

Students' Level Of Engagement In Learning Technology And Livelihood Education In The New Normal

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Abstract: *This descriptive-correlational study was conducted to explore the synergy between the two psychological constructs - student engagement and academic achievement. A teacher-made questionnaire was used to gather relevant data among the 64 randomly selected Grades 7 and 8 students of Palawan State University-Laboratory High School. To answer the queries raised in the study, both descriptive and inferential measures were utilized. The findings of this investigation revealed that high school students were highly engaged in the three psychological constructs of behavioral, cognitive, and emotional engagement. Inferential analysis also stresses that student engagement and academic accomplishment in learning TLE have a strong positive relationship. This justifies the needs for the teachers to provide learning experiences that will maximize the engagement of the students amidst learning in this new normal.*

Keywords— new normal, student engagement; academic achievement; psychological constructs

1. INTRODUCTION

One of the psychological constructs used to recognize students' behavior toward the teaching-learning process is student engagement. Due to the fact of its fullness, student engagement has grown to be one of the research variables studied by many educators with the anticipation of recognizing how these multitudes of psychological constructs experienced by the students that have an influence on their achievement. This was validated by Pekrun (2006) which asserted that students face varied academic emotions and these emotions play a vital role in their academic engagement and achievement.

Student engagement is defined in the context of education as the level of attention, curiosity, optimism, and enthusiasm displayed by students throughout the teaching-learning process. Generally, student engagement is grounded on the assumption that learning becomes meaningful when students are motivated or inspired but learning becomes agonizing when students are bored or disengaged. Student involvement may be broken down into three dimensions: behavioral, cognitive, and emotional. According to Fredericks et al., (2004), behavioral engagement refers to students' participation in academic and non-academic tasks and activities. Auxiliary to this, students' emotional engagement denotes their positive and negative reactions towards their teachers, peers, and school. Cognitive engagement, on the other hand, is concerned with a student's willingness to acquire and master challenging abilities.

In the past decade, the educational system's emphasis has been placed on students' engagement in school since findings have established that school engagement is significant to promote students' learning achievement (Chen, 2008; Benz &

Bowman, 2011). Emotional experiences and school engagement can have both constructive and destructive controls on student's functioning. Literature suggests that learners engaged in learning were found to be more successful academically and intrinsically motivated to invest in learning. Otherwise, students will lose interest in learning if they do not feel engaged (Niemi, 2007). Thinking along with these arguments, student engagement can be a major factor that directly influences students' learning achievement in the classroom context. In order to assist students to be academically effective, it is imperative to understand and recognize the level of their in class. Diner (2015) backed this up, stating that students with a high degree of involvement are more likely to be successful and skilled in their academic endeavors. Meanwhile, Stiles (2008) revealed that learners with negative emotions and disengaged in their classes be apt to exclude themselves from accomplishments and realizations of academic tasks assigned to them.

However, the world is shaken by the outbreak of the Coronavirus (COVID-19). The outbreak of this pandemic across the world has overwhelmingly transformed almost all features of life, including education, and the Philippines has not been excluded to these changes. The difficulty of handling the outbreak from spreading more widely has made world leaders develop stringent rules so that the chain of the spread of COVID-19 can be broken. With this, the implementation of lockdown and social distancing has been enforced as one preventive measure to spread the coronavirus infection, resulting in the complete paralysis of global activities. Since the advent of the COVID-19 virus, educational institutions throughout the world have shifted away from conventional learning techniques and toward delivering education through online means. As a result, the conventional lecture-discussion format has been replaced with flexible learning as a result of

this pandemic (Kumar, 2020). In this new normal, the focus of education has shifted to digitalization, in which teachers and students are digitally connected via the use of technology. It was believed that the level of engagement and academic accomplishment of students would be impaired as a result of the abrupt changes they experienced from traditional face-to-face learning to alternative delivery modes.

