

LEARNING EXPERIENCES, SOCIAL MEDIA USE ACADEMIC WRITING STRATEGIES: A STRUCTURAL EQUATION MODEL OF STUDENT ENGAGEMENT



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Learning Experiences, Social Media Use Academic Writing Strategies: A Structural Equation Model of Student Engagement

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Abstract

This study aimed to determine the relationship between students' engagement and variables such as learning experiences, social media use, and academic writing strategies. Using a descriptive, correlational, and casual comparative quantitative research design, survey questionnaires were administered to 400 senior high school students in public schools of Region 11. Respondents were selected through random sampling technique. Learning experiences that includes three indicators: positive, active, and teacher-supported experience showed a high level. Also, social media use, comprised four indicators: academic, social interaction, entertainment, and information. high level use. The third variable, academic writing strategies, involved three indicators: before writing, while writing, and revising high level of proficiency in writing strategies respectively. Findings revealed that positive, active, and teacher-supported learning experiences significantly influenced students' engagement across behavioral, cognitive, and emotional dimensions. Social media use had mixed effects: academic purposes enhanced engagement, while excessive non-academic use reduced it. Writing strategies, including planning, drafting, and revising, positively correlated with engagement level which leads to rejecting the hypothesis. The structural equation model indicated that learning experiences, social media use, and writing strategies collectively and individually impacted student engagement. The study emphasizes the need for teachers and institutions to develop motivational strategies and contextualize engagement initiatives to improve academic outcomes. These findings provide actionable insights for enhancing education quality in the Philippines.

Keywords: *education, student engagement, learning experiences, social media, academic writing strategies, structural equation modeling*

Introduction

The participation of students in the classroom at school is an important aspect of their learning, but it is undeniable that it continues to be a challenge. According to Barkoukis et al. (2014), active participation is an important factor for deeper and more effective learning. Despite this, many students still struggle to participate due to the quality of strategies and motivation. According to Riaan (2018), the lack of strategies towards motivation is a common problem that leads to a lack of interest in studying and difficulty in following lessons, as well as participating in class. Because of this, it becomes a challenge for teachers as some students seem to become negligent in their academic tasks. Furthermore, Tesch et al. (2011) identified two main reasons why students experience difficulties in learning. First, external factors, such as social conditions, that may affect their focus and dedication to studying. Secondly, the internal factors, such as lack of motivation and the ineffective teaching strategies of the teacher. According to Al-Muslawi, and Hamid, (2020), improper use of classroom strategies can worsen the situation, especially if they do not meet the needs of the students. Moreover, the quality of student participation has a profound impact on the education system. Their active involvement can serve as a measure of the quality of teaching and learning.

The active participation of students plays an important role in shaping their own education. Through this, they express their views and share their ideas, which can help improve educational processes and decision-making. As a result, a higher level of quality is achieved in the educational system (Bulvinska et al. 2019). The participation of students greatly contributes to the improvement of teaching quality. When students actively participate in discussions, the interactions inside the classroom become livelier and more meaningful. This not only helps in boosting their motivation but also in shaping a more productive learning environment.

To enhance student participation, it is important for teachers to focus on the use of Social Learning Theory (SLT), which is based on the idea that people learn through observation, imitation, and participation in activities. Students learn to actively participate in class when they see their classmates or teachers doing the same, showing that the motivation of both the class and the teacher is important. In the context of student participation, teachers, parents, and fellow students are important role models related to teaching behavior. The role of teachers in studying student participation is also important as a crucial factor in their academic success (Kahu et al, 2018). Along with the successful participation of students, student participation means actively engaging in any process and being given the opportunity to learn, voluntarily participating in learning, and the desire to be successful (Bomia et al 1994). Albert Bandura's 1977 Social Learning Theory aims to utilize the idea that people learn through observation, imitation, and participation in activities they find important or guided by models. In the context of student participation, teachers, parents, and fellow students are important as models. Understand the impact of external consequences on internal motivation. This shows two systems of motivation: intrinsic and extrinsic. Ajzen's Theory of Planned Behavior, 1991 explains that student participation can be influenced by their attitudes, subjective norms, and perceived behavioral control. This theory emphasizes the relationship between intention and actual behavior, suggesting that students are more likely to participate if they have a positive outlook on participation, if their teachers expect it, and if they believe

they can do it. The experience and participation of students are closely related. In many studies, it has been realized that more active participation is associated with a higher level of student satisfaction. In the field of e-learning, the quality of the online learning experience.

Methodology

Research Design

This study employed descriptive, correlational, and casual comparative quantitative research design. In correlational research, each variable has a relationship with each other that is tested in this design. The method that represents, estimates, and tests the relationship between the variables involved here is the collection of data to determine the level of correlation between two or more existing variables (Creswel, 1997). This research will also use a structural equation model to examine the relationship between each variable. This descriptive study will be analyzed using quantitative data regarding the said issue. The quantitative aspect is an appropriate method for data collection designed for the target respondents who will answer the questions. The process of data collection is based on the use of questionnaires. The focus of this research is to examine the teaching competence model, theories, and hypotheses regarding the problem. This nature is demonstrated through the use of empirical data at various levels of measurement based on the responses of the participants.

By using the Structural Equation Model (SEM) in this study, it will strengthen the integrity and rigor of this research because the analysis will go through the steps of model specification, data collection, model estimation, model evaluation, and possible model modification. Therefore, when the hypothesized model is rejected based on the goodness of fit statistics, an alternative model that fits the data needs to be created (Chen, et a. 2010). Therefore, this study focuses on data adaptation to identify models related to student participation, learning experiences, social media use, and academic writing strategies. Additionally, the study using the Structural Equation Model (SEM) will help strengthen the integrity as a result of the output collected, which responded to the research process followed to obtain the essential data needed for the study. This is to maintain the reliability of the study's results by emphasizing the importance of following steps such as model identification, data collection, estimation of the model to be formed, model evaluation, and possible adjustments in the actual construction of the study according to the overall response of the students, which serves as a response to the study's objectives.

