



Research Paper

Effectiveness of Online Learning Amidst Covid-19 Pandemic In Pangasinan State University

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Learning can still come in various forms, angles, and dimensions though interrupted with large-scale and all-inclusive global contagion. The strength of the net-based approach which serves as the prevailing trend still delivers even at the midst of an onslaught of a pandemic where online learning takes it biggest part to still sustain academic engagement especially in the higher education. It is imperative that the educators still take the value of online learning and the aspects that determine the efficacy of online academic setup. This study examines the effectiveness of online learning along student learning, pedagogy, learning environment and resource utilization. Particular interest is paid to the meta-analyses on the online learning of students of Pangasinan State University amidst Covid-19 pandemic and the correlation between the profile variables of the respondents and their online learning effectiveness assessments. By and large, there is robust indication to suggest online learning because this is moderately effective. Moreover, this frame of literature proposes that the provision of electronic-grounded teaching paraphernalia should be strengthened. Faculty members should be constantly provided with technological advancement preparations like teaching applications and platforms that are aligned to the times of pandemic.

Keywords: Online Learning, Student Learning, Pedagogy, Learning Environment and Resource Utilization

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I. Introduction

The number four (4) among the seventeen (17) specified Sustainable Development Goals (SDGs) [1] adopted by the United Nations in 2015 ensures that all people have access to high-quality education and lifelong learning opportunities. This ensures that, even if there is worldwide interference, every learner will be able to benefit from free education. In addition, the 1987 Constitution protects every Filipino's right to education. "The State shall defend and promote the right of all people to a high-quality education at all levels and shall take reasonable efforts to ensure that education is accessible to everyone," (Aduballijah, 2016) [2]. The Free Secondary Education Act, or Republic Act 6655, emphasizes the state's policy of protecting and promoting all Filipinos' rights by providing free and compulsory education to children in elementary and secondary school. The Philippine Education for All (EFA) 2015 [3] vision and reform initiative aims to increase basic education access and quality for all Filipinos by 2015. Providing education to all Filipinos created an alternative learning system to supplement official education and better assist those in need. This requires not just the engagement of the Department of Education, but also that of the entire society, including national and local government agencies as well as civil society organizations as basic learning needs providers.

Similarly, Republic Act No. 10931 [4] promotes universal access to quality tertiary education by establishing the tertiary education subsidy and student loan program, and strengthening the unified student financial assistance system for state universities and colleges, local universities and colleges, and state-run technical-vocational institutions, as well as providing for free tuition and other school fees in state universities and colleges, local universities and colleges, and state-run technical-vocational institutions.

Students' learning was at its peak until the Covid-19 epidemic shifted the educational landscape, with online learning meticulously taking its place to solve the worldwide health concern According to Singh (2020) [5], because the COVID -19 epidemic has interrupted people's normal lives all around the planet, the virtual world has come to their rescue. Many institutions, including schools, have turned their focus to virtual platforms in order to conduct classes online. As a result, online education has developed as a viable alternative to traditional face-to-face classrooms at all levels of education, from pre-primary to university. As a result,

numerous parties, including government and private organizations, are doing their best to help each other by improving their existing online platforms and applications, as well as providing teachers with training on how to use these apps and platforms to their full potential. Furthermore, both government and non-government organizations are working to assist the school system in making a smooth transition to the virtual world. Some of the significant efforts made by the administration in the recent past include upskilling and encouraging instructors, as well as holding counseling sessions for stakeholders such as teachers, parents, and learners.

Furthermore, the COVID-19 epidemic caused many higher education institutions around the world to quickly migrate to remote learning in the year 2020. Despite the fact that some activities were brought back to campuses in the fall, many classes at these universities are still hybrid or online, and this appears to be the case for the foreseeable future (McDougall, et.al, 2020) [6]. Students' learning is measured in terms of grades, instructor evaluations of learning, and student perceptions of learning, and online classes are thought to be just as effective as in-person classes. This allegation, however, was not without controversy. Xu, et al. (2014) [7] discovered that online and in-person training produces equivalent learning outcomes. However, these findings came from elite universities and do not appear to apply to community colleges. If there were already disparities in performance in online classes, the epidemic mandating classes to be taught remotely could aggravate them. Students from these demographic groups may experience disproportionate stress as a result of the factors that cause disproportionate morbidity effects. Many students who were already disadvantaged returned to contexts with relatively less resources to promote learning when institutions went online, putting them at an even greater disadvantage.

