

A Correlational Study of Elementary Students' Academic Performance towards Self-Regulated Learning Strategies and Conceptions of Learning

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Abstract: A correlational study examined relationships between academic performance to students' self-regulated learning strategies and conceptions of learning for 87 students from 4th to 6th graders. To know the students' conceptions of learning and self-regulated learning strategies, Purdie and Hattie's (2002) questionnaire and Motivated Learning Strategies Questionnaire that was developed by Pintrich, Smith, Garcia and McKeachie (1991) were administered in elementary students of a private school in Manila. The students' academic achievement was also measured. The results showed a significant relationship between academic performance to conceptions of learning and self-regulated learning strategies. All self-regulated learning strategies have an effect to the academic performance of the students, however it was revealed that "rehearsal" has the most influential factor to achieve better academic performance. Additionally, among different conceptions of learning, learning as remembering, using, and understanding affects the most students' learning.

Keywords: Conceptions of Learning, Self-Regulated Learning, Academic Performance, Elementary Students.

I. INTRODUCTION

The objectives of research in education are significant progress to be given an attention to make advance and develop the curriculum and its reform, educating the students who are finding it hard to keep on track with the lessons, understand the learner's character on how they deal and overcome problems and challenges. Additionally, research in education guides and helps the educator on how they will approach a particular student having a research-based method (Boykin, 1972). Research in education is an essential part of the education process because it is proven as an effective method to improve the education and keep the system updated with the current advancement in the industry. The knowledge about education's nature, strategies, and procedures are part where the educators benefited because of the research (Turney & Robb, 1971). Several researches have proven that conceptions of learning are different with each learner. It is significantly affected by learner's view, learning goals, profile, and social behavior (Purdie et al, 1996; Alamdarloo et al., 2012). The behavior in self-regulation is an essential part in the student learning and academic performance (Corno & Mandinach, 1983). There is a numerous definition of self-regulated learning, however, three aspects are seemingly special for academic performance. The first one is self-regulated learning comprised of learners' metacognition for monitoring, planning, and exemplify their cognitive skill (Zimmerman & Pons, 1986). Second, another important component is the effort on academic task in relation to the learners' learning management. For instance, the ability of the learner to avoid distraction and focus on work even the environment is disconcerting (e.g., noisy classroom), this learner can still maintain the engagement in the task to exceed more (Corno, 1986). Third, learners who self-regulate their learning has proven that they use that ability to acquire knowledge, recall, and acknowledge the learning material in a broad understanding (Corno & Mandinach, 1983).

Klaterr et al. (2001) have indicated that consequences, necessities, and purposes are the different point of views of the learners. Hence, the definition of learning is a multidimensional construct (Peterson et al., 2010). Consequently, learners have different kind of conceptions of learning because of these characteristics (Dart et al., 2000). Conceptions of learning are described as the student's knowledge, beliefs, and objectives in learning (Lai & Chan, 2005).

Mascardo et al. (2017) studied the influence of self-regulated learning and conceptions of learning to academic performance and it has been proven that it can affect learner's academic performance positively. The conception of learning has been researched. The students learning trait such as conception of learning has an influence on the process of learning and result of it (Biggs & Moore, 1993). A study of relationship of academic performance to the self-regulated learning strategies and conceptions of learning are going to be researched in this paper. Buehl & Alexander (2001) indicated that learners obtain specific views on learning, hence it is important for the educators to discover the learners' methods, goals and desire outcome to their learning (Tsai, 2004).

II. REVIEW OF RELATED LITERATURE

Conceptions of Learning

Conceptions of learning are described as the learner's knowledge, beliefs, and objectives in learning, and it was built from the understanding of the student (Lai & Chan, 2005). Numerous of researches have proven that conceptions of learning were different to each learner (Purdie & Hattie, 2002). Hong & Salili (2000) stated that conceptions of learning are acknowledge by the learner's cultural beliefs, hence six conceptions of learning which is hierarchical are established beyond various countries such as Malaysia, Australia, United States of America and China. Learning as gaining information, remembering and using information, and duty are the first three conceptions of learning. It emphasizes learning quantitative material. Learning as personal change, process, and development are the last three conceptions of learning which highlighted on qualitative material (Purdie & Hattie, 2002; Lai Chan, 2005; Marton et al., 1993).

