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College Students' Engagement and Self-Regulated Learning Strategies: Its Influence to The Academic Performance in The Flexible Learning Modality

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ABSTRACT: *College instructors face the daunting task of keeping students actively engaged in class discussions, particularly in the context of flexible learning. This descriptive-correlational research aimed to determine whether students' engagement and self-regulated learning strategies affect their academic performance. The participants consisted of 202 college students enrolled in the first semester of SY 2022-2023 in one of the private institutions of Cagayan de Oro City. The data were gathered using the modified questionnaire adopted from Erickson et al (2015) on Self Regulations and Hart et al. (2011) on Student Engagement. Data gathered were analyzed using descriptive statistics and multiple regression analysis. Students' engagement included the behavioral, cognitive, and affective domains as espoused by Fredricks et al. (2004). Meanwhile, the self-regulated learning strategies were confined to planning, monitoring, and evaluating as proposed by Zimmerman (2008). Overall data revealed that the participants were highly engaged and had highly self-regulated learning strategies. Students' engagement significantly predicted academic performance with Behavioral engagement that stood out as the best predictor. On the other hand, self-regulated learning strategies do not significantly predict students' academic performance. The study highlighted the urgency for educators to find creative means of motivating students to effectively engage in the pedagogical process and introspect on their learning strategies to foster academic progress.*

KEYWORDS: affective, behavioral, cognitive, evaluating, monitoring, planning, self-regulated, learning strategies, students' engagement

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INTRODUCTION

Active participation of students in the classroom, known as student engagement, serves as the catalyst for igniting the flames of learning, propelling them toward academic success by enhancing their quest for knowledge. Student engagement refers to students' active willingness, drive, eagerness, and necessity to partake in the learning process to achieve academic success. Gray and Diloreto (2016) assert that student engagement is characterized by the degree of enthusiasm exhibited by students, their social interactions within the class, and their drive to gain knowledge on the subject matter.

Fredricks et al. (2004) regarded student engagement as a complex and multidimensional construct that includes three distinct but interrelated dimensions, namely, the behavioral, cognitive, and affective dimensions, where each dimension has some particular characteristics. Pilco (2022) describes behavioral engagement as students' participation, interaction and collaboration, achievement, performance, skill development, and learning activity completion. Moreover, cognitive engagement is related to students' purpose, motivation to learn, an effort to understand, self-regulated learning, self-efficacy, perceived ability, critical thinking and reflection on, the extra effort to learn more, and the ability to comprehend complex ideas. Meanwhile, affective engagement is the emotional response to the learning activities and learning environment

The COVID-19 pandemic has led to the adoption of flexible learning modalities by higher education institutions in the Philippines. This has been a response to the need for an alternative approach to education due to the pandemic, which has forced students to stay at home and disrupted traditional in-person learning. After the pandemic, the educational landscape continues incorporating flexible learning methods that provide students with more independence and versatility in their learning approaches. This may involve a combination of online and in-person learning, as well as hybrid models that enable students to shift between these modes depending on their needs.

However, the implementation of flexible learning modalities also poses challenges, particularly in terms of ensuring student engagement. Teachers in higher education are faced with the challenge of engaging their students as surmised by Colaco (2017). As opined by Gillett-Swan (2017) and Hew (2016), engaging students in the online learning environment is often more challenging than in traditional face-to-face courses.

Several studies that were conducted in the context of face-to-face classes concluded that engagement has been linked to improved academic performance and it has repeatedly been demonstrated to be a robust predictor of achievement and behavior in schools (Appleton et al., 2008), Partido (2019) concluded in his study that the three (3) dimensions of student engagement (behavioral, emotional and cognitive) were positively correlated to the academic performance of

students, and Urquijo and Extremera (2017) concluded that the more engaged students are the higher academic achievement will be gained. Nevertheless, it remains unclear whether this relationship holds true in online or flexible learning environments.

Therefore, the researchers endeavored to investigate whether the same predictors of engagement and academic performance in face-to-face classes also apply to online or flexible learning contexts and whether there are unique factors that affect engagement and performance in these environments. This study sought to examine 1) the participants' assessment of their engagement in terms of Behavioral, Affective, and Cognitive; 2) Participants' assessment of their regulated learning strategies in terms of Planning, Monitoring, and Evaluating; and 3) the relationship between Students' Engagement and Academic Performance.

This study assumed that student engagement has implications for academic performance. In other words, the higher the level of engagement students exhibit in their learning, the greater their academic achievements are likely to be. With this, the study of student engagement was anchored on the Student Involvement Theory of Astin (1984) and Self-Regulated Learning (SRL) theory of Zimmerman (2008).

