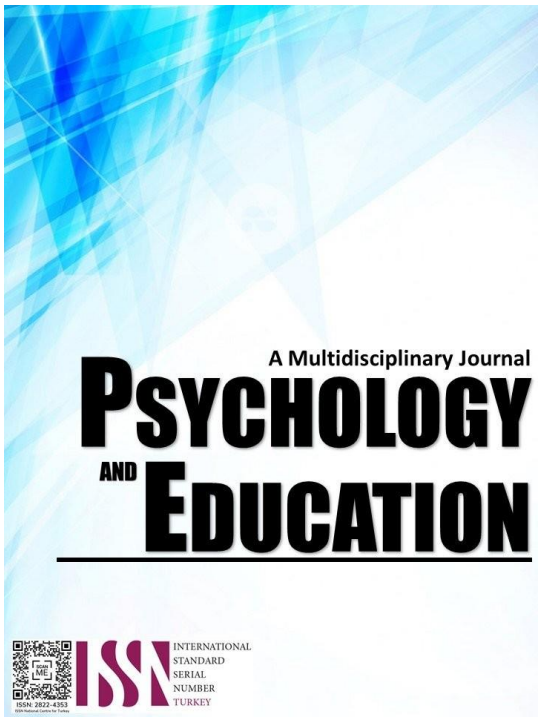
SELF-REGULATED LEARNING STRATEGIES AND PARENTAL INVOLVEMENT: PREDICTORS OF ACADEMIC ACHIEVEMENT



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Research Article

Self-Regulated Learning Strategies and Parental Involvement: Predictors of Academic Achievement

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Abstract

Both self-regulated learning and parental involvement are important predictors of students' study success. However, previous studies on self-regulated learning and parental involvement have focused on the school environment. This study explores situations related to the mentioned variables during the COVID-19 pandemic. A descriptive correlational, causal design was used to explore the relationship among variables. Survey data from 258 senior high school students were selected through proportionate stratified random sampling. Modified instruments SRLS (Self-regulated Learning Strategies) and PI (Parental Involvement) were used to collect participants' responses. This study revealed three key SRLS dimensions and two key parenting dimensions. The overall mean of self-regulated learning and home learning are highly involved. Furthermore, help- seeking and self-learning styles have no relationship to academic performance. Meanwhile, goal setting, home-based, and home-school have a stronger considerable effect on academic achievement. These results underpin the importance of parents in education at the middle school age. Schools should be aware of this and enhance parents' educational involvement and the stimulation of self-regulated learning in the home environment. The School-home relationship should be more structured to create awareness about how to teach and coach the self-regulatory process at home and make learning progress more vibrant.

Keywords: *self-regulated learning, parental involvement, academic performance, students, manolo fortich*

Introduction

One of the most recent public health emergencies of global concern is the recent COVID-19 pandemic, which infected every country in the world. The year 2020 has been a challenging one. It has changed ordinary realities, distorted minds, and altered how people usually do things.

Globally, the pandemic created unprecedented public health concerns. Numerous countries implemented measures to limit social contact and slow the spread of the Novel Coronavirus (Brodeur et al., 2020; Eyles et al., 2020). According to UNESCO (2020), schools in 190 countries were closed in mid-April of 2020 in response to the COVID-19 pandemic, affecting over 1.5 billion students who accounted for 90% of total enrolled learners globally, including the twenty-eight million students in the Philippines. The results created difficulties for teachers, students, and parents. Several schools offer solely online education to offset the detrimental impact of physical closures. The effectiveness of distance education on students' academic performance is critical, more so during an ongoing severe pandemic.

In response to this crisis, the educational system adapts to the paradigm shift caused by the pandemic COVID-19. The Department of Education (DepEd) and other stakeholders like local government units (LGU), educators, and parents continue to gear up for distance education to mitigate posted health risks among learners. Various modes of instruction, such as self-learning modules, textbooks, activity sheets, teacher-created films, and learning management systems have been recognized as potential Learning Continuity Plans (LCP).

To overcome this situation, students in distance education must be independent learners. This is where the importance of Self-Regulated Learning (SRL) and Parental Involvement (PI) become essential factors. Parenting practices and aspirations certainly influence students' academic performance through their optimistic effect on a child's self- motivation and self-evaluation values, which are self-regulated learning components. Parental involvement in their adolescents' education plays a crucial role in promoting their children's academic outcomes. Parental autonomy support helps promote a self-regulated attitude among adolescents and raises their academic grades. Parents provide support in several ways (i.e.) help their children in increasing self-efficacy, provide help in autonomous decision making, use in home-based projects, and provide opportunities to practice self-regulated learning strategies at home (Grijalva-Quiñone, Valdés-Cuervo, Parra-Pérez, & García Vázquez, 2020). Thus, it can be assumed that practices of parents' participation may affect a child's academic achievement through self-regulated learning efforts. Parental involvement practices may indirectly

influence children's academic achievement by manipulating self-regulated behaviors in their childhood (Xu & Wu, 2013). Parental involvement is a vital component of the social environment for adolescents' support of learning and has a more significant effect on students' academic achievement. It may also influence the development of pupils' self-regulated learning, which contributes to academic success.