Students' conceptions of learning and academic achievement have a relationship to each other (Mclean, 2001; Alamdarloo et al., 2012). Additionally, conceptions of learning are high in the hierarchy when learners have satisfaction in acquisition of knowledge and better academic performance (Purdie & Hattie, 2002). With regard to Allan (2003), he noted that academic achievement can be predicted through learners' conceptions of learning.

Alamdarloo (2012) study's revealed that there is a relationship with conceptions of learning and academic performance. The study showed that out of all the different conceptions of learning, there are two components of conceptions of learning that have the most efficient role in academic achievement. These are learning as a process not bound by time or place and learning as the development of social competence. Mclean's (2001) and Alamdarloo et al. (2012) findings showed that students' conceptions of learning and academic achievement have a relationship to each other. When the education content is demonstrated in a way where learners are engage in real-life situation, directs them to be self-reliant and competency, conceptions of learning will be higher in the hierarchy and deeper in knowledge acquisition. If the learners have a satisfaction and higher academic achievement, they tend to show various conceptions of learning more than one, and in actual fact, learners chose different methods of learning when they have more than one conceptions of learning (Alamdarloo et al., 2012).

Self-Regulated Learning

Self-regulated learning which is aligned closely with educational aims is one of the domains of self-regulation is (Burman et al., 2015). According to Zimmerman (2002), self-regulated learning can occur in a circular pattern, which composes of a learner who (1) plan a task; (2) monitor his or her performance; (3) reflect the outcome. It has been indicated that the cycle repeats when only students reflect the outcome and prepare for the next task. Although there are many definitions for self-regulated learning, three of them show a seemingly essential for academic performance. First, a learner perceives self-regulating in learning when they supervises, directs, and manages actions toward the aims of acquiring knowledge, maximizing their skills, and improving oneself (Paris & Paris, 2001). To have a better academic performance, self-regulated learners undergo practicing and evaluating their learning, developing a high understanding of subject matter, engaging to challenging tasks, and exerting efforts (Percy et al., 2006). Second, another important component is that learner who is able to control and manage their effort on tasks has been given. Corno (1986) exemplified students who are capable to endure and complete in time a difficult task or be able to focus even the environment is not conducive because of noisy classmates, these learners can still maintain their commitment in the task and inspires them to achieve more.

Third, researchers like Zimmerman & Pons (1986, 1988) have included that the one of the most important aspect of self-regulated learning is when the students use their cognitive strategies to remember, understand, and learn the materials. These are some of the reason why self-regulated learners demonstrate an extreme belief in their capabilities (Pintrich et al., 2014). Self-regulated learners can achieve better academic performance because they exert effort to supervise, direct, and regulate their own learning environment and actions toward their learning goals (Palinscar & Brown, 2009).

According to Pintrich et al. (1991) self-regulated learning involves five strategies: (1) rehearsal; (2) elaboration; (3) organization; (4) critical thinking; and (5) metacognition. This is also mentioned in Mascardo et al. (2017). It has been found that a students will obtain better academic performance when they stimulate cognitive skills and have engagement in learning (Weinstein & Mayer, 1986).

Sadi (2015) studied the self-regulated learning strategy of high school students in Turkey. It showed that there is a relationship between academic performance and self-regulated learning strategy. His study only adapted for factors of Cognitive Self-Regulated Strategies. The study revealed organization factor as the highest mean and in high-level strategies of self-regulated learning, and rehearsal as the lower mean. This finding is agreeing with Mascardo et al. (2017), which indicated that the two variable is related to each other. The researchers revealed that the students perceive rehearsal factor as their main self-regulating strategy which is one of the low-level strategies of self-regulated learning. Rehearsal involves mental ability to memorize and recite the learning materials and this strategy helps learners to select the information that must be give more attention during the lesson to make it keep it in mind (Pintrich, 1999).

III. THEORETICAL FRAMEWORK

Conceptions of Learning

Many research highlighted that students develop learning in qualitatively different ways through research into students' conception of learning. There are two predominant positions that these conceptions can be categorized: (1) acquisition, storing, reproduction, and using of knowledge are surface understanding of learning of some students; (2) construction of meaning and personal change are deep understanding of learning of some students (Purdie & Hattie, 2002). Consequently, subcategories have also been identified. Researchers followed the investigation of participant responses to numerous open-ended questions about how the student defines learning and how student usually set about learning. According to Säljö (1979), there are five distinctly different ways on how people thought about learning: (1) the increase of knowledge or learning; (2) memorizing; (3) an acquisition of facts; (4) abstraction of meaning; and (5) an interpretive process. The first three concepts depict knowledge as external and learning as passive which Säljö (1979) define as the surface-level processes; the fourth and fifth concepts depict knowledge as raw material, actively selecting and condensing ideas are the task of the learner which Säljö (1979) describe as the deep-level processes.

