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## SELF-REGULATED LEARNING AMONG STUDENTS: A REVIEW OF LITERATURE

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### Abstract

Self-regulated learning has developed as a significant new educational concept. It encompasses the cognitive, metacognitive, behavioural, motivational, and affective elements of learning. The purpose of this study is to review literature on self-regulated learning among various variables from national and international journals published between 2010 to 2019. The cognitive, metacognitive, self-efficacy, behavioural, motivational, and emotional components of self-regulated learning are the most important citations in the literature. Furthermore, self-regulated learning strategies including memory strategy, goal planning, seeking help, environmental structuring, time management, and self-evaluation have been shown to be broadly supported in the literature. The findings of the study revealed that there exists positive relationship between self-regulated learning among various variables.

**Keyword:** Self-Regulated learning, Students.

### 1) Introduction

Self-regulated learning is a key notion in understanding the cognitive, metacognitive, behavioural, motivational, and emotional aspects of learning. As a result, it serves as a unique umbrella under which a wide variety of learning-related variables (such as self-efficacy, volition, and cognitive strategies) are investigated in a complete and holistic manner. Self-regulated learning emerged as a result of inquisitiveness into “how students become master of their own learning” (Zimmerman and Martinez-Pons, 1990). It is the product of student’s research into the learning process who have persevered and succeeded in their studies despite hurdles. Effect of self-regulatory strategies on academic success has been well established in many studies (Pintrich & De Groot, 1990; Pintrich, 1990; Zimmerman, 1990). Wolters, A. C. (2010), in a review study titled the relation between the twenty-first century and self-regulated learning (SRL), evinced those students into self-regulated learners establishes the stepping-stone to volition, motivation, and self-management in them, transferable also to contexts outside of school, with reference to multiple studies.



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## 2) Importance of Self-Regulated Learning

Self-regulated learning has been introduced in education taking its roots from educational psychology. Self-regulated learning is an important attribute of education in the process of enhancing lifelong learning (Zimmerman, 2002). SRL has grabbed attention of many people from different fields from psychology to mathematics, health, sport, medical, technology, policy making, marketing and language education. Previous studies worked entirely with pure cognitive models of Self-regulated learning, but research has now encompassed various elements of self-regulated learning that interact in the self-regulated process through the development of theories and models. Duckworth et al. (2009) state that self-regulation is not concerned with 'thinking skills'; it also questions the role of emotion, motivational beliefs, self-concept and contextual factors in learning. Usefulness of self-regulation as a strategy for productive learning in second language learning and acquisition discipline is being endorsed by several studies (Harrison and Prain, 2009). When the word self is mirrored as a whole enacting and articulating in relation to the world, it is more appreciated. Individual as a full creature in context leads to more precise assumptions about his thoughts, motivations, and actions. The research on self-regulation has not been limited to the traditional contexts and are implemented to non-traditional settings like distance education and online learning where personal and self-factors more than social and contextual factors play a significant role in prompting academic achievement (Azevedo and Seibert 2004; Susimesta, 2006). Furthermore, in the realm of foreign language learning, various studies on self-regulated learning have been done. In terms of exploitation of self-regulated learning mechanisms, English learning skills have also been investigated.

## 3) Studies on Self-regulated learning

**Xu et al (2010)** The goal of this study is to look into the link between parental involvement, self-regulated learning, and fifth-grade reading achievement. The findings of the study revealed that TV limits and homework assistance influenced self-regulated learning, whereas parental educational expectations, school involvement, homework frequency, and extracurricular activities had a large and beneficial influence on self-regulated learning. Furthermore, the findings demonstrated that self-regulated learning spanned the gap between parental participation and reading achievement.

**Cheng (2011)** The objective of this research is to look into the function of self-regulated learning in improving academic achievement. A sample of 6,524 students from 20 aided secondary schools in Hong Kong were selected for the study. In order to confirm the constructed validity and the reliability of the survey instrument, the researcher uses factor analysis and reliability test, and to investigate the association between variables, multiple regression analysis was used. The findings of the study revealed that students learning, motivation, goal setting, action control and learning strategies plays an important role in their learning performance.