Many of the methods for potentially increasing the effectiveness of online learning fall under the broad topic of "active learning." Any approach that allows students to engage with the subject through application, problem-solving, and discussion is considered active learning. Students may be invited to answer conceptual questions or solve problems during class, which has been found to improve learning outcomes by encouraging students to participate in lectures and providing feedback on knowledge to both students and teachers. (Knight, et.al, 2014) [8] and (Balaban, et al. 2016) [9]. Students may also be required to solve problems in pairs or small groups, as well as participate in peer instruction (Crouch, et, al., 2001) [10]

Despite all of this uncertainty, Kuhfeld, et al. (2020) [11] stated that there is emerging consensus that school had negative effects on student learning. Students might potentially obtain around 70% of the learning gains in reading compared to a conventional school year, based on historical learning trends and prior research on how out-of-school-time affects learning. In math, kids were expected to make even less advances than the previous year, returning with less than half of the normal gains.

As well, Mishra (2021) [12] further stated that the techniques of offering and receiving education have changed dramatically with the introduction of Covid-19. Several educational institutions have been compelled to move to online platforms as a result of the virus. Given the virus's lethal and infectious nature, this appears to be the most appropriate option. However, for the great majority of students who do not have access to the internet or digital materials, the shift to online learning has produced issues. While students who are financially secure have been able to manage with online lessons and e-notes, those who are less fortunate have been rendered helpless. The online style of schooling has become troublesome in light of the pandemic and inaccessibility of resources. In these hard circumstances, prompt action on the part of the state is necessary to make education as accessible as feasible. Despite the fact that the state has attempted to implement many measures to assure access to education in the midst of the epidemic, there is still more work to be done in this area. Given the low internet penetration rate and limited resources, these services would be of little use without enough government financing. If students are given adequate financial support, they will be able to access superior educational resources and technology. Furthermore, the state must work to better train instructors so that the online classroom setting becomes more fruitful and interactive. Online educational content must be organized in a way that is both understandable and engaging. Furthermore, the government will work to improve the country's internet infrastructure so that education may continue to be delivered smoothly and effectively, even in the face of a global epidemic.

The increased adoption of digital technology in the classroom, combined with Internet connectivity, has created incredible prospects for 21st-century blended learning approaches. While incorporating technology into the classroom is crucial, facilities must be in place and teachers must be equipped with the necessary abilities. In light of this observation, the purpose of this study was to determine instructors' perceptions of the efficiency of online learning in the aftermath of the pandemic. Despite various problems that limited online teaching's effectiveness, the study indicated that teachers had a good attitude toward it (Auma, et al., 2020) [13]

Also, Bahasoan, et al. (2020) [14] investigated the effectiveness of online learning during the COVID-19 pandemic and discovered that the online learning system used during the pandemic was both successful and wasteful. Effective because of the circumstances that need online education, but inefficient because the costs involved were higher when compared to offline lectures.

Online learning has been found to improve information retention and require less time, implying that the alterations brought on by the coronavirus may be here to stay. While countries' COVID-19 infection rates

vary, more than 1.2 billion children in 186 countries are being affected by school cancellations as a result of the pandemic. Children up to the age of 11 in Denmark are returning to nurseries and schools after being closed on March 12th, but kids in South Korea are answering to roll calls from their teachers through the internet. With the abrupt shift away from the classroom in many parts of the world, some are wondering if online learning adoption would continue post-pandemic, and how such a shift might affect the global education industry (Li, 2020) [15]. Students and instructors have faced numerous problems as a result of the pandemic, and student performance has fallen as a result. There is, however, reason to be optimistic. We found no indication that the epidemic had a negative impact on underprivileged students' college learning. Furthermore, many courses are well within reach of the characteristics that assist mitigate the pandemic's detrimental consequences. One such element is instructor experience, and many instructors have already gained some online-teaching experience as part of the spring 2020 transition to remote teaching (McDougall, et.al., 2020) [16]