Correspondingly, research about people's conceptions of learning from a cross-cultural perspective has been done. Purdie et al. (1996) previous study sought to explore the Australian students' conceptions of learning. They have identified nine categories of conception of learning which are: Learning is (1) increasing one's knowledge; (2) memorization and reproducing information; (3) usage of information as a means to an end; (4) understanding; (5) seeing in a new way; (6) personal fulfillment; (7) duty; (8) a process not bound by contest; and (9) a development of social competence. These nine categories were identified by the students' written and oral responses about their conceptions of learning. The study's questionnaire was answered by two groups of Australian students in metropolitan area. The analysis of the data reveals six factors of conceptions of learning and to validate this Purdie et al. (1996) used the instrument again by another group of Australian students.

After the study, Purdie & Hatie sought explore if conceptions of learning and academic performance has a relationship to each other in year 2002. In the study, the nine factors of conceptions of learning did not fit the data well. According to them, when evaluating models, it is not important to focus only with acquiring best statistics but a model which is useful and can be interpreted theoretically. The data contained six factors that is relevant and provided a good fit (Purdie & Hattie, 2002). The six factors were identified. See Figure 1.

Self-Regulated Learning

Paul Pintrich's work focused on the relationship between motivation and cognitive skill and its importance to the life-long learning of the learners and their academic performance. He has created a social-cognitive model that was contextualized in contribution to the field of educational psychology. Due to Pintrich's interest with the learner's motivation and cognitive skill, he then researched about the self-regulated learning strategies of the learners.

The framework about self-regulated strategy was adapted from Motivated Strategies for Learning of Pintrich et al. (1993). McKeachie et al. (1986) present the general theoretical framework that carries the Motivated Strategies for Learning. The framework was also discussed in the articles of Pintrich (1998a,b; 1989), Pintrich & Garcia (1991), and Pintrich and DeGroot (1990).

The Motivated Strategies for Learning scales were described into three broad areas: (1) value that consists of intrinsic goal which refer to the learner's discernment of the intentions why he or she is committing and engaging in a learning task, extrinsic goal wherein the learner is concerned to his or her motivation to participate in a task for grades, rewards, etc., and task value that the learner asks himself or herself "What do I think of this task?"; (2) expectancy that consists of control of learning beliefs where learners believe that they will acquire positive outcome when they will take efforts to learn, and self-efficacy that comprises judgments to one's ability and confidence to complete the task; and (3) affect which is test anxiety wherein the worry and negative thoughts of the learner interrupt his or her performance.

The cognitive and metacognitive self-regulation scales can be seen in Figure 1. Metacognitive strategies comprise to plan, monitor, and regulate strategies. The Motivated Strategies of Learning is a general view of cognitive in regards to motivation and learning strategies, whose learner's belief and cognition are vital mediators of instructional input as they represent as an active absorber of information. Cognitive strategies incorporate learners' to use strategies that is basic and complex for the procedure of knowledge and information through narrative and lessons (Pintrich et al., 1993).

IV. CONCEPTUAL FRAMEWORK

The conceptual framework of the study was shown in Figure 1. This study seeks to know the relationship of the elementary students' academic performance to conceptions of learning and self-regulated learning strategies. The students' academic performance is the dependent variable of the study, while conceptions of learning and self-regulated learning strategies are the independent variables of the study.

