

Utilization of Learning Intervention Program in Self-Regulation (LIPS) in Enhancing Self-Regulatory Skills of Grade 7 Students in an Online Environment

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Abstract: This action research is primarily concerned with how students experienced difficulty adjusting and coping with Online Learning. It aims to enhance the self-regulation skills in an online learning environment of Grade 7 students from a certain class under the Laboratory High School of the Don Honorio Ventura State University. The respondents were prompted to undertake a pre-test and a post-test through the use of Google forms to determine the significant effect of the intervention. Hence, the researchers focused on improving the self-regulation skills of Grade 7 students by incorporating the Learning Intervention Program in Self-Regulation (LIPS). LIPS is a long term strategy aimed at improving self-regulation among online learners which can also best assess the positive improvement of the students on their academic performance. Likewise, this method focused on the strategies that learners can employ to regulate their learning in an online setting in order to achieve a flexible and meaningful learning. The findings of the study revealed that Grade 7 students demonstrated a high level of SRL during the pre-test; ergo, the results are not ideal and there is still room for improvement. Meanwhile, the results show that there is a significant improvement on the SRL levels of respondents acquiring an overall mean of 4.27 which corresponds to a very high level after their exposure to the intervention. The outcome of this study will provide teachers with beneficial strategies like the LIPS in enhancing the self-regulatory skills of students in an online environment, especially Grade 7 students.

Keywords: action research, self-regulation skills, self-regulated learning, online environment

1. Introduction

The world is ever-changing and the learning environment shifts rapidly as well. Notably, education is significant as it is a valuable source of information and a key to success; however, not all students are capable of effectively learning at any given time or under any given circumstance as some may not easily adjust and cope with changes especially when they need to deal with a new mode of learning.

Learning is a continuous process, a never ending cycle. Individuals continue to learn every day, even if they are unconscious of when they are learning. In addition, there are instances that some people do learn under the right conditions through complex interactions with others via various visual inputs and tasks in the environment, as well as coincidental moments when we take in a lot of information using all of our senses (Oxford University Press, 2019).

It is instinctive for human beings to set foot in the concept of learning as they constantly develop; thus, learning is a natural activity among individuals. The Oxford University Press (2019) affirmed that learning is a necessary part of being a human. It is not limited to the classroom and begins long before a child enters the school. Bhasin (2019) expressed that learning is a process that promotes the acquisition of competences, information, and abilities in order to expand future opportunities. In relation to Psychology, learning results when there is a behavioral change which means that

humans adapt to what was instructed or taught to them (Thangeda et al., 2016). For students, learning can be viewed as an impactful tool they can get hold of where they are able to obtain an extensive range of knowledge and skills that guides them towards success in life.

A classroom is the primary environment which fosters learning among diverse students with various learning needs and learning styles. As stated by the Glossary of Educational Reform (2014), a learning environment pertains to a wide variety of venues, conditions and cultures where students learn. Studies dealing with educational sciences established that students have differences when it comes to learning and that individual learning styles and the learning environment are important facets for learning to transpire (Ozerem & Akkoyunlu, 2015).

2. Online Learning

In this contemporary time, there is a shift of activity in the educational systems across the world brought about by the COVID-19 pandemic which resulted in the closing of schools for compliance with safety protocols so students now learn in virtual classrooms. The closure of academic institutions caused by the pandemic affected approximately 1.2 billion learners across 186 countries worldwide (Li & Lalani, 2020). Furthermore, Pokhrel and Chhetri (2021) stated that the pandemic laid opportunities for educators to introduce and implement online or digital learning.

Online learning is a form of instruction which is fit during this time of pandemic since as mentioned by Suhair and Aseel

(2021), it allows students to be flexible in terms of their learning as it can be executed any place and any time in the absence of a physical classroom. It can be sorted into two types: Synchronous learning and Asynchronous learning. Synchronous learning refers to teachers and students learning simultaneously at a distance. As expressed by Lawless (2020), this type of learning allows students to send and receive answers in collaboration with their classmates real time. On the other hand, Asynchronous learning involves offline activities which students can access based on their schedules which allows them to work on assigned tasks at their own pace.

