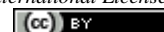


# Assessing the Academic Performances in Online and Modular Learning among the Junior High School STE Students of Tanauan City Integrated High School

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## ABSTRACT

Education is the foundation of society, like technology, which drives globalization and industrialization. Computers are replacing books in education. One click can Google anything. These changes are relevant to COVID 19, the current global situation. Amid the pandemic, government agencies propose online learning for 2020-2021. This study assessed high school students' online and modular learning performance at Tanauan City Integrated High School. The researcher used descriptive quantitative method to determine the online and modular student performance. Pearson r was used to determine the relationship between respondent demographics and student performance. The results show that students' online and modular learning performances vary based on their personal benefits, such as being satisfied with their work and motivated to pass. Online learning received a higher positive (excellent) response for academic performance, class standing, and attendance than modular learning.

## ABSTRAK

Pendidikan adalah fondasi masyarakat, seperti halnya teknologi, yang mendorong globalisasi dan industrialisasi. Komputer menggantikan buku dalam pendidikan. Satu klik dapat melakukan apa pun di Google. Perubahan-perubahan ini relevan dengan COVID-19, situasi global saat ini. Di tengah pandemi, instansi pemerintah mengusulkan pembelajaran online untuk tahun 2020-2021. Penelitian ini menilai kinerja pembelajaran online dan modular siswa SMA di SMA Terpadu Kota Tanauan. Peneliti menggunakan metode deskriptif kuantitatif untuk mengetahui kinerja siswa secara online dan modular. Pearson r digunakan untuk mengetahui hubungan antara demografi responden dan kinerja siswa. Hasilnya menunjukkan bahwa kinerja pembelajaran online dan modular siswa bervariasi berdasarkan manfaat pribadi mereka, seperti kepuasan terhadap pekerjaan mereka dan termotivasi untuk lulus. Pembelajaran online mendapat respons positif (sangat baik) yang lebih tinggi terhadap kinerja akademik, kedudukan kelas, dan kehadiran dibandingkan pembelajaran modular.

## 1. Introduction

### a. Research Background

In the past fifteen years, virtual education has grown rapidly. K - 12 students enrolled in approximately 317,000 virtual courses nationwide in 2002–2003, compared to approximately 1.8 million enrollments in 2009–2010. (National Center for Education Statistics, 2012). In 2014–2015, an estimated 4.5 million students enrolled in K-12 online courses through providers in 2014–2015, according to recent estimates [1]. Several states, including Florida, have mandated or are considering mandating that students complete at least one online learning experience prior to graduation, paving the way for further growth of virtual course taking in the coming years [1].

Online learning will be advantageous for students in an economy that values digital competence, according to proponents of online education [2]. In addition, taking

courses online can reduce disparities in teaching quality between schools because teachers are not tied to particular institutions and can implement pedagogical innovations. Despite the increasing popularity of virtual K-12 courses, little is known about how they affect student achievement [3]. On the one hand, proponents of virtual education argue that, compared to traditional classroom settings, virtual education could provide students with a higher quality education. For instance, students can work at a more individualized pace in virtual classes. This individualized pacing can benefit slower learners by allowing them to repeat confusing material until they have mastered it, and it can benefit faster learners by allowing them to move on when they have mastered the material without having to sit and listen to repetitive explanations [4].

Through intelligent tutoring systems, virtual courses can also be used to provide immediate feedback on student performance to both students and teachers, and they can

provide a unique interactive experience between students and the texts they access [3]. For instance, if students are able to click on links within lessons that provide additional information on a topic of interest, they will be able to explore their interests in an interactive manner. In addition, online courses provide students with access to course materials and potentially superior instruction that their local school may lack.

Skeptics, on the other hand, fear that online learning is more difficult than face-to-face learning. Students who are prone to procrastination or who struggle with self-directed learning, for instance, may experience performance declines in the absence of a physically present teacher to direct their attention to the subject [5]. Other students may be motivated, but lack the broadband or other technological resources necessary for the smooth delivery of virtual courses.