During the COVID-19 epidemic, online learning was widely encouraged to replace traditional face-to-face learning in order to keep young children studying and playing at home, according to Dong, et al. (2020) [17]. A number of Chinese parents were polled on their thoughts and attitudes about their young children's online learning. Most parents indicated that their children had online learning experiences, with many spending less than a half-hour each time. In early childhood settings, the parents favored traditional learning over online learning because they had unfavorable ideas about the values and benefits of online learning. They resisted, if not outright rejected, online learning for three reasons: its flaws, young children's lack of self-control, and their lack of time and professional experience in assisting children's online learning.

Additionally, at the University of Cape Coast, Darkwa, et al. (2021) [18] compared classroom learning efficacy during the coronavirus pandemic to classroom learning effectiveness prior to the coronavirus pandemic. The study further compared how students performed in both teaching and learning modes. Course material, teaching approaches, interactivity and assessment, feedback and evaluation were all used to assess the effectiveness of the program. Classroom learning outperformed online learning, according to the findings. Furthermore, although the difference was not statistically significant, students performed better academically in classroom learning than in online learning.

It is within these global trends and concepts that the researchers intended to delve on the determining the effectiveness of online learning of students amidst Covid-19 Pandemic in Pangasinan State University because the institution now adopts the utilization of online platform to fulfill its vision and mission to still render quality and relevant education to its primordial stakeholders-the students.

II. Methods and Procedure

This study utilized the descriptive survey method of research. Descriptive research can be explained as a statement of affairs as they are at present with the researcher having no control over variable. It aimed at casting light on current issues or problems through a process of data collection that enables them to describe the situation more completely than was possible without employing this method (Dudovskiy, 2018) [19] The respondents of the study involved the 102 faculty members and 220 students from various departments of the Campus. The researcher-made questionnaire checklist was utilized as the main instrument in gathering the needed data of the study. The instrument had two parts where Part I reflected the profile variables of the respondents. Part II focused on the level of effectiveness of online learning amidst Covid-19 Pandemic along student learning, teaching pedagogy, and resource utilization and learning environment.

The researchers sought permission from the Office of the Campus Executive Director of PSU-Urdaneta Campus as standard operating protocol though this has been approved by the University as institutional research. The researcher personally conducted and administered the questionnaire to establish credibility, integrity and authenticity of the data. Also, interview was conducted to elicit first-hand information from the respondents. A researcher-made questionnaire was used in this study which was designed, crafted and patterned from the various related studies. The questionnaire was made in accordance with the main purpose of the present study.

The questionnaire was distributed, explained, and clarified to the respondents regarding the main purpose of the study through google form. Likewise, tabulation and tallying started right after the retrieval then submitted to the Campus Research Coordinator. All the needed and relevant data that were gathered was consolidated and analyzed. In determining the profile of respondents, frequency counts and percentages were used as the main statistical tool. Likewise, to determine the level of effectiveness of online learning amidst Covid-19 Pandemic, Average Weighted Mean (AWM) was utilized.

The following scale was adopted to interpret the data:

Scale	Range	Descriptive Equivalent
5	4.51 – 5.00	Very Highly Effective (VHE)
4	3.51 – 4.50	Highly Effective (HE)
3	2.51 – 3.50	Moderately Effective d (ME)
2	1.51 – 2.50	Slightly Effective (SE)
1	1.00 – 1.50	Least Effective (LE)

Lastly, to determine the significant difference between the level of effectiveness of online learning amidst Covid-19 Pandemic across their profile variables of the respondents, Spearman Rank and Eta Coefficient were utilized.

III. Results and Discussion

PROFILE OF THE RESPONDENTS OF PANGASINAN STATE UNIVERSITY-URDANETA CAMPUS

A. Faculty Members

This part includes the sex, civil status, monthly family income, academic rank, highest educational attainment, years of teaching service and number of memberships to professional organizations as elements of the profile variables of the faculty members of Pangasinan State University-Urdaneta Campus.