Although online learning offers many benefits to students, there are also a range of difficulties or hindrances that come with it. Barrot et al. (2021) said that the educational system of the Philippines was shaken because of the pandemic and problems were seen in this new set-up. Similarly, Kahlil et al. (2020) attested that online learning is recognized as an effective tool in learning but the shiftment of mode of learning can be a bit difficult due to lack of non-verbal communication and other reasons such as interactions between student and the teacher and even time management. As mentioned by Wilson (2015), another dilemma that learners face is sustaining engagement in an online class. Furthermore, as asserted by Barrot et al. (2021), the greatest challenge that students encounter in an online learning environment are distractions at home, limitations in completing the requirements for certain subjects, and difficulties in selecting the learning areas and study schedule. Other difficulties that the students experience in an online class encompass the lack of students' interest in the subject they study and the difficulties in obtaining instructional techniques used for enhancing students' abilities to become independent problem-solvers (Doghonadze et al., 2020).

3. Self-Regulated Learning (SRL)

There is a need for learners to develop and enhance skills in relation to self-regulation. Students who lack self-regulation usually tend to not give themselves sufficient time to accomplish assigned tasks, leading to poor work performance or delayed classwork altogether (You & Kang, 2014). As stated by Kocdar et al. (2018), studies have shown that the majority of distance learners who lack self-regulation have difficulties managing their learning processes and are thus vulnerable to failure; thus, failure is prevalent during self-paced open and distance learning because students study at their own pace. Correspondingly, researchers discovered a strong sense of isolation and discomfort among students who lack self-regulation, which may have a negative impact on learner motivation and efficiency mainly because majority of students are accustomed to the teacher-centered, face-to-face learning approach, they frequently lack awareness of, and skill in, planning and managing their own study (Kohnke et al., 2021).

Students who learn online should therefore establish coping strategies which can aid them to boost their academic

performance. Coping strategies are adjustments people make in order to lessen their stress and anxiety when they are in difficult situations. Self-regulated learning (SRL) is a commendable coping strategy for students because as confirmed by a study conducted by You and Kang (2014), SRL is acknowledged as an essential and crucial factor for successful online learning. Panderó and Alfonso-Tapia (2014) specified that SRL can take control of the student's minds, emotions, and even their behaviors towards the learning process and by means of the application of personal strategies to achieve the goals they have set. Online academic success is more likely to transpire when it is supported by SRL since it is associated with achieving individual learning outcomes for students (Wong et al. 2019).

SRL entails a self-directive process which is cyclic where students initially prepare for a task, observe their performance and reflect on the outcome. Afterwards, the students make use of the reflection to adjust and get ready for the following task. It is mainly involved with how students get to direct and facilitate their own learning processes (Zimmerman, 2015). Thus, it is noteworthy in the attainment of students' academic success.

Wang and Sperling (2020) highlighted the importance of SRL in a virtual world by stating that self-regulated learners benefit from a variety of techniques to monitor and control their learning flexibly. Sahranavard et al. (2018) established that students who have active self-regulation are the ones who are much involved in the learning process by means of their motivation and cognition; hence, they are self-directed in acquiring various knowledge and skills by using strategies rather than just reacting passively to the instructions. Likewise, Al-Abdullatif (2020) discovered a statistically significant and positive interrelationship between students' SRL and academic performance and scores in an experimental study involving junior high school students, leading to the acceptance of the alternative hypothesis that learners with a sufficient level of self-regulation were more likely to improve their online educational performance. Similarly, Wandler and Imbriale (2017) stated that there is a significant relationship between SRL and academic performance in learners, and research has shown that SRL strategies are much more relevant to online learning settings due to their more self-governing nature.

The aforesaid descriptions manifest the ongoing predicaments and difficulties faced by students with the utilization of online learning and these statements propound the effective impact of SRL on the educational success of the learners. Hence, the researchers decided to explore the levels of self-regulated learning among Grade 7 students at Don Honorio Ventura State University in an online environment as they perceive it as indispensable in the learning process and they applied an intervention for the enhancement of their self-regulated learning skills and improve their academic performance subsequently.