However, distance learning cannot completely replace the social part of education. Students' capacities for self-learning are uneven. Household resources to assist children in the learning process are also inconsistent, and without more consistent instructional guidance by parents and most especially by teachers, the learners find it challenging to learn by themselves.

Das (2010), as cited by De Silva (2020), pointed out that inefficient management of time, lack of sustained motivation, not having any encouragement from their home or workplaces, and lack of modeling are some other constraints that they face. Although, the number of students who learn in distance education has grown exponentially over the past few years. Nevertheless, institutions continue to face low student graduation rates because some of the enrolled students do not complete their qualifications within regulated specifications, and some drop out of the system (Khumalo, 2018). The literature review on self-regulated learnings and parental involvement practices in the Philippines cited a gap in SRL behaviors and PI perspective as reasons for the students' low level of academic achievement.

The relationship between PI and students' academic achievement is well recognized in previous studies, but causality and the mediating role of SRL are mostly ignored or least concerned. Due to the limited research that makes a connection between SRL and parental involvement, the present study considered the framework of social cognitive theory of SRL and Epstein's Parental Involvement Model to examine different PI practices and to promote SRL skills to increase the academic achievement of students. Hence, this new learning modality has selected this vital area for the present investigation.

Research Questions

This study aimed to influence the students' self-regulated learning, and parental involvement on academic achievement amidst the pandemic. Specifically, this study will answer the following questions in particular:

1. What is the level of Self-Regulated Learning strategies of the participants in terms of:
   1.1 Goal setting;
   1.2 Help-seeking, and
   1.3 Self-learning style?
2. What is the level of Parental Involvement of the parents as perceived by the students in terms of:
   2.1 Home-based, and
   2.2 Home-school-based?
3. What is the level of the academic achievement of the students in grade 11 Science?
4. Is there a significant relationship between the variables in terms of academic achievement, self-regulated learning strategies, and parental involvement?
5Which of the variables best predicts students' academic achievement in grade 11 Science?

Methodology

This section presents the research methodology that was used in this study. It includes the research design, research respondents, sampling procedure, research instruments, validity and reliability of the instruments, data gathering procedure, and the statistical treatment.

Research Design

The researcher used the Descriptive-Correlational and Causal Research design. This quantitative approach seeks correlation, relationships, and causality and focuses on gathering numerical data and generalizing it across groups of people or explaining a particular phenomenon. It analyzes statistical data using surveys (USC Libraries, 2021). The purpose of descriptive studies is to describe and interpret the status of individuals, settings, conditions, or events.

In descriptive research, the researcher is studying the phenomenon of interest as it exists naturally, no attempt is made to manipulate the individuals, conditions, or events. (Mertler, 2014), while correlational research is to discover and possibly measure relationships between two or more variables. In education, correlational research seeks out traits, abilities, or conditions that covary or co-relate. McCombes (2020) stated that a correlational research design measures a relationship between two variables without the researcher controlling them. The study aimed to answer the emerging questions about the relationship between self- regulated learning and

parental involvement in students' academic achievement in the local context.

Participants and Sampling Procedure

The participants were 11th-grade students enrolled in self-modular learning in the school year 2020 – 2021, with a total population of 748 students. The Slovin's formula was used to determine the desired sample size. Likewise, the researcher used proportionate stratified random sampling to ensure that the sample selected had a proportional number of students. There would be an equal chance (probability) that each student could be selected for inclusion in each stratum of the sample.

There were four strands out from the two tracks, the Academic track, and the Technical- Vocational-Livelihood track. The Academic Track has the HUMSS (Humanities and Social Sciences) and the STEMABM (Science, Technology, Engineering, and Mathematics Accountancy and Business Management), while the Technical-Vocational-Livelihood or TVL also has two combined groups, the SMAWICTEIM (Shielded Metal Arc Welding, Information Communication and Technology, and Electrical Installation and Maintenance) and the TECHACPHE (Technical Drafting, Agricultural Crop Production, and Home Economics).

Table 1. *Sample Sizes by Strand and Student Population*

Strands	*Population Size*	*Sample Size*
HUMSS	217	76
STEMABM	195	68
SMAWICTEIM	178	62
TECHACPHE	158	55
Total students	748	261

The total sample size is 261 based on Slovin's formula. This was proportionally allocated to each strand - the sub-sample sizes- to fully represent all Garde 11 Senior High School student groups.

