

Students' Preparedness for Online Learning and Its Effectiveness: A Regression Analysis Among Students of a Public University

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Abstract: *The pandemic COVID-19 undeniably caught off guard the education systems and the learners. This situation exposed curriculum differences. In the Philippines, as one of the countries that swiftly took the track of implementing online learning to deliver lessons, used Google Classrooms, WebQuest and other online sites. In this paper, the researcher investigated the preparedness of the students for online learning and its perceived effectiveness. Preparedness was assessed using the following sub variables – access to technology, skills in technology, studying skills, motivation, and time management. Findings revealed that students used smartphones and laptops as their gadgets and have wired connection during online class. Moreover, students are very much prepared in terms of their access and skills to technology and has favorable assessment towards effectiveness of online learning. In addition, preparedness significantly affects effectiveness of online learning. However, among the variables under preparedness, studying skills was found to have the most influence based from correlation and regression values. The findings led the researcher in drafting recommendations addressing effectiveness and preparedness for online learning in case faced with similar situation in the future.*

Keywords: online education, effectiveness of online learning, preparedness for online learning

Introduction

Background of the Study

Different kinds of hands-on activities are being enjoyed by students every time they go to school personally. Various events are being conducted which boosts their extra-curricular skills and abilities. However, most of these events that students enjoy have become risky. The usual face to face classes before is now conducted online. Extra-curricular activities are also being conducted through various online platforms. The main reason for this change, is the existence of the virus called COVID-19.

COVID-19 is a pandemic caused by a novel coronavirus or the SARS-CoV-2 which began in China and infected almost every country in the whole world. The symptoms include cough, fever, and shortness of breath which can be transmitted by coughing, sneezing, respiratory droplets or aerosols by close contact with an infected person (Shereen et al., 2020). According to WHO (2020), teenagers, children, and people who currently have medical conditions are more vulnerable to this disease. Preventing contamination, self-isolation, social distancing, face mask-wearing and enhanced health care services are some precautionary measures given by the World Health Organization. Guo et al., (2020) stated that it has received enormous attention due to the increasing number of infections and uncertain ways on how to eradicate and flatten its curve. As of August 24, 2020, there are 194,252 cases in the Philippines, and they are still growing (DOH, 2020), with more than four million cases worldwide (Worldometer, 2020)

To control the spread of the infection brought by the COVID-19 pandemic, business establishments and educational institutions worldwide temporarily closed (UNESCO, 2020). The result of this is that over 28 million teachers in the Philippines lost their jobs, and 1.2 billion learners worldwide lost the opportunity to learn from school. The government considered responses such as school lockdowns and community quarantine which led to a boom in online learning platforms (Crawford et al., 2020).

However, not all Filipinos agreed to the introduction of online learning. Numerous threats, problems, and challenges for both students and teachers have been found (Bao, 2020). This new normal situation presents a new kind of challenge to a nation's leader in education, customarily called the Secretary of Education for Basic Education and Chairperson of the Commission of Higher Education for Tertiary Education. The Secretary and the Chairperson will need to sustain the delivery of quality education and overcome the problems and trends that might arise in the future due to the pandemic. This will be a great challenge as students generally lack the suitable learning materials and lack self-discipline while at home.

As part of the outlook, as Filipinos, the best thing to secure a better future is education. Such a perspective creates great expectations to deliver an effective education system. As the "new normal" takes place, e-learning is the emerging option to the market for the need for knowledge. Being the propound resolution, home school, and online learning, remains a challenge, especially in remote areas, to obtain technology and the internet connection. Anticipated by bureaucrats, several citizens, especially students, are not yet ready to embrace technological change in education, considering the lack of resources they will need to perform such practice. When combined, education and technology can build dynamic teaching and learning experiences that are tailored to developing and transforming the educators and learners needed to power the digital economy (Garcia, 2017).