Profile		Frequency	Percentage
Sex	Male	59	57.84
	Female	43	42.16
Civil Status	Single	40	39.22
	Married	61	59.80
	Separated	1	.98
Monthly Family Income	Rich (233,807.00 and above)	1	.98
	Upper Income but not Rich (140,285.00-233,806.00)	2	1.96
	Upper Middle Class (81,833.00-140,284.00)	12	11.76
	Mid-Middle Class (46,762.00-81,832.00)	47	46.08
	Lower Middle Class (23,381.00-46,761.00)	20	19.61
	Low income but not poor (11,691.00-23,381.00)	20	19.61
Academic Rank	Instructor	69	67.65
	Assistant Professor	22	21.57
	Associate Professor	6	5.88
	Professor	1	.98
Highest Educational Attainment	PhD/EdD/DA	7	6.86
	with PhD/EdD/DA units	21	20.59
	MA holder	40	39.22
	with MA units	34	33.33
Years of Teaching Service	1-5	54	52.94
	6-10	21	20.59
	11-15	17	16.67
	16 and above	10	9.80
No. of Memberships to Professional Organizations	1-2	90	88.24
	3-4	7	6.86
	5-6	3	2.94
	7 and above	2	1.96

Sex. The table shows that most of the faculty members of PSU-Urdaneta are males as supported by the frequency of 59 or 57.84% while only forty-nine (49) are female as indicated by the frequency of 43 or 42.16%. This indicates that there is almost a similar number of work force in the University because teaching is not only for a specific gender. The University caters all who are worthy and capable to teach. In 2010, males outnumbered females in the age ranges 0 to 54, with males accounting for 51.0 percent of these groupings. In the senior age group of 55 and up, however, there were more females than males. Males made up 45.9% of the population in these age categories.

Civil Status. It could be gleaned on the table most of the teachers are married as indicated by the frequency of 61 or 59.80% followed the single ones with the frequency of 40 or 39.22%. Moreover, only one (1) or .98% is separated. This means that there is an equal opportunity given to each member whatever is the status. The University does not see such civil class for as long as the criteria are met, and one has the capability to handle the students with conviction, character, and commitment.

Monthly Family Income. The table shows that forty-seven (47) or 46.08% families are mid-middle class that have an income of 46,762.00 to 81,832.00. Twenty or 19.61% of which are both under lower middle class (23,381.00-46,761.00) and low income but not poor (11,691.00-23,381.00). Further, twelve (12) or 11.76% belong to the upper middle class with an income of 81,833.00 to 140,284.00. Two (2) or 1.96% belong to the upper income but not rich (140,285.00-233,806.00) while only one (1) or .98% has been identified as rich with an income that ranges from 233,807.00 and above. This data imply that faculty members have enough monetary resources because no one belongs to the poor bracket.

In the Philippines, a teacher's monthly salary is normally around 31,100 PHP. Salaries range from 14,300 PHP to 49,500. This is the monthly average pay, which includes housing, transportation, and other benefits. Teacher pays varies greatly depending on experience, talents, gender, and location. The median monthly pay for a teacher is 33,600 PHP, which implies that half of those employed as teachers (50%) make less than 33,600 PHP and the other half earn more (Lacson, 2021) [20]

Academic Rank. Majority of the faculty members are instructors as indicated by the frequency of 69 or 67.65%. Twenty-two (22) or 21.57% are Assistant Professors. Moreover, six (6) or 5.88% possess the rank of Associate Professor while only one (1) is a professor in PSU-Urdaneta Campus. This implies that many are still instructors because they are still novice in the Campus and still waiting for the promotion through National Budget Circular (NBC) of the Commission on Higher Education (CHED).

Highest Educational Attainment. The table shows that most of the faculty members are still on their way of completing their MA degrees as supported by the frequency of 40 or 39.22%. Thirty-four (34) or 33.33% and seven (7) or 6.86% are already MA and PhD/EdD/DA holders, respectively. Moreover, twenty-one (21) or 20.59% are still pursuing PhD/EdD/DA. This means that faculty members are driven to finish their graduate studies because this has great premium in the promotion and in undergoing CHED-recognized program and process evaluation, accreditation, and other institutional assessments.