Research Instruments

This study used two modified self-reporting tools with fifty questions. The first is the 30-item survey questionnaire on Self-regulated Learnings (Brown, Miller, & Lawendowski, 1999) adapted from the study of Serpil et al. (2018). The second is the 20-item Parental Involvement Questionnaire (Fantuzzo, Tighe, & Childs,2000) which is adapted from the study of Fabella & Leander (2020).

Moreover, in determining the students' academic achievement, the General Weighted Average (GWA) in each student's final grade was used. Items were prepared using a five-point Likert type scale including "strongly agree," "agree," "neutral," "disagree," and "strongly disagree," for the self-regulated learnings questionnaire and "always," "frequently," "sometimes," "rarely," and "never," for the parental involvement, with a corresponding ranged score from 5 to 1, respectively, where five is the highest score, and one is the lowest score.

Validity and Reliability of the Instruments

The questionnaires were validated by experts. Likewise, the researcher conducted pilot testing on thirty students of the same educational level to establish their reliability. Upon the collection of data, the researcher analyzed the using computer software (SPSS) to determine Cronbach's alpha and item analysis to determine the items that needed to be retained or deleted. Ethical Consideration

To ensure a systematic and orderly collection of data for this study, the researcher asked permission from the Liceo de Cagayan University - Research Ethics Board, the School Principal, teachers, and students at Manolo Fortich National High School. The researcher created a consent letter for those selected students and were given a brief orientation about the

study during the module distribution. However, the students may withdraw from the research anytime, not forcing anyone to answer the questionnaire. All the personal information of the participants was of utmost confidentiality.

Data Gathering Procedure

The data for this study was collected from October 21 to November 12, 2021, after receiving approval from the Office of the Vice-President for Research, Publication, and Extension, the Dean of the College of Teacher Education, and the school principal of Manolo Fortich National High School. Considering school lockdown during the pandemic, the letters of consent and the survey questionnaires were administered to the students during the distribution of learning modules at the site location. The student achievement records or General Weighted Average (GWA) scores were obtained through the school's registrar. Each student who participated was given a numerical representation for privacy. The student code remained the same for the entire study.

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Statistical Techniques

The data from this study were analyzed using the Statistical Package for the Social Sciences (SPSS). The mean and standard deviation were employed to determine the level of self-regulated learning, parental involvement, and academic achievement among the participants. Additionally, Pearson-r correlation was used to determine the significance of the relationship between the variables of academic achievement, self-regulated learning, and parental involvement. Finally, multiple regression was used to identify the variable that best predicts academic achievement among students.

Pilot Study

Before scaling for full research, a pilot study was initiated with thirty students from different Strands. The collected questionnaire was analyzed to determine whether the data collected helped the researcher meet the objectives of the study apart from testing the reliability and validity of the questionnaire across the target group.

To test the scale's reliability, the item-total test score correlation and the Cronbach's alpha reliability coefficient value of items were calculated and examined. The Cronbach's alpha reliability coefficient value measures the internal consistency between the test scores of a scale. The values above 0.70 were accepted as adequate for the test reliability. The item-total test score correlation is used to explain the relationship between the score of each item and the total score of all test items. The item-total test score correlation was high and positive, indicating that the scale has internal consistency. Hence, Cronbach's coefficient of 0.94 was found adequate for full-scale data collection.

Results and Discussion

This chapter comprises the analysis, presentation, and interpretation of the findings resulting from this study. This is based on a quantitative analysis of the data from the questionnaires.

What is the level of self-regulated learning strategies of the participants in terms of: goal setting; help-seeking, and self-learning style?

Table 2. *Mean Distribution for the Level of Self-Regulated Learning Strategies of the Participants in terms of Goal Setting*

Indicators	*Mean*	*SD*	*Verbal Description*	*Interpretation*
1. I set my study goals daily.	4.04	0.672	Agree	High
2. I set goals for myself to arrange my study hours for distance education lessons.	4.06	0.608	Agree	High
3. I set short term goals for myself (like finishing all my modules and projects)	4.05	0.645	Agree	High
4. I set long term goal for myself such as earning a college degree or entering a career.	4.31	0.671	Agree	High
5. I set goal to achieve what I think is important	4.46	0.565	Agree	High
6. I set goals to help me be more successful in School	4.44	0.577	Agree	High
7. When I want to learn something, I make small goals to track my progress	4.09	0.61	Agree	High
8. I focus on my own improvement instead of worrying about whether other people are doing better than me.	4.22	0.693	Agree	High
9. My goal is based on my own interest and plan in the future.	4.41	0.579	Agree	High
10. When setting a goal, I think about my past success and failure.	4.24	0.657	Agree	High
Overall Mean	4.23	0.62	Agree	High

Legend:

Scale	Range	Verbal Description	Interpretation
5	4.50-5.00	Strongly Agree	Very High
4	3.50-4.49	Agree	High
3	2.50-3.49	Neutral	Moderate
2	1.50-2.49	Disagree	Low
1	1.00-1.49	Strongly Disagree	Very Low

Table 2 presents the Mean Distribution for the Level of Self-Regulated Learning Strategies of the Participants in terms of Goal Setting.