Even though some universities offer online courses, the government still needs to adjust until it fully adopts the new-normal. Policies need to be revised and spending in the sector of education can't be prevented. Also, there are some courses such as Accounting, Vocational and Engineering are said to be more effective face to face, to measure the effectiveness among students. On the other hand, students aren't also prepared. Most of them are used to the traditional set-up, which is the face-to-face learning process.

Students learn different practices through the face-to-face set-up. The level of motivation with the face to face interaction than the online learning is different. This study aims to perceive the amount of readiness the students has when it comes to online learning. The physical and mental readiness of the students are looked upon in this research as well as its impact on the effectiveness of online learning itself.

New Normal Education

The pandemic COVID-19 undeniably caught off guard the education systems and the learners. This situation exposed curriculum differences. One move towards addressing this disparity is to establish a collection of preparedness skills that form a curriculum goal (Cahapay, 2020). The pandemic has affected students' lives in a number of ways, depending not just on their level and study course but also on the stage they reached in their programs. Challenges are faced by those who reach the end over one step of their education and move on to another, such as those moving from school to tertiary education or from tertiary education to jobs (Daniel, 2020). Students won't be able to complete their school curriculum and evaluation normally and have been almost immediately ripped from their social community in many situations.

The new normal post-COVID-19 era opens an opportunity for rethinking the goals of education, to make the curriculum relevant, appropriate, and responsive. Ushering educational systems to a new normal period in human history, there are challenges mostly shifting to online modality should be considered in the light of different factors (Cahapay, 2020). From traditional face-to-face teaching, blended and modular learning are now proposed as alternatives. Blended learning refers to a learning environment that incorporates diverse teaching styles, delivery means, media formats, etc. It can also be defined as integrating various learning activities like online and face-to-face learning (Khan, 2012). Modular learning arranges information in a way that intelligently presents points, and it can be individualized according to learners' needs. Modular courses tend to use learning objects that are more closely related to a holistic approach to information, often including a problem-oriented system (Tseng et al., 2008)

Due to COVID-19, the Philippines is one of the countries that swiftly took the track of implementing online learning to deliver lessons. The country's higher educational institutions used Google Classrooms, WebQuest and other online sites. But there were problems as teachers were not prepared for this, even the HEIs. Many teachers and students clamored the Commission on Higher Education for issuing a memorandum for implementing the alternative delivery of classes. Toquero (2020) presented opportunities for higher education so that they could respond to the educational problems that arose. One of which is incorporating an online mental health and medical services. By giving virtual services like mental health teleconferencing and promoting public health measures especially now that schools are becoming active in their social media pages. Second is the promotion of environmental and hygiene policies. When started in school, responsiveness of the society follows. This would help prevent the further transmission of an outbreak and infectious diseases. Third is the integration of environment and health courses in the curriculum. This curriculum is just presently available in science-related majors. But this environmental science education must be given to all. It can produce citizens who can be environmentally literate and one that can exemplify environmental health concerns. Fourth is aligning curriculum competencies and scaling up of the teachers training for online learning instruction. This shift to online learning gave advantages that learners will not need to go to universities to have face to face interaction. Teachers can have innovative tools to promote learning even more. Thus, teachers need to have a ramped-up training to deliver the learning effectively to their students.

Bao (2020) conducted a case study and have concluded five-high impact principles for online education. First is the principle of appropriate relevance, where the difficulty, quantity and the length of teaching must match with

the readiness of the academe and behavior of students online. Second, the principle of effective delivery which stated that teaching speed must be adjusted to ensure the effective delivery of the lesson. Third is the principle of sufficient support where students would need a timely feedback like guidance after class from their teachers or professors. Fourth, the principle of high-quality participation to have an increased participation of students even online. And lastly the principle of planning a contingency plan.

The new normal is new for us. It has made unprecedented impacts in our daily lives. A paper made by (Cahapay 2020) gave insights about the curriculum impacts that this pandemic has made. Online learning is supported by the developed countries as they already have blended learning for a while. But for under developed countries, they must carefully plan online instructions and schools must carefully plan virtual learning solutions. In online class, there are synchronous and asynchronous forms. Synchronous form is where the students and the teacher have a specific time to interact through video applications like zoom. While the asynchronous one need not meet, they will only be given assessment tasks. While in the grading system, scales have been changed from quantitative to qualitative.