Years of Teaching Service. Majority of the faculty members of PSU-Urdaneta have been in the teaching service for 1-5 years as indicated by the frequency of 54 or 52.94%. Twenty-one (21) or 20.69% and seventeen (17) or 16.67% have already rendered 6-10 and 11-15 years, respectively. Moreover, only 10 or 9.80% have rendered 16 and above years in the university. This means that though many faculty members are still new in the service, they exemplify the core values of the university and lived by the vision and mission of the university.

No. of Memberships to Professional Organizations. The table shows that majority of the faculty members have 1-2 professional organization memberships as indicated by the frequency of 90 or 88.24%. Seven (7) or 6.86% and 3 or 2.94% have 3-4 and 5-6 memberships, respectively. Moreover, only two (2) or 1.96% have 7 and above professional organization memberships. This implies that the faculty members consider the value the professional connections and organization linkages because these contribute advancement and additional knowledge. Shethna (2019) [21] disclosed that members of a professional organization can benefit from formal coaching or mentoring connections with experienced individuals, as well as their valuable insights and advice. Even on a casual basis, these contacts can be a valuable source of knowledge and solutions when dealing with a problem in school.

Student-Respondents

This part depicts on the various profile variables of the students of PSU-Urdaneta Campus in terms of their sex, monthly family income, no. of hours spent online, mode of online access and search engines used.

Profile		Frequency	Percentage
Sex	Male	190	86.36
	Female	30	13.63
Monthly Family Income	Rich (233,807.00 and above)	5	2.27
	Upper Middle Class (81,833.00-140,284.00)	12	5.45
	Mid-Middle Class (46,762.00-81,832.00)	8	3.64
	Lower Middle Class (23,382.00-46,761.00)	20	9.09
	Low income but not poor (11,691.00-23,381.00)	40	18.18
	Poor (11,690.00 and below)	135	61.36
No. of hours spent online	1-2	10	4.55
	3-4	20	9.09
	5-6	70	31.82

	7 and above	120	54.55
Mode of online access	Wi-Fi	130	59.09
	Data connection	70	31.82
	Neighbor's Wi-Fi connection	20	9.09
Search Engines Used	Yahoo.com	65	29.55
	msn.com	15	6.82
	Google.com	105	47.73
	Mozilla.com	25	11.36
	Microsoft Edge.com	10	4.55

Sex. The table shows that majority of the students are male as evidenced by the frequency of 190 or 86.36% while there are only 30 male students as supported by the frequency of 30 or 13.63%. This means that since the campus hub is on Engineering and Architecture, though these courses this time of modern world are deemed as not anymore gender-specific, it is still expected that most of the enrollees are male students along with the BS Mathematics and IT courses. Engineering is the most male-dominated field in STEM. It may perhaps be the most male-dominated profession in the U.S., with women making up only 13% of the engineering workforce (Silbey, 2016) [22]. However, In the Philippines, the number of enrollees in HEIs in AY 2017-2018 reached 2.99 million where 55.6% of these enrollees were females and 44.4% were males. Further, the number of graduates on the same School Year was 703,327 where 59% were females 41% were males.

Monthly Family Income. It could be gleaned on the table that majority of the students are on the socio-economic status as poor with an income of 11,690.00 and below monthly as evidenced by the frequency of 135 or 61.36%. Forty (40) or 18.18% belong to the low income but not poor with 11,691.00-23,381.00 and twenty (20) or 9.09% families belong to the Lower Middle-Class bracket having a monthly income of 23,382.00-46,761.00. Further, twelve (12) or 5.45% of the families of students have an income of 81,833.00-140,284.00 categorized as Upper Middle Class. Moreover, eight or 3.64% and five (5) or 2.27% belong to the Mid-Middle Class (46,762.00-81,832.00) and Rich (233,807.00 and above), respectively. This implies that students are financially disadvantaged and face scarcity of resources. In her study, Gobina (2018) advocated that families seek education to encourage their children to attend school. Furthermore, socio-economic policies should be developed to ensure that children from low-income families have the same opportunities as children from higher-income families to promote national peace. However, Pettigrew's (2019) [23] study indicated that there is no difference in mean writing scores between economically-disadvantaged and non-disadvantaged students.