The republic act 10533, also known as K to 12 act, supports the inclusion of vocational subjects in the curriculum since vocational subjects allow high school graduates to have middle-level skills to enable them to better opportunities and be productively employed or become entrepreneurs right after high school. In the Philippines, Technology and Livelihood Education (TLE) is one of the subject areas in secondary school. As a subject in high school, it essentially teaches the basic principle of technicalities found in people's everyday lives. TLE is recognized to be a highly skill-based subject where teachers must expose their students in a pragmatic, first-hand, and authentic teaching-learning experiences. Therefore, students learn best when they take an active part and have hands-on experiences in TLE class. Additionally, TLE is a subject in which students learn best by doing. It also provides activities that help students acquire the skills and values they need to be productive and meet the expectations of the labor market.

In line with teaching students in the time of pandemic, the researchers have witnessed that students have diverse psychological constructs and it is the researchers' belief that these constructs might knowingly influence their engagement and academic achievement. Furthermore, it was also hypothesized that learning in the "New Normal" among high school students impacts their psychological and cognitive constructs. Following this line of thought, the researchers argue that investigating the link concerning student engagement and academic accomplishment in TLE is advantageous. As a result, the researchers' concerns regarding the role of engagement in academic accomplishment in this new normal serve as the catalyst for this research.

2. METHODOLOGY

The descriptive-correlational approach was utilized in this study to examine the synergy between student involvement and academic accomplishment. Descriptive-correlational studies, according to Mendez (2007), characterize the variables and the natural relationships that exist between and among them. The major goal of this study is to identify the psychological notions that students in TLE classrooms encounter. In addition, the study wanted to see if these psychological dimensions (behavioral, cognitive, and emotional engagements) might predict students' success at Technology and Livelihood Education, especially in this time of pandemic.

This research considered the Grade 7 and 8 Junior High School students of a selected educational institution in the Philippines. The respondents that will be a part of this study

were chosen via cluster sampling. In accordance with the descriptive-correlational technique utilized in this study, the researcher prepared a written questionnaire that was divided into two parts. The first part included the respondents' demographic profile, while the second part used a 5-point Likert scale to determine students' engagement in their TLE class.

To answer the queries raised in this study, both descriptive and inferential measures were utilized. Descriptive statistics such as frequency, mean, standard deviation, and percentages were used in the study to describe the distribution of student's demographic profiles and academic achievement as described by their quarterly grades and determine their behavioral, cognitive, and emotional engagements in TLE class. In addition, Pearson Product Moment Correlation (Pearson r) was employed to examine the link between student involvement and academic accomplishment in TLE. All statistical hypotheses were tested at a 0.05 level of significance using the Statistical Package for Social Sciences (SPSS) Version 23.

Informed consent was granted to the students participated in the study for ethical reasons. They were made fully aware of the study's goal and promised that their participation would be entirely voluntary and would have no impact on their grades.

3. RESULTS AND DISCUSSION

This section deals with the presentation, interpretation, and discussion of the data collected to answer the problems raised in the study. The findings of the statistical tests of hypotheses were likewise incorporated. To better understand the flow of the data presentation and discussion, the discussion is arranged according to the logical sequence of the problem posed in this study.

3.1 RESPONDENT'S DEMOGRAPHIC PROFILE

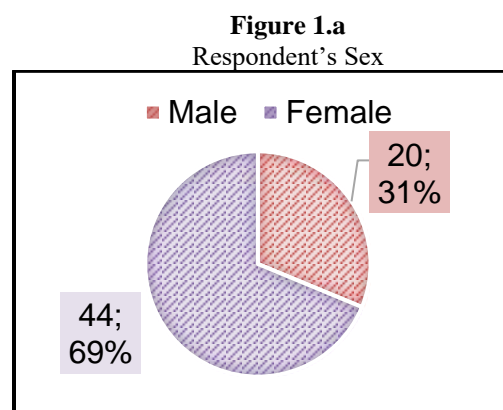
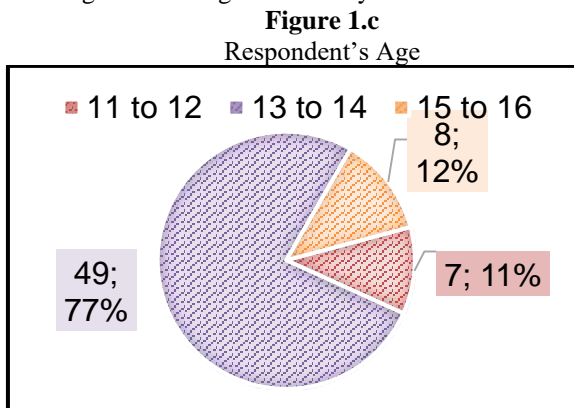


Figure 1.a on the previous page depicts the distribution of the respondents in terms of sex. Based on the analysis, it can be gleaned that out of 64 respondents who formed part in this study, 44 or 69% are female, while the remaining 20 or 31% are males. Considering the sex of the respondents, this implies that female respondents outnumbered the males in this study.