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**Tavakolizadeh and Qavam (2011)** The impact of teaching self-regulated learning strategies on student self-efficacy was investigated. A total of 30 students, 15 each in control and experimental group were selected for the study. In this study the method utilised by the researcher was random cluster multiple-stage sampling. The research instruments utilised were a questionnaire on self-regulated learning and a pre-test on self-efficacy in both groups. After that, only the experimental group received 18 sections of training in self-regulated learning processes. Following the training, both groups were given a post-test utilizing the aforementioned questions. The independent T-test difference between means was used to evaluate the data. The findings of the study revealed that training of self-regulated learning strategies results in a significant increase in self-efficacy levels in the experimental groups as compared to the control group.

**Ozan, Gundogdu, Bay and Celkan (2012)** The self-regulated learning method skills and self-efficacy views of university students were investigated in several circumstances. This study consists of 310 university student groups. The findings of the study concluded, that self-efficacy perceptions and self-regulated learning techniques skills among university students are high, and the values obtained through statistical analysis varied significantly depending on gender and faculty characteristics.

**Shell, Hazley, leen-kiat soh, Ingraham and Ramsay (2013)** The present study analyses the associations of student's creativity, Motivation, and self-regulation with learning and achievement in college computer courses. The purpose of this study was to explore how strategic self-regulation, motivation and creative skills were connected with course accomplishment and long-term learning of computational thinking knowledge and skills in introductory computer science courses. We used Pearson correlations to examine how students' strategic self-regulation, motivation, and creative competency were associated with course grades and retention of core course content as indicated by the computational thinking knowledge. The findings of the study revealed that creative competency was associated with knowledge retention, but not grades and with higher strategic self-regulation.

**Virtanen, Nevzi and Niemi (2013)** Conducted a study on Higher Education Self-Regulation Students' motivation, rules, and learning strategies, as well as their links to academic success. This study aims to find which aspect of self-regulated learning are associated to observe success and look at progress through master degree studies. The data for this study is undergraduate students (N=1248) feedback to IQ learn self-report questionnaires, and of data (n=229) recovered from the university. The result of the study shows that the sub-procedure of Self-regulated learning: affective components and motivational components, regulation learning strategies and regulation strategies are completely associated with each other.

**Johnson and Davis (2014)** Conducted a study on self-regulated learning in digital environment. This paper reviews contemporary theoretical models and latest empirical investigations relevant to applications of digital technology to advance self-regulated learning. This structure is intended

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to help individuals who prepare and teach in a digital environment focus on and address the degree to which their students can self-regulate.

**Mohmoodi, Kalantari and Ghaslani (2014)** Investigated association of language achievement of Iranian EFL learners with motivation and self-regulated learning. The participants selected for the study were 130 EFL learners from two language institutes. The instruments used in the study were self-regulated learning questionnaire and the motivation questionnaire and Pearson product moment correlation was used for the analysis of data. The results of the study showed that significant association was found between motivation and self-regulated learning.

**Chika E, Obodo and Okafor (2015)** Conducted a study on the effect of Self-regulated learning Approach on Junior Secondary School Students achievement in basic science. This study consists of two co-educational schools by using simple random sampling technique, thus, in the first school treatment group was used whereas, in the second school control group was used by simple toss of the coin. This study uses Quasi-experimental design. The instruments used for the collection of data was Basic Science Achievement Test (BSAT). In this study the data used for framing the research questions were answered descriptively by applying standard deviation, and mean whereas, the hypotheses were approved by applying analysis of Covariance (ANCOVA) at any alpha level. From the results of the study it is suggested that self-regulated learning strategy emphasized higher students' achievement in basic science than the traditional method.

**Jouhari, Haghani and Changiz (2015)** Studied factors affecting self-regulated learning in medical students. This study consists of sample of 560 students studying at Isfahan University of Medical Sciences. In the present study the investigator uses semi-structured interview for the collection of data and conventional content analysis was employed for the evaluation of data. The findings of the study revealed that motivation and self-efficacy had an impact on students' self-regulated learning practises.