No. of hours Spent Online. The table shows that most of the students spend online with 7 hours and above as indicated by the mean of 120 or 54.55%. Seventy (70) or 31.82% consume 5-6 hours while twenty (20) or 9.09% devote 3-4 hours online. Moreover, only 10 or 4.5% take 1-2 hours of their time online. This implies that since the trend in the University is online learning, it is tantamount of saying that the time being spent online is also frequent, constant, and continual. The Digital 2019 report by HootSuite and We Are Social [24] revealed that the average internet user spends over a quarter of their lives on the internet. Users spend an average of 6 hours and 42 minutes per day online, according to the same survey, and mobile devices remain a preferred means of connecting to the digital world. For an average internet user, the figures above correspond to more than 100 days of online time. That's a year-on-year increase of more than 27%.

Mode of online access. The table shows that most of the students use Wi-Fi connection services provided by Converge, Globe, Smart, Ditto, etc. as evidenced by the frequency of 130 or 59.09%. Others utilize data connection through the provisions and terms of their sim card as supported by the frequency of 70 or 31.82%. Moreover, some students ask and depend for their neighbor's wi-fi connection as indicated by the frequency of 20 or 9.09%. Students can share documents, edit presentations in real time, keep project files in the cloud, and develop their teamwork abilities using Wi-Fi at school. Students can even collaborate with peers from different schools using Wi-Fi in the classroom. Employers encourage collaboration, and students who use technology to develop this skill will have a better chance of succeeding in the workplace (Hall, 2021) [25]

Search Engines Used. A search engine is a web-based tool that allows users to look for information on the internet through the world wide web (www). A user types of keywords or phrases into a search engine, and a list of Web content results appears in the form of websites, photos, videos, or other online data that semantically match the search query. On this end, most of the studies utilize the google.com as their primary drive and engine for their research studies as evidenced by the frequency of 105 or 47.73%. Sixty-five (65) or 29.55 and twenty-five (25) or 11.36% use Yahoo.com and Mozilla.com, respectively. Moreover, fifteen (15) or 6.82% make use of msn.com while only ten (10) or 4.55% employ Microsoft Edge.com as their search engines to do their online research works.

EFFECTIVENESS OF ONLINE LEARNING AMIDST COVID-19 PANDEMIC IN PANGASINAN STATE UNIVERSITY

A. Student Learning

INDICATORS	Faculty Members		Students	
	Mean	DE	Mean	DE
There is a change in the education settings within a short period of time (e. g. changes to physical contact hours, group sizes, and access to physical spaces or materials).	3.45	ME	3.00	ME
An adoption of a new educational strategies for digital teaching (synchronous and asynchronous)	4.00	HE	2.67	ME
The structure of in-class learning settings may have required more self-regulation and self-motivation to learn.	3.10	ME	3.05	ME
Lesser physical contact and limited to online learning	3.17	ME	2.78	ME
More time for paper works to accomplish	4.00	HE	3.89	HE
Many parents have had to work from home while taking care of their children and acting as home tutors.	2.5	SE	3.00	ME
Learning is magnified due to prolonged cuts to learning time in school and to have the access to some “substitute” educational opportunities during the pandemic	3.41	ME	3.15	ME
Faster access to learning	3.00	ME	2.78	ME
AVERAGE WEIGHTED MEAN	3.33	ME	3.04	ME

Legend: 4.51 – 5.00 Very Highly Effective (VHE) DE=Descriptive Equivalent
 3.51 – 4.50 Highly Effective (HE)
 2.51 – 3.50 Moderately Effective (ME)
 1.51– 2.50 Slightly Effective (SE)
 1.00 – 1.50 Least Effective (LE)