Respondents

The study will be conducted in the second semester of the 2024-2025 academic year in all secondary schools of the Region XI division. This was chosen by the researcher because it is the region to which the researcher belongs. Furthermore, the number of respondents in this area is sufficient to conduct the research. In the research study, senior high school students from a public school were selected. The researcher used Slovin's Formula, which is a Simple Random Sampling Technique, to determine the number of respondents who would answer in each division. In using Slovin's Formula, from the (400) sample size used by the researcher across all senior high schools, 306 participants were obtained with a confidence level of 95% and a margin of error of 3.5%. The researcher used random sampling, which is the most basic sampling technique that selects a sample from a large group. Each individual is selected purely by chance, and all members of the population have an equal opportunity to be included in the sample (Easton and McColl, 1997). Four hundred students will be selected by the researcher from various public secondary schools in Region XI.

The respondents will be selected using random sampling. From the dictionary (Webster), random sampling is a technique where each sample has an equal probability of being selected. Moreover, this is the easiest way to gather data from the entire population. RAOSOFT will also be used to determine the sample of respondents to be used in the research. In this study, and in the technical aspects, the researcher thoroughly explained the potential benefits of any possible outcomes of the study. The researcher clarified the objectives of the study, the direct beneficiaries of the study, and the potential outcomes of the study.

Instrument

The research instrument was gathered through adapted questionnaires from a published article. Thus, the modified questionnaire was subjected to validation process by research experts to ensure that it would have more comprehensive and high-quality questions that serve as the basis for the participants. In this regard, the questionnaire for the first exogenous variable aims to determine the level of students' experiences, which include the following indicators: positive experience, active experience, and experience with teacher support. Additionally, the scoring of the three exogenous and endogenous levels and descriptions was derived as an adaptation of the original 7-point Likert Scale format of Gardner's Attitude/Motivation Test Battery (Gardner, 1985) and translated into Filipino with slight modifications to the descriptions of each indicator. Likert Scale format of Gardner's Attitude/ Motivation Test Battery (AMI) (Gardner, 1985) and translated into Filipino with slight modifications to the descriptions of each indicator.

Procedure

The Five-Point Likert Scale was used in this study to determine the descriptive levels and scores. Various methods will be employed by the researcher to gather data and information regarding the subject to be emphasized and the source of the results. First, the researcher will develop and prepare a survey questionnaire aimed at gathering data that will fulfill the construction of their research, including the

responses to the questions from the respondents. The well-constructed questionnaire will undergo a process of data collection and data analysis to make it easier. Secondly, the researcher will gather information from various sources such as libraries, the internet, newspapers, and other resources. Finally, the Likert Scale will be used to score the data. Furthermore, the Likert Scale will be used, and respondents should rate the answers according to the degree of intensity of one extreme to another through a level of agreement with the questions to be submitted. In this study, three exogenous variables were discussed: learning experience, social media use, and academic writing strategies, and one endogenous variable, student participation. The examinations conducted on these variables used a scale that describes the level of manifestation of each factor. For example, the learning experience was assessed based on the following levels: very high (4.20-5.00), where a positive effect on student participation is always observed; high (3.40-4.19), meaning the effect is often present; moderate (2.60-3.39), where the effect is only occasionally observed; low (1.80-2.59), where the effect is rarely seen; and very low (1.00-1.79), where the effect is almost not felt. The levels of this scale provided deep insights into the relationship of each exogenous variable and its effect on student participation.

To ensure the validity of the questionnaire, it was endorsed by six expert validators who, according to their analysis, found it to have a high overall average. Therefore, after validation, it first underwent pilot testing with a total of 30 participants who were no longer included as study participants, and the results were considered through reliability and validity statistics. Cronbach's Alpha, where the first exogenous questionnaire on learning experience obtained an alpha coefficient of 15 items with .839 reliability and validity, but the second exogenous questionnaire on social media usage obtained an alpha coefficient of 19 items with .907 reliability and validity. The third exogenous variable, the academic writing strategy, obtained an alpha coefficient of 69 items with .979 reliability and validity, while the endogenous variable, student participation, obtained an alpha coefficient of 40 items with .839 reliability and validity. Therefore, the basis for obtaining the descriptive level of student experience, use of social media, academic writing strategies, and student participation.

To ensure a smooth study process, the researcher began by sending letters of permission to the directors of Region XI and the managers of each division such as Davao City, Davao de Oro, Davao del Norte, Davao del Sur, Davao Occidental, Island Garden City of Samal, Mati City, Panabo City, Digos City, and Tagum City, which are part of the Davao Region. Their consent served as the signal to begin data collection. Along with the consent letter, the questionnaires were also sent to the principals who would represent their schools, particularly to the senior high school students in their first year.

Ethical Considerations

In conducting this research, the researcher ensures that the participants are protected and have a sufficient understanding of their rights. All participants in the study freely decided whether they wanted to participate, and no one was forced or coerced to join. It is important for the researcher that the purpose of the study is clear to each participant, so it was communicated that refusal or non-participation would have no effect on their status or their studies. Participants were also given the opportunity to revisit and modify their responses if necessary, as they were involved in generating the study's results. The researcher valued the safety and privacy of each participant. Any information or details collected from them will remain confidential. All personal information, such as names, is kept and protected to ensure they are not identified, and to guarantee that no inappropriate details about their lives are disclosed. The benefits and objectives of the study were fully explained to the participants, and how the community would benefit from its results. Therefore, only their voluntary decision to participate was sought, and they were neither forced nor persuaded in any way. The entire research process is conducted under proper ethical standards. No penalties were imposed on the participants if they changed their minds and chose not to continue answering. They were given enough time to decide, and nothing was forced upon them. Their privacy is respected, and there has been no incident where their personal data was exposed without their consent. It is also important to ensure that every part of the study is honest and free from any form of misinformation. The ideas from other authors are given proper credit, and no one claims the ideas as their own. There was no manipulation or alteration of the data obtained from the participants, ensuring that the study results were honest and not tampered with to fit the expected answers.