The theory of Student Involvement stressed that the greater the student's involvement in college, the greater will be the amount of student learning and personal development, (Astin, 1984). In addition, the longer students engage in learning activities, the better their academic performance (Bravo-Agapito et al., 2021; Yokoyama, 2019), maximizing student engagement would be helpful in providing meaningful learning experiences among the students, according to Delfino (2019).

Furthermore, the rise of digital learning and the prevalence of affordable devices are convenient for young adults who are accustomed to using their digital devices for almost everything such as communication, collaboration, and accessing multiple sources of information for solutions, as opined by Lilian, et al, (2017). The authors added that the lack of ability to self-regulate learning processes has led to poor learning performance among undergraduates. Additionally, self-regulated learning strategies such as setting academic goals, planning, monitoring, and controlling the learning process are poorly utilized among undergraduates (Balapumi, 2015; Stewart, Stott, & Nuttall, 2015).

The Self-Regulated Learning (SRL) theory of Zimmerman (2008) has been used consistently to support students in learning to work independently. This framework highlights three phases: planning, performing, and evaluating. Self-regulated learning (SRL) is a self-determined learner effort toward academic performance (Boekaerts, 1995; Winne and Hadwin, 2010; Zimmerman and Moylan, 2009). Within the SRL framework, learners use metacognitive skills in learning to proactively think, perform, and self-reflect (Dignath and Büttner, 2008; Ergen and Kanadli, 2017). Furthermore, this SRL theory surmised that within any learning experience, individuals use unique

steps of self-regulation processes such as goal setting, planning, self-monitoring, effort expenditure, help-seeking, persistence, and evaluation of tasks and context.

In the same vein, self-regulated learning is a cyclical process, wherein the student plans for a task, monitors their performance, and then reflects on the outcome. The cycle then repeats as the student uses the reflection to adjust and prepare for the next task. The process is not one-size-fits-all; it should be tailored for individual students and for specific learning tasks (Zimmerman, 2002). Individuals who are self-regulated in their learning appear to achieve more positive academic outcomes than individuals who do not exhibit self-regulated learning behaviors according to Barnard-Prak, et al. (2010).

Self-regulated learning consists of many strategies, including goal-setting, self-efficacy, goal orientation, metacognitive monitoring, self-evaluation, and so on (Panadero, 2017). As an integrated conception, self-regulation promotes academic performance, but a meta-analysis study indicated that not all self-regulated strategies are effective; hence, they were found not significantly associated with GPA (Richardson et al., 2012).

Examining self-regulated learning skills and strategies in the online learning environment is especially important given that this environment has been noted as requiring individuals to be more autonomous in their learning, the prerequisite of which is being able to self-regulate (Ally, 2004). Hence, the researchers were propelled to conduct the study to determine which of these two (2) constructs predict their academic performance.

The study focused on two significant educational constructs: self-regulated learning processes and engagement. Self-regulated learning strategies refer to the behavioral, cognitive, and affective processes as espoused by Fredricks et al. (2004). that students use to monitor and control their learning. Whereas engagement refers to the level of interest and motivation that students have toward their academic work which confines planning, monitoring, and evaluating as proposed by Zimmerman (2008).

Understanding the impact of these constructs on the academic performance of the students may influence teaching methods and assist educators in creating interventions that encourage student engagement and self-regulated learning.

RESEARCH METHODOLOGY

This study used a descriptive-correlational research design. It involved the two-hundred two (202) college students enrolled in a private sectarian higher education institution in the 1st Semester of school year 2022-2023. The data were gathered through the adopted questionnaires on Self-Regulation by Erickson et al. (2015) and Student Engagement by Hart et al. (2011). The modified questionnaires went through content validation by experts in the field. After the comments and suggestions of the experts were sought, it underwent pilot testing for thirty (30) college students

who were not part of the "real" participants. From this reliability testing, it yielded the following alpha values: Affective Engagement - .901; Behavioral Engagement - .900; and Cognitive Engagement - .940. Meanwhile, the items on Self-Regulated Learning yielded the following alpha values: Planning-.886; Monitoring- .790; and Evaluating-.888.

Before the questionnaires were administered via Google form, the researchers sought the approval of the Research and Ethics Committee (REC) of the institution where the study was conducted. The participants were informed that their participation was voluntary in nature. They had the right to refuse to participate in the study. Also, the participants' informed consent was sought. They were also informed that their responses do affect their academic performance, and all information gathered was held with strict confidentiality.