Even among students for whom technology resources are not an issue, some may encounter difficulties in virtual courses if they lack the technological proficiency to fully utilize course materials [4]. Consequently, the present study will evaluate the performance of students in online and modular learning. The areas of investigation include the academic performance, class standing, and class attendance of students enrolled in modular and online learning modes. The study will also determine whether there is a significant difference between online learning and modular learning in terms of student performance.

#### **b. Literature Review**

Researchers conducted an investigation that they titled "Online Charter School Study," in which they compared students who were enrolled in virtual charter schools to students who had "virtual control records" [6]. The term "visually comparable student records" refers to student files that appear to be the same as those used by students attending virtual charter schools. According to the findings of the center's research, students who went to traditional, in-person schools rather than online charter schools saw significantly larger gains in their math and reading test scores over the course of a single school year compared to their counterparts who participated in online education. The authors of a study explained that quasi-experimental methods were used to investigate the effects of taking virtual courses, with the majority of the participants coming from broad access institutions such as community colleges or for-profit institutions [7].

It was explained in a study that free online learning opens up new possibilities for both students and teachers [8]. On the other hand, the percentage of students who successfully complete open online courses is typically quite low. When it comes to online education, accessibility is said to be the most important factor to take into consideration. This is due to the fact that the cost of the internet, a lack of access, and technical

problems are all substantial barriers to open online learning.

#### **c. Research Objective**

- 1) What is the status of student's performance in science using online learning in terms of academic performance, class standing and attendance,
- 2) What is the status of student's performance in science using modular learning in terms academic performance, class standing and attendance,
- 3) Is there significant difference between the students' performances through the use of online learning modality and the students' performances through the use of modular learning modality in terms of academic performance, class standing and attendance,
- 4) Is there significant relationship between the respondents' demographic profile and level of students' performances through online and modular modality?

### **2. Research Method**

#### **a. Research Design**

In understanding the study, the researcher made use of the descriptive quantitative method which will be deemed most appropriate considering the nature of the study. The descriptive research method collects data in order to answer questions about the current status of the subjects or topic of study [9]. It uses formal instruments to study preferences, attitudes, practices, concerns, or interests of a sample. Descriptive study determines and report the way things are [10]. Using this method, researcher can do substantial examination relative to the study, thus the result can be a basis of sound judgment. The descriptive research method was used in this present study to gather the essential data of the students' academic performance in online and modular learning.

#### **b. Setting and Participants**

The study will involve a total of fifty (50) Grade 9 students in Tanauan Integrated High School which will be chosen using simple random sampling. Simple random sampling is a sort of probability sampling in which a researcher picks a subset of a population at random. Each person in the population has the same probability of getting chosen. The data is then collected from as big a percentage of this random selection as feasible.

#### **c. Instrumentation**

To gather the pertinent data and reliable information, the researcher will utilize a modified-adopted survey questionnaire which will serve as the research instrument in the solicitation of the valid and scientific data. Modified-adopted survey-questionnaire will be used which a study [11]. The modified-adopted survey

questionnaire will be submitted to a Cronbach Alpha Item Analysis with a value of  $\leq 0.7$  to ensure that each indicator that was in the survey questionnaire is scientifically reliable and acceptable.

To ensure that the modified adopted survey questionnaire will solicit the reliable and valid data, it will be submitted to a series of validation process. Foremost, the researcher will seek the expertise of person in authority in the field of Research. The constructive comments and suggestions of these personalities will be incorporated in the final revision of the survey questionnaire. Finally, the survey questionnaire is to be submitted to a Cronbach Alpha Item Analysis with a significance value of  $\leq 0.07$  to ensure that each indicator in the survey questionnaire is scientifically reliable and acceptable.

In order to prevent abusing respondents' rights and unduly exposing their vulnerabilities to their harm during research projects, ethical considerations must be developed. Prior to data collection, the must provide their okay to perform the study, and informed consent will be acquired afterwards. Only consenting volunteers who completed the informed consent form after reading the research information sheet will be permitted to take part in this study. The participants will be informed about the study's nature, aim, advantages, and potential risks connected with their involvement, as well as their rights as responders for this study, which include confidentiality and the ability to decline or withdraw from the study at any time.

