regulation of higher secondary students

Table 1

To find out level of academic self-regulation of higher secondary students

Academic self-regulation and its Dimensions	*Low*		*Average*		*High*	
	N	*%*	*N*	*%*	*N*	*%*
Goal setting	*165*	*17.6*	*522*	*55.7*	*250*	*26.7*
Proactiveness	*179*	*19.1*	*642*	*68.5*	*116*	*12.4*
Self-evaluation	*226*	*24.1*	*563*	*60.1*	*148*	*15.8*
Academic self-regulation	*164*	*17.5*	*579*	*61.8*	*194*	*20.7*

The data presented in Table 1 indicate that the majority of higher secondary students exhibited an average level of academic self-regulation (61.8%). Specifically, 55.7% of students demonstrated an average level in goal setting, 68.5% in proactiveness, and 60.1% in self-evaluation. A smaller proportion of students showed a high level of academic self-regulation (20.7%), with the highest percentage in goal setting (26.7%) and the lowest in proactiveness (12.4%). Meanwhile, a relatively lower percentage of students fell under the low category of academic self-regulation (17.5%), with the highest occurrence in self-evaluation (24.1%).

Hypothesis 1: There is no significant association between nature of the institution of higher secondary students and their academic self-regulation and its dimensions.

Table 2

Association between nature of the institution of higher secondary students and their academic self-regulation and its dimensions

Academic self-regulation and its Dimensions	*Df*	*Calculated 'χ^2' value*	*Calculated P value*	*Remarks at 5% level*
Goal setting		*17.461*	*0.002*	*S*
Proactiveness		*4.355*	*0.360*	*NS*
Self-evaluation	*4*	*3.906*	*0.419*	*NS*
Academic self-regulation		*1.000*	*0.910*	*NS*

NS: Not Significant S: Significant

The data analysis from Table 2 reveals a statistically significant difference in the goal setting dimension, χ^2 (4, N = 937) = 17.461, p = .002, indicating that students differ significantly in their goal-setting abilities. However, no significant differences were found in the dimensions of proactiveness, χ^2 (4, N = 937) = 4.355, p = .360, self-evaluation, χ^2(4, N = 937) = 3.906, p = .419, and in the overall academic self-regulation, χ^2 (4, N = 937) = 1.000, p = .910. These results suggest that while students vary in their goal-setting practices, their levels of proactiveness and self-evaluation are relatively uniform, and their overall self-regulation does not significantly differ across the measured groups.

Hypothesis 2: There is no significant difference between the higher secondary students from rural and urban schools in their academic self-regulation and its dimensions.

Table 3

Difference between the higher secondary students from rural and urban schools in their academic self-regulation and its dimensions

Academic self-regulation and its Dimensions	*Rural (N =340)*		*Urban (N =597)*		*Calculated P value*	*Remarks at 5% level*
	Mean	*SD*	*Mean*	*SD*		
Goal setting	*49.66*	*10.204*	*50.56*	*9.790*	*0.181*	*NS*
Proactiveness	*51.44*	*9.489*	*49.69*	*9.574*	*0.007*	*S*
Self-evaluation	*52.15*	*9.201*	*48.92*	*10.247*	*0.000*	*S*
Academic self-regulation	*50.98*	*9.494*	*49.86*	*9.991*	*0.093*	*NS*

NS: Not Significant

The Table 3 indicates the independent samples t-test to compare the mean scores of academic self-regulations and its dimensions between rural and urban higher secondary students. The results indicated that there was no significant difference in the overall academic self-regulation scores between rural (M = 50.98, SD = 9.49) and urban students (M = 49.86, SD = 9.99), p = .093. Similarly, goal setting did not differ significantly by location, p = .181. However, rural students scored significantly higher in proactiveness (M = 51.44, SD = 9.49) compared to their urban counterparts (M = 49.69, SD = 9.57), p = .007, and also in self-evaluation (M = 52.15, SD = 9.20) than urban students (M = 48.92, SD = 10.25), p < .001. These findings suggest that while overall self-regulation remains comparable across locations, rural students demonstrate significantly stronger proactive behavior and self-evaluation skills.

Interpretation of Findings

The majority of higher secondary students exhibit an average level of academic self-regulation (61.8%). Among the three dimensions assessed, the highest proportion of students demonstrated average levels in proactiveness (68.5%), followed by self-evaluation (60.1%) and goal setting (55.7%). These findings indicate that most students engage moderately in regulating their learning behavior, setting goals, and evaluating their progress. In contrast, a relatively smaller percentage of students (20.7%) exhibited a high level of academic self-regulation. Within this group, goal setting was the most prominent strength (26.7%), suggesting that a notable subset of students is capable of identifying and formulating clear academic objectives. However, only 12.4% demonstrated high levels of proactiveness, highlighting a need for fostering initiative-taking and active learning strategies.

The chi-square test is indicating a statistically significant difference in students' goal-setting abilities, χ^2 (4, N = 937) = 17.461, p = .002. However, no significant differences were found in the dimensions of proactiveness and self-evaluation, nor in overall academic self-regulation. This suggests that while students vary in their approach to setting academic goals, their proactive behaviours and self-assessment skills are more consistent across the population. The t test on locations shows that although overall academic self-regulation does not differ significantly between rural and urban students, rural students outperform urban counterparts in proactiveness (p = .007) and self-evaluation (p < .001). These patterns reveal specific areas of strength and weakness that can be addressed through targeted interventions.

Educational Implications

The findings underscore the importance of promoting balanced academic self-regulation among higher secondary students. Educators should focus on enhancing proactive learning behaviours of students and self-evaluation strategies, particularly in urban settings. Tailored programs that develop metacognitive awareness of higher secondary students, reflective practices, and personal responsibility for learning could lead to improved academic outcomes. Incorporating goal-setting exercises and peer mentoring may also help the higher secondary students transition from average to high levels of self-regulation.

Conclusion

The study highlights that while higher secondary students show average self-regulatory capabilities, there is considerable variation in specific dimensions. Goal setting emerges as a relatively stronger area, whereas proactiveness and self-evaluation require more support. Rural students appear better equipped

in these dimensions than urban peers, suggesting environmental or pedagogical differences that warrant further exploration. Strengthening self-regulation across contexts is key to preparing learners for academic success and lifelong learning.

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