There is no conflict of interest between the researcher and the participants. None of the steps taken were against the institution's policies, and only the proper ethical procedures were followed. At every step, the welfare and protection of the participants were considered to ensure the integrity of the entire research process. The researcher received permission from the institution and followed all the processes to ensure the proper review and approval of the ethical steps. Overall, the entire research was conducted with respect for the rights of each participant, and the researcher received a certificate of approval from UMERC, with Protocol No. UMERC-2024-419, as proof of compliance with all necessary processes and standards.

Results and Discussion

This section presents the results and discussion of the study on students' experiences, social media usage, academic writing strategies: a structural relationship model in student participation. Thus, the collected data were analyzed based on the variables derived from the indicators of each variable, such as learning experience, which will examine the levels of indicators such as positive experience, active experience, and teacher-supported experience; the levels of indicators from the variable of social media use, which includes academic, social, and recreational aspects; the levels of indicators from the variable of academic writing strategies, which will also examine the levels of planning, execution, and revision; as well as the independent variable of student participation, which will examine the levels of the following indicators: behavioral, cognitive, and emotional engagement. Here, the presentation of the interpretation of the results,

conclusions, and recommendations related to the conducted study that addresses the stated objectives will also be seen. This study is conducted to present the significant relationship between learning experience, social media usage, academic writing strategies, and student participation; to identify the variables that have a significant relationship with student participation, learning experience, social media usage, and academic writing strategies; and to determine the most appropriate model for student participation in senior high school from public secondary schools in Region XI enrolled for the school year 2024-2025.

Learning Experiences of Senior High School Students

Table 1 shows the first variable according to the study data results related to the level of learning experience, which consists of three indicators: positive experience, active experience, and teacher-supported experience. Table 1 shows a standard deviation with a total of 0.56 and an overall mean score of 3.91, described as a high learning experience for the students. This result is based on the combined results of three indicators: positive learning experience with a standard deviation of 0.69 and a mean score of 3.78, active learning experience with a standard deviation of 0.60 and a mean score of 3.88, and the experience with teacher support with a standard deviation of 0.71 and a mean score of 4.08, both of which are described as frequently responding to students' participation.

Table 1. *Level of Learning Experiences*

<i>Indicators</i>	<i>Mean</i>	<i>SD</i>	<i>Descriptive Level</i>
Positive Learning Experiences	3.78	0.69	High
Teachers' Support in Learning	4.08	0.71	High
Active Learning Experiences	3.88	0.60	High
Total	3.91	0.56	High

Legend: 4.20-5.00, Very High; 3.40-4.19, High; 2.60-3.39, Moderate; 1.80-2.59, Low; 1.00-1.79, Very Low

Based on the overall results indicating that the indicator of experience often seen in the learning experience is the teacher's support, as this has frequently been the response of students, the study emphasizes that any teacher support significantly enhances student interaction and participation through the promotion of a supportive environment within a classroom (Borasheva, 2024). Students became more content with their classes and studies (Cruz, 2009). If the teacher has confidence in their students' interest in being involved in study activities to improve their writing skills and, above all, focuses on student participation to establish a long-term positive learning experience (Smith et al., 2023). While positive learning experiences are not specific to the experiences of students, it is proven that positive learning experiences focus solely on student participation and refer to the experiences of students in the field of positive education. Emphasizes the aspects of personal growth of students as well as the positive changes occurring in students (Sandholm, et al., 2022).

Used of Social Media of Senior High School Students

Table 2 shows the second variable according to the study's data results concerning the level of social media usage, which consists of four indicators: academic, social interaction, entertainment, and information. Table 2 shows a recorded standard deviation with a total of 0.63 and an overall mean score of 3.83, described as a high descriptive level of students' use of social media. This result is based on the combined results of three indicators: academic, with a standard deviation of 0.70 and a mean score of 4.09; social interaction, with a standard deviation of 0.77 and a mean score of 3.78; and entertainment, with a standard deviation of 0.80 and a mean score of 4.08, which are both described as frequently responded to by students in participation, indicating that the first three indicators are both described as frequently responded to by students. Meanwhile, information, with a standard deviation of 1.01 and a mean score of 3.38, is moderately or rarely focused on by students in participation.

Table 2. *Level of Used of Social Media*

<i>Indicators</i>	<i>Mean</i>	<i>SD</i>	<i>Descriptive Level</i>
Academics	4.09	0.70	High
Socialization	3.78	0.77	High
Entertainment	4.08	0.80	High
Informatives	3.38	1.01	Moderate
Total	3.83	0.63	High

Legend: 4.20-5.00, Very High; 3.40-4.19, High; 2.60-3.39, Moderate; 1.80-2.59, Low; 1.00-1.79, Very Low

Based on the overall results indicating that the level of social media use is often seen in participation, the academic indicator is frequently the response of students emphasized in a study. It was found that the use of social media for academic purposes, particularly in cognitive and social aspects, has a positive effect on the academic performance of students in Public Higher Education Institutions (PHEIs). It has been shown that social media platforms serve as effective tools to enhance the active participation of students in their studies. Through these platforms, it becomes easier for students to connect and collaborate, leading to more productive exchanges of ideas and deeper learning. According to Jaffari et al. (2024), this type of participation significantly contributes to their academic success, making the role of social media crucial in supporting their learning and academic goals. Meanwhile, the indicator of using social media as a source of information was only moderately or rarely observed in student responses. According to the study by Jaffari et al. (2024), the use of social media as a source of information does not significantly lead to active participation from students. Although the use of social media for obtaining information is widespread, the response of students in terms of active engagement is more limited. Most of them focus more on reading or viewing posts rather than sharing their own views or opinions. According to (Maheswari, et al. 2024),

social media platforms allow students to collaborate on projects, share resources, and engage in discussions, fostering a collaborative learning environment. These platforms also improve interaction between students and teachers, allowing for the provision of unique feedback and support.

