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Effectiveness of Flexible Learning on the Academic Performance of Students

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Abstract:- The study was undertaken to assess the effectiveness of flexible learning on the academic performance of the students in aviation electronics technology in Philippine State College of Aeronautics. The goal was to determine the significant difference on the academic performance of the students between the traditional and flexible learning and to determine if there is a significant difference on the characteristics of the learning tool they used. The findings of the study showed that there is a significant difference on the academic performance of the students during flexible learning. Their GWA increased as opposed to traditional learning. However, there is no significant difference when it comes to the characteristic of the learning tool in thoughtful practice. The students may have out form their GWA, but the internal learning was not there.

Keywords:- *Flexible Learning, Traditional Learning, Synchronous, Asynchronous*

I. INTRODUCTION

The traditional learning is the accustomed method of learning and a well- established modality that has been refine over the years in the Philippines. It is a learning method where there is a face-to-face interaction of the learning process between the students and teacher that takes place physically in a classroom setting. The flexible learning is a form of distance learning method being offered as the current modality due to pandemic restrictions, whereas there are no physical face-to-face interactions between the students and teacher. The learning process of the student in flexible learning takes place in two methods: synchronous and asynchronous. The sudden transition to the new learning set up from being accustomed to the traditional set up brought a challenge to the pedagogy of learning of the students to their academic performance. The objective of the study is to identify the effectiveness of the flexible learning on the academic performance of the students with opposed to the traditional learning; as stated in the instructional design theory, one method may work best in one situation while another may work best in a different situation.

Schools all over the globe have been closed due to the outbreak of COVID-19. 1.3 billion students around the world have been affected by the rapid change of the learning set up, wherein the students were left with no choice but to adopt the new learning set up which is the online learning(UNESCO, 2020). The unplanned transition to online learning along with the internet connection issues, no proper preparation and the lack of equipment needed would lead to poor effectiveness that may hinder the development of the students' academic performance. Whereas the other starts to believe that modern level of education will arise soon because of its benefits.

➢ *Purpose*

The study is primarily focused on the effectiveness of flexible learning on the academic performance of the students in Aviation Electronics Technology Batch 2020-2021 in Philippine State College of Aeronautics in 2nd Year and 3rd Year. The study aims to determine the effectiveness of flexible learning by analyzing their academic performance during the traditional learning vs. flexible learning and their evaluation on the characteristics of the learning tool used in the traditional and flexible.

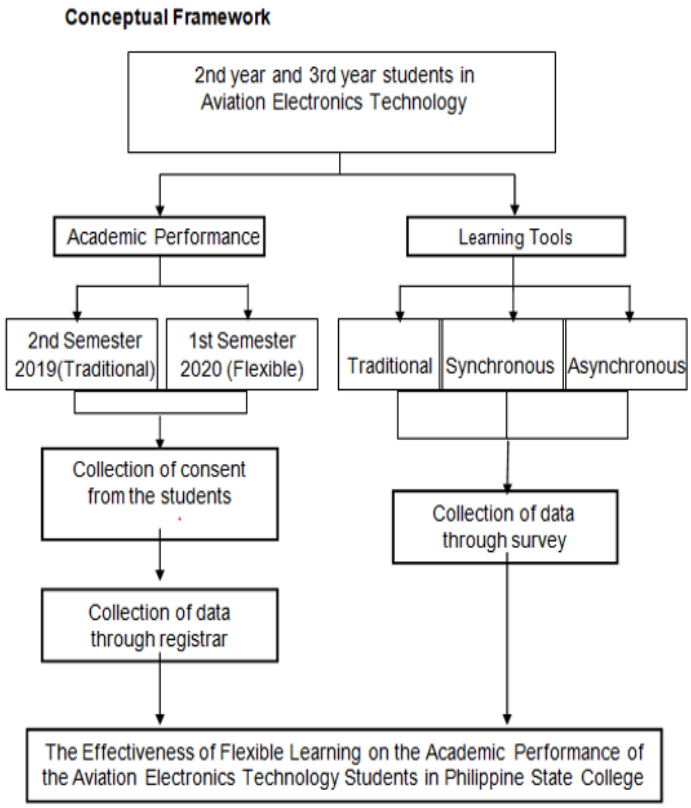

Figure 1. The Conceptual Framework of the Effectiveness of Flexible Learning on the Academic Performance of Aviation Electronics Technology Students