Moreover, in terms of age distribution, Figure 1.b reveals that the majority (49) or 77 percent of the respondents who answered the online questionnaire were between the ages of 13 and 14. Auxiliary to this, this data was followed by 8 or 12% of the respondents whose ages are 15 to 16 years old and the remaining 7 or 11% aged 11 to 12 years old.



3.2 RESPONDENT'S ACADEMIC ACHIEVEMENT

The academic accomplishment of the respondents in the Technology and Livelihood Education (TLE) is shown in the tables below, as measured by their quarterly grades. The collected statistical data was presented using a frequency distribution.

Table 1.a
Respondents' Academic Achievement in TLE (1st Quarter)

Grades	Qualitative Description	Frequency (f)	Percentage (%)
		1 st Quarter (Q I)	
95 – 100	Outstanding	8	13%
90 – 94	Very Satisfactory	38	59%
85 – 89	Satisfactory	15	23%
80 – 84	Fairly Satisfactory	2	3%
79 and Below	Poor	1	2%
TOTAL		64	100%

The distribution of respondents' grades in TLE throughout their first quarter is shown in Table 1.a. According to the findings, the bulk of the respondents (38% or 59%) received grades ranging from 90 to 94 with a qualitative descriptor of very satisfactory. This data was followed by 15 or 23% whose grades fall from 85 to 89 with a qualitative descriptor of satisfactory performance. It's worth mentioning that, based on their TLE ratings during the first quarter, eight or thirteen percent of the respondents had an exceptional performance. It's also worth noting that two students (3%) did well, whereas only one (2%) did poorly.

Table 1.b
Respondents' Academic Achievement in TLE (2nd Quarter)

Grades	Qualitative Description	Frequency (f)	Percentage (%)
		2 nd Quarter (Q II)	
95 – 100	Outstanding	31	48%
90 – 94	Very Satisfactory	23	36%
85 – 89	Satisfactory	10	16%
80 – 84	Fairly Satisfactory	0	0%
79 and Below	Poor	0	0%
TOTAL		64	100%

As depicted by Table 1.b, the analysis indicates that the majority (31) or 48% of the respondents have an outstanding performance in TLE during the second quarter, as indicated by their grades that range from 95 to 100. Moreover, there are 23 or 36% whose grades fall within 90 to 94 with a qualitative descriptor of very satisfactory. Additionally, 10 or 16% of them have satisfactory performance, and it is also good to note that no student has a grade below 85.

3.3 RESPONDENT'S ENGAGEMENT DURING ONLINE CLASSES

The following tables depict the respondents' degree of involvement in their Technology and Livelihood Education (TLE) class. It may be recalled that student engagement in this study was divided into three dimensions, namely: (a) behavioral engagement; (b) cognitive engagement; and (c) emotional engagement. Descriptive analysis was used to present and analyze the statistical data gathered.

Table 2.a
Respondent's Level of Behavioral Engagement

STATEMENTS	MEAN RATING	QUALITATIVE DESCRIPTION
1. <i>I am trying my best to learn TLE despite the pandemic situation.</i>	4.53	Very High
2. <i>I get involved in our tasks and learning activities in TLE</i>	4.34	Very High
3. <i>I find ways to attend our online class in TLE on time</i>	4.28	Very High
4. <i>I am paying attention in our online class in TLE</i>	4.13	High