4. Study Purpose

This study was conducted to evaluate the effects of utilizing the Learning Intervention Program in Self-Regulation (LIPS) to enhance students' level of self-regulatory skills in an online environment. Specifically, it answered the following questions:

1. How can the SRL levels of Grade 7 students in an online environment be described before the intervention?
2. How can the SRL levels of Grade 7 students in an online environment be described after the intervention?
3. Is there a significant difference in the SRL levels of Grade 7 students in an online environment before and after the intervention?

Hypothesis: There is no significant difference between the SRL levels of students before and after their exposure to the intervention.

5. The Intervention

As a consequence of the tragic effects of the pandemic, the educational sector in the Philippines suddenly shifted to online learning. Accordingly, students have encountered challenges due to this sudden shift of the learning environment which may have affected their academic performance.

Hence, this research administered the intervention named LIPS, an acronym for Learning Intervention Program in Self-Regulation, which is a strategic plan targeting the improvement of self-regulation among learners in online learning as it is said to have a beneficial effect on academic performance. It is an empirical program that focuses on the strategies and tactics which learners can regulate in an online environment for effective and adaptive learning.

This was implemented through a series of webinars that are based on Zimmerman's SRL Cyclical Phases Model which served as the theoretical foundation of the intervention. According to Panadero (2017), Zimmerman's SRL Cyclical Phases Model is divided into three sections such as planning, performance and self-reflection. Learners set their objectives and level through the planning stage. This phase entails learners' insights in their academic setting. Amidst the performance phase, students display their dedication in their academic experiences. They can also assess their progression to the level that they have in the planning stage. Learners can assess their learnings amidst the self-reflection stage. It involves reflecting over feedback and storing ideas and conceptualization for later use.



Figure 1. Zimmerman's SRL Cyclical Phases Model

In consideration of the sections presented on the model, the program was designed into three interrelated webinars namely:

- **The Planning Phase:** Encouraging Youths to Establish Standards- This webinar aims to highlight the importance of establishing goals and standards among learners and to reiterate the importance of attaining them within their reasonable time frame of a particular activity, class, or subject. In addition, this webinar aims to impart strategies on how learners will develop their motivation in online learning.
- **The Performance Phase:** Noticing the Outcomes through Self-Observation and Examination- This conference is designed to offer students pointers in monitoring their own learning through self-observation regarding their progress in the goals and standards they set in the planning phase and share effective approaches on how they will direct and regulate their performance or progress.
- **The Reflection Phase:** Evaluating the Achievements by way of Reflecting in the form of Self-Judgement- This is a forum emphasizing the significant impacts of evaluating the learning experiences of students by self-judgement through giving guidelines to students.

The intervention transpired in a time frame of approximately two months in the second semester. The webinar series was conducted in three consecutive Thursdays in a specific subject of a class. Each webinar was designed to have a one hour duration and was conducted via Google Meet. The meeting link was provided and forwarded in advance to the class. After each webinar, an evaluation form was accomplished by the participants to obtain feedback from the event. Correspondingly, the form served as proof for the participants' attendance.

Moreover, after the webinar series took place, the strategy called the "Reflection Zone" was utilized. This strategy created a path for teachers to teach students how to self-monitor or self-reflect. This also provided opportunities to scrutinize how students learn. It presupposes that unless one

thinks deeply about how one learns, he or she will never obtain the insight required to correct poor practices and assert good ones. In this, the teacher used guided questions to encourage students to discuss the various strategies they used to complete a task. The teacher asked questions such as, “What did you do to complete the task?”, “Did you organize a special working environment while performing the task? How?” and “How much time did you allocate to complete the task?”.

Prior to the intervention of LIPS, the students were asked to answer the Online Self-Regulated Learning Questionnaire (OSLQ), adapted from Barnard et al., (2009) through Google Forms. Barnard et al. (2009) emphasized that they have presented evidence in their study that the said instrument is valid and reliable when it comes to assessing self-regulation in the online learning environment. Subsequently, the students were again requested to accomplish the same questionnaire after the implementation of the intervention in order to look into the changes in the status of students’ self-regulation in the online environment.