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The system approach used is the Flow Chart System in describing the conceptual framework of the study. As shown in Figure 1, the participants of the study are studied according to their academic performance in the 2nd semester 2019 (Traditional) and 1st semester 2020 (Flexible) and their evaluation on the characteristics of the learning tool used in the traditional learning and flexible learning to know on what part does the learning tools lacking on a specific area. Signed consent letters permitting the researchers to collect their data through registrar are collected from the participants. After collecting the consent letters, the letter of request is sent to the school registrar to collect the data. The academic performance of the participants in 2nd semester 2019 and 1st semester in 2020 is then collected from the school registrar. The evaluation of the participants on the characteristics of the learning tool used on the clear information, thoughtful practice, informative feedback, strong intrinsic, and extrinsic motivation during their traditional and flexible learning (synchronous and asynchronous) is considered to find on where the learning tool lack on the effectiveness of the learning process of the participants does the process of collecting the data on this is through survey questionnaire.

➢ *Research Questions*

[1]. What is the demographic profile of the students in Aviation Electronics Technology in terms of: Year Level; Gender; Age; Residence Location; Socioeconomic Status?
[2]. What is the academic performance of the students on 2nd semester 2019 and 1st semester 2020 in terms of: 2.1 GWA?
[3]. Is there a significant difference on the academic performance of the students between 2nd semester 2019 (Traditional) and 1st semester 2020 (Flexible) in terms of: GWA?
[4]. What is the characteristics of the learning tool used of the students in terms of:
[5]. Traditional; Synchronous; Asynchronous?
[6]. Is there a significant difference between the characteristics of the learning tool used on academic performance of the students in terms of: Traditional vs Synchronous;
[7]. What implications may be drawn from the result of the study on the effectiveness of Flexible learning on the academic performance of the students in terms of: Instructional Tools;
Instructional Outcomes?

II. METHODOLOGY

The method of collecting the primary data is on two parts. First, the letter of consent was collected from the participants and second, the list of GWA was collected from the school registrar. The researchers collected the signed letter of consent from the participants, compiled in it a tabulated form together with their student ID in a PDF form and a letter of request to collect the data (GWA) of the participants together with the signed letter of consent in a PDF form was sent to the school registrar by the researchers. The researchers received the list of GWA sent by the school registrar in an Excel Form. The secondary data, demographic profile of the participants and their evaluation on the characteristics of the learning tool used in Traditional and Flexible learning was collected through survey questionnaire via Google forms. The collected data was treated with utmost privacy and was used with the solely purpose of the research.

III. RESULTS

A. The demographic profile of the participants were taken according to:

➢ *Year Level*

Finding shows that there are 50 students (50%) from the 2nd year level and 50 students (50%) from the 3rd year level. The total participant of the study is 100 with a percentage of 100%.All acquired participants was surveyed and their GWA was collected.

➢ *Gender*

Finding shows that from the total number of 100 participants, there are 57 male students with(57%) and 43 female students with (43%). Majority of the participants are dominated by male and least dominated by female.

➢ *Age*

Finding shows that from the total number of the participants of 100, there are 58 students belongs to the age bracket of 21 to 23 (58%); 41 students belong to the age bracket of 18 to 20 (41%) and 1 student belongs to the age bracket of 24 to 26 (1%). Majority age bracket of the participants is 21 to 23 and least on 24 to 26.

➢ *Residence Location*

Finding shows that from the total number of the participants of 100, there are 53 students that lives in the Rural (53%); 30 students that live in the Urban (30%) and 17 students that live in suburban (17%). Majority of the participants lives in the Rural and least on Suburban.

➢ *Socioeconomic Status*

Finding shows that in terms of socioeconomic status there are 28 students with 10,000 to 20,000 monthly (28%) followed by 26 students with 20,000 to 40,000 monthly (26%) and least 4 students with 70,000 to 100,000 (4%). Majority of the participants belongs to the bracket of 10,000 to 20,000 or low-income class and least on 70,000 to 100,000 or upper middle class.

B. The academic performance of the students on 2nd semester 2019 and 1st semester 2020 was taken according to:

➢ *GWA*

Finding shows that the academic performance of the 2nd year students in terms of GWA on 2nd semester 2019 or on the traditional learning was 2.14 and on 1st semester 2020 or on the flexible learning was 1.47; 3rd year students in terms of GWA on 2nd semester 2019 or on the traditional learning was 1.47 and on 1st semester 2020 or on the flexible learning was 1.37.

C. The significant difference on the academic performance of the students on 2nd semester 2019 and 1st semester 2020 was taken according to:

➢ *GWA*

Finding shows that there is a significant difference on the academic performance of the students for both year levels in the flexible learning with mean of 0.67 and 0.10. The learning outcome of the participants or the GWA in the flexible learning has found an increase as opposed to the traditional learning outcome.