**Kamgar and Jadidi (2016)** This study aims to examine the relationship of Iranian EFL Learners critical thinking and self-regulation with their reading comprehension ability. Furthermore, this relationship has been studied for beginner, intermediate, and advanced learners. This study consists of 70 learners studying English education and literature selected through a convenient sampling process have completed a reading placement test, a critical thinking questionnaire, and a self-regulatory questionnaire. The results of the study showed that there was a statistically significant association between advanced and intermediate learners who had better critical thinking skills, but no significant relationship between self-regulation and reading comprehension ability except for advanced learners. Course designers, professors, and students will all benefit from this research.

**Liu (2016)** Carried out a study on the impact of e-learning on students' self-regulated learning abilities, motivational beliefs, and academic achievement. The focus of this study is on university



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students majoring in hospitality management in Taiwan. A total of 396 students were selected for the study. The findings of the study showed that self-regulated learning had a significant positive effect on motivational beliefs, motivational beliefs had a positive effect on academic performance, and self-regulated learning had a positive effect on academic performance.

**Alotaibi, Tohmaz and Jabak (2017)** Studied the link between self-regulated learning and academic achievement among community college students at King Saud University. This study included 356 students who were enrolled in a preparatory year program. The research instruments used in the study was Self-regulated learning instrument made by Purdie et al., (1996). Academic achievement was measured by students' scores in the areas of English language skills and mathematics. From the results of the study, it is indicated that there was a significant and positive relationship between self-regulated learning and the academic achievement of students. As a result, the constructs of self-regulated learning such as, planning and goal setting, rehearsal and memorization and keeping records and monitoring were found to be positively correlated with academic achievement.

**Barboza, et al., (2017)** A study was conducted on the actions and outcomes of self-regulated learning in personal situations. During the action and reflection phases of this process, the study focuses on students' self-regulatory behaviours and their self-regulated learning successes. A random cluster sample of the population was given a Likert scale questionnaire. On the basis of the obtained data, descriptive and inferential statistical analyses, as well as non-parametric correlation and analysis of variance tests, were conducted. The findings show the usefulness of digital tools in all three phases of self-regulation and indicate the value of individual learning in the self-regulated process. Furthermore, the findings reveal that teachers' recommendations are linked to the usage of digital tools and the recording of learning process reflections, and they establish links between learning management technologies and cognitive and metacognitive processes. The study's findings also allow for the classification of pupils into three groups, which are frequently dependent on their achievement. As a result, analyses are linked to the idea of self-regulated learning's periodic essence, and they have an impact on the role of social ties on individual self-regulatory procedures.

**Jayawardena, et al., (2017)** conducted a study on promoting self-regulated learning in science. For the collection of data, researcher use semi-structured interview and classroom observations. From the results of the study, it seems that the restricted resources, overburdened science syllabus were barriers for them to use teaching practices that favour self-regulated learning.

**Alhadi, et al., (2018)** Conducted a study on self-Regulated Learning of Javanese Junoir High School Students in Indonesia. This study aims to explore the degree of self-regulated learning of Muhammadiyah junior high school students, and this is a quantitative study. This study consists of population of 14 Muhammadiyah junior high school students. The investigator here uses cluster sampling technique with N = 300 students in 16 Muhammadiyah junior High School in

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Bantul District, and self-regulated learning scale were used as an instrument for the study. Descriptive statistic with percentage and standard deviation technique were used as a data analysis technique for the study. From the results of the study, it is revealed that 5% of students were in the very high category, 27.3 % were in the high category, 41.3% were in the medium category, 23.7% were in the low category, and 2.7% were in the very low category. Therefore, the findings of the study can be used by counsellors as a guide for developing counselling strategies to improve students self-regulated learning.