The results of this study offer students a better apprehension of their needs, making them aware of how to deal and how to help themselves for better learning in an online environment. With the application and dispersal of the results and recommended intervention, students will be able to familiarise themselves about self-regulation learning, they will also be able to respond to their own needs, and they will be able to manage their own learning. Aside from students who will benefit from this research, it would also serve as a reference to teachers, parents and institutions which will give them paramount ideas in handling and managing such behaviors.

6. Methodology

6.1 Research Design

This study employed an experimental research design, specifically the one-group pretest–posttest design to know whether there is significant change in the SRL levels of students before and after implementing the intervention. Cresswell (2014) stated that the optimum objective of experimental research is to find out if a certain method of doing something is preferable than the prevalent or established method. Particularly, the one-group pre-test and post-test design entails a process whereby a single group is observed before and after being exposed to the intervention or treatment and it does not employ a control or comparison group. Afterwards, the changes ascribed to the implementation of an intervention or treatment are assessed through the comparison of the results from the pre-test and post-test. Moreover, this type of research design is most often employed by researchers who study the behavior of individuals in order to identify an intervention or treatment’s effect on a given sample (Allen, 2017).

6.2 Respondents

Total Population Sampling design was utilized in this study where all members of the chosen class served as respondents in order to obtain the necessary information for the purpose of the study. As cited by Glen (2018), total population sampling is done by claiming that all participants share a common interest, experiences, set of characteristics and exposure to a certain event. With the integration of this design, the data from the entire population yielded more in-depth insights from the target population which will allow the researchers to provide a much more comprehensive view of the research’s potential outcomes.

In line with this, the respondents were a total number of 54 Grade 7 students from a particular class from Laboratory High School at Don Honorio Ventura State University. Based on observations, factors such as lack of motivation and self-engagement, poor academic performance, and difficulty adjusting to the new learning environment were being established from the beginning of the online class until now. Mayhaps the adjustment is more challenging for them because they must use different online platforms to attend the class as compared to undergoing modular learning when they were in Grade 6.

Furthermore, the reason for selecting Grade 7 students as respondents in the study was to assist them in developing connections to real-world scenarios. Students who lack engagement and motivation must be prioritized so that learning can take place either in a face-to-face or virtual class. Therefore, this study may serve as a guide for Grade 7 students who are struggling in the sudden shift of a new environment, helping them develop their self-regulating skills and encouraging them to never stop learning regardless of the circumstances.

6.3 Data Gathering

The researchers requested permission from the Principal of the Laboratory High School in advance of gathering data for this study as the subjects they will be collecting data from will be from the said department. Following that, the researchers explained the nature and purpose of the study to the respondents online (through Facebook/Messenger) due to the ongoing pandemic. The researchers officially started gathering data through completing a questionnaire when the schedule has been finalized.

Particularly, the Grade 7 students who engage in online learning were prompted to undertake the Online Self-Regulated Learning Questionnaire, adapted from Barnard et.al. (2009), which examined their level of online self-regulation skills before and after the intervention was implemented to see if there were any significant changes. As a result of the current pandemic and in accordance with the community’s safety protocol, the instrument was administered with the aid of Google Forms.

The questionnaire comprises 23 items regarding Self-regulation skills in an online environment, each of which was answered on a 5-point Likert scale, ranging from “never” (=

1) to “always” (= 5). The questionnaire is shown in Appendix A.

The researchers checked, tallied and interpreted data after the target respondents had finished taking up the questionnaire. The pre- and post-results of the questionnaire were the main basis of the researchers in answering the first and second research questions relating to the level of self-regulation students have before and after the intervention. Furthermore, the third question was answered by means of comparing the students' pre-intervention and post-intervention results.