D. The characteristics of the learning tool used of the students were taken according to:

➢ *Traditional*

Finding shows that the characteristics of the learning tool used in the traditional was attained in terms of clear information with mean of 3.31; thoughtful practice with mean of 3.36; informative feedback with mean of 3.20; intrinsic motivation with mean of 3.75; extrinsic motivation with mean of 3.71.The traditional has attained the characteristics of an effective learning tool as it was the accustomed and well-shaped learning modality.

➢ *Synchronous*

Finding shows that the characteristics of the learning tool used in the synchronous was attained in terms of clear information with mean of 2.78; thoughtful practice with mean of 3.03; informative feedback with mean of 2.78; intrinsic motivation with mean of 2.97; extrinsic motivation with mean of 3.27. The synchronous has attained the characteristics of an effective learning tool as it has real time interaction the student, like traditional by virtually.

➢ *Asynchronous*

Finding shows that the characteristics of the learning tool used in the traditional was attained in terms of clear information with mean of 2.74; thoughtful practice with mean of 3.38; intrinsic motivation with mean of 2.96; extrinsic motivation with mean of 3.34. The informative feedback was not attained with mean of 2.41. The asynchronous has not attained the informative feedback on the characteristics of an effective learning tool as the instructors might be late in releasing the grades of the students or the students might be late in passing their requirements. There might be a lack of instructors which results to work overload for them to handle.

E. The significant relationship between the characteristics of the learning tool used on the academic performance of the students were taken according to:

➢ *Traditional vs. Synchronous*

There was a significant difference on their mean for the given categories in the learning such as the clear information, thoughtful practice, information feedback, intrinsic and extrinsic motivation with a mean difference of .533, .327, .420, .780 and .435 respectively. It also shows that the mean of the traditional learning has a greater mean against the synchronous learning. Both traditional and synchronous has a visual and real time interaction that helps the student on their learning process. The differences are on the part of physical interaction and online interaction between the students and the instructors.

➢ *Traditional vs. Asynchronous*

There was a significant difference on their mean for the given categories in the learning such as the clear information, informative feedback, intrinsic and extrinsic motivation with a mean difference of .573, .790, .790, and .365 respectively. It also shows that the mean of the traditional learning has a greater mean against the asynchronous learning. While in terms of the thoughtful practice, there was no significant difference on the mean for the traditional and asynchronous learning. The thoughtful practice was found no significant difference as the modules contains activities on the last part of the lesson.

F. The implications drawn from the result of the study on the effectiveness of Flexible learning on the academic performance of the students in terms of:

- *Instructional Tools*

Flexible learning can be prolonged due to the intermittent condition or situation of the Philippines, school/instructors should maintain the current quality and only improve the virtual laboratory activities for the learning process of the students.

- *Instructional Outcomes*

Since, the effectiveness of flexible learning has been proved; school/instructors should look upon further on finding if the students really understand well the lesson such as improving of the students especially on laboratory activities that can be found as the main lacking needs of the students due to the pandemic limitations.

IV. CONCLUSION

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

- The flexible learning has a significant difference on the academic performance of the 2nd year and 3rd year students in Aviation Electronics Technology in Philippine State College of Aeronautics. The GWA of the students during the flexible learning was higher as opposed to traditional learning.

- The learning tools characteristics in terms of clear information, thoughtful practice informative feedback, intrinsic and extrinsic motivation has a significant difference on the academic performance in traditional and synchronous of the students. However, in terms of the thoughtful practice on asynchronous, there was no significant difference on the mean for the traditional and asynchronous learning. The students might have higher GWA on the flexible learning but do not really understand/learn well as opposed to traditional learning that they might have lower GWA, but they do really understand/learn the lesson.

RECOMMENDATION

The effectiveness of flexible learning on the academic performance of the students was revealed. Thus, the following recommendations are hereby presented:

- In terms of not attaining the informative feedback in the asynchronous, the researchers recommend the future researcher interested to conduct a study on where the discrepancy exists between the students and the instructors. The informative feedback may not be attained due to the late releasing of grades by the instructors but also it may not be attained due to the late submissions of the requirements by the students. There might be also a shortage in instructors to handle the class efficiently as there might be a work overload to the instructors.

- The basis of this study was based on the GWA of the students by general. The researchers recommend to the future researchers interested in continuing this study to modify further the learning outcome of the students by their academic performance in terms of examination, quizzes, activities etc. as the discrepancy can also be seen in these parts to further modify the effectiveness.

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