

# Relationship Between Undergraduates' Self-Regulated Learning and Their Academic Achievements

Anum Nisa<sup>1</sup> and Shahzad Ahmad Shahzad<sup>2</sup>

## **Abstract**

*Educational scholars have begun recently to explore and investigate important strategies which learners could regulate their academic performance. Self-regulated learning plays an imperative part in students' academic achievement. This study intended to explore the association between undergraduates' self-regulated learning and their academic achievement. The nature of this study was quantitative and correlational. Participants consisted of Two hundred fifty (250) undergraduates of different faculties (faculty of natural sciences and faculty of management sciences). All the participants were assessed on self-regulated learning scale (SRLS). Pearson correlation and t-test was employed for data analysis. Results point out that there is positive and significant association between students' Self-Regulated Learning and their Academic Achievement. Moreover, it is found that female undergraduates are more self-regulated learners as compared to male undergraduates. However, there was insignificant difference between self-regulated learning of faculty of management sciences and faculty of sciences.*

**Key words:** self-regulated learning strategies, academic achievements, undergraduates

## **Introduction**

Self-regulated learning is a component of the learning contents' psychology. It is crucial to comprehend self-regulated learning in the academic and social climate of today. We all know that one of the most researched areas in psychology and education is self-regulated learning (SRL). A wide range of studies has been conducted in self-regulation at school level, however, slight was acknowledged regarding SRL in university students (wang, etal. 2010). Despite years of education, many students still regard the process of learning to be mysterious (Xiao, Yao & wang, 2019). How to differentiate the popular undergraduates from the unpopular classmates? The idea that independent academic achievement is significantly related to the level of self-regulation that the learner is aware of practicing which is supported by a growing body of literature (wang, etal. 2010).

Self-regulated learning is an imperative part of study to explore the university education and it has attained more deliberation in the area of educational research (Pintrich, 2000). Self-regulated learning is an approach that involves "measures and methods aimed at obtaining knowledge and skill that include action, objective, and instrumentality awareness through learners". This study is based on the theory, that is, bandura's Social Cognitive Theory of Self-Regulation, which is apparent that productive use of educational SRL strategies is imperative in augmenting a learner's academic achievement, it is anticipated that SRL and learners' academic achievement are associated. This means that students who are expected to employ self-regulated learning strategies more successfully, they may get high academic scores. On the other hand, students who did not utilize or have limited practice of self-regulated learning strategies therefore, they are likely to get low academic scores. Consequently, lower academic performance among students may end to loss of several gratifying life prospects either for the individual learner or for the society in general. The student might miss the chance for advance

---

<sup>1</sup> PST, Govt. Christian High School Gujrat, Punjab, Pakistan, email: [anumnisa44@gmail.com](mailto:anumnisa44@gmail.com)

<sup>2</sup> Headmaster, Govt. High School Abdal Gujranwala, Punjab, Pakistan

education while in the long run; the community cannot ensure sufficient trained human capital required to meet the needs for wealth production.

University students need to put in more effort to learn in order to succeed and attain higher goals. Schunk and Zimmerman, (2003) stated that one of these efforts is learning how to learn on your own. But, giving students the knowledge and abilities they need for independent learning will be a significant challenge for the institution in the years to come. In the context of education, self - directed learning refers to the ability of the learners to direct their own learning (Zimmerman, 2002). Heikkila and Lonka, 2006 described that The self-regulation ability is essential for university students to succeed (Nicol & Macfarlane-Dick, 2006). On the other hand, indicated that Most students who pursue higher education are ill-equipped to handle the academic demands of the university system (Allgood, Risko, Alvarez, & Fairbank, 2000). In line with this, Tuckman (2003) identified a dearth of self-regulation strategies which lead to the disappointment among undergraduates.

Despite the ability of self-regulated learning to inspire students and boost their general achievement, Zimmerman (2002) found that few teachers adequately prepare their pupils for independent learning. For example, a study by Corsi (2010) found that teachers sometimes hesitate to design student-centered classrooms because they think teacher-directed learning gives the teacher better control and results in higher learning. The study's results correspond with the premise that switching from lecture- and worksheet-based instruction to self-directed, project-based learning can enhance student performance, boost motivation, and improve the learning atmosphere in the classroom. For these considerations, teachers should think about how to incorporate the development of self-regulated learning practices into their lesson plans. This highlights the necessity of switching from instruction to reflective practice. Thus, there is prerequisite to study the element that is associated with the high and low academic achievement. The central problem of this research was therefore to explore the association between undergraduates' SRL and their educational achievement.