As shown in the table, the participants got the highest mean for item number 5, "I set a goal to achieve what I think is important," with a mean of 4.46 followed by item number 6 "I set goals to help me be more successful in school" with a mean of 4.44. On the other hand, the lowest mean is for item number 1, "I set my study goals daily" with a mean of 4.04 followed by item number 5 "I set short term goals for myself (like finishing all my modules and projects)" with a mean of 4.05. The overall mean is 4.23, which revealed that the participants have a high level of self-regulated learning in terms of goal setting.

This research corroborates Dotson's (2016) assertion that goal planning helps students maintain a focus on desired academic outcomes and gives guidance for achieving achievement. Goal setting has been shown to improve academic achievement by boosting students' self- regulation (Rowe et al., 2017; Travers et al., 2015). Rowe et al. (2017) discovered that opportunities for goal setting could boost motivation and promote skill development and engagement in learning. The findings corroborate prior studies indicating that goal-setting education benefits academic engagement and motivation.

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Table 3. *Mean Distribution for the Level of Self-Regulated Learning Strategies of the Participants in terms of Help-seeking*

Indicators	*Mean*	*SD*	*Verbal Description*	*Interpretation*
11. I contact someone to discuss my understanding.	3.82	0.663	Agree	High
12. I participate in social media group discussions regarding study subjects. When I do not understand the distance education course material, I ask another student for help.	3.8	0.645	Agree	High
13. I determine what I will ask before receiving help.	4.06	0.607	Agree	High
14. I find someone who has information about the module content to consult when I need help.	4	0.66	Agree	High
15. I share my questions about the lessons with other distance education students on the Internet.	3.76	0.631	Agree	High
16. I try to talk face-to-face with my classmates in distance education if necessary.	3.87	0.66	Agree	High
17. My classmates or parents help me understand the modular course content better.	3.83	0.657	Agree	High
18. My teachers are available (calls, texts, chat) when I have questions.	4.14	0.688	Agree	High
19. I would not hesitate to ask a teacher for help	3.93	0.696	Agree	High
20. I contact other students, who I think are successful in the academe.	3.79	0.658	Agree	High
Overall Mean	3.9	0.65	Agree	High

Legend:

Scale	Range	Verbal Description	Interpretation
5	4.50-5.00	Strongly Agree	Very High
4	3.50-4.49	Agree	High
3	2.50-3.49	Neutral	Moderate
2	1.50-2.49	Disagree	Low
1	1.00-1.49	Strongly Disagree	Very Low

Table 3 presents the Mean Distribution for the Level of Self-Regulated Learning Strategies of the Participants regarding help-seeking.

In the table, the participants got the highest mean for item number 18, "My teachers are available (calls, texts, chat) when I have questions" with a mean of 4.14 followed by item number 13 "I determine what I will ask before receiving help" with a mean of 4.06. On the other hand, the lowest mean is for item number 15, "I share my questions about the lessons with other distance education students on the Internet," with a mean of 3.76, followed by item number 20. "I contact other students, who I think is successful in the academe" with 3.79. The overall mean is 3.90, which revealed that the participants have a high level of self-regulated learning in terms of help-seeking.

This finding reaffirms that help-seeking entails obtaining assistance from persons and other sources to assist students in achieving satisfactory academic performance (Karabenick et al., 2013). It has been classified as a social technique from a self-regulated learning perspective, as it incorporates classmates, teachers, and parents (Zimmerman, 2008, Newman, 1990, as cited by Martin-Arbos et al., 2021). A help-seeking strategy is critical for learning since it can significantly impact academic accomplishment in a relatively short time (Ryan et al., 2011). Students who seek adaptive academic assistance typically achieve superior academic performance (Horowitz et al., 2013; Karabenick, 2003; Kitsantas & Chow, 2007; Ryan et al., 1997; Ryan et al., 2005 as cited by Spigiel, 2021).

