Students' Engagement and Study Habits in the Online Distance Learning Environment

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Abstract— Online Distance Learning has been the new trend in the education system worldwide since the COVID-19 spread started on 2020. The guidelines include a modified form of online learning aimed at facilitating student learning activities. This paper aims to measure the correlation between the students' engagement and study habits in an online distance learning environment. The study facilitated the Input, Process, and Output paradigm. The aim is to answer the following questions, (1) what is the students' engagement in Online Distance Learning Environment? (2) what are the Students' study habits in Online Distance Learning Environment? and (3) What is the Correlation between Students' Engagement and Study Habits in Online Distance Learning Environment? This study covers the undergraduate students from Diliman College as the primary respondents of the study. It is focused on assessing the respondents' engagements and study habits in an online distance learning environment. It also tackled how their profile can affect their study habits. This study used a quantitative design and facilitated correlational descriptive survey research methods. It uses surveys to gather data on the two variables. These data aim to know the correlation between students' engagement and study habits in an online distance learning environment. It involves 51 undergraduate students from different academic programs. Pearson-r value is 0.65, indicating a Moderate Uphill (positive) Correlation between students' engagement and students study habits. Moderate Uphill (positive) Correlation means a high correlation between the two variables. This only means that the respondents are incorporating their engagement in their study habits even if the mode of modality is online.

Keywords— Online Distance Learning, CHED Philippines, Synchronous Class, Students' Engagement, Study Habits

I. INTRODUCTION

The year 2020 was a crucial year in all sectors of the community. Almost 36 million people have been infected and more than 1 million have died of COVID-19 pandemic. In the Philippines, there were about 325,000 people were infected and 6,000 died. To curb the spread of COVID-19, most governments used quarantine protocols and chose to temporarily shut down educational institutions [1]. As a result, more than 1 billion learners are affected worldwide. Among them are over 28 million Filipino learners at all academic levels who need to stay home and comply with the Philippine government's quarantine measures [2]. To meet the needs of learners, especially 3.5 million higher education institutions enrolled in about 2,400 higher education institutions, certain national higher education institutions have adopted an aggressive continuation strategy despite the closure. These guidelines include a modified form of online learning aimed at facilitating student learning activities. Online learning can be done in terms of real-time synchronous lectures and time-based result assessments, or asynchronous time-delayed activities such as pre-recorded video lectures and time-independent assessments [3].

In the event of a quarantine or virus outbreak, online learning seems to be the only viable way to continue learning remotely. But this seems to be based on the wrong assumption. It should be emphasized that online learning is just one form of distance learning. Distance learning is commonly referred to as any form of learning experience in which the learner and the instructor are physically (not only spatially but temporally) separated. Such turmoil is undoubtedly a perfect context for free-flowing thinking, allowing us to move beyond the narrow limits of the social order around us [4]. In addition, this type of education is a way to provide learning opportunities for all learners, regardless of circumstances. This means that distance learning can increase access to education through distribution and economies of scale. It can be argued that the mainstream of distance learning is to bring education to those who are unattainable, underfunded, less privileged, and inaccessible [5].

Therefore, distance learning reaches a place where students choose to live or study. This kind of flexibility gives students more freedom to actively participate in learning. Students learn even when they are physically and/or temporally separated from the teacher. In the age of

COVID-19, distance learning is needed for learners and educators around the world. However, such forms of education do not have to be limited to online learning [6]. Some suggest using mobile phones and SMS technology to facilitate learning. Others are encouraging the use of television programming, radio broadcasts, and other non-Internet media. Perhaps some teachers can go back to basics and distribute annotated physical textbooks to students by courier. The education sector is active, teachers and students are well supported, and curriculum and learning modules are well defined, personalized, technically restricted, user-friendly, and entertaining [7]. If you continue, education will continue one way. another. Such assistance requires cooperation between teachers and policymakers and authorities to develop relevant reference programs. Despite the various burdens it brings, the outbreak of COVID-19 has forced us not only to rethink the techniques for providing education but also to rethink the essence of education itself. Governments need to develop and implement concrete policies to support a new generation of distance teachers. Second, educators need to innovate to keep education inclusive and accessible and to ensure that distance learning is not limited to online-only learning [8].