In Georgia, the shift to online learning has been the only way for its learners to continue learning. A case study by Basilaia and Kvavadze (2020) was conducted to analyze the capacity of the country and its population to cope up with the change of education process. Nine hundred twenty (920) students from a private school were introduced in 47 virtual classroom and the classroom links were sent through the EduPage system. There were skills that the teachers, students and school administration have acquired in this online learning system which can be used even after the pandemic period. They got a new perception regarding the distance learning and also the lessons were formatted in a new way.

In this paper, the researcher investigated the preparedness of the students to online learning and its perceived effectiveness. Results can be used as basis for the formulation of new regulations and platforms that universities and students can adapt to become more prepared in facing similar scenarios.

Statement of the Problem

This study was guided by the following research questions:

1. How may the profile of the respondents be described in terms of:
 - 1.1. Gadgets used for online learning.
 - 1.2. Connectivity
2. How may the preparedness of the students in terms of the following be assessed:
 - 3.1 Access to Technology
 - 3.2 Skills in Technology
 - 3.3 Studying Skills
 - 3.4 Motivation
 - 3.5 Time Management
3. How may the effectiveness of online learning be assessed?
4. How may the effect of preparedness for online learning on its effectiveness be measured in terms of:
 - 5.1 Access to Technology
 - 5.2 Skills in Technology
 - 5.3 Studying Skills
 - 5.4 Motivation
 - 5.5 Time Management
5. Based from the findings, what recommendations may be proposed?

Hypothesis of the Study

The hypothesis of the study is as follow:

Ha1: Preparedness for online learning (access to technology, skills in technology, studying skills, motivation and time management) significantly affect effectiveness of online learning.

Conceptual Framework

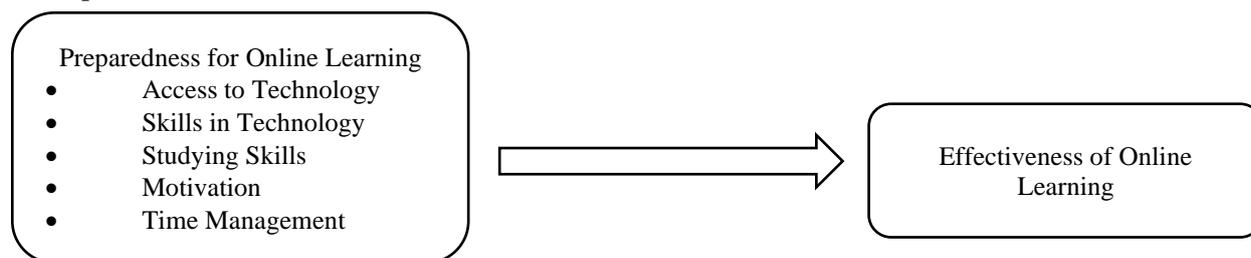


Figure 1: Schematic framework of the study

There are two variables in this study. The first variable is the independent variable, which is the preparedness for online learning composed of five (5) sub variables. The other variable is the dependent one, which is the effectiveness of online learning.

In an online learning environment, technically, the main focus in the preparedness on implementation matter are the learners and instructors. E-learning, often known as online learning is regarded as a web-enabled system which provides learning, as well as teaching contents via web-browser of electronic devices which are internet connected. Such newly implemented systems change how teaching, especially learning is being conducted. By means of preparedness for online learning, number of factors should be taken into consideration. This covers access to technology; possessing certain devices and ingress on specific software's, skills in technology; the prowess to identify problems and mediums to perform tasks, studying; convey thoughts and willingness to exert effort for learning, motivation; relish new system of learning, time management; discipline to perform on schedule, as to effectiveness of online learning.