## Literature Review

Although the idea of self-regulated learning originated during the 1980s, it only really started to gain popularity throughout the 1990s. Self-regulated learning is a concept which is demarcated by Schunk and Zimmerman (2003) in relations to student-generated beliefs, feelings, and performances that are deliberately geared towards accomplishing their own objectives. Setting goals and controlling one's attempts to achieve them, self-monitoring (metacognition), long term planning, and regulation of one's physical and social environments are all components of self-regulated learning (Xiao, Yao & wang, 2019). This view contends that a learner frequently modifies objectives and plans as they go through based on response from observation, regulate, and reaction activities. Self-directed learners, then, are purposeful and goal-oriented, embracing and employing a range of tactical actions intended to enhance their educational success. Self-regulated learners are more likely to deploy certain behaviours consistently and appropriately because they tend to be more vividly cognizant of the connection between specific behaviors and academic excellence. (Xiao, Yao & wang, 2019).

Self-regulation is the ability to manage one's thoughts, actions, feelings, and motivation while utilizing one's own methods to accomplish one's personal objectives (Panadero & Tapia, 2014). According to Pintrich (2000), the process of self-regulation involves four steps which are forethought, preparation and activation; monitoring; and response and reflection. Pintrich (2000) further emphasizes that not all academic learning proceeds in the same manner because there are several instances in which students pick up knowledge of academic subjects in more subliminal, implicit, or inadvertent means without engaging in self-regulatory learning. Moreover, Pintrich (2000) says that the stages might be ongoing concurrently and dynamically and are not always hierarchically or linearly arranged (Pintrich, 2000). Forethought,

presentation or volitional control, and reflection on self are the three dynamic and interconnected phases that make up Zimmerman's theory of SRL. The monitoring and control phases in Pintrich's theory are analogous to the performance phase or volitional control. SRL from a social intellectual perception as a repetitive and complex procedure that is interconnected with communal, ecological, and self-controls grounded on the theories of Pintrich and Zimmerman (Paivi Virtanen & Nevgi, 2010).

Especially at the university levels, Alotaibi et al. believe students also demonstrate excellent flexibility in adapting to the various and occasionally unpredictable expectations that exist in the classroom. So, the skills that make up self-regulated learning do not need to be considered either exotic or above and above the fundamentals. These are most likely the fundamental abilities that underlie all successful learning methods (Xiao, Yao & wang, 2019). According to Winnie and Perry (2006), students that are self-regulated learners are conscious of their learning style preferences and deficiencies. They claim that as a result, they have a variety of solutions they employ to deal with the difficulties presented by their everyday academic assignments. Hence, self-regulation should not be considered a traditional technique of learning but rather as a strategy used by learners to spontaneously accomplish their educational objectives. The assumptions of self-regulated learning have positive consequences for both instruction and education. Self-regulation is neither a marker of mental ability that becomes fixed at a particular age nor a trait that develops early in life or is genetically determined (Xiao, Yao & wang, 2019).

According to Gray (2011), instruction is highly successful when the learner actively participates in it as opposed to passively absorbing information. According to him, teachers supervise pupils by helping them respond to probing inquiries. Students actively create and grow their own knowledge based on earlier experiences that range from the familiar to the unfamiliar. According to Lenderman and Lenderman (2005), Learners need to add their understanding or schema by building on what they already know. This suggests that the main responsibility of instructors for self-regulated learners is to provide monitoring and advice to make sure the pupils stay on course. They are quite skilled at managing the non-self-regulated pupils by giving them a thorough conventional education to make sure they simultaneously accomplish the intended goals.

*Self-Efficacy:* Self-efficacy was described by Bandura (1986) as a person's perception of his or her own abilities to learn or use skills at particular levels. Self-efficacy, according to Bandura (1997), essentially regulates motivation and outcomes. According to him, it is the crucial process for deliberate human achievement. According to Bandura (2006), a belief in one's abilities is a crucial personal resource for self-development, adoption, and transformation. He emphasised that efficacy belief affects cognition, motivation, mood, and decision-making processes. Efficacy beliefs influence whether a person thinks positively or negatively, in ways that are self-beneficial or self-defeating.