Table 4. *Mean Distribution for the Level of Self-Regulated Learning Strategies of the Participants in terms of Self-Learning Style*

Indicators	*Mean*	*SD*	*Verbal Description*	*Interpretation*
21. I think of questions on the subject while reading the material.	3.98	0.642	Agree	High
22. I study the course subjects until finishing them even though I find the course materials boring.	3.88	0.661	Agree	High
23. I practice by repeating the contents of the material.	3.97	0.597	Agree	High
24. I review my reading materials and notes and try to find the most important opinions.	4.05	0.654	Agree	High
25. I create simple schemes, diagrams, or tables to organize my study materials.	3.78	0.659	Agree	High
26. I summarize the subjects to understand what I have learned from the lessons.	3.93	0.639	Agree	High
27. I evaluate what I understand by pausing at regular intervals while studying.	3.88	0.61	Agree	High
28. In my studies, I am self-disciplined and find it easy to set aside reading and homework time.	3.86	0.603	Agree	High
29. When reading I try to connect the things I am reading about with what I already know.	4.03	0.594	Agree	High
30. When I study, I put important ideas into my own Words.	4.13	0.642	Agree	High
Overall Mean	3.95	0.63	Agree	High

Legend:

Scale	Range	Verbal Description	Interpretation
5	4.50-5.00	Strongly Agree	Very High
4	3.50-4.49	Agree	High
3	2.50-3.49	Neutral	Moderate
2	1.50-2.49	Disagree	Low
1	1.00-1.49	Strongly Disagree	Very Low

Table 4 presents the Mean Distribution for the Level of Self-Regulated Learning Strategies of the Participants in terms of self-learning style.

The study identified that the participants got the highest mean for item number 30, "When I study, I put important ideas into my own words" with a mean of 4.13 followed by item number 24 "I review my reading materials and notes and try to find the most important opinions" with a mean of 4.05. On the other hand, the lowest mean is for item number 25, "I create simple schemes, diagrams, or tables to organize my study materials," with a mean of 3.78, followed by 28. "In my studies, I am self-disciplined and find it easy to set aside reading and homework time" with 3.86. The overall mean is 3.95, which revealed that the

participants have a high level of self-regulated learning in terms of self-learning style.

This result corroborates the study of Moeinikia and Zahed-(2010), Babelan's, and Williams et al. (2013). They proved that there is a clear correlation between learning styles and academic success in university settings. Recognizing the varied learning styles of students enrolling in applied sciences courses can ultimately result in more successful learning experiences. Indeed, Alavi and Toozandehjani (2017) found that understanding students' learning styles can boost their learning and strengthen their self-actualization. Teevan et al. (2011) also underline the need for teachers to understand students' learning styles to support appropriate teaching strategies and approaches to foster students' academic achievement. Additionally, Chilca (2017) revealed that study habits do affect academic achievement among university students in Peru.

What is the level of Parental Involvement of the parents as perceived by the students in terms of: home-based, and home-school-based?

Table 5. *Mean Distribution for the Level of Parental Involvement of the Parents as Perceived by the Students in terms of Home-Based*

Indicators	*Mean*	*SD*	*Verbal Description*	*Interpretation*
31. My parent/s provide assistance or check me in when I am completing my homework.	3.51	1.25	Agree	Highly Involved
32. My parent/s talk with me about possible careers I am interested in.	3.89	1.09	Agree	Highly Involved
33. My parent/s help me with academic skills I am struggling with.	3.15	1.25	Neutral	Moderately Involved
34. My parent/s teach me how to perform home- living skills (e.g., laundry, wash dishes, cook)	4.47	0.93	Agree	Highly Involved
35. My parent/s talk with other parents about school meetings and events.	3.06	1.22	Neutral	Moderately Involved
36. My parent/s ask me how's my modular learnings.	3.71	1.22	Agree	Highly Involved
37. My parent/s maintain clear rules at home that I should obey.	4.16	1.11	Agree	Highly Involved
38. My parent/s ensure that I have a quiet place at home where I can complete schoolwork.	3.78	1.2	Agree	Highly Involved
39. My parent/s limit me watching TV or playing games (e.g., computer and mobile phone) at home.	3.41	1.35	Neutral	Moderately Involved
40. My parent/s make sure that I have way to get to school.	4.49	0.878	Agree	Highly Involved
Overall Mean	3.76	1.15	Agree	Highly Involved

Legend:

Scale	Range	Verbal Description	Interpretation
5	4.50-5.00	Strongly Agree	Very Highly Involved
4	3.50-4.49	Agree	Highly Involved
3	2.50-3.49	Neutral	Moderately Involved
2	1.50-2.49	Disagree	Less Involved
1	1.00-1.49	Strongly Disagree	Not Involved

Table 5 presents the Mean Distribution for the Level of Parental Involvement of the Parents as Perceived by the Students in terms of Home-Based.