Highlighting the definition of effectiveness can lead to reflection and inspiration for appropriately utilizing the concept of effectiveness, thus enabling learning professionals to better align their expectations and target their measuring efforts towards what is important. As preparedness for such system undertake, will eventually lead to conclude the effectiveness of online learning. Being able to have great understanding on the preparedness for online learning will allow the researcher in defining, measuring and determining the effectiveness of online learning.

Scope and Delimitation

The general intent of this is to know how ready is the education to adapt the new normal learning. This study mainly identified and assessed the different kinds of factors that affect the students' preparedness and its influence on the effectiveness of online learning.

The scope of this study was limited to the students in all year levels across all business programs of the state universities in Pampanga who experienced online education.

Method

Research Design

The study was quantitative research where effect of independent variable (preparedness to online learning) on the dependent variable (effectiveness of online learning) was assessed. Moreover, descriptive correlational was utilized in this study.

Population of the Study

The study was conducted among business students of a state university located in Pampanga. Enrolled students for the academic year 2020-2021 were included in the study. There were a total of 31,077 students for the second semester of 2021-2022. Of these total number of students, 4498 are under the College of Business.

Sampling

Raosoft sample size calculator was utilized to determine the minimum number of samples. Using 95 % confidence level and 5 % margin of error, 354 respondents was the minimum number. However, for this particular study, a total of 413 responses were retrieved and became part of the study.

Data Gathering Procedure

Required permission from the university was secured prior to the distribution of the survey instrument. The survey instrument was distributed using Google form. All responses were recorded, tabulated and tallied in excel file.

Research Instrument

The researcher adapted the instruments from other research output in assessing the preparedness and effectiveness of online learning, few of which are from the creation of Ullah, et al. (2017) from their study entitled 'Students' attitude towards online learning at tertiary level.' While the majority of the questions were from the study of Tuntirojanawong entitled Students' Readiness for E-learning: A Case Study of Sukhothai Thammathirat Open University, Thailand.

The instrument was composed of four (4) parts. First part was intended for the demographic profile of the students. The second part was for the preparedness of students to online learning which is comprised of 24 items grouped 5 sub variables. The third part was for the effectiveness of online learning and the last part was for the interest to technology and adoption to online learning.

Statistical Treatment

In describing profile of the students, frequency and percentage distribution were used. Mean and standard deviation were utilized in assessing each variable. Moreover, multiple regression was used in assessing the effect of each sub variables of the independent variable on the dependent variable.

Results and Discussion

Profile of students

It can be noted (Table 1) that huge percentage (46.5%) are using laptops and smartphones in their online class. The results also show that most students are reliant to their smartphone. This is because smartphones are generally much cheaper than other technological devices which you can be used for online class. Also, smartphones, nowadays, is already viewed a necessity (Adjei, 2019). Looking closely, almost half of the respondents have the combination of a laptop and a smartphone as compared to smartphone and desktop. This is not surprising as laptops are more useful for students because of its mobility than desktops which are generally for offices and high-intensive usage that most students do not need (Gamage & Perera, 2021).

Table 1. Gadgets used by students

Gadgets	f	Percentage
Smartphone	41	9.9%
Tablet/Ipad	9	2.2%
Laptop	52	12.6%
Desktop	3	0.7%
Smartphone, Tablet/Ipad	8	1.9%
Smartphone, Tablet/Ipad, Laptop	16	3.9%
Smartphone, Tablet/Ipad, Laptop, Desktop	5	1.2%
Smartphone, Tablet/Ipad, Desktop	2	0.5%
Smartphone, Laptop	191	46.2%
Smartphone, Laptop, Desktop	39	9.4%
Smartphone, Desktop	46	11.1%
Smartphone, Others	1	0.2%
Total	413	100%

In terms of internet connection, majority (83%) have wired connection. Data can be found in Table 2. Wired connection includes those digital subscriber line (DSL) and fiber optics. This data is inconsistent with the

Department of Education's survey which states that 5.7 million or 75% of the said surveys' respondents answered that they will use mobile data for their online learning.