#### d. Data Gathering Procedures

The researchers will give away the survey-questionnaires to the respondents of the study via online through the use of Google Forms in which they will be answering it. After giving away the survey-questionnaires, the researchers will retrieve it. Answers being given by the respondents will be treated though the use of descriptive and correlational tools such as frequency counts, weighted mean and percentage. The data collected will be treated confidentially and will be organized, analyzed and interpreted by the researchers in which they will discuss in the results and discussion part of the study.

#### e. Data Analysis Technique

The following tools will be used in treating the data that will be gathered throughout the study:

##### 1) Frequency and Percentage Distribution.

Used to determine the percentage usually for data on profile. The formula used is presented in Equation (1).

$$P = f/n \times 100\% \quad (1)$$

Where P is percentage, f is frequency and n is the total number of participants.

##### 2) Pearson Product – Moment Correlation Coefficient

This tool usage is to find the degree of the association of two sets of variables, X and Y or to test the significant relationship between the two variables. The formula used is presented in Equation (2).

$$n(\sum xy) - (\sum x)(\sum y) \\ [n(\sum x^2) - (\sum x)^2][n(\sum y^2) - (\sum y)^2] \quad (2)$$

Where: x is the observed data for the independent variable, y is the observed data for the dependent variable, n is the sample size and r is the degree of relationship between x and y.

### 3. Result and Discussion

#### a. Students' Performance in Online Learning

Results for students' performance in online learning can be seen on Table 1.

Table 1. Students' performance in online learning

AP, CS, A	WM	VI
Online learning instruction would help me to learn more.	3.53	Excellent
Online learning would help me to understand the lessons clearly.	3.47	Good
Online class is an advantage and easy way for me to take classes.	3.27	Good
My interpersonal skills/self-study have improved by taking this method of learning and the performance task in online learning is way easier than modular tasks.	3.25	Good
Being in a virtual class, it will improve my time and self-management.	3.14	Good
I prefer online class for it consumes my time wisely and I can follow schedule on time.	3.27	Good
I spend more time on my homework than in my other classes	3.33	Good
I feel motivated and satisfied in turning in the school works and performance tasks.	3.55	Excellent
My virtual communication skills have gotten better since the classes held via online.	2.98	Good
I am able to cooperate in prerecorded discussion and video conference.	3.27	Good
Online tests are easy and connected to all the discussed lesson and I can easily answer the given questions.	3.11	Good
I am able to pass all subject requirements on time in online class.	3.76	Excellent
Online class is not expensive and it is a great choice for learning.	2.55	Needs Improvement
I attend my class regularly in online learning.	3.27	Good
I always attend my class on-time via online.	3.33	Good
Composite Mean	3.27	Excellent

Where AP is academic performance, CS is class performance and A is attendance. WM is Weighted mean and VI is verbal interpretation. In terms of academic performance, class standing, and attendance, the figure depicts the evaluation of academic performances in online learning. According to the data, the composite mean of student satisfaction with online learning is 3.27 with a great verbal interpretation.

With a verbal interpretation of good, the top findings imply that their class performance, class standing, and attendance in online learning are able to "help them learn, motivate, and pass all subject requirements." On the one hand, as respondents noted, online learning has to improve in various areas. "Online class is not expensive and it is an excellent alternative for learning." Another advantage of online education is that it allows students to take classes from any place [12]. It also enables schools to reach out to a larger network of pupils rather than being limited by geographical limits. Online lectures can also be recorded, preserved, and shared for later viewing.

This allows students to access the instructional materials whenever it is convenient for them. As a result, online learning provides students with the flexibility of time and location in their education. Another benefit of online learning is the cost savings. When compared to traditional schooling, online education is significantly cheaper. Because online learning reduces the costs of student transportation, lunches, and, most significantly, real estate, this is the case. Furthermore, all course or study materials are available online, resulting in a paperless learning environment that is both more economical and environmentally friendly.

The COVID-19 epidemic has prompted innovative approaches to education. Educational institutions all across the world are turning to online learning platforms to continue the process of educating pupils. The new normal currently is a modified educational model, with online learning at its heart. Students and schools all across the globe now use digital learning as a crucial resource. This is a whole new manner of learning that many educational institutions have had to adapt. Online learning is currently used not just for academic purposes, but also for learning extracurricular activities for students. The demand for online learning has increased dramatically in recent months and will continue to do so in the future.