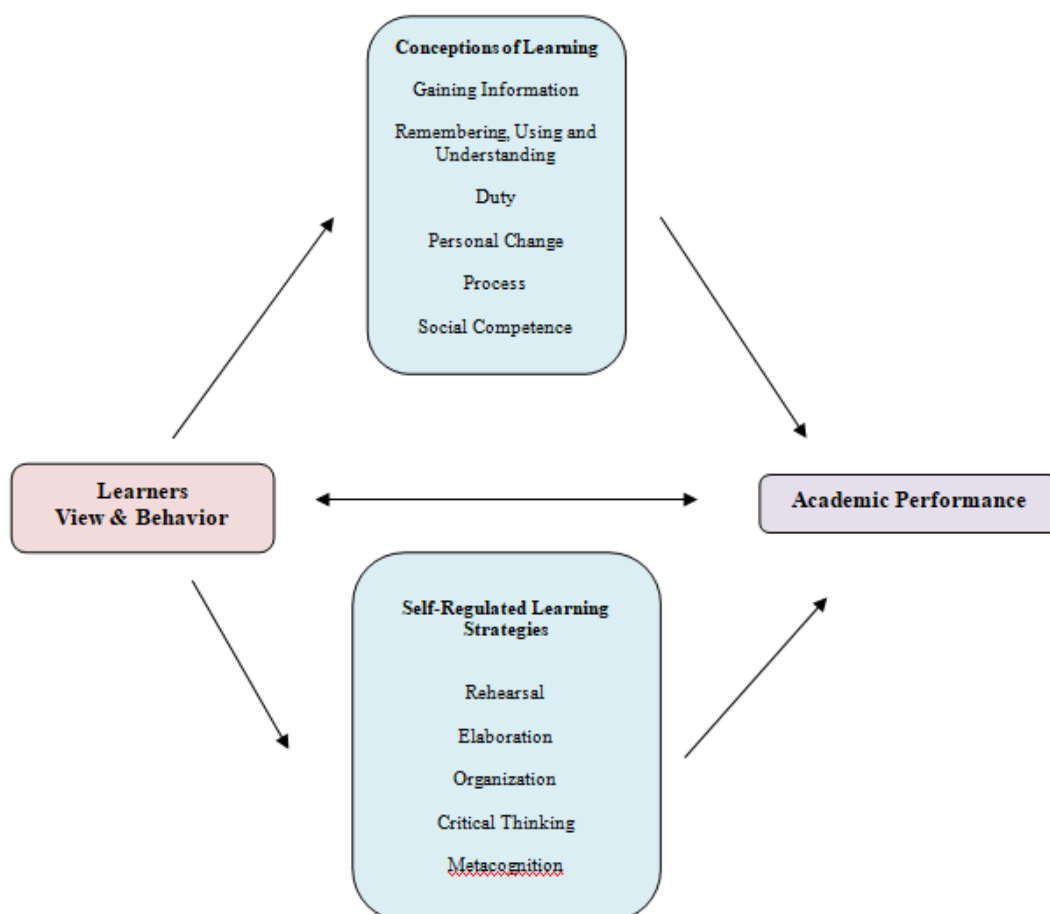


FIGURE 1: CONCEPTUAL FRAMEWORK OF THE STUDY

The Conceptual Framework shows that the learner's view and behavior and academic performance affects each other. Amirtha & Jebaseelan (2014) verified that there is a relationship between learning behavior of students and their academic achievement. To support this theory, Ralp et al., (2010) revealed on his study that student academic performance is significantly correlated with student's choice of behavior and learning styles. Conceptions of learning and self-regulated learning strategies have a significant relationship to students' academic performance. It was studied by Sadi (2015), the findings revealed that there is a significant relationship among the self-regulated learning strategies and academic performance, and Alamdarloo et al. (2012) findings revealed that academic achievement and conceptions of learning has an important relationship to each other. Hence, the framework shows a relationship between academic performance to conceptions of learning and self-regulated learning.

This study adapted Purdie & Hattie's model of Conception of Learning. Conception of Learning has six factors, Learning as: 1) Gaining Information (INFO) is when someone shares new information and the student can notice that he/she is learning; (2) Remembering, Using and Understanding information (RUU) is when learning make sense where new information and ways of accomplishing things were formulated; (3) a Duty (DUTY) is feeling the need to finish task whether the learner likes it or not; (4) Personal Change (PERS) is knowing that to widen views about life a person should learn; (5) a Process not bound by time or place (PROC) is acquiring knowledge and ideas through everyday life experiences; and (6) the development of Social Competence (SOC) is developing good relationships with other people (Purdie & Hattie, 2002).