Table 2. Internet connection

Internet Connection	f	Percentage
Mobile Data	21	5%
Wired Connection (e.g. DSL, fiber optics)	341	83%
Postpaid wireless connection (e.g. cable, satellite)	14	3%
Prepaid wireless connection (e.g. pocket wifi, prepaid home wifi)	37	9%
Total	413	100%

Assessment of Variables

Preparedness to Online Learning

The students' preparedness to online learning was assessed using technology access, skills in technology, studying skills, motivation, and time management as variables. In terms of technology access, students strongly agreed in all of the items as evidenced by the overall mean of 3.50. This means that most of the students have good access to technology which includes computer and internet connection which are vital in online setting of education. Results are shown in Table 3.

Results found are in harmony with the study of Newman (2008), and Selim Ahmed (2010) stating that having a computer with access to internet and other necessary equipment is necessary for online education. Appropriate technology including the correct software needed are required for students enrolled in online education.

Table 3. Technology Access

Indicators		SA	A	D	SD	Mean	Std Dev	Interpretation
I have access to a computer on a daily basis	f	308	60	31	14	3.60	0.77	Strongly Agree
	%	75	14	8	3			
I have access to a computer with an internet connection at home	f	334	38	26	15	3.67	0.75	Strongly Agree
	%	81	9	6	4			
I have virus protection on my computer	f	249	61	65	38	3.26	1.03	Strongly Agree
	%	60	15	16	9			
I have access to a computer with the necessary software install.	f	284	61	51	17	3.48	0.86	Strongly Agree
	%	69	15	12	4			
Overall						3.50	0.85	Strongly Agree

The second variable under preparedness is skills of students in technology and can be found in table 4. This variable includes indicators which assess the student's ability to save, open documenting the hard disks and other sources, navigating webpages, sending and receiving emails, resolving common errors while internet surfing and having advanced internet skills which includes the use of various search engines, downloading files and updating and installing software. In all of the items, the respondents strongly agreed (Mean = 3.68) that they possessed the necessary skills in technology that are deemed essential in online education. The results described the assessed students' confidence when it comes to using computers, working with files, and navigating the internet. Newman (2008) and Selim Ahmed (2010) cited the basic computer skills needed in online learning as having enough level of skills and knowledge on how to use the computer.

Table 4. Skills in Technology

Indicators		SA	A	D	SD	Mean	SD	Interpretation
1. I can save/open documents to/from a hard disk or other removable storage device.	f	341	53	13	6	3.77	0.58	Strongly Agree
	%	83	13	3	3			
2. I can navigate the webpages	f	324	66	18	5	3.72	0.60	Strongly Agree
	%	78	16	4	1			
3. I can send and receive email attachments	f	363	35	7	8	3.82	0.54	Strongly Agree
	%	88	8	2	2			
4. I can resolve common errors while surfing the internet such as page not found or connection time out.	f	269	101	35	8	3.53	0.73	Strongly Agree
	%	65	24	8	2			
5. I can use the advanced internet skills, such as using a search engine, identifying and downloading appropriate files, and installing or updating software	f	297	65	35	16	3.56	0.81	Strongly Agree
	%	72	16	8	4			
Overall						3.68	0.65	Strongly Agree

More so, in terms of studying skills in the online set up of education, most of the responses in the indicators fall under "Agree" category with a mean of 2.44. Results are displayed in Table 5. Although students can follow structured approach in problem solving, can communicate effectively with their classmates, can express their thoughts and ideas well, and can comfortably do class works independently and without regular face-to-face interaction with the instructor, there are still some rooms for improving their capacities. Although, respondents strongly agreed that they are willing to learn new technologies related to education.