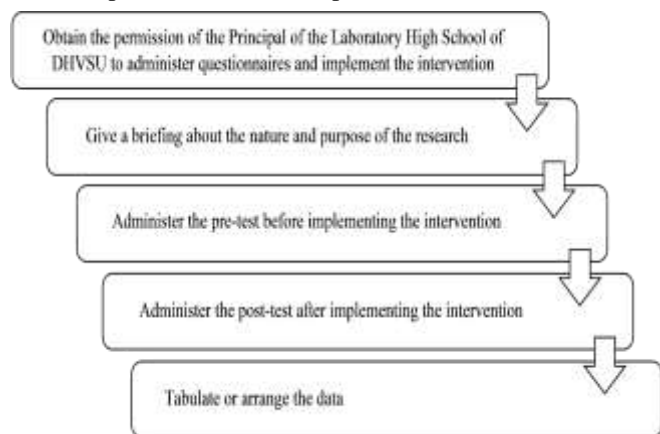


Figure 2. Data Gathering Procedure

6.4 Data Analysis Plan

The researchers made use of descriptive and inferential statistics to describe and analyze the data gathered in the study. The data collected was classified, organized, tallied and tabulated, and interpreted. The objective of descriptive statistics, from sample data, is to describe the most important characteristics, by which the researchers will refer to those amounts that provide information on the topic of interest being studied. On the other hand, inferential statistics was applied to compare the differences between groups and make generalizations about the larger population of subjects.

Frequency distribution to obtain the mean values of the variables was utilized to answer the descriptive questions in the Statement of the Problem. Manikandan (2011) stated that Frequency distribution permits researchers to look over the entire data with ease because on the scale of measurement, it provides an organized graphical representation or tabulation of the number of individuals in each category. In addition, it puts on view whether the observations are low or high and if they are condensed in a single section or dispersed in all parts of the scale.

Consequently, the paired sample T-Test was used to determine the mean difference between the two sets of observations. Gleichmann (2020) articulated that a paired t-test, otherwise called a dependent or correlated t-test, is a statistical test used with the purpose of comparing the means or averages and standard deviations in order to determine if there is a substantial difference between two related groups.

In a paired sample T-Test, each group in the study is measured twice, resulting in pairs of observations. The SPSS or the Statistical Package for the Social Sciences, a software package created for the management and statistical analysis of social science data was employed for the analysis of quantitative data.

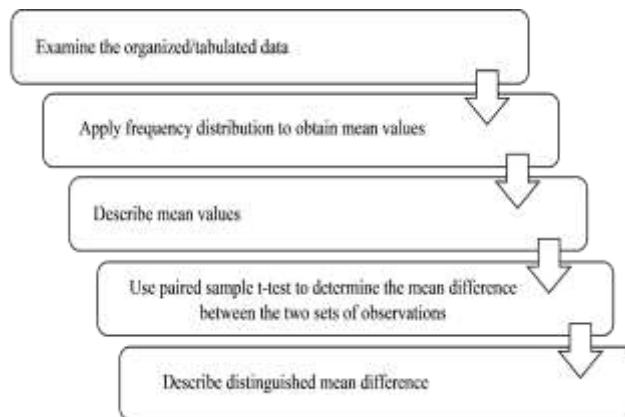


Figure 3. Data Analysis

7. Results and Discussion

7.1 Description of Respondents` SRL Levels in an Online Environment before their Exposure to the Intervention

SRL Levels	f	%	Mean	SD	Verbal Description
Very Low (1.00-1.80)	0	0.00	3.86	0.52	High SRL Level
Low (1.81-2.60)	0	0.00			
Average (2.61-3.40)	11	20.75			
High (3.41-4.20)	29	54.72			
Very High (4.21-5.00)	13	24.53			
Total	53	100%			

Table 1 shows that the respondents` SRL levels in an online environment before their exposure to the intervention obtained an overall mean of 3.86 which corresponds to a high level. Only 13 out of the 53 respondents attained a very high level and the majority of 29 respondents achieved a high level. On the other hand, 11 students got an average level. These results are not ideal and there is still room for the improvement in the SRL levels of the respondents.

Although students have a high degree of self-regulation, Toro (2021) asserted that research has shown that the majority of students do not learn SRL skills on their own nor do they learn them in school, unless it is in the form of explicit direct instruction; as a result, many students are not reaching their full learning potential simply because they do not know how to study and learn.

The results of a study by Pedrotti and Nistor (2019) show that the use of SRL strategies among students is not on a very high level, hence further implementation of interventions such as basic time management and general planning strategy training to improve future student learning experiences may be required.