Academic Writing Strategies of Senior High School Students

Table 3 shows the third variable according to the study's data results concerning the level of academic writing strategies, which consists of three indicators: before writing, while writing, and revising. Table 3 shows a standard deviation with a total of 0.56 and an overall mean score of 3.84, described as a high descriptive level of students in academic writing strategies. This result is based on the combined results of three indicators: before writing with a standard deviation of 0.58 and a mean score of 3.81, while writing with a standard deviation of 0.63 and a mean score of 3.71, and revising with a standard deviation of 0.61 and a mean score of 4.00, both described as frequently observed or addressed by the students.

Table 3. *Level of Academic Writing Strategies*

<i>Indicators</i>	<i>Mean</i>	<i>SD</i>	<i>Descriptive Level</i>
Before Writing	3.81	0.58	High
During Writing	3.71	0.63	High
Revising	4.00	0.61	High
Total	3.84	0.56	High

Legend: 4.20-5.00, Very High; 3.40-4.19, High; 2.60-3.39, Moderate; 1.80-2.59, Low; 1.00-1.79, Very Low

Based on the overall results, which are high, it means that the academic strategy in the study of Senior High School students is often observed because it is characterized by high indicators: before writing, while writing, and revising. It was shown that in the academic writing strategy, revision had the highest mean of 4.00, indicating a high or frequent observation of response. This is supported by the study of Smith et al. (2023), which states that the use of writing strategies such as revision effectively increases student participation in class. The study also shows that it not only helps improve the quality of their writing but also boosts their confidence and critical thinking skills. Through the continuous provision of feedback and discussion about revisions, students become more active and interested in their studies. The indicator of writing has a mean score of 3.71, which is still at a high descriptive level, meaning it still receives or shows responses from the students. This is supported by the study of Haris et al. (2021), which shows that the use of writing strategies such as collaborative writing and peer feedback effectively increases student participation and interest in class. The study shows that students who actively participate in writing activities are more willing to share their ideas and become more critical in their thinking. Besides improving their writing skills, these strategies also boost their confidence and motivation in studying (Harris et al. 2021).

Student Engagement of Senior High School Students

Table 4 shows the fourth variable according to the study data results related to the level of student participation, which consists of three indicators: behavioral, cognitive, and emotional. Table 4 shows a standard deviation with a total of 0.49 and an overall mean score of 3.77, described as a high descriptive level of student participation. This result is based on the combined results of three indicators: behavioral participation with a standard deviation of 0.55 and a mean score of 3.93, while cognitive participation has a standard deviation of 0.58 and a mean score of 3.70, and emotional participation has a standard deviation of 0.57 and a mean score of 3.70, both of which are described as frequently observed or responded to by the students.

Table 4. *Level of Student Engagement*

<i>Indicators</i>	<i>Mean</i>	<i>SD</i>	<i>Descriptive Level</i>
Behavioral Engagement	3.92	0.55	High
Cognitive Engagement	3.70	0.58	High
Emotional Engagement	3.70	0.57	High
Total	3.77	0.49	High

Legend: 4.20-5.00, Very High; 3.40-4.19, High; 2.60-3.39, Moderate; 1.80-2.59, Low; 1.00-1.79, Very Low

Based on the overall results, which are high, indicating a high descriptive level or frequent observation of the participation of Senior High School students, as it describes high indicators, behavioral participation, cognitive participation, and emotional participation. It was shown that the students' behavioral participation had the highest mean of 3.93, which means it was often or frequently observed. This is supported by the study of Wang et al. (2022), which shows that the behavioral participation of students often demonstrates a high response, especially when they actively engage in classroom activities such as discussions, group work, and responding to the teacher's questions. The study shows that students with a high level of participation exhibit more positive behavior in class, are more willing to collaborate with their classmates, and are more active in facing the challenges of learning. The indicators of cognitive and emotional participation both received a mean score of 3.70, which is still at a high descriptive level and has a descriptive characterization that often showed student responses. This is supported by a study showing that the cognitive and emotional engagement of students often demonstrates a high level of participation. The study shows that students with deep thinking and genuine interest in their studies are more active in discovering new knowledge and more willing to face academic challenges. Furthermore, students with strong emotional engagement exhibit positive feelings and closer relationships with their teachers and classmates, leading to a more meaningful and enjoyable learning experience (Zhang et al., 2021).

Significance on the Relationships between Learning Experience and Student Engagement

Table 5.1 illustrates the significant relationship between various aspects of students' learning experiences and participation, measured using three indicators of participation: behavioral participation, cognitive participation, and emotional participation, along with their overall measure. The table shows the correlation coefficients (r) and their p -values (p). According to the results, positive learning experiences have a moderate to strong correlation with all dimensions of participation, specifically, behavioral participation with a correlation coefficient of $r = 0.408^{**}$ ($p = 0.000$), cognitive participation with $r = 0.511^{**}$ ($p = 0.000$), and emotional participation with the strongest correlation of $r = 0.621^{**}$ ($p = 0.000$). The overall measure of participation has $r = 0.592^{**}$ ($p = 0.000$), indicating that positive learning experiences have a significant impact on student participation, particularly in the aspect of emotional participation.

Table 5.1. *Significance on the Relationships between Learning Experience and Student Engagement*

Learning Experiences	Student Engagement			
	Behavioral Engagement	Cognitive Engagement	Emotional Engagement	Total
Positive Learning Experiences	.408** .000	.511** .000	.621** .000	.592** .000
Teachers' Support in Learning	.309** .000	.395** .000	.451** .000	.444** .000
Active Learning Experiences	.372** .000	.436** .000	.484** .000	.497** .000
Total	.434** .000	.536** .000	.622** .000	.612** .000