As to their academic performance, the researchers followed the protocols set by the Head Registrar in terms of access to these data. The data collected in this study were subjected to descriptive statistical analysis techniques such as calculating the standard deviation and examining the mean distribution of scores to gain insights into the self-regulated strategies used by the students and their level of engagement in their academic pursuits. Inferential statistics such as multiple regression analysis to examine the relationship between self-regulated strategies, student engagement, and academic performance.

RESULTS AND DISCUSSION

This section presents the complete data on students' assessment of their engagement, their regulated learning strategies, and their relationship to the students' academic performance. The presentation of the results follows the sequence of the problems outlined in the introduction of this study

Participants' assessment of their engagement in terms of Behavioral, Affective, and Cognitive

Table 1 depicts the descriptive statistics of the participants' engagement in terms of behavioral, affective, and cognitive. As shown, the participants have high engagement as revealed with 4.03 as the overall mean and a standard deviation of 0.83 which indicates a high engagement. Looking closely at the figures, it was the affective engagement that was assessed as the highest with a mean of 4.14. This may apply because the student-participants look forward to attending their classes because they are enjoying it.

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Table 1. Descriptive Statistics of the Participants' Engagement

Engagement	Mean	Standard Deviation	Interpretation
Behavioral	3.86	0.81	High
Affective	4.14	0.83	High
Cognitive	4.08	0.86	High
Overall	**4.03**	**0.83**	**High**

Legend: 4.51 - 5.00 - Very High
3.51 - 4.50 – High
2.51 - 3.50 - Moderate
1.51 - 2.50 - Low
1.00 - 1.50 - Very Low

The result implies that the participants have a high level of emotional investment and interest in the activity or topic being studied. Affective engagement is the students' emotional and personal commitment to their classroom learning experiences. Parsons et al. (2014) claim that affective engagement entails attitudes that are supportive of the teacher and their fellow students, as well as feelings of curiosity, passion, and satisfaction toward learning. In the classroom, students who are affectively engaged are more likely to contribute to conversations, look for difficult assignments, and have higher levels of drive to learn. Affective engagement is frequently seen as a critical component of student engagement because it leads to higher levels of behavioral and cognitive involvement, which in turn plays a role in achieving success (Mccormick, 2019).

Participants' assessment their regulated learning strategies in terms of Planning, Monitoring, and Evaluating

Table 2. Descriptive Statistics of the Participants' Self-Regulated Learning

Self-Regulated Learning Strategies	Mean	Standard Deviation	Interpretation
Planning	4.08	0.83	High
Monitoring	4.02	0.81	High
Evaluating	4.14	0.84	High
Overall	**4.08**	**0.83**	**High**

Legend: 4.51 - 5.00 - Very High
3.51 - 4.50 – High
2.51 - 3.50 – Moderate
1.51 - 2.50 - Low
1.00 - 1.50 - Very Low

Table 2 shows the participants' assessment of their regulated learning strategies in terms of planning, monitoring, and evaluating. It can be seen that the participants have high regulated-learning strategies as seen in the overall mean of 4.08. Among the dimensions of SRL, it was on evaluating strategies that were assessed the highest. This may imply that the student-participants

welcome mistakes as a challenge to improve their outputs. These students are open-minded if they can figure out that their outputs need to be improved.

Participants' academic performance during the 1st Semester of SY 2022-2023

Table 3. Descriptive Statistics of the Participants' Academic Performance in terms of General Point Average

Range	Description	Frequency	Percentage
1.00 – 1.24	Excellent	12	5.94
1.25 – 1.49	Outstanding	44	21.78
1.50 – 1.74	Superior	75	37.13
1.75 – 1.99	Very Good	46	22.77
2.00 – 2.24	Good	14	6.92
2.25 -2.49	Moderately Good	4	1.98
2.50 – 2.74	Acceptable	3	1.49
2.75 – 2.99	Fair	0	0
3.00 – 3.24	Marginal	3	1.49
3.25 – 3.50	Conditional	1	.50
5.00	Failure	0	0
	Total	**202**	**100.0**
	Mean: 1.69		
	Interpretation: Superior		
	Standard Deviation: .40		

Table 3 illustrates the academic performance of the participants in terms of their Grade Point Average (GPA). With an overall mean of 1.69, it is described as *superior.* Looking closely at the figures, there were seventy-five (75) students or 37.13 percent of them who were described as superior, twelve (12) students or 5.94 percent as excellent, and forty-four (44) students or 21.78% as outstanding.