II. RELATED WORK

In the event of a virus, online distance learning seems to be the only viable option to continue remote learning. Nevertheless, it seems to be based on the wrong assumption. It should be emphasized that online learning is just one form of distance learning. Distance learning is commonly referred to as any form of learning experience in which the learner and the instructor are separated physically (not only geographically but temporally). Such turmoil is arguably the perfect context for free-flowing thinking, allowing us to move beyond the narrow limits of the social order around us. In addition, this type of education provides learning opportunities for all learners, regardless of circumstances. Distance learning can improve access to education through pervasive economies of scale. It can be argued that the mainstream of distance learning is to bring education to those who are unattainable, underfunded, less privileged, and inaccessible.

Students are more likely to engage in education if they are well motivated in their course, engage or invest in the desire to learn, and spare the effort expected of the teacher. Course Engagement goes beyond traditional methods of measuring teaching effectiveness to include learning students for course learning, maintaining, and recognizing student satisfaction [10]. By measuring student involvement, educators can adjust their teaching practices to changes in student motivation, involvement, and attitudes towards courses and educational activities. In an online learning environment, teachers have many free tools to collect informal data about student participation in the system. Study habits are another variable related to distance learner performance. Study habits reflect the student's normal learning behavior and help inspire and

guide the learner's cognitive process during learning [9]. Learning habits include time management, setting the right goals, choosing the right learning environment, using the right note-taking strategies, choosing key ideas, organizing, and much more.
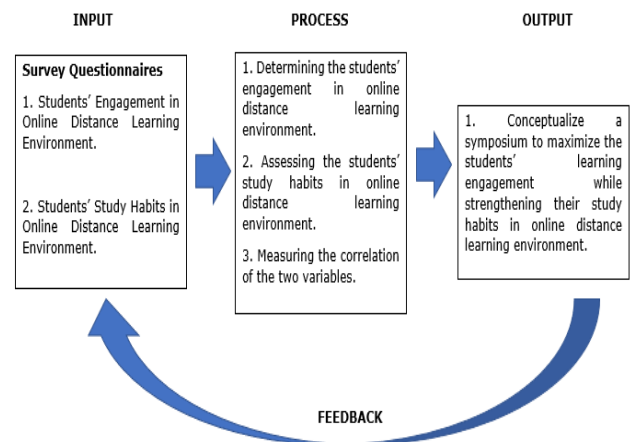

Figure 1. Paradigm of the Study

The figure shows the paradigm of the study and shows the Input, Process, and Output of the study.

The Input includes survey questionnaires to determine the students' engagement and study habits in online distance learning environment. Each variable contains 20 questions each. The survey that will be facilitated by the researcher was from the study of Alvarez & Montes (2021), while the survey used to assess the students' study habits was from Sakirudeen & Sanni (2017). Both surveys that were used are standardized tests and are available for public use. The process in this study is to examine the correlation between students' engagement and study habits in an online distance learning environment. Likert scales were used to determine the scores of the two variables. While the Pearson-r correlation coefficient was used to determine the correlation between the two variables. The researcher will also conceptualize a program that can possibly bridge the gap of the two variables as part of the output.

Online Distance Learning Environment. The study aims to verify the following questions that the researcher has in mind:
1. What is the students' engagement in Online Distance Learning Environment?
2. What is the students' study habits in Online Distance Learning Environment?
3. What is the Correlation between Students' Engagement and Study Habits in Online Distance Learning Environment?

This study covers the undergraduate students from Diliman College as the main respondents of the study. It is focused on the assessment of the respondents' engagements and study habits in an online distance learning environment. It also tackled how their profile can affect their study habits. Since there is an emerging problem with the students' engagements in online classes, the researcher also provides

recommendations that can possibly bridge the gap of students' engagement and study habits.

Significance of the Study
The results of this study have essential benefits to the following important groups of individuals:

Teachers. It is beneficial to the teachers in terms of how students utilize their study habits in relation to their learning engagement. Also, this study will be beneficial to teachers by conducting a faculty development program that can enhance the teachers teaching engagements.