This study adapted Pintrich's model of Cognitive Self-Regulated Learning Strategies which consisted of five (5) categories (Pintrich et al., 1999; mentioned in Mascardo et al., 2017): (1) *Rehearsal* involves mental ability to memorize and recite the learning materials and helps learners to select the information that must be give more attention during the lesson to make it keep it in mind (Pintrich, 1999); (2) *Elaboration* includes strategies such as paraphrasing, note taking, summarizing and forming explanation (Weinsten & Mayer, 1986); (3) *Organization* guides the learner to choose proper information and construct connections out of the knowledge to be learned by forming links between information, it includes strategies such as categorization, finding and selecting the main idea, and clustering (Weinsten & Mayer, 1986; Büyükoztürk et al., 2004); (4) *Critical Thinking* is the state of the learners in applying prior knowledge to new situation to construct new and bigger ideas, and problem solving and decision making are also part of this strategy; and (5) *Metacognition* is the awareness of knowledge and controlling the cognitive skill, in other words, "thinking of my own thinking". All these cognitive self-regulated learning strategies allow learners to determine and supervise their own learning and making effort because of being highly motivated (Pintrich, 1999).

V. METHODOLOGY

Research Questions

This study was proposed to investigate the relationship of academic performance towards conceptions of learning and self-regulated learning strategy among elementary students of a private school.

The main research question is, "Is there a significant relationship between academic performance towards self-regulated learning strategies and conceptions of learning?" and the sub-questions are:

1. What inclinations do elementary students show in conception of learning?;
2. What is the elementary students' self-regulated learning strategy while learning?;
3. How do self-regulated learning strategies and conceptions of learning components help students to achieve better academic performance?

Research Design

This study utilized a quantitative design with a descriptive correlation research design as it sought to identify the relationship of student's academic performance towards self-regulated strategy and conception of learning.

Research Context and Participants

The participants of the study are students of Build-up Knowledge Academy in Manila City. The questionnaire was accessed by 87 elementary students. Out of all the number of participant 39 were female students (44.80%) while 48 were male students (55.20%). Due to the pandemic that the world is facing, the researched opted to do convenience sampling to choose the sample data as the researcher is working in the said school.

Research Instrument

To gather the necessary data, the researcher used a survey questionnaire. Two sets of questionnaire were administered to the respondents – one for conceptions of learning, and the other one is for self-regulated learning strategies of the learners.

The researcher adapted the “Conceptions of Learning Inventory” of Purdie & Hattie (2002). The questionnaire was developed through qualitative study from Australian high school students. The questions were rated on a 6-point Likert scale from “completely agree” to “completely disagree”.

Motivated Strategies in Learning Questionnaire (MSLQ) that was developed by Pintrich et al. (1991) was the other questionnaire that was used in this study, which was conducted to determine the students’ learning strategies. The MSLQ gave a free will to researchers to choose the appropriate variable and section in the questionnaire to meet the goal of the study. In this study, the section of cognitive learning strategies was chosen. The MSLQ is a 7-point Likert scale from “completely agree” to “completely disagree”. Table 2 shows the factors for self-regulated learning strategies and its example items. The factors for cognitive learning strategies and example items are given in Table 2.

The respondents’ academic performance was based on their general average for the 1st quarter. The grades were accumulated by written works, performance tasks and quarterly assessment. Accordingly, the performance of each student was rated through their level of proficiency.

Research Procedure

The researcher sent a letter to the administrator of the school to seek for the permission to conduct the survey. The researcher also sought for a parent’s consent for the participating students. The researcher conducted and managed the survey through online. The survey questionnaires were completed in one sitting without time limit. The researcher assured the respondents of the confidentiality of their responses. The gathered data was tabulated by the researcher, and she sought for a statistician for statistical computation and analysis.

Data Analysis

Both questionnaires, conceptions of learning and self-regulated strategies, were applied to 4th, 5th, and 6th elementary students. The student who agreed to participate in the study voluntarily, filled in the questionnaire simultaneously. The responses that were given by eighty-seven elementary students were analyzed to identify the relationship of academic performance towards conceptions of learning and self-regulated strategies. Thereafter, the researcher sought for the permission of class adviser to record the general average of the students who participated in the survey for the purpose of answering the research question.