*Motivation:* Motivation is a behaviour that is focused on achieving a goal and is started by optimism about the likely results of future events and confidence in one's ability to carry them out (Bandura, 1986). According to Pintrich and Schunk (1996), it influences how and why people learn as well as how they perform. Researchers have discovered that people who are very interested in a subject use more SRL techniques while others who are not as interested in the subject use fewer SRL strategies (Pintrich, 1989; Pokay & Blumenfeld 1990; Schiefele, 1992). According to Pintrich and Schunk (1996), students' motivation plays a crucial role in their ability to succeed in school, which is why their motivational aptitude and level of self-control are inextricably linked. The student must be motivated to use the tactics that will regulate learning processes.

*Goals:* Self-direction and self-efficacy principles both function as an interdependent strategy that is balanced by goals. According to Bandura (1995), achieving one's own goals might boost

one's confidence in their ability to carry out jobs with ambiguous or novel components. The benchmarks that learners use to assess their progress in learning are objectives or goals. Goals serve two important purposes in self-regulated learning. Students are directed by goals to monitor and direct their efforts in a particular way. Goals also give pupils reasons to evaluate their performance (Bandura, 1986). Goals are broad in scope and take a long time to accomplish. According to Ablard and Lipschultz (1998), students who have high mastery and performance goals employ more self-regulated learning strategies than those who have low mastery and low performance goals.

Paivi Virtanen & Nevgi (2010) conducted a study to explore “relationship between academic achievement and self-regulated learning. They found that there is a strong correlation between achievements and self-regulation strategies such as elaboration, organization and time management techniques used by the students in an online environment. They conclude that academic performance of the students and the use of self-regulated learning strategies enables the students to become self-directed learners.



Figure 1

The figure shows that self-regulated learning is an independent variable and comprised of three elements students self-efficacy, motivation and learning goals. Learners' academic achievement determined in the form of CGPA (Cumulative grade point average) is dependent variable.

The objectives of the study were:

1. To determine the relationship between undergraduates' SRL and their academic achievement.
2. To measure the difference in undergraduates SRL across gender.
3. To explore the difference in undergraduates SRL across faculty.

Research questions of the study were:

1. What is the relationship between undergraduates SRL and their academic achievement?
2. What is the difference between SRL of male and female undergraduates?
3. What is the difference of SRL between the faculty of management and administrative sciences and faculty of sciences?

## Material and Methods

The nature of the study was correlational. The target population comprised all the registered undergraduates of University of Gujrat. And all the learners who were enrolled in faculty of natural sciences and faculty of management sciences were the accessible population. Cluster random sampling technique was used. Two faculties were selected randomly from university of Gujrat and then two departments were also selected randomly from selected two faculties.

Two hundred fifty ( $n= 250$ ) undergraduates contributed to this research. The sample size of this study was consisting of 250 students that were selected from two departments (Department of Chemistry and Department of Commerce) randomly. They were evaluated on SRL using the Self-regulated learning scale (SRLS). Mean, standard deviation was computed for descriptive data analysis and simple correlation was calculated to find out correlation. Moreover, t-test was used to find out the difference in students' SRL across gender and across faculties.

## Results and Discussion

**Table 1**

**Relationship between self-regulated learning and students' academic achievements**

Variables	N	Mean	S.D.	Pearson - r	Significant
CGPA	250	3.137	0.3031	0.322	.000
Self-Regulated learning	250	3.879	0.3798		

Table 1 shows analysis of data about correlation between self-regulated learning and students' academic achievements. Analysis shows that the value of simple correlation ' $r$ ' reflected that self-regulated learning ( $r = 0.32, p=0.000$ ) are significantly correlated with students' academic achievements. Resultantly, significant relationship between SRL and students' academic achievements was established.

**Table 2**

**"Undergraduates" Self-regulated learning across gender**

Variables	N	Mean	S.D.	Df	t-value	Sig.
Self-Regulated learning of male	125	4.34	0.54	248	2.788	.005
Self-Regulated learning of female	125	4.45	0.51			

Table 2 indicates that t-test was piloted to make comparison of the SRL scores for male and female undergraduates. There was significant difference in SRL scores for males undergraduates ( $M = 4.34, SD = 0.54$ ) and females undergraduates ( $M = 4.45, SD = 0.51$ );  $t(248) = 2.788, p = 0.005$  because t value is significant.