5. <i>I am contributing to our online class discussions in TLE</i>	4.03	High	<i>understand a lesson or task in TLE</i>		
6. <i>I ask questions when I don't understand a particular topic/lesson in TLE.</i>	3.48	High	6. <i>I plan how to finish my written tests and performance tasks in TLE on time</i>	4.30	Very High
OVERALL MEAN RATING	4.13	High Behavioral Engagement	7. <i>I studied my lessons in TLE regularly to get high scores in all my written tests.</i>	3.84	High
Legend: 1.0 – 1.79 – Very Low Engagement; 1.80 – 2.59 – Low Engagement; 2.60 – 3.39 – Neutral; 3.40 – 4.19 – High Engagement; 4.20 – 5.0 – Very High Engagement			8. <i>I take down some important concepts and lessons in my notes during our online classes in TLE</i>	3.77	High
Table 2.a shows the level of the behavioral engagement of the respondents. Based on the analysis, it can be gleaned that out of the six identified indicators regarding behavioral engagement, three of them were strongly agreed by the respondents, which implies that they have very high behavioral engagements among these statements. The mean rating of 4.53 for the statement "I am trying my best to learn TLE despite the pandemic situation" indicates a very high behavioral engagement. This was validated by the assertion that the majority of the respondents were able to cope with studying TLE in this new normal. Auxiliary to this, the mean ratings of 4.34 and 4.28 for the statements "I get involved in our tasks and learning activities in TLE" and "I find ways to attend our online class in TLE on time", respectively, imply that their behavioral engagement in these statements was very high. It is worth noting that most of the respondents could perform their academic tasks such as written tests and performance tasks. Furthermore, the overall mean rating of 4.13 indicates that the behavioral involvement of Junior High School students in Grades 7 and 8 was high.			9. <i>I prefer to finish my output in TLE on time considering its quality.</i>	3.53	High
			10. <i>When our teacher in TLE ask questions, I volunteer myself to answer or share my thoughts and insights about the question</i>	3.27	Neutral
			OVERALL MEAN RATING	4.08	High Cognitive Engagement

Legend:
1.0 – 1.79 – Very Low Engagement; 1.80 – 2.59 – Low Engagement; 2.60 – 3.39 – Neutral; 3.40 – 4.19 – High Engagement; 4.20 – 5.0 – Very High Engagement

As shown in Table 2.b, the overall mean rating of 4.08 suggests that the Grades 7 and 8 students exhibited a high level of cognitive engagement. Moreover, among the 11 identified statements, six of them were strongly agreed by the respondents. The statement "when our tasks in TLE are difficult, I still exert effort to do them" got the highest mean rating of 4.53, which is an indicator of a very high cognitive engagement. This was followed by the statement, "despite facing some challenges, I keep trying or working hard to finish my requirements in TLE" with a mean rating of 4.41. Additionally, the analysis indicates that they have high cognitive engagements along the following statements "I make sure that my outputs in our activities and performance tasks in TLE are done well" (4.40), "I put effort into doing my performance tasks and other activities in TLE" (4.39), "I am not giving up right away even I do not understand a lesson or task in TLE" (4.35) and "I plan how to finish my written tests and performance tasks in TLE on time" (4.30).

Table 2.b
Respondent's Level of Cognitive Engagement

STATEMENTS	MEAN RATING	QUALITATIVE DESCRIPTION
1. <i>When our tasks in TLE are difficult, I still exert effort to do them.</i>	4.53	Very High
2. <i>Despite facing some challenges, I keep trying or working hard to finish my requirements in TLE</i>	4.41	Very High
3. <i>I make sure that my outputs in our activities and performance tasks in TLE are done well.</i>	4.40	Very High
4. <i>I put effort into doing my performance tasks and other activities in TLE</i>	4.39	Very High
5. <i>I am not giving up right away even I do not</i>	4.35	Very High

Table 2.c
Respondent's Level of Emotional Engagement

STATEMENTS	MEAN RATING	QUALITATIVE DESCRIPTION
1. <i>I am interested in what I am learning in our TLE class</i>	4.25	Very High
2. <i>I am happy during our online classes in TLE</i>	4.23	Very High

3. <i>The learning material (modules and PowerPoint presentations) we deal in TLE is so exciting that I really enjoy my TLE class.</i>	4.06	High
4. <i>When doing my written task and performance task in TLE, I am in a good mood.</i>	4.05	High
5. <i>I feel like I belong in my TLE class</i>	3.88	High
6. <i>I am confident about my performance in our TLE subject</i>	3.77	High
7. <i>I enjoy spending time with my classmates</i>	3.73	High
8. <i>I help my fellow students in understanding our lessons</i>	3.69	High
9. <i>I enjoy working with my classmates during our group activity in TLE</i>	3.64	High
10. <i>I prefer to work with my classmates on projects and activities in TLE</i>	3.34	Neutral
11. <i>I am feeling overwhelmed by our requirements in TLE</i>	3.07	Neutral
OVERALL MEAN RATING	3.79	High Emotional Engagement