Table 5. Studying skills

Indicators		SA	A	D	SD	Mean	SD	Interpretation
1. I can follow a structured approach to find solutions to problems related to learning.	f	92	216	86	19	2.92	0.78	Agree
	%	22	52	21	5			
2. I can communicate effectively with my classmates using online technologies.	f	177	110	92	34	3.04	0.99	Agree
	%	43	27	22	8			
3. I can express my thoughts and ideas well using online technologies.	f	82	130	159	42	2.61	0.92	Agree
	%	20	31	38	10			
4. I am willing to learn new technologies related to education.	f	234	132	35	12	3.42	0.77	Strongly Agree
	%	57	32	8	3			

5. I am comfortable doing class works independently and without regular face-to-face interaction with the instructor.	f	75	165	90	83	2.56	1.01	Agree
	%	18	40	22	20			
Overall						2.44	0.89	Agree

The next variable under preparedness is the motivation of students and data can be found in Table 6. In most of the indicators, the respondents agreed as reflected in the overall mean of 3.04. This indicates that students remain motivated in studying even though instructors are not online at all time, enjoy learning various lessons that is both interesting and challenging, consider flexibility in time as an important motivating factor in pursuing their study through online class and are able to complete their studies even if there are distractions. Moreover, respondents strongly agreed that with the current set up, they can set goals and objectives for learning. Selim Ahmed (2010) described that motivation is a crucial ingredient with online learning. It is vital for students to be highly motivated and have a positive attitude when attending online courses.

Table 6. Motivation

Indicators		SA	A	D	SD	Mean	SD	Interpretation
1. I can remain motivated in studying even though the instructor is not online at all times	f	108	165	85	55	2.79	0.9	Agree
	%	26	40	21	13			
2. I enjoy learning various lessons that is both interesting and challenging	f	145	142	87	39	2.95	0.9	Agree
	%	35	34	21	9			
3. I consider flexibility in time as an important motivating factor in pursuing my study through online class	f	192	130	71	20	3.20	0.89	Agree
	%	46	31	17	5			
4. I can set goals and objectives for learning.	f	191	157	49	16	3.27	0.82	Strongly Agree
	%	46	38	12	4			
5. I would be able to complete my studies even if there are distractions.	f	155	147	70	41	3.01	0.97	Agree
	%	36	36	17	10			
Overall						3.04	0.93	Agree

The last variable under preparedness is time management. Table 7 reflects the finding in this sub variable. It can be noted that with an overall mean of 3.19, respondents agreed that they are able to manage well their time given the current set up of education. Specifically, they agreed that they are able to schedule their time in providing responses with online learning, are able to control their desire in postponing important task, they are able to get their assignments done ahead of time. Noticeably, strong agreement has been recorded over sacrificing their personal time in completing their lessons and having self-discipline in logging in to participate in online class.

Table 7. Time Management

Indicators		SA	A	D	SD	Mean	SD	Interpretation
1. I can schedule my time to provide timely responses with online learning	f	157	199	36	21	3.19	0.80	Agree
	%	38	48	9	5			
2. I can control my desire in postponing important task due to online learning	f	162	166	63	22	3.13	0.86	Agree
	%	39	40	15	5			
3. I can get my assignments done ahead of time	f	142	151	94	26	2.99	0.91	Agree
	%	34	37	23	6			
4. I can sacrifice personal time to complete my lesson	f	219	122	53	19	3.31	0.87	Strongly Agree
	%	53	30	13	5			
5. I have self-discipline to log in and participating in our online course	f	204	155	36	18	3.32	0.81	Strongly Agree
	%	49	38	9	4			
Overall						3.19	0.85	Agree

The dependent variable in this study is the effectiveness of online class as perceived by students and results are in Table 8. An overall mean of 2.87 with a verbal interpretation of “agree” has been figured given the responses. Respondents agreed on the seven (7) out of the eight (8) indicators. These include productivity of students are enhanced through online learning that strengthen educational concepts, missed lectures can be coped up through online learning, maximum engagement is offered, quality of teaching and learning increased through online learning through the integration of various types of media and online learning is viewed more of a solution rather than a problem. However, interaction between students and instructors is found to be weak as respondents strongly agreed on the first indicator. Although students generally agreed on the items, reservations on its effectiveness can still be observed and are considered for improvement.