Students. It will address the difficulties in learning engagements of the students by assessing it using a standardized test. Also, this will be beneficial to the students by conducting a symposium that can boost their online learning engagement and maximizing the use of their study habits.

Instructional System Designer. It may be beneficial to instructional designers to have an idea or basis on how to make the instructional materials more efficient and cater to different types of learners. They may include audiobooks, especially in science, to cater to students who are auditory learners.

School Administration. It will help them to identify students who need to undergo remedial class and be subjected to have the module that can further enhance their learning engagements.

Future Researchers. Since this research provided statistical tools, instruments, and primary data, this research may provide adequate basis or reference for further research in connection to students' engagements and study habits.

III. METHODOLOGY

This study used a quantitative design, it facilitated correlational descriptive survey methods of research. It uses surveys to gather data on the two variables. These data aim to know the correlation between students' engagement and study habits in an online distance learning environment.

It involves 51 undergraduate students from different academic programs in Diliman College. The researcher used a total enumeration sampling technique. This sampling technique aims to study the whole population to make sure that each respondent is well represented.

Survey questionnaires to determine the students' engagement and study habits in an online distance learning environment. Each variable contains 20 questions each. The survey that will be facilitated by the researcher was from the study of Alvarez & Montes (2021), while the survey used to assess the students' study habits was from Sakirudeen & Sanni (2017). Both surveys that were used

are standardized tests and are available for public use. The process in this study is to examine the correlation between students' engagement and study habits in an online distance learning environment. Likert scales were used to determine the scores of the two variables.

The study initially involved seeking permission from the Vice President and Asst. Vice President of Diliman College. Tests were the main instruments for the data gathering and were given via online platforms. The respondents accessed the test using Google Form. The data collection is planned to be completed in the span of 2 weeks since all the respondents have enough gadgets that they also use for their online synchronous classes.

The first part of the instrument includes questions to know the demographic profiles of the respondents and well as their reading habits. The instruments are also used to assess the students' engagement and study habits in an online distance learning environment.

The scores will also be measured using the Likert scale interval and interpreted verbally using the table below.

Table 1. Likert scale interval with verbal description/interpretation

Likert Scale Description	Likert Scale	Likert Scale Interval
Strongly Disagree	1	1.00-1.80
Disagree	2	1.81-2.60
Neutral	3	2.61-3.40
Agree	4	3.41-4.20
Strongly Agree	5	4.21-5.00

After the collection of questionnaires, the researcher will record and compute the data of the respondents' engagement and study habits in an online distance learning environment. After the collection of questionnaires, the researcher will record and compute the data of the respondents' engagement and study habits in an online distance learning environment. To determine the significant relationship, Pearson-r will be used.

$$ r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[\, n\Sigma x^2 - (\Sigma x)^2 \,][\, n\Sigma y^2 - (\Sigma y)^2 \,]}} $$

Where:
r= Correlation between X and Y
ΣX= Sum of test X
ΣY= Sum of test Y
ΣXY= Sum of the product of test X
n= Number of classes
Σx^2= Sum of squared X scores
Σy^2= Sum of squared Y scores

The classification for the interpretation of correlation value are as follows:

Table 2. Classification for the interpretation of Correlation Value (Ratner, 2013)

Results from Pearson-r	Equivalent Correlation
Exactly -1	A Perfect downhill (negative) linear relationship
-0.70	A Strong downhill (negative) linear relationship
-0.50	A Moderate downhill (negative) linear relationship
-0.30	A Weak downhill (negative) linear relationship
0	No Linear Relationship
+0.30	A Weak uphill (positive) linear relationship
+0.50	A Moderate uphill (positive) linear relationship
+0.70	A Strong uphill (positive) linear relationship
Exactly +1	A Perfect uphill (positive) linear relationship

IV. RESULTS AND DISCUSSION

I. Demographic Profile of the Respondents

Table 3. Distribution of Respondents by Sex

Male	Female	Total
59%	41%	100

Table 3 above shows the distribution of respondents by sex. The results show that 59% of the respondents are male while 41% of the respondents are female

Table 4. Distribution of Respondents by Age

Age	Percentage	Total
19-23 years old	74%	
24-26 years old	6%	
27-30 years old	10%	100%
31 years old and above	10%	

It also shows that most of the respondents are under the age range of 19-23 years old with a whopping 74%, while the age range of 24-26 years old got 6%. Respondents under the age range of 27-30 years old and 30 years old and above both got 10%.