As depicted, the participants obtained the highest mean for item number 40, "My parent/s make sure that I have a way to get to school" with a mean of 4.49 followed by item number 34 "My parent/s teach me how to perform home-living skills (e.g., laundry, wash dishes, cook) with a mean of 4.47. On the other hand, the lowest mean is for item number 35, "My parent/s talk with other parents about school meetings and events" with a mean of 3.06, followed by item number 33, "My parent/s help me with academic skills I am struggling with" with a mean of 3.15. The overall mean is 3.76, which revealed that the participants have a high level of parental involvement in terms of home-based.

This study confirms earlier research indicating that parental involvement at home positively affects student academic attainment (Anthony & Ogg, 2019; Fernandez-Alonso, Alvarez-Diaz, Woitschach, Suarez-Alvarez & Cuesta, 2017). According to Wang, Hill, and Hofkens (2014), giving structure at home and parental warmth improves GPA, but parental warmth moderates the association between home structure and problem behaviors. In elementary school, parental participation affects academic success; however, parental involvement in children's education becomes increasingly significant (Karbach, Gottschling, & Spengler, 2013).

Table 6. *Mean Distribution for the Level of Parental Involvement of the Parents as Perceived by the Students in terms of Home-School Based*

Indicators	*Mean*	*SD*	*Verbal Description*	*Interpretation*
41. My parent/s attend conferences with teachers to talk about my learning or behavior.	3.01	1.29	Neutral	Moderately Involved
42. My parent/s contact my school to get information.	2.75	1.36	Neutral	Moderately Involved
43. My parent/s talk to school staff about school and classroom rules.	2.7	1.3	Neutral	Moderately Involved
44. My parent/s communicate with school staff if I am concerned about things that I talk about my school.	2.65	1.29	Neutral	Moderately Involved
45. My parent/s talk to the teachers about my accomplishments.	2.79	1.31	Neutral	Moderately Involved

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	my accomplishments.				Involved
46.	My parent/s talk with school staff about schoolwork that I expected to complete at home.	2.69	1.33	Neutral	Moderately Involved
47.	My parent/s feel that teachers and the principal encourage parents to be involved at school.	3.09	1.33	Neutral	Moderately Involved
48.	My parent/s feel that parents in my school support one another.	3.42	1.21	Neutral	Moderately Involved
49.	My parent/s talk with my teachers on the telephone or social media	2.35	1.21	Disagree	Less Involved
50.	My parent/s talk with people at school about training or educational development opportunities for myself.	2.8	1.27	Neutral	Moderately Involved
	Overall Mean	2.83	1.29	Neutral	Moderately Involved

Legend:

Scale	Range	Verbal Description	Interpretation
5	4.50-5.00	Strongly Agree	Very Highly Involved
4	3.50-4.49	Agree	Highly Involved
3	2.50-3.49	Neutral	Moderately Involved
2	1.50-2.49	Disagree	Less Involved
1	1.00-1.49	Strongly Disagree	Not Involved

Table 6 presents the Mean Distribution for the Level of Parental Involvement of the Parents as Perceived by the Students in terms of Home-School Based.

The participants obtained the highest mean for item number 47, “My parent/s feel that teachers and the principal encourage parents to be involved at school” with a mean of 3.09 followed by 41 “My parent/s attend conferences with teachers to talk about my learning or behavior” with a mean of 3.01. On the other hand, the lowest mean is for item number 49, “My parent/s talk with my teachers on the telephone or social media” with a mean of 2.35 followed by item number 44 “My parent/s communicate with school staff if I am concerned about things that I talk about my school” with a mean of 2.65. The overall mean is 2.83, which revealed that the participants have a moderate level of parental involvement in home-school based.

According to Sapungan and Sapunga (2014), involving parents in their children's education equates to the school being proactive in implementing changes or growth among the students. Increased parental involvement increases teachers' and school administrators' chances of implementing quality education reform—however, earlier research indicates contradictory findings regarding the impact of home-school communication. According to Ugwuegbulem (2018), low self-esteem among parents from low socioeconomic origins prevents them from fully participating in their children's schooling. While some parents feel a stronger connection to their child's schooling, others view this as a burden (Selwyn et al., 2011). Economic constraints (Hohlfeld et al., 2010); a lack of internet access (Hollingworth et al., 2011); a lack of enthusiasm for using technology (Beckman et al., 2019); and a lack of digital self-efficacy are all barriers to parental involvement in remote learning environments (Povey et al., 2016).

What is the level of the Academic Achievement of the students in grade 11 Science?

Table 7. *Level of the Academic Achievement of the Students in Grade 11 Science*

Academic Achievement	*N*	*Mean*	*SD*	*Description*
Grade	258	91.12	2.18	Outstanding

Legend:

Range	Description
90-100	Outstanding
85-89	Very Satisfactory
80-84	Satisfactory
75-79	Fairly Satisfactory
Below 75	Did Not Meet Expectation

Table 7 presents the Level of the Academic Achievement of the Students in Grade 11 Science. The table shows that the 258 participants have an overall mean of 91.12, described as outstanding.