When it comes to teacher support, there is a moderate relationship with three indicators of participation: behavioral participation ($r = 0.309$, $p = 0.000$), cognitive participation ($r = 0.395$, $p = 0.000$), and emotional participation ($r = 0.451$, $p = 0.000$), with an overall relationship of $r = 0.444$ ($p = 0.000$). The strongest correlation is with emotional participation, which shows how important teacher support is in encouraging students to participate, especially in the emotional aspect. These results are statistically significant, meaning they are not coincidental and are reliable. The same goes for active learning experience, where there is also a moderate correlation with all indicators: behavioral engagement ($r = 0.372$, $p = 0.000$), cognitive engagement ($r = 0.436$, $p = 0.000$), and emotional engagement ($r = 0.484$, $p = 0.000$), with an overall correlation of $r = 0.497$ ($p = 0.000$). The strongest relationship is again with emotional participation, which means that students who are more active in their studies are more involved and connected to their activities. These relationships are statistically significant, proving that the results are not due to chance. When all learning experiences are combined, it shows a moderate to strong correlation with participation: behavioral participation ($r = 0.434$, $p = 0.000$), cognitive participation ($r = 0.536$, $p = 0.000$), and emotional participation ($r = 0.622$, $p = 0.000$), with an overall correlation of $r = 0.612$ ($p = 0.000$). The strongest correlation remains with emotional engagement, indicating that the emotional aspect is more significantly affected by the overall learning experience. These results are statistically significant, proving that the relationship is real and not coincidental. The results also show that the learning experience is an important factor in increasing student participation. Positive experiences, teacher support, and active learning have a significant impact on all aspects of participation, especially the emotional aspect. These relationships are statistically significant ($p = 0.000$), meaning the results are reliable and not due to chance. This shows that improving the student experience can help enhance their participation in class.

Significance on the Relationships between Used of Social Media and Student Engagement

Table 5.2 shows a significant relationship between the various purposes of social media use and the three indicators of student participation: behavioral participation, cognitive participation, and emotional participation, including their overall measurement.

Table 5.2. *Significance on the Relationships between Used of Social Media and Student Engagement*

Used of Social Media	Student Engagement			
	Behavioral Engagement	Cognitive Engagement	Emotional Engagement	Kabuan
Academics	.344** .000	.387** .000	.516** .000	.480** .000
Socialization	.419** .000	.504** .000	.462** .000	.533** .000
Entertainment	.329** .000	.317** .000	.359** .000	.386** .000
Informative	.293** .000	.360** .000	.368** .000	.393** .000
Total	.441** .000	.502** .000	.541** .000	.571** .000

According to the analysis, the use of social media for academic purposes has a moderate correlation with all indicators of student engagement. Specifically, behavioral engagement has a correlation coefficient of $r = 0.344^{**}$ ($p = 0.000$), cognitive engagement has $r = 0.387^{**}$ ($p = 0.000$), and emotional engagement has the strongest correlation with $r = 0.516^{**}$ ($p = 0.000$). The overall measure of participation has $r = 0.480^{**}$ ($p = 0.000$), indicating that the use of social media for academic purposes has a significant impact on

student participation, especially in the aspect of emotional participation. These results are statistically significant ($p = 0.000$), meaning that the relationship is not coincidental and can serve as a basis for conclusions.

This data shows that the use of social media for academic purposes is important, especially for the emotional connection of students to their studies. When it comes to socialization, it was found that there is a moderate to strong relationship with all indicators of participation: Behavioral participation ($r = 0.419$, $p = 0.000$), cognitive participation ($r = 0.504$, $p = 0.000$), and emotional participation ($r = 0.462$, $p = 0.000$), with an overall correlation of $r = 0.533$ ($p = 0.000$). The strongest correlation is with cognitive participation, which means that interaction on social media helps in the intellectual participation of students. As for the use of social media for leisure or entertainment, it has a moderate correlation with all indicators: The Behavioral engagement ($r = 0.329$, $p = 0.000$), cognitive engagement ($r = 0.317$, $p = 0.000$), and emotional engagement ($r = 0.359$, $p = 0.000$), with a total correlation of $r = 0.386$ ($p = 0.000$). Although not as strong as other purposes, the use of social media for entertainment still affects the emotional aspect of participation. In using social media for informative purposes, it was found to have a moderate correlation with all indicators: behavioral engagement ($r = 0.293$, $p = 0.000$), cognitive engagement ($r = 0.360$, $p = 0.000$), and emotional engagement ($r = 0.368$, $p = 0.000$), with an overall correlation of $r = 0.393$ ($p = 0.000$). The strongest correlation is with emotional and cognitive participation, indicating that seeking information using social media helps enhance the knowledge and emotional engagement of students. When all the purposes of using social media are combined, it shows a moderate to strong relationship with engagement. The strongest correlation is with emotional engagement, which shows that the overall use of social media has a greater impact on emotional engagement compared to other indicators. Therefore, this means that the use of social media has a positive effect on student participation, especially in the emotional aspect. This shows that social media can be a significant medium that provides inspiration and motivation to students. Among all purposes, socialization has the strongest impact on overall participation ($r = 0.533$), highlighting the importance of interaction on social media in fostering cognitive, emotional, and behavioral participation. However, the use of social media for information and entertainment has a lower impact compared to socialization and academic purposes.

Significance on the Relationships between Academic Writing Strategies and Student Engagement

Table 5.3 shows the relationship between academic writing strategies and student participation in three indicators: behavioral participation, cognitive participation, and emotional participation, including their overall participation. According to the results, the pre-writing strategies—such as planning and brainstorming—have a strong correlation with all dimensions of participation. Specifically, behavioral participation has a correlation coefficient of $r = .583^{**}$ ($p = 0.000$), cognitive participation has $r = .694^{**}$ ($p = 0.000$), and emotional participation has $r = .663^{**}$ ($p = 0.000$). The overall participation has $r = .746^{**}$ ($p = 0.000$), indicating that the preliminary writing activities are strongly related to the overall participation of the students. The strongest correlation is with cognitive engagement, indicating that pre-writing strategies are more effective in enhancing the intellectual engagement of students.