In the interview made by The Manila Times to the Filipino students last June of 2020, students have differing opinions and views on the implementation of the online learning in the country (Kritz, 2020). According to them, they find online learning effective because they have the liberty to learn on their own because online learning is self-paced. While some see it ineffective because for them it is like “you’re just submitting” school works for compliance purposes. Also, the professors just send the modules and include them in the exam even if they were not discussed (Cua, 2020).

Table 8. Effectiveness of Online Learning

Indicators		SA	A	D	SD	Mean	SD	Interpretation
1. Students and teacher interaction is weak through online learning.	f	188	193	24	8	3.36	0.68	Strongly Agree
	%	46	47	6	2			
2. Productivity of students can be enhanced through online learning to strengthen educational concepts.	f	80	160	144	29	2.70	0.86	Agree
	%	19	39	35	7			
3. Online learning ensures effectiveness in terms of coping up with missed lectures.	f	111	125	153	24	2.78	0.91	Agree
	%	27	30	37	6			

4. Online learning offers maximum engagement of student.	f	68	179	133	33	2.68	0.84	Agree
	%	16	43	32	8			
5. Quality of teaching and learning can be increased through Online learning because it integrates various types of media	f	67	152	158	36	2.61	0.86	Agree
	%	16	37	38	9			
6. Online learning ensures the effectiveness for presenting the work in class.	f	76	157	147	33	2.67	0.87	Agree
	%	18	38	36	8			
7. Online learning is more pf a solution rather than a problem.	f	154	196	60	3	3.21	0.71	Agree
	%	37	47	15	1			
8. Maximum amount of time is consumed while learning through online learning	f	102	213	74	24	2.95	0.81	Agree
	%	25	52	18	6			
Overall						2.87	0.82	Agree

Effect of Preparedness to Effectiveness

The relationship of the independent variables and dependent variables are measured using Pearson correlation analysis. It can be noted that access to technology and effectiveness of online learning has negligible correlation with r value of 0.103* at 0.05 level of significance. The next sub-variable - skills to technology is found to have negligible correlation also with effectiveness of online learning with r value of 0.131** at 0.01 level of significance. Studying skills which is the third sub variable has been found to be moderate positively correlated with effectiveness of online learning with r value of 0.524*** at 0.01 level of significance. Moreover, with r values of 0.460** and 0.430**, motivation and time management are found to have low positive correlation with effectiveness of online learning at 0.01 significant level.

Moreover, looking at the r^2 values, variations on effectiveness of online learning can be accounted to the sub variables of preparedness to online learning. The variations are as follows: 1.1% can be accounted to access to technology; 1.7 % to skills to technology; 27.5 % to studying skills; 21.2 % to motivation and 18.5 % to time management. The correlation values suggest that studying skills has the most influence on the effectiveness of online learning. This result is consistent with the findings of Tuntirojanawong (2013) which states students were ready to join an e-learning program and succeed due to their effective study habits.

Table 9. Correlation Between Preparedness of Students and Effectiveness of Online Learning

	Correlations					
	Effectiveness	Access to Technology	Skills Technology	Studying Skills	Motivation	Time Management
Pearson Correlation (r)	1	.103*	.131**	.524**	.460**	.430**
r^2		.011	.017	.275	.212	.185
Sig. (2-tailed)		.037	.008	.000	.000	.000
N	413	413	413	413	413	413

Using Multiple Regression Analysis, it can be noted that with the p-values of 0.004, 0.000 and 0.003, skills in technology, studying skills and time management, respectively significantly affect effectiveness of online learning. In this particular, the effect of access to technology and motivation are found to be insignificant. Moreover, looking at the bet coefficient, studying skills was found to be the best predictor of effectiveness of online learning. But overall, preparedness significantly affects effectiveness of online learning. Findings are displayed in Table 9.