The data revealed that despite the participants' challenges under the modular learning approach, the students have outstanding academic achievement in science. This finding confirms Deb et al., (2015) assertion that high school pupils will confront several adaptive and developmental tasks during this period, with adaptation and development in the learning field being among the most critical developmental activities (Deb et al., 2015). The extent to which adolescents succeed in developing adjustment skills has a significant impact on their academic performance, peer relationships, and even subsequent educational opportunities and choices (Farmer et al., 2009; Ryan, 2011), which may facilitate adolescents' adjustment and mental

well-being during this stage of life. Previous research has established academic performance improvement is contingent upon the teacher, student, school, and parental factors (Amuzu et al., 2017). Students' academic achievement can be categorized according to internal and societal aspects. They discovered that students' academic performance is influenced by internal characteristics such as interest in the subject's substance, internal contentment, and aspiration. (2014) (Maric and Sakac). Additionally, social elements such as social prestige and monetary rewards, when combined with a student's level of interest in a subject, affect their academic achievement (MeenuDev 2016).

Problem 4. Is there a significant relationship between

the variables in terms of Academic Achievement, Self-regulated Learning strategies, and Parental Involvement?

Table 8. *Results of Pearson R Correlation Computation for the significant relationship between Academic Achievement and Self-regulated Learning Strategies, and Academic Achievement and Parental Involvement*

Variable	*N*	*R*	*Sig.*	*Interpretation*
Goal Setting	258	0.104*	0.04	Significant
Help Seeking	258	0.011	0.86	Not Significant
Self-Learning Style	258	0.018	0.77	Not Significant
Home-Based	258	0.106*	0.01	Significant
Home-School Based	258	0.14*	0.03	Significant

* Correlation is significant at the 0.05 level (2-tailed).

Table 8 presents the Pearson R Correlation Computation results for the significant relationship between Academic Achievement and Self-Regulated Learning, and Academic Achievement and Parental Involvement.

As shown in the table, help-seeking (P-value 0.86 > 0.05), and self-learning style (P- value 0.77 >0.05) did not have significant relationship to academic achievement. On the other hand, goal-setting (P-value 0.04 <0.05), home-based (P-value 0.01<0.05) and home-school based (P-value 0.03<0.05) have a positive significant relationship to academic achievement. This means that when these said variables increase, the student's academic achievement in science will also increase.

Moreso, a study by Martin and Elliot (2016) found that those who set goals made better progress in math and that there was a link between making progress and pursuing other goals. Thus, setting goals is important for students to grow in their academics and is essential for being held accountable. Also, Travers et al. (2015) found that having goals written down helped people be more aware of themselves and own the process of academic and psychological growth. Two more studies show that setting goals improve math performance (Codding et al., 2009; Gross et al., 2014). Codding et al. (2009) researched ways to improve math computation fluency. Results show that the group that used goal setting made faster progress and had better math scores than those that didn't use goal setting. Setting goals to answer more questions correctly was the best way for students to progress. Gross et al. (2014) found that students who set goals charted goals to track progress over time through "goal lines" and used explicit timing to improve math performance did better. Parents who are actively involved in their children's academic education are linked to their grades, but they also impact

their educational aspirations. This is true for home-schooled kids, too. (2019). Amani, Nazifi, and Sorkhabi (2020) did a study on teenagers and found that PI was a predictor and that SRL was a way for students to do well in school. A recent study also found that PI helped parents support their child's educational goals and achieve them and help them socialize with other parents who were in the same field. Benner, Boyle, and Sadler's study found that parents involved in their kids' education have a better chance of their kids doing well in school (Boonk et al., 2018; LeFevre & Shaw, 2012; Warren et al., 2018). According to Sapungan, & Sapunga. (2014) means that the school is taking steps to make changes or improve things for the students. Problem 5. Which of the variables best predicts students' academic achievement in grade 11 Science?

Table 9. *Results of Multiple Regression Computation for the Variable that best predicts students' Academic Achievement in Grade 11 Science*

Variable	*Unstandardized Coefficients*		*Standardized Coefficients*	*T*	*Sig.*	*Interpretation*
	B	*Std. Error*	*Beta*			
(Constant)	89.98	1.54		58	0	
Goal Setting	0.962	0.459	0.185	2.09	0.037	Significant
Help Seeking	-0.162	0.473	-0.032	-0.341	0.733	Not Significant
Self-Learning Style	-0.223	0.494	-0.045	-0.452	0.651	Not Significant
Home-Based	-0.168	0.106	-0.099	-1.58	0.114	Not Significant
Home-School Based	0.325	0.138	0.157	2.34	0.02	Significant

R=0.223, R^2=0.05, F=2.62, Sig.=0.02

Table 9 presents the Summary of Multiple Regression Analyses for Variables Predicting Students' Academic achievement in science.