Legend:

1.0 – 1.79 – Very Low Engagement; 1.80 – 2.59 – Low Engagement; 2.60 – 3.39 – Neutral; 3.40 – 4.19 – High Engagement; 4.20 – 5.0 – Very High Engagement

Table 2.c reveals that high school students were emotionally engaged in studying TLE in this new normal, as evidenced by the overall mean rating of 3.79. Among its indicators, the statement "I am interested in what I am learning in our TLE class" has the highest mean rating of 4.25. It was followed by the statement "I am happy during our online classes in TLE" with a mean rating of 4.23. Additionally, the mean ratings of 4.06 and 4.05 direct that the students have high emotional engagement to the following statements, "the learning material (modules and PowerPoint presentations) we deal in TLE is so exciting that I really enjoy my TLE class" and "when doing my written task and performance task in TLE, I am in a good mood".

Table 2.d
Respondent's Level of Engagement

Dimensions	MEAN RATING	QUALITATIVE DESCRIPTION
1. Behavioral Engagement	4.13	High
2. Cognitive Engagement	4.08	High

3. Emotional Engagement	3.79	High
OVERALL MEAN RATING	4.0	High Engagement

Legend:

1.0 – 1.79 – Very Low Engagement; 1.80 – 2.59 – Low Engagement; 2.60 – 3.39 – Neutral; 3.40 – 4.19 – High Engagement; 4.20 – 5.0 – Very High Engagement

Table 2.d demonstrates that students in Grades 7 and 8 Junior High School were very enthusiastic about learning the Technology and Livelihood Education (TLE) topic, with an overall mean rating of 4.0. Furthermore, of the three characteristics of student involvement, behavioral engagement has the highest mean rating of 4.13, while emotional engagement has the lowest mean rating of 3.79. These results are consistent with Delfino's (2019) research, which found that behavioral involvement obtained the highest mean rating among students at Partido State University, followed by cognitive engagement and emotional involvement.

3.4 CORRELATION BETWEEN STUDENTS' ENGAGEMENT AND ACHIEVEMENT

The following table shows the relationship between the respondents' level of engagement in learning Technology and Livelihood Education in this new normal and their academic achievement in this subject based on their quarterly grades. To determine the synergy between these two variables (engagement and achievement), the Pearson Product Moment Correlation Coefficient was used tested at a 0.05 level of significance.

Table 3
Relationship between Students' Engagement and Achievement in TLE

Dimensions	r	Interpretation	p-value	Interpretation
Behavioral Engagement	0.63	Strong Correlation	0.0002*	Significant
Cognitive Engagement	0.67	Strong Correlation	0.0025*	Significant
Emotional Engagement	0.74	Strong Correlation	0.0017*	Significant

Legend: * Significant at 0.05 level of Significance

0.0 – 0.19 – Very Weak Correlation; 0.20 – 0.39 – Weak Correlation; 0.40 – 0.59 – Moderate Correlation; 0.60 – 0.79 – Strong Correlation; 0.80 – 1.0 – Very Strong Correlation

The association between respondents' degree of participation and their academic accomplishment in TLE is seen in Table 3. The correlation coefficients of 0.63, 0.67, and 0.74 obtained using Pearson Product Moment Correlation

demonstrate a substantial relationship between the three elements of involvement (behavioral, cognitive, and emotional) and their academic progress as measured by their quarterly grades in TLE subject. This implies that as the level of engagement of the students towards learning TLE increases, their academic achievement will also improve. Further examination indicates that, because the p-values are smaller than the specified level of significance, the association between student involvement and academic success in TLE is statistically significant. Hence, students who are highly engaged in TLE class are academically successful. This finding supports with the study conducted by Delfino (2019) which revealed that student engagement was positively correlated with student academic performance. Therefore, teachers are highly encouraged to find an avenue that will help to maximize student engagement which will result to meaningful teaching-learning experiences among the students.

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