Gunawardena and Duphorne (2001) noted that preparedness relates to the various personal factors a student participating in distance learning brings to the experience that influence its success. Further, the results can be supported by Lundberg et al. (2008) stating that students may prefer to take an online course or a complete online-based degree program as online courses offer more flexible study hours. The flexible schedule also means lecturers can teach from the comfort of their own homes, allowing moderate freedom to pursue other interests. In addition to flexibility and access, multiple other face value benefits, including program choice and time efficiency, have increased the attractiveness of distance learning (Paul & Jefferson, 2019).

The challenge of learning in a technology-based environment is the student's level of personal discipline. The online setting for learning and its confidence in the medium as an effective means of learning will likely be dependent on an individual's experience with it. It corresponds to individuals' attitudes toward the medium, the experience with the technology and Internet-related components of the online course creating weak relationship of skills and access to technology on effectivity of online learning.

Table 9. Regression Analysis

Independent Variable/s	Beta Coeff.	Std. Error	t	p	Significance
Access to Technology	0.019	0.039	0.361	0.719	Insignificant
Skills in Technology	0.113	0.055	2.018	0.004	Significant
Studying Skills	0.390	0.046	6.622	0.000	Significant
Motivation	0.116	0.048	1.739	0.083	Insignificant
Time Management	0.170	0.040	3.009	0.003	Significant
Overall	0.467	0.046	10.701	0.000	Significant

Dependent: Effectiveness of Online Learning

Conclusions and Recommendations

Based from the findings, the following can be concluded:

1. Students used smartphones and laptops as their gadgets during online class. Also, most of the students have wired internet connection.
2. In terms of preparedness to online learning, students are very much prepared in terms of their access and skills to technology. Moreover, mid-range preparedness can be concluded in terms of studying skills, motivation and time management.
3. Favorable assessment was derived on the effectiveness of online learning as perceived by students
4. Preparedness significantly affects effectiveness of online learning. However, among the variables under preparedness, studying skills was found to have the most influence based from correlation and regression values. Favorable assessment in terms of the effectiveness of online learning has been derived also in this study. Although analysis of the results will lead to the reservations of the students in assessing the effectiveness of online learning.
5. Findings of this study may be limited to the situations of state university in the Philippines, specifically the business students.
6. Recommendations are provided based from the findings.

The conclusions have led the researcher on the following recommendations:

1. Assessing the students' readiness in different areas is a must in order for online learning to be effective.
2. It is a must that students must have a computer with internet access and other equipment that may be attached to the computer such as speakers and printers. Installation of appropriate software, Internet browsers versions and multimedia plug-ins to address issues on technology access.
3. Skills in technology can be improved by sufficient orientations and seminars on the use of the online platform and some modern ICT and computers. Orientations must include discussion on web navigation, emailing, downloading, and uploading of files and posting of messages in the discussion board. Various online platforms can be used and appropriately introduced to stimulate students to present and express their ideas and views. Moreover, having a designated technical support team during school hours will be beneficial for students who experienced technical problems that may cause class interruption or more so, hinder their learning.

4. Students must know their effective study habits whether it be on a face-to-face interactions or online set up.

5. Time management is important for every student to understand the need to arrange their time within their daily schedule. Having self-discipline is very important to have a successful online program. Moreover, universities may consider allowing students to have combination of synchronous and asynchronous classes.

6. It is important that all students feel will be comfortable with the process and technology of the online platform as the willingness of learners is a key factor of a successful online education program. Keeping their motivation upbeat is a challenge among instructor. Various activities online may be considered by teachers such as online games, etc. may be explored. Also, multiple learning materials should be uploaded to help the students in completing their requirements.

7. Future research may be conducted using this research as steppingstone. Researches expanding the respondents to other courses is advised, as well as to private universities. Also, adding more variables may be considered and evaluation of the effectiveness of online learning through output or outcome as basis is highly recommended.

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