The R-value of 0.223 indicates a weak positive correlation between the predictors and academic performance. The R2 value of 0.05 indicates that the predictors explain 5.0% of the variability of academic achievement. Meanwhile, the P-value of 0.02 implies a significant relationship between the predictor variables and academic achievement. Furthermore, the regression output above shows that the predictor variables, namely help-seeking (0.773 >0.05), self-learning style (0.651 > 0.05), and home-based (0.215 > 0.05), are not statistically significant because their P-values are greater than the significance level of 0.05. This means that these said variables did not significantly affect academic achievement. On the other hand, goal-setting (0.037 <0.05) and home-

school-based (0.02<0.05) have P-values smaller than 0.05, which means that these said variables are the significant predictors wherein goal setting with a Beta value of 0.185 is the best predictor.

Based on the values of B coefficients, the regression equation model of the study is Y=89.98 + 0.962(X1) + 0.325 (X2). This means that with a point increase in goal setting, the academic achievement will have an increase of 0.962, and with a point increase in home-school based, the academic achievement will have an increase of 0.325.

These findings corroborate the findings of Martin & Elliot (2016), who conducted a year-long study and discovered that those who engaged in goal setting achieved more significant math achievement gains, with a positive correlation between achievement gains and pursuing alternative goals. Thus, goal setting is critical for academic growth and accountability. Travers et al. (2015) discovered that writing down goals increased self-

awareness and ownership of the academic and psychological growth process. Two additional studies demonstrate the beneficial effect of goal setting on mathematics performance (Codding et al., 2009; Gross et al., 2014). Codding et al. (2009) studied mathematical computation fluency interventions. The results indicated that the group receiving the goal-setting intervention made more rapid progress and higher math computation scores. Students who set goals to increase their percentage of correctly answered problems made the most progress. Gross et al. (2014) discovered that students who set goals, charted their progress over time using "goal lines," and used explicit timing improved their math performance. On the other hand, maternal and paternal involvement in academic schooling is independently associated with adolescents' academic grades in home-school settings. Still, it acts as a mediator between parents and grades regarding educational aspiration. (2017) (Otani, 2019). Amani, Nazifi, and Sorkhabi (2020) studied adolescents and discovered that PI was a predictor of academic achievement, and SRL was a mediator. Additionally, a recent study confirmed that PI was beneficial in supporting their child's educational goals and achievement and academic socialization. The relationship between parental involvement in their children's education and student achievement has been established (Benner, Boyle, & Sadler, 2016). According to Sapungan & Sapunga. (2014), this equates to the school taking a proactive role in enacting changes or development among the students.

Conclusion

Self-Regulated Learning Strategies and Parental Involvement influence academic performance, as shown by the results obtained. However, not all Self-Regulated Learning Strategies dimensions demonstrate this type of influence. Help-seeking and self-learning did not have an effect on either of the other variables. All other dimensions have a significant impact.

The researcher observed that students' self-regulated learning strategies in modular environments had a generally positive impact on their academic performance. As measured by their General Weighted Average (GWA), students whose parents were more involved in their academics appeared to demonstrate higher levels of academic achievement. Given this, applying independent self-learning among their children with constant monitoring on the part of parents regarding their children's learning might assist their academic achievement and performance. These results provide a framework for educators and policymakers to engage parents more effectively in their children's education process by helping parents to promote their children's Self-regulated learning strategies.

For future research direction, the following implications can be considered by students, parents, teachers, school administrator, and researchers: (1) Educators and policymakers may ensure that the instructional delivery system and environment support self-regulated learning strategies, particularly in help-seeking and self-learning are adapted fully by the students. A deficiency in these components may compromise students' academic achievement. Also, academic counseling and evaluation methods should be looked into to address any issues of the students. (2) Schools may consider orienting the parents so they understand the importance of school. Teachers may intensify home visitation to also monitor closely the students' progress. This action can gain a firm grasp on their academic development, and may also foster a positive relationship between parents, teachers, and students. (3) Other statistical analyses may apply to study the relationship between variables and confirm the presented results. Also, additional studies may be undertaken to examine different variables in diverse circumstances and expand the scale, that is to include other variables. Additionally, a regular achievement test might be employed rather than using the GWA to measure academic achievement. (4) Future researchers may use a more holistic and contextualized approach when examining the factors of academic achievement

in school. Then, the predictive validity of the current study instrument may be investigated further.

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