Table 5. Distribution of Respondents by Academic Level

Year level	Percentage	Total
1st Year College	31%	
2nd Year College	8%	
3rd Year College	41%	100%
4th Year College	20%	

Table 5 above shows the distribution of respondents by year level. The figure above shows that most of the respondents are 3rd year students with 41% percent, while the lowest year level out of 51 respondents are 2nd year students with 8%. Freshmen are 31% of the population while 4th year students are 20% of the respondents.

II. Engagement and Study Habits of the Respondents

Table 6. Distribution of Respondents by their perceived engagement

Responds	Percentage
Strongly Agree	45%
Agree	45%
Neutral	10%
Disagree	0%
Strongly Disagree	0%

Table 6 above shows that most of the respondents perceived that they have engagement in an online synchronous class. Respondents who agreed and strongly agreed got a whopping 45% each, while a very minimal number of respondents said that they are having trouble engaging in an online class.

According to Mandernatch (2011), student involvement is "students' motivation, need, desire, and coercion to participate in and succeed in the learning process." Offering courses in online classes requires an educational strategy that creates as many learning and engagement opportunities as possible. Beyond learning or acquired cognitive skills, engagement focuses on individual preferences and attitudes towards classroom experience and lifelong learning. Student engagement was also described as a level of interest that students show in how they interact with others in the course. Also, what motivates them to be involved in the topic.

Several emotional factors are associated with student involvement, such as attitude, personality, motivation, effort, and self-confidence. Jaggars and Xu (2016) found that the quality of interactions within course parameters positively correlated with student performance in online courses. By assessing student involvement and considering these emotional aspects, teachers can more effectively plan lessons and activities that encourage students to be more actively involved in learning and homework.

Students are more likely to engage in education if they are well motivated in their course, engage or invest in the desire to learn, and spare the effort expected of the teacher. Course Engagement goes beyond traditional methods of measuring teaching effectiveness to include learning students for course learning, maintaining and recognizing student satisfaction [11]. By measuring student

involvement, educators can adjust their teaching practices to changes in student motivation, involvement, and attitudes towards courses and educational activities. In an online learning environment, teachers have many free tools to collect informal data about student participation in the system.

Teachers can see student login credentials, online fractions, learning modules or course content, and self-reported information using voting, reflections, discussions, and other shaping tools. Assess the level of academic assignments in each course based on the effort spent, the time spent, the opportunity to interact with faculty and other students, active and collaborative learning, and the enrichment of the student's teaching experience [12]. This can be achieved by investigating students informally or officially and analyzing the results to improve the educational practices of future students. Handelsman (2005) has developed a student engagement assessment that examines four types of engagement (ability, emotion, participation/interaction, and achievement).

Aside from the students' engagement, one of the variables of the study is the study habits of the respondents.

Table 7. Distribution of Respondents by their study habits

Responds	Percentage
Strongly Agree	10%
Agree	61%
Neutral	23%
Disagree	6%
Strongly Disagree	0%

Table 7 above shows that most of the respondents said that they are still practicing having a good study habit even in online classes set up with a whopping 61% of the total respondents. While 23% of the respondents are neutral or not sure if they are still practicing their study habits in an online class. Moreover, respondents who answered that they strongly agree and disagree got 10% and 6% respectively.