Table 5.3. Significance on the Relationships of Academic Writing Strategies and Student Engagement

Academic Writing Strategies	Pakikilahok ng mga Mag-aaral			Total
	Behavioral Engagement	Cognitive Engagement	Emotional Engagement	
Before Writing	.583**	.694**	.663**	.746**
	.000	.000	.000	.000
During Writing	.492**	.561**	.545**	.614**
	.000	.000	.000	.000
Revising	.595**	.625**	.568**	.687**
	.000	.000	.000	.000
Total	.597**	.672**	.635**	.732**
	.000	.000	.000	.000

It shows here that pre-writing activities—such as planning and brainstorming—are a great help in deepening students' understanding and preparation. Meanwhile, in the stage of writing, its relationship with participation is at a moderate level: such as behavioral participation ($r = .492^{**}$), cognitive participation ($r = .561^{**}$), and emotional participation ($r = .545^{**}$), with an overall relationship of $r = .614^{**}$. Although its correlation is lower compared to other stages, it is still significant, especially in cognitive participation, which demonstrates the students' effort to process and apply their knowledge while writing.

When it comes to the revision stage, its correlation with participation is higher: behavioral participation ($r = .595^{**}$), cognitive participation ($r = .625^{**}$), and emotional participation ($r = .568^{**}$), with an overall correlation of $r = .687^{**}$. This shows that revision is strongly connected to all aspects of participation, especially cognitive participation. This process is important not only for improving content but also for increasing students' active participation. The relationship between academic writing strategies and participation is significant and high: behavioral participation ($r = .597^{**}$), cognitive participation ($r = .672^{**}$), and emotional participation ($r = .635^{**}$), with an overall relationship of $r = .732^{**}$. This shows that the use of writing strategies has a positive effect on all aspects of participation, with the strongest correlation in cognitive participation. This indicates that writing strategies not only aid in the creation of written works but also enhance the active participation of students, particularly in the aspects of thinking and comprehension.

Significant Influence of Learning Experience, Used of Social Media, Academic Writing Strategies on Student Engagement

Table 6 shows the significant influence of exogenous factors such as learning experience, social media use, and academic strategies on



student participation using regression analysis. Based on the interpretation, there are key results of the variables.

Table 6. Significant Influence of Learning Experiences, Used of Social Media, Academic Writing Strategies on Student Performance

(Variables)	Student Engagement			
	B	β	t	Sig.
Constant	.961		7.638	.000
Learning Experiences	.214	.241	5.453	.000
Used of Social Media	.032	.041	.866	.387
Academic Writing Strategies	.482	.552	11.367	.000
R	.759			
R ²	.576			
Δ R	.573			
F	178.326			
p	.000			

According to the interpretation, there are significant results that emerged. First, the intercept ($B = .961$, $Sig. = .000$) shows that even without the contribution from the variables, there is still a basic level of participation that exists among the students. When it comes to the learning experience, it was found that it has a significant positive effect on participation ($B = .214$, $\beta = .241$, $t = 5.453$, $Sig. = .000$). The $\beta = .241$ indicates that an increase in learning experience could lead to a 24.1% increase in student participation. On the other hand, the use of social media has no significant influence on participation ($B = .032$, $\beta = .041$, $t = .866$, $Sig. = .387$), because the significance value of .387 does not reach the 0.05 level of significance. The $\beta = .041$ also indicates a very weak relationship. In academic strategy, it was found to have the strongest effect on participation ($B = .482$, $\beta = .552$, $t = 11.367$, $Sig. = .000$). The $\beta = .552$ indicates that the use of effective academic strategies contributes to a 55.2% increase in participation. This means that the model shows a strong relationship between the variables and participation ($R = .759$). The $R^2 = .576$ means that 57.6% of the variance in student participation can be explained by the three variables studied: learning experience, social media use, and academic strategy. The $\Delta R = .573$ shows that the variables almost completely contribute to the overall model. Furthermore, the $F = 178.326$ and $Sig. = .000$ confirm that the model has significant statistical importance, meaning that the combination of variables is crucial in determining student participation. In comparison, the academic strategy has the strongest influence ($\beta = .552$), indicating that it is the best predictor of participation. This shows that the proper use of study strategies is most important for the active, deep, and emotional engagement of students. Based on the learning experience: it was observed to have a significant effect ($\beta = .241$), although not as strong as the academic strategy. Meanwhile, the use of social media is said to have no significant effect on student participation ($\beta = .041$).

Summary of Goodness of Fit Measures of the Three Generated Models

Table 7 presents the overall results of the Goodness of Fit Measures for the three developed models, showing how well each model fits the data. Measures such as P-value, CMIN/DF, GFI, CFI, NFI, TLI, RMSEA, and P-close were used to assess the quality of each model. This is used to assess how well each model fits the data. Here is the detailed analysis for each metric and model.

Table 7. Summary of Goodness of Fit Measures of the Three Generated Models

Model	P-value (>0.05)	CMIN/DF ($0 < \text{value} < 2$)	GFI (>0.95)	CFI (>0.95)	NFI (>0.95)	TLI (>0.95)	RMSEA (<0.05)	P-close (>0.05)
1	.000	13.202	.767	.772	.759	.713	.175	.000
2	.000	8.555	.852	.863	.849	.822	.138	.000
3	.108	1.424	.988	.996	.988	.991	.033	.840

Legend: CMIN/DF – Chi Square/Degrees of Freedom
 GFI – Goodness of Fit Index
 RMSEA – Root Mean Square of Error Approximation
 NFI – Normed Fit Index
 TLI – Tucker-Lewis Index
 CFI – Comparative Fit Index

The measures of Goodness of Fit P-value (> 0.05), Measure of statistical significance. If the p-value is higher than 0.05, the model is accepted as a good fit. CMIN/DF ($0 < \text{value} < 2$) is the ratio of Chi-square (CMIN) to degrees of freedom (DF). The value between 0 and 2 indicates a good fit. GFI (Goodness of Fit Index, > 0.95) which refers to the percentage of the total relationship that can be explained by the model. Higher than 0.95 is ideal. CFI (Comparative Fit Index, > 0.95), measures the model's fit compared to the baseline model. Higher than 0.95 is good. NFI (Normed Fit Index, > 0.95) which refers to the proportion of improvement in the model compared to the null model. > 0.95 is optimal. TLI (Tucker-Lewis Index, > 0.95), similar to CFI, but places more emphasis on model simplicity. Higher than 0.95 is a good result. RMSEA (Root Mean Square Error of Approximation, < 0.05) which measures the error in the model. Less than 0.05 indicates a good fit. P-close (> 0.05) An alternative measure for RMSEA. A value higher than 0.05 indicates a good fit.