7.2 Description of Respondents` SRL Levels in an Online Environment after their Exposure to the Intervention

SRL Levels	f	%	Mean	SD	Verbal Description
Very Low (1.00-1.80)	0	0.00	4.27	0.58	Very High SRL Level
Low (1.81-2.60)	0	0.00			
Average (2.61-3.40)	3	5.66			
High (3.41-4.20)	17	32.08			
Very High	33	62.26			

(4.21-5.00)					
Total	53	100%			

The table shows that respondents` SRL levels in an online environment after their exposure to the intervention obtained an overall mean of 4.27 which corresponds to a very high level. A majority of 33 out of the 53 respondents attained a very high level and only 17 respondents achieved a high level. Meanwhile, only 3 students got an average level. These results showed an improvement in the SRL levels of the respondents.

It is specified that there is a significant relationship between self-regulated learning and academic performance among students, yet, students are not specifically improving SRL under the online setup. In relation to that, Wandler and Imbriale (2017) stated that teachers should start creating strategies and methods to support learners in promoting positive SRL.

Since self-regulated learning is not only a one-way process, students must be educated in terms of the things they need to do before they can engage themselves in self-regulated learning. In addition, they must be self-regulated learners because they must take initiative and manage their own progress and learnings in an online environment (Mou, 2021).

7.3 Significant Difference in SRL Levels of Students Before and After their exposure to the Intervention

Test	Mean	SD	Computed t	p-value	Decision
Before	3.86	0.52	-3.890**	0.000	Reject Ho
After	4.27	0.58			

The Ho or null hypothesis which states that “There is no significant difference between the SRL levels of students before and after their exposure to the intervention” is rejected because the computed value of -3.890 which corresponds to the p-value of 0.000 is lower than the alpha value of 0.01. The SRL levels of students after their exposure to the intervention is significantly higher prior to the implementation of the intervention. The intervention is therefore effective in enhancing the SRL levels of students.

With the same outcome in the study of Jansena et al. (2020), they figured out that an intervention has a good impact on the students by helping them to do their tasks. Learners who participated in the intervention process are also more likely to be engaged in other SRL activities and are more aware of planning, who seek help, and who have perseverance.

Rowe and Rafferty (2013) attested that researchers acknowledge that SRL improves the learning of students with the help of training aligned with their course design. With this, empirical researches on SRL assessment imply that there was an increase in the academic progress of students by including SRL prompts in the e-learning environment of learners. As a result, instructional design can help support and extend SRL intervention use.

8. Conclusion

In consideration of the significant findings of the study, the following conclusions are deduced:

1. The SRL levels of the respondents in an online environment before their exposure to the intervention obtained an overall mean of 3.86 which landed at a high level. This suggests that it is not absolute and there are still opportunities for improvement.
2. The respondents' SRL levels in an online environment after their exposure to the intervention acquired an overall mean of 4.27 which corresponds to a very high level. This indicates an improvement in the respondents' SRL levels after the intervention.
3. There is a significant improvement to the SRL levels of the respondents in an online environment after their exposure to the intervention since the computed value of -3.890 which corresponds to the p-value of 0.000 is lower than the alpha value of 0.01. This shows that the implementation of the intervention is effective in increasing the SRL levels of students.

On the whole, most students do not really possess skills or know and make use of strategies in relation to self-regulation. On account of this, teachers can establish an environment inside their classrooms which provide learning materials and a conducive learning environment that foster and encourage self-regulation. Thus, in accordance with the results of the study, it is necessary for them to not only fixate their focus on the curriculum or the content but also present, impart and utilize strategies to develop the self-regulation skills of their students in order to keep them on track and to monitor their own progress which will consequently improve their academic performance.

The plans for dissemination and utilization of the action research findings will be discussed and presented to the heads and faculty of Laboratory High School at Don Honorio Ventura State University through a teacher conference and may also be shared to other departments or colleges in the university.

The outcome of this research study will also be used to enlighten teachers as the ideas which will be explored in this research discovery will provide views in enhancing the self-regulatory skills of students, especially Grade 7 students, regardless of the circumstances they are facing under the online environment. In addition, it will be used in establishing a change which can aid learners' difficulty while they are in online learning. As students can enhance their online educational performance through the information they would obtain from the proposed intervention program in self-regulation.

Moreover, the completed study will serve as the basis for further study of the current research findings and or as reference for similar studies.

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