Regression Analysis between Students' Engagement and Academic Performance

Table 4 shows the regression analysis between the students' engagement and their academic performance. It revealed that there is a significant relationship between the students' engagement and their academic performance (p=.001). Looking into the dimensions of engagement, it is behavioral engagement that best predicts academic performance (t= -3.319, p=.001). The negative value of Pearson's *r* is in order, considering that the grading system of the College is such that the lower number, the higher the grade (1.0 indicates the highest grade; and 5 stands for a failing mark).

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Table 4. Regression Analysis Between Students' Engagement and Academic Performance

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	T	Sig.
1	(Constant)	2.140	.147		9.647	.000
	Affective	.026	.062	.054	.674	.501
	Behavioral	-.178	.052	-.363	-3.319	.001*
	Cognitive	.032	.055	.070	.271	.787
R = .274			Adjusted R^2 = .061		p = .001	

It implies that for every one-point increase in the students' behavioral engagement, there will be an increase of .178 in their academic performance. However, the adjusted R^2 is .061 which means only 6.1 percent of the variation of the student's academic performance is influenced by the student's engagement. The other 93.9 percent may be attributed to other factors which are not considered in this study.

Looking closely at the figures, it is the students' behavioral engagement that best predicts their academic performance. Hence, findings of this study concur with what Bravo-Agapito et al., (2021) and Yokoyama (2019) found that the longer students engage in learning activities, the better their academic performance.

Regression Analysis between Students' Regulated Learning Strategies and Academic Performance

Table 5 presents the regression analysis between the students' regulated learning strategies and their academic performance. It revealed that there is no significant relationship between the students' regulated learning strategies and their academic performance (p=.223). The data imply that the students' regulated learning strategies do not predict their academic performance.

Table 5. Regression Analysis Between Regulated Learning Strategies and Academic Performance

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.928	.151		8.176	.000
	Planning	-.077	.070	-.160	-1.108	.269
	Monitoring	.076	.077	.153	1.059	.291
	Evaluating	-.055	.061	-.114	-.998	.319
R = .148			Adjusted R^2 = .007		p = .223	

The findings find consonance with what Richardson et al., (2012) surmised that although self-regulation promotes academic performance, meta-analysis studies indicated that not all self-regulated strategies are effective; hence, they were found not significantly associated with GPA. It can be noted that this study considered three self-regulated learning strategies namely planning, monitoring, and evaluating. This is a limitation that the authors have acknowledged.

It can be concluded that the participants in the study were highly engaged and had highly self-regulated learning strategies. However, only their level of engagement significantly predicted academic performance, with behavioral engagement being the strongest predictor. In contrast, their self-regulated learning strategies did not significantly predict their academic performance. This suggests that while engagement is an important factor for academic success, self-regulated learning strategies may not have as much of an impact. Similar findings were found by Delfino (2019) and (Sukor et al., 2021) indicating the relationship between the students' academic performance and their self-regulated learning strategies.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The following results were disclosed after the data gathered were analyzed:

1. Data showed that the affective engagement was assessed as the highest which apply because the student-participants look forward to attending their classes because they are enjoying it.
2. Findings revealed that among the dimensions of SRL, it was on evaluating strategies that
3. were assessed the highest which implies that the student-participants welcome mistakes as a challenge to improve their outputs.
4. Data showed that there is a significant relationship between the students' engagement and their academic performance with behavioral engagement best predicts academic performance

The assumption advanced in this study has been confirmed that the more engaged the students are, the higher their academic performance will be. With this, the Student Involvement of Astin (1984) has theoretical implications on the students' academic performance.

While the majority of the constructs deal more with the positive relationship between self-regulated learning strategies and academic performance, acknowledging that Robertson et al. (2012) that not all self-regulated learning strategies influence the academic performance of students. This study only considered planning, monitoring, and evaluating.

It is highly recommended to focus on enhancing students' behavioral engagement in the classroom. Teachers and educators may promote behavioral engagement by using active and collaborative learning techniques, providing clear and structured feedback, and creating a positive and supportive learning environment.

However, this does not mean that self-regulated learning strategies should be ignored. It is still important to teach and encourage students to develop these strategies, such as goal setting, self-monitoring, and self-reflection. These strategies may not have a direct impact on academic performance, but they may still help students become more effective and efficient learners in the long term.

Therefore, the study emphasized the need for educators to discover innovative ways of inspiring students to actively engage in the instructional process for their academic progress, reflect on their learning methods, and conduct further effective techniques for fostering student engagement in flexible learning, particularly in higher education.

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