**Table 3**

**Self-regulated learning across departments**

Variables	N	Mean	S.D.	Df	t-value	Sig.
Self-Regulated learning of faculty of science	125	3.85	0.38	248	-0.840	0.402
Self-Regulated learning of faculty of management science	125	3.90	0.37			

Table 3 indicates that t-test was piloted to compare the SRL scores different departments. There was insignificant difference in scores for faculty of science ( $M = 3.85, SD = 0.38$ ) and faculty of management science ( $M = 3.90, SD = 0.37$ );  $t(248) = -0.84, p = 0.402$  because t value is insignificant.



## Conclusion and Recommendation

In this section, the research results are reviewed along with the other studies. The key purpose of this research paper was to explore the association between undergraduates' SRL and their academic achievements. The results of the study guide us toward the following argument.

The foremost findings developing from the outcomes of the research is that SRL has an imperative impact on academic performance, which means that SRL accelerates academic performance. Hence, professors and policy makers require to pay more consideration to confirm a learning system and educational settings that boost students' procurement of Self-regulated learning, subsequently dearth in SRL can lead to fault in learners' academic achievements. To address any issues in this area, university academic advising and counseling departments should create SRL evaluation tools. It is also concluded that female undergraduates used more self-regulation than male undergraduates. There was no significant difference between self-regulated learning of faculty of management sciences and faculty of sciences.

The findings of this paper validate the former studies done by Sardareh et al (2012) and Paivi Virtanen & Nevgi (2010). They found constructive and noteworthy correlation between motivation, self-regulation and academic achievement of different universities. Moreover, they found the differences across gender in self-regulated learning. The outcomes indicated that the female undergraduates utilized more than male undergraduates, as they were in general slightly higher in the different dimensions of SRL, equally in the Forethought of Learning as well as in the Strategies in Learning.

It can be seen the importance of SRL in undergraduates' learning is significant. Undergraduates are often believed to have cognitive abilities to control their learning. Additionally, research indicates that students with good self-regulatory abilities outperform those with low self-regulatory abilities or who do not regulate their learning in terms of academic success. Since SRL is a dynamic process. Without an uncertainty, further research required more consideration to the many elements. There are various limitations to this study; most are uncommon to research based on survey data. Future study may focus on the relationships between students' SRL and the chosen teaching strategy and the relationship between self-regulation abilities and students' academic success across diverse subject areas (Xiao, Yao & wang, 2019).

Identifying the associations involving SRL and achievement is particularly crucial to undergraduates. Moreover, it offers some guidelines for policy developers, professors, teachers etc. So many instructors and strategy leaders presently advocate the concept that a foremost objective of education ought to be to educate learners' self-regulatory abilities. Such abilities are seen as crucial for both guiding one's own learning while in formal education and for continuing one's education and updating one's knowledge after Completing School. There is a difference between teaching learners' subject knowledge and enabling them to obtain tactical knowledge, and all stakeholders who are involved in education process have elevated the possibility that affective knowledge of how learners use self-regulation and how growing practice would help to close this gap (Wolters & Hussain, 2015). The autonomy in learning should be encouraged by curriculum planners. And educators as well as professors must try to embrace activities which are student-centered and inspire learners to be self-directive in their processes of learning by disclosing to the learners new styles in SRL. As for learners, they may attempt to develop their self-efficacy principles by routinely participating in extremely challenging educational assignments and generate a core inspiration as an approach to a novel learning task (Bakar, Shuaibu, & Bakar, 2017).