**Damayanti, Sumarmo and Maya (2018)** This study aims to improve the students mathematical creative thinking ability and self-regulated learning using sylver approach. This study aims to evaluate the role of prior Mathematics Ability (PMA), Sylver approach (SA) along student's Self-regulated learning (SRL) and mathematical creative thinking ability (MCTA), by using pre-test post-test experiment except control group design. This study consists of 65 eleven grade students, a MCTA test, a PMA test and SRL scale. From this study it is analysed that PMA and SA hold good position on attaining student's MCTA, Thus N<Gain>and SRL. Student's on MCTA, and its N<Gain>students obtaining remedy with SA gained higher grades in spite of students learnt with the aid of traditional teaching, and the grades had been at average rate. Therefore, no different grades were seen on SRL among students on both teaching methods and thus, these grades had been at right level. The other results revealed, there has been no connection among MCTA and SRL, and students accomplished excessive notion toward SA.

**Mirhosseini, Lavasani and Hejazi (2018)** This study aims to explore how self-regulated learning strategies affected fifth grade female student's motivation, self-efficacy and academic performance in science classes. The instruments used for the collection of responses were Hater's educational motivation questionnaire and academic self-efficacy questionnaire. In order to evaluate the data, the investigator uses one factor covariance analysis. Therefore, findings of the study concluded that Students' motivation and academic self-efficacy improve greatly as a result of self-regulated learning practises, and their academic success improves significantly.

**Venitz and Perels (2018)** Studied two level method on improving the self-regulated learning of pre-schoolers through indirect intervention. The sample selected for the study were 16 parents, 37 pre-school teachers and 53 pre-schoolers. Responses were gathered using a questionnaire and a rating scale, and the techniques used was Analysis of variance. The results of the study indicated that parents teaching had no effect on self-regulated learning of the pre-schoolers.

**Lawrence and Saileela (2019)** The purpose of this research study is to learn more about higher secondary students' self-regulation and how it relates to mathematics achievement. A sample of 300 first-year higher secondary students from Tirunelveli district, Tamil Nadu, was chosen by using a simple random sampling procedure during the academic year 2018-19. The Self-Regulation Scale, developed by Saileela (2013), was used to collect data (2013). Students' Self-Regulation in studying mathematics was assessed using a five-point Likert scale with 42 items

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(38 positive and 4 negative). The students were given the research tools along with clear instructions on how to collect the necessary data for this research study. Percentile analysis, mean, standard deviation, t-test, F-test, and Pearson's product moment correlation were used to evaluate the data, and the results were interpreted appropriately. The findings demonstrate that self-regulation and mathematics achievement in higher secondary students have a positive association.

#### **4) Conclusion**

Taking into account the relevant theories, research, reviews, and meta-analytical studies of the self-regulation literature, it is generally agreed that the findings of self-regulation learning and its strong relationship with performance and success are highly reliable (Pintrich and Schunk, 1996). Self-regulated learning plays an important role in academic achievement. After reviewing the various studies on self-regulated learning, it is also concluded that motivation and self-efficacy had an impact on students' self-regulated learning practises. Based on the findings of the study it is also inferred that self-regulated learning strategy emphasized students' higher achievement in basic science than the traditional method. With self-regulation skill training programs being added as independent courses in most disciplines in addition to content knowledge teaching programs in today's education, magnitude of this skill in facilitating effective learning is being conveyed. To enable students to develop their learning, it is recommended that they have been assisted in reaching the stage where they are able to govern their own learning. By the same token, other-regulation and co-regulation is a way of

propelling learners into self-regulation. As literature enlightened how cognition, motivation, affect and context are closely intertwined in promoting self-regulation, attending to all these elements in conjunction with teaching of strategies and skills elevates higher achievement and well-being of learners. The study demonstrated how the development of self-regulatory capacities in the forms of perceptions and beliefs helps learners to achieve success. It demands that learners and teachers at all levels of education, including collegiate and beyond, pay more attention to this skill, especially those serving at the primary school level, because the development of this capacity appeared to be incrementally growing faster and faster after the initial stages of schooling. The literature likewise spurs curriculum developers and syllabus designers to revise their materials for incorporating more problem-solving tasks and group working activities, intervention programs, strategy training courses for bolstering self-regulated learning which has been shown to be the cornerstone of constructivist learning.

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