#### b. Students' Performance in Modular Learning

Results for students' performance in modular learning can be seen on Table 2.

Table 2. Students' performance in modular learning

AP, CS, A	WM	VI
Modular learning instruction would help me to learn more.	2.56	Needs Improvement
Modular learning would help me to understand the lesson clearly.	2.33	Needs Improvement
Modular learning distance/modular class, is an advantage and easy for me to take classes.	2.75	Good
My interpersonal skills/self-study have improved by taking this method of learning.	2.15	Needs Improvement
Being in a learning distance/modular class, will improve my time and self-management.	2.44	Good
I prefer modular class/modular learning for it consumes my time wisely and I can follow the schedule on time.	2.27	Good
I spend more time on my homework than in my other classes.	2.53	Good
I can pass my activities without communication with my classmates and subject teachers.	3.57	Excellent
The provided discussion of the teachers in modular class is easy to access and it gives detailed information	3.28	Excellent
I am able to pass all the subject activities/requirement on time in retrieval of learning kit and the delivery of the new learning kit.	3.05	Excellent
I feel motivated and satisfied in the learning I acquired from the modular class	2.52	Needs Improvement
Performance tasks in modular class/modular learning distance is way easier than online.	2.87	Needs Improvement
Modular learning is not expensive but needs a lot of effort.	3.01	Excellent
I do my modules regularly in modular learning.	2.57	Good
I always finished my modular activities on-time.	2.43	Good
Composite Mean	2.52	Good

Where AP is academic performance, CS is class performance and A is attendance. WM is Weighted mean and VI is verbal interpretation. This evaluation takes into account academic performance, class standing, and attendance. According to the data presented in the Table 2, the overall composite mean of the students' satisfaction with online learning is 2.52, with good being the verbal interpretation of those scores. The highest findings revealed that the academic performance, class standing, and attendance of respondents in modular learning are able to enable them to "pass their activities without communication with my classmates and subject teachers," "The provided discussion of the teachers in modular class is easy to access and it gives detailed information," and "I am able to pass all the subject activities/requirement on time in retrieval of learning kit and the delivery of the new learn" respectively. Modular learning, on the one hand,



involves a lot of areas that need to be improved, such as getting students to feel "motivated, satisfied, and easier."

A major factor in the highly competitive higher education scene is distance education, which is becoming a more popular educational option [13]. Distance learning, once thought of as an experimental alternative to traditional university education, has now expanded and acquired new levels of legitimacy, becoming its own sector of the higher education market. Instead, students can focus on the modules where they were unable to demonstrate their proficiency [14]. A study asserts that the modular approach is especially well suited for short courses and courses that have been created for specific training objectives, such as to provide specific training in skills related to specific sectors or occupations, which are typically driven by local demand [15].

In these situations, the course material is frequently well-defined and used to deliver a particular service rather than as a component of extensive training for all-encompassing professional growth. In other words, it frequently serves to supplement already held knowledge and skills. However, there is a lot of proof that modular courses are currently utilized often to build skill and knowledge bases. Modularization has been employed frequently recently with block-release and distant learning students. This significantly explains why there are areas that is still need to improved.

#### 4. Conclusion

The students' performance in both online and modular learning can vary depending on their personal benefits, such as whether or not they are happy with what they are doing and whether or not they are motivated to succeed in meeting all of their requirements. According to the findings, the academic performance of the respondents in terms of class performance, class standing, and attendance in online learning incurred a higher percentage of positive responses (excellent) than modular learning did. On the other hand, according to the respondents, online learning gave them the ability to successfully complete all of their subject requirements while maintaining a high level of academic satisfaction and motivation. The findings did indicate, however, that the least number of respondents agreed with the statement that "online class is not expensive and it is a great choice for learning." In contrast to traditional forms of education, online learning can be quite expensive. In addition, the evaluation of the students' performance in modular learning in terms of academic performance, class standing, and attendance indicates that modular learning has a lower weighted mean than online learning does. According to the responses, they were able to succeed in their activities using modular learning even though they did not communicate with their classmates or their subject teachers. Modular

learning, on the one hand, results in students who are less motivated, less satisfied, and who report feeling that it is easier.

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