Regression Weights of the 3 Generated Models

Table 8 shows the regression weights of three models, examining the relationship between exogenous variables (Learning Experience, Social Media Use, and Academic Writing Strategy) and an endogenous variable (e.g., Student Engagement or other outcomes). This is the detailed interpretation of each model. Regression Weights (B), which explains that each numerical value (e.g., .227, .505) indicates the strength and direction of the effect of the exogenous variable on the endogenous variable, The positive B-value indicates a positive

effect (the increase in the exogenous variable leads to an increase in the endogenous variable). Meanwhile, the negative B-value indicates a negative effect (the increase in the exogenous variable causes a decrease in the endogenous variable). The Significance Levels (p-value), *** (p = 0.000) indicating that the effect is highly significant. The ** (p < 0.01) indicating strong significance, (p < 0.05): Significant. NS (Not Significant), the effect is not significant.

Table 9. Regression Weights of the 5 Generated Models

Model	Exogenous Variables to Endogenous Variable		
	Learning Experiences	Used of Social Media	Academic Writing Strategies
1	.227***	.008NS	.505***
2	.274***	-.131*	.598***
3	.266*	-	.361***

*p<0.05, **p<0.01, ***p=0.000

In the model analysis, the first model**Learning Experience (B = .227, *) has a significantly positive effect on the learning experience (p = 0.000). As the learning experience increases, the endogenous variable also increases. The Use of Social Media (B = .008, NS) which has no significant effect of social media use (p > 0.05).**Academic Writing Strategy (B = .505, *) which has a strong and significantly positive effect (p = 0.000). It explains that the first model, the academic writing strategy, has the strongest effect on the endogenous variable, while the use of social media has no significant contribution. In the second model, **Learning Experience (B = .274, *) has a stronger positive effect on learning experience compared to Model 1, which is still significant (p = 0.000). In *Social Media Use (B = -.131,), there is a significant negative effect of social media use (p < 0.05). This indicates that as the use of social media increases, the endogenous variable decreases.**Academic Writing Strategy (B = .598, *) remains the strongest predictor among the writing strategies, with a greater impact compared to Model 1 (p = 0.000). This means that the second model shows that while the academic writing strategy should pay attention to the negative impact of excessive social media use. In the first model, *Learning Experience (B = .266,) with a significant positive effect (p < 0.05), but its weight is lower compared to Model 2, Social Media Use, which was not included in this model, possibly indicating that it is not as important or significant in the overall analysis. **Academic Writing Strategy (B = .361, *) which remained significant in its effect on writing strategy (p = 0.000).

So in the third model, the academic writing strategy remains the primary predictor, while the use of social media was not included, which may indicate its limited contribution. In comparing the models, the academic writing strategy, which in all models is the strongest predictor and has the most positive effect on the endogenous variable, shows its strongest effect in the second model (B = .598). In the learning experience, it is said to have a significant positive effect on all models. The highest effect of this is in the second model (B = .274). In the use of social media, in the first model, there is no significant effect, in the first model, there is no significant effect.

While in the second model there is a negative effect, indicating that it may hinder the endogenous variable. Not included in Model 3, which may indicate its limited influence. In general, based on the results, the academic writing strategy is the primary factor influencing the endogenous variable in all models, with the strongest effect in the second model. The learning experience is also important but not as strong as the writing strategy.

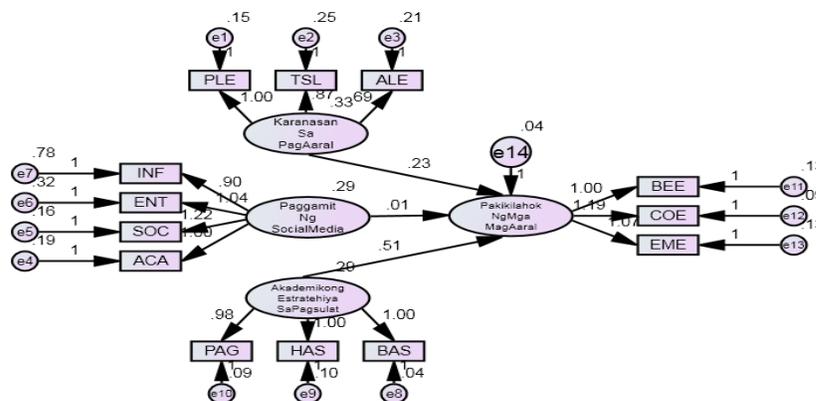


Diagram 1 : Model 1

In the analysis of each model, P-value = .000: Not a good fit (did not reach >0.05) CMIN/DF = 13.202 which is very high (not in the 0–2 range) GFI = .767, CFI = .772, NFI = .759, TLI = .713: All are below 0.95, indicating poor fit. RMSEA = .175: Very high (not <0.05), indicating a significant error in the model. At P-close = .000 which does not pass the goodness-of-fit measure (>0.05). which means that model 1 does not fit the data well. It was found that in the relationship of the variables, the direct correlation has a weight of .23, which means a positive but not very strong relationship. In the use of social media and student participation, the direct effect is small (.01), meaning the impact of social media use on student participation in academic writing strategies is limited, and student participation has a significant effect (.51), which shows that the implementation of effective writing strategies is crucial for student participation. In the overall interpretation, the study results show that academic writing strategies are the greatest predictor of student participation, while the learning experience has a positive effect but is less significant compared to writing strategies. the use of social

media has a minimal direct effect on student participation.