Study habits are another variable related to distance learner performance. Study habits reflect the student's normal learning behavior and help inspire and guide the learner's cognitive process during learning [9]. Learning habits include time management, setting the right goals, choosing the right learning environment, using the right note-taking strategies, choosing key ideas, organizing, and much more. More and more college courses are offered online, especially synchronization technology, providing educators with the opportunity to find the learning environment that best suits their learning habits. Online settings can meet the learner's needs depending on the technology used. To create virtual presentation media, teachers can share

videos, images, animations, texts, audio, and more. In this sense, Sharpe and Benfield (2005) reviewed e-learning experiences and learning habits in higher education and identified areas that deserve future research. They found links between habits and performance and suggested a closer look at compelling e-learner experiences, habits, and strategies. Therefore, recent developments in DL technology have attracted the attention of researchers on how pedagogical approaches need to work within this framework [13].

III. Correlation Between Students' Engagement and Study Habits

Table 8. Correlation Analysis of Students' Engagement and Study Habits

VARIABLES	PEARSON-R VALUE	CORRELATION LEVEL	REMARKS
• Students Engagement • Students' Study Habits	0.65	Moderate uphill (positive) Correlation	Significant

As shown in table 8, the Pearson-r value is 0.65 indicating that there is a Moderate Uphill (positive) Correlation between students' engagement and students' study habits.

Moderate Uphill (positive) Correlation means that there is a high correlation between the two variables. This only means that the respondents are incorporating their engagement in their study habit even if the mode of modality is online. It also rejected the researchers' hypothesis that there is no significant relationship between the two variables and accepted the result of the study.

V. CONCLUSION AND FUTURE SCOPE

Summary and Findings
The overriding purpose of this study is to measure of the correlation of students' engagement and their study habits. It also aims to propose a program that can help bridge the gap between engagement and study habits.

1. What is the students' engagement in Online Distance Learning Environment?
The study shows that most of the respondents perceived that they have engagement in an online synchronous class. Respondents who agreed and strongly agreed got a whopping 45% each, while a very minimal number of respondents said that they are having trouble engaging in an online class

2. What is the students' study habits in Online Distance Learning Environment?
It also shows that most of the respondents said that they are still practicing having a good study habit even in online classes set up with a whopping 61% of the total respondents. While 23% of the respondents are neutral or not sure if they are still practicing their study habits in an online class. Moreover, respondents who answered that they strongly agree and disagree got 10% and 6% respectively.

3. What is the Correlation between Students' Engagement and Study Habits in Online Distance Learning Environment?

The correlation value is a Moderate Uphill (positive) Correlation means that there is a high correlation between the two variables. This only means that the respondents are incorporating their engagement in their study habit even if the mode of modality is online. It also rejected the researchers' hypothesis that there is no significant relationship between the two variables and accepted the result of the study.

Based on the indicated findings, the following conclusions were drawn:

1. Majority of the respondents are under the age range of 19-23 years old with a whopping 74%, while the age range of 24-26 years old got 6%. Respondents under the age range of 27-30 years old and 30 years old and above both got 10%.

2. There is a high correlation between the two variables. This only means that the respondents are incorporating their engagement in their study habit even if the mode of modality is online.

3. Students are more likely to engage in education if they are well motivated in their course, engage or invest in the desire to learn, and spare the effort expected of the teacher.

4. Online settings can meet the learner's needs depending on the technology used. To create virtual presentation media, teachers can share videos, images, animations, texts, audio, and more.

5. Respondents said that they are still practicing having a good study habit even in online classes set up with a whopping 61% of the total respondents. While 23% of the respondents are neutral or not sure if they are still practicing their study habits in an online class. Moreover, respondents who answered that they strongly agree and disagree got 10% and 6% respectively.

Recommendations

Based on the results and conclusions of the study, the following recommendations are drawn:

1. Schools and School Administrators might want to conduct a general student assessment that is focused on students' engagement and attention span. These are variables that vary from student to student and not all students have the same way of coping up. This assessment will help to determine the students who should undergo remedial or additional attention.

2. Students should make sure that their engagement needs to equate in a proficient study habit and make sure that even in an online class, they can still produce quality output and materials.

3. Future researchers might want to conduct a study about students' study habits in relation to their sleeping pattern. Sleeping patterns can be a good determination of students' study habits.

4. Instructional designers need to make sure that learning materials should cater to all types of learners.

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