VI. RESULTS AND DISCUSSION

TABLE 1: SPEARMAN CORRELATION; RELATIONSHIP BETWEEN ACADEMIC PERFORMANCE AND CONCEPTIONS OF LEARNING OF THE STUDENT-RESPONDENT

Academic Performance (1 st Grading)				
Conceptions of Learning	Weighted Mean	Spearman Correlation Coefficient	p-value	Interpretation
Gaining Information	4.7220	0.357	0.001	Positive
Remembering, Using and Understanding	4.6311	0.406	<0.000	Positive
Duty	5.0767	0.374	<0.000	Positive
Personal Change	4.7762	0.354	0.001	Positive
Process	4.5833	0.324	0.002	Positive
Social Competence	4.8925	0.373	<0.000	Positive

The Table 1 displayed the relationship between academic performance (1st grading) of the student-respondent and conception learning assessment using spearman correlation. It shows that academic performance has statistical significant relationship against all factors of conception learning because the p-values are less than the level of significance of 0.05, therefore reject the null hypothesis. The correlation coefficient for factors of conception learning in Gaining Information,

Duty, Personal Change, Process and Social Competence are between 0.2 to 0.3.9 which described that academic performance has positive weak relationship among the factors. However, *Remembering, Using and Understanding* had correlation coefficient between the intervals of 0.4 to 0.59 which describe moderate positive correlation.

This implies that factor on conception learning affects the academic performance of the student in same direction and *Remembering, Using and Understanding* is the factor that affects the most to the academic performance.

TABLE 2: SPEARMAN CORRELATION; RELATIONSHIP BETWEEN ACADEMIC PERFORMANCE AND SELF-REGULATED LEARNING STRATEGIES OF THE STUDENT-RESPONDENT

Academic Performance (1 st Grading)				
Self-Regulated Learning Strategies	Weighted Mean	Spearman Correlation Coefficient	p-value	Interpretation
Rehearsal	5.0200	0.445	<0.000	Positive
Elaboration	4.8516	0.407	<0.000	Positive
Organization	4.6400	0.368	<0.000	Positive
Critical Thinking	4.7440	0.210	0.051	Positive
Metacognition	4.7408	0.261	0.015	Positive

The Table 2 displayed the relationship between academic performance (1st grading) of the student-respondent and self-regulated learning strategies assessment using spearman correlation. It shows that academic performance has statistical significant relationship against Rehearsal, Elaboration, Organization and Metacognition of the self regulated learning strategies because the p-values are less than the level of significance of 0.05, therefore reject the null hypothesis. However, self regulated learning strategies for *Critical Thinking* factor has no statistical significant relationship against academic performance because p-value is greater than the level of significance 0.05, therefore retain null hypothesis. The correlation coefficient for *Organization* and *Metacognition* factors for self regulated learning strategies are between 0.2 to 0.3.9 which described that academic performance has positive weak relationship among those factors. However, *Rehearsal* and *Elaboration* have correlation coefficient between the intervals of 0.4 to 0.59 which described moderate positive correlation.

This implies that *Rehearsal, Elaboration, Organization and Metacognition* of the self-regulated learning strategies affect the academic performance of the student in same direction and *Rehearsal* is the factor that affects the most to the academic performance.

Implication and Conclusions

The main purpose of this research was to study the relationship of academic performance towards conceptions of learning and self-regulated learning and to learn the most effective strategy that students use to achieve better academic performance. In this study, two questionnaires were adapted to determine students' conceptions of learning and self-regulated learning accordingly. The statistical data analysis reveals that there is a positive correlation between students' academic performance towards all conceptions of learning and self-regulated learning. Among different conceptions of learning, learning as remembering, using, and understanding affects the most students' learning. The results also confirm that all of the self-regulated learning strategies have an effect towards academic performance. Moreover, students perceive Rehearsal as the most effective self-regulated learning strategy in achieving a better academic performance however it reveals that they lowly regulate the ideas that had been learned.

It is essential for educators to know the importance of elementary students' conceptions of learning and self-regulated learning strategies to achieve better academic performance. This study would give educational implications to the development of the curriculum to encourage students regulate higher-level in learning and help the teacher's instructional strategies.

VII. RECOMMENDATION

This research study suggest that to acquire academic excellence in students, teachers should encourage an instructional strategy to promote higher-order thinking skills in order for students perceive higher-level conceptions of learning and would build up students' self-regulated learning strategies. The sample of this study involved of students at a private

school, hence future studies may include both private and public school and other level of education such as secondary education. As observed in the study, it only sought to explore the relationship of academic performance to conceptions of learning and self-regulated learning. Future studies may also consider and/or research the relationship between conceptions of learning and self-regulated learning.

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