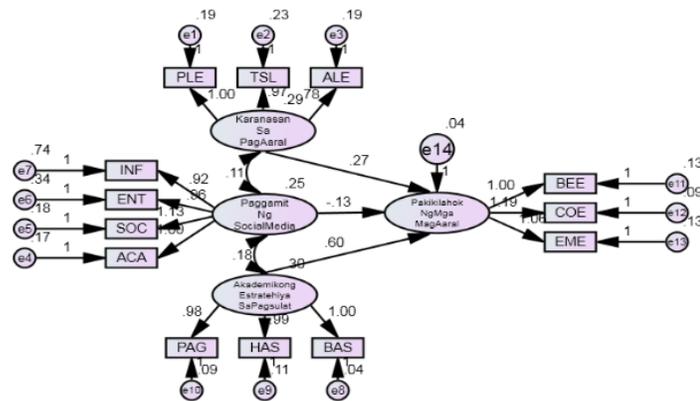


Diagram 2: Model 2

In the analysis of the second model, the P-value = .000: Not a good fit either. CMIN/DF = 8.555: Lower than Model 1, but still not within the ideal 0–2 range. GFI = .852, CFI = .863, NFI = .849, TLI = .822: Closer to the threshold (0.95) but still not optimal. RMSEA = .138: Lower than Model 1, but still not passing (<0.05). P-close = .000: It also does not pass (>0.05). Therefore, Model 2 fits better than Model 1, but it still cannot be considered a good model. In the overall interpretation, the academic writing strategy is the most important predictor of student participation, with a strong positive effect. The learning experience also has a positive effect, but not as strong as the academic strategy. The use of social media has a slightly negative effect on student participation, which may be caused by distractions or overuse.

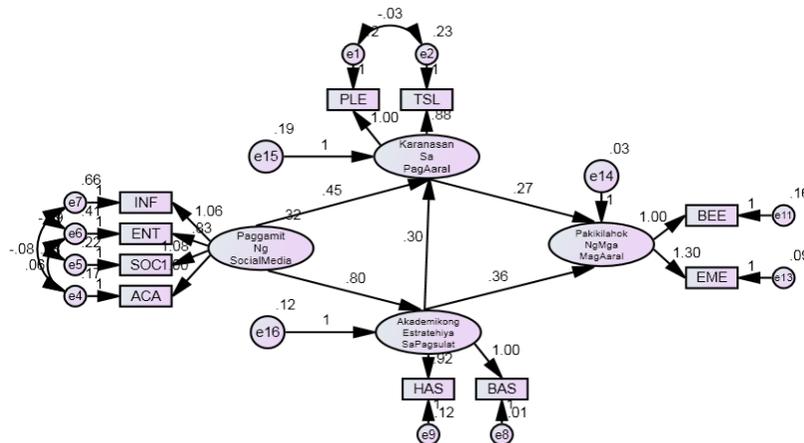


Diagram 3: Model 3

Meanwhile, in the third model, the P-value = .108: passed (reached >0.05), indicating a good fit. CMIN/DF = 1.424: Within the ideal range (0–2). GFI = .988, CFI = .996, NFI = .988, TLI = .991: All measures exceed 0.95, indicating an excellent fit. RMSEA = .033: Within the ideal <0.05, which means very little error. P-close = .840: Exceeds the threshold (>0.05), indicating a good fit. The result is that the third model is a good model that fits the data. Thus, among the three models, the third model (model 3) is the best model, as it passed all the Goodness of Fit criteria. This means that the academic writing strategy is the biggest predictor of study participation, with a direct effect. Meanwhile, the use of social media also plays an important role in enhancing student participation and learning experience. Likewise, the learning experience has a positive effect but a smaller contribution compared to writing strategies and social media. Thus, the most important aspect of participation is Emotional Engagement, which has a high factor loading. Overall, model 1 and model 2 did not pass most of the criteria, although model 2 was closer to being accurate than the first model.

Conclusions

The study showed that academic writing strategies, learning experiences, and student participation have a high descriptive level, indicating that they are often observed in students. Specifically, the academic writing strategy—from planning, actual writing, to revising—has a strong correlation with the behavioral, cognitive, and emotional engagement of students. Meanwhile, the use of social media is not very significant in participation, showing its limited contribution. Based on the regression analysis, the academic writing strategy has the strongest effect on participation by learning experience. The use of social media, on the other hand, showed a negative effect in the second model, indicating that it may hinder participation. The overall model explains the variance in participation,

highlighting the importance of academic strategy and learning experience. Moreover, the third model fits the data best based on the Goodness of Fit Measures, passing all metrics.

The results of the study support Albert Bandura's Social Learning Theory (SLT), which suggests that effective teacher methods and strategies encourage students to enhance their learning experience and participation. The academic writing strategy, as a primary factor, shows a strong impact on participation, demonstrating the importance of these strategies in teaching. However, the limited impact of social media use suggests that it should be carefully considered to avoid hindering learning. Overall, the study provides valuable information for improving the curriculum and teaching to enhance student participation. As a recommendation, based on the researcher's findings, experience in studying, use of social media, academic writing strategies in student participation, the researcher recommends the following:

To improve teaching, teachers will be encouraged to use various teaching methods that emphasize the active participation of students. They will also use theories such as the Social Learning Theory (SLT) to demonstrate positive learning models in the classroom, especially in activities focused on increasing student engagement. The use of academic writing strategies can also be expanded by providing training for teachers on the use of effective academic writing strategies such as planning, actual writing, and revising to increase student participation. The integration of academic strategies into the curriculum to enhance the behavioral, cognitive, and emotional engagement of students towards strong connections.

To focus on student participation, encourage students to actively engage in classes and activities, using academic strategies to develop their writing skills. They will be given opportunities to work on projects or activities that demonstrate the importance of teamwork and idea exchange, and to teach the proper use of social media as an educational tool, especially in finding information and enhancing social skills. In the overall recommendation, it is necessary to strengthen the positive learning experience through meaningful and engaging activities. Focus on teacher support, as it has a direct impact on the emotional connection of the student. Encourage active learning to enhance both cognitive and behavioral engagement.

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