## References

- Ablard, K. E. & Lipschultz, R. E. (1998). Self-regulated learning in high achieving students: relations to advanced reasoning, achievement goals, and gender. *Journal of Educational Psychology*, 90 (1), 94-101.
- Alotaibi, K, Tohmaz, R and Jabak, O,. (2017).The relationship between self-regulated learning and academic achievement for a sample of community college students at king saud university. *Education Journal*, Vol. 6(1), pp.28-37.
- Bakar, N. A, Shuaibu, A, and Bakar, R. A. (2017). Correlation of Self-regulated Learning and Academic Achievement among Universiti Sultan Zainal Abidin (UniSZA) Undergraduate Students. *International Journal of Academic Research in Business & Social Sciences*, vol.7, pp.254-268.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. New Jersey: Prentice-Hall.
- Bandura, A. (1995). Exercise of personal and collective efficacy in changing societies. In Bandura (Ed.), *Self-efficacy in changing societies* (pp. 1-45). New York: Cambridge University Press.
- Bandura, A. (1997). *Self-efficacy (The exercise of control)*. New York: W. H. Freeman.
- Bembenuddy, H., McKeachie, W., Karabenick, S., & Lin, Y. (1998). *The relationship between test anxiety and self-regulation on students' motivation and learning*. Paper presented at the Annual Meeting of the American Psychological Society. Washington, DC.
- Bandura, A. (2006). Adolescent Development from an Agentic Perspective. In Pajares, F. & Urdan, T. (Ed.) *Self-efficacy Beliefs of Adolescents*. Information Age Publishing, inc
- Corsi, G. (2010). Self-Regulated Learning: Studying the effects of nontraditional instructional method in the high school science classroom. *The Science Teacher*
- Gray, L.S. (2011). *Mind in Society. The development of Higher Psychological Process*. Cambridge, M.A. Harvard University Press.
- Lederman, J & Lederman, N. (2005). *Developing and Assessing Elementary Teachers' and Students' understandings of Nature of Science and Scientific Inquiry*. Paper presented at the Annual meeting of the National Association for Research in Science Teaching Dallas,
- Paivi Virtanen and Nevgi. (2010). Disciplinary and gender differences among higher education students in self-regulated learning strategies. *Educational psychology*, vol. 30(2), pp. 323-347.
- Panadero, E. & Alonso-Tapia, J. (2014). How do students self-regulate? Review of Zimmerman's cyclical model of self-regulated learning. *Anales de Psicología*, 2014, vol. 30, nº 2 (mayo), 450-462 <http://dx.doi.org/10.6018/analesps.30.2.167221>
- Pintrich, P. R, and DeGroot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology*, vol.82(1), pp. 33-40.
- Pintrich, P. (1989). The dynamic interplay of student motivation and cognition in the college classroom. In C. Ames and M. Maehr (Eds.), *Advances in motivation and achievement: Motivation-enhancing environments* (pp. 117-160). Greenwich, CT: JAI Press.
- Pintrich, P. R. (2000). *The role of goal orientation in self-regulated learning*. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* San Diego, CA: Academic Press, pp. 451–502.
- Pintrich, P., & Schunk, D. (1996). *Motivation in education: Theory, research, and application*. Englewood Cliffs, NJ: Prentice-Hall, Inc.

- Pokey, P., & Blumenfeld, P. (1990). Predicting achievement early and late in the semester. The role of motivation and use of learning strategies. *Journal of Educational Psychology*, 82 (1), 41-50.
- Sardareh, S. A, Saad, M. R. M, and Boroomand, R. (2012). Self-regulated learning strategies (SRLS) and academic achievement in pre-university EFL learners. *California Linguistic Notes*, vol. 27(1), pp.1-36.
- Schunk, D.H., & Zimmerman, B.J. (2003). The Social origin of self-regulatory competence. *An Educational Psychologist*, 32, 195-205.
- Schiefele, U. (1992). *Motivation and larnenmitTexten*. Gottingen: Hogrefe.
- Wang, J Q, Zhu,Z D, Zhen,S J,M.L, and Zhang,W.A. (2010). Modulating model for the impacting factors in self-regulated learning of college students. *Acta Psychological Sinica*, vol.42(2), pp.262-270.
- Winnie, A. & Perry, L. (2006). Constructing scientific knowledge in the classroom. *Educational Research* 23 (7). 5-12.
- Wolters, C. A, and Hussain, M. (2015). Investigating grit and its relations with college students' self-regulated learning and academic achievement. *Metacognition & Learning*, vol.10(3), pp.293-311.
- Xiao, S, Yao, K, and Wang, T. (2019) The Relationships of Self-regulated Learning and Academic Achievement in University Students, *Forum on Psychological Health Education and Counselling for School Students* vol. 60 <https://doi.org/10.1051/shsconf/20196001003>
- Zimmerman, B.J. (2000). *Attaining self-regulation: A social cognitive perspective*. In M.Boekaerts, P. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* San Diego, CA: Academic Press, pp. 13-39.