Assessment of the Faculty Members. The table shows that an adoption of a new educational strategies for digital teaching (synchronous and asynchronous) has been assessed as highly effective as indicated by the mean of 4.00. This means that the alternative media for effective teaching has been crafted to deal with the call of the time. Covid-19 hampers the face-to-face learning operations of students and schools have been halted for their goal to mold, develop and cultivate productive clientele for nation building. Synchronous learning occurs at a particular time of day in a virtual classroom setting. There is a live mentor, and all students participate in real-time, discussing topics and asking questions. On the other hand, asynchronous learning occurs anytime and anywhere. One can complete a coursework and assignments on an own schedule (NAU, 2021) [26]

More time for paper works to accomplish has also been evaluated as by the faculty members as highly effective as supported by the mean of 4.00. This means that though it is voluminous in nature for the faculty to attend to all school activities, like e-examinations, PowerPoint presentations, teaching paraphernalia and others, they still think that these are still effective this pandemic because this can be the best medium to address the pressing need of the time.

However, the faculty members have assessed that there is a change in the education settings within a short period of time (e. g. changes to physical contact hours, group sizes, and access to physical spaces or materials) as moderately effective as evidenced by the mean of 3.45. This implies that flexibility in managing their classes should be put at hand. One faculty member disclosed that, “At first, limited time is given to each section and has been separated into two sessions, but we tend to handle these with all of our efforts. It is somehow so challenging, but we do it because we have our work”

Learning is magnified due to prolonged cuts to learning time in school and to have the access to some “substitute” educational opportunities during the pandemic has been assessed by the faculty members as moderately effective as supported by the mean of 3.41. This implies that alternatives to teaching are put into place like giving of supplemental homework, additional readings, preparation of reflections and others which are beneficial for the students to learn more and to be productive despite the intrusion of the pandemic.

Other indicators that have been assessed as moderately effective are the following: Lesser physical contact and limited to online learning, (3.17); The structure of in-class learning settings may have required more self-regulation and self-motivation to learn, (3.10) and faster access to learning, (3.00).

However, many parents have had to work from home while taking care of their children and acting as home tutors has been assessed as slightly effective as evidenced by the mean of 2.5. This means that the parents could be the mentors of their children who can give such assistance and support but there is a predicament on this if their parents have not yet even reached college that can be a question of their credibility of extending their intellectual encouragement.

Notwithstanding, the faculty members have assessed that online learning amidst Covid-19 pandemic along student learning as moderately effective as evidenced by the average weighted mean of 3.33.

Assessment of the Students. It could be gleaned on the table that the students assessed that more time for paper works to accomplish as highly effective as indicated by the mean of 3.89. This implies that students prefer to have more papers to accomplish because these can be factors for them to learn more because they could not go to school for formal learning. At least through these, their learning will be reinforced and be given the chance to explore more on their own phase.

Learning is magnified due to prolonged cuts to learning time in school and to have the access to some “substitute” educational opportunities during the pandemic has been assessed by the students as moderately effective as supported by the mean of 3.15. The structure of in-class learning settings may have required more self-regulation and self-motivation to learn has been evaluated by the students as moderately effective as supported by the mean of 3.05

Other indicators that have been assessed by the students are the following which are arranged in descending means: Many parents have had to work from home while taking care of their children and acting as home tutors, (3.00); There is a change in the education settings within a short period of time (e. g. changes to physical contact hours, group sizes, and access to physical spaces or materials), (3.00); and Lesser physical contact and limited to online learning, (2.78). Lastly, the adoption of a new educational strategies for digital teaching (synchronous and asynchronous) has been also assessed by the students as moderately effective as evidenced by the mean of 2.67.

B. Teaching Pedagogy

INDICATORS	Faculty Members		Students	
	Mean	DE	Mean	DE
Create flexible and adaptable assignments that students can complete in different environments and with varied levels of technology access.	3.17	ME	2.78	ME
Rethought approaches to assessment	3.00	ME	3.13	ME
Develop relationships and perform various online classroom routines with students they may have never met in person.	3.15	ME	3.01	ME
Revisit prerequisite skills in the context of instruction.	2.33	SE	3.11	ME
Forge new roles or responsibilities for faculty members	3.02	ME	2.76	ME
Require training to serve not only as instructors but as social-emotional supports for students.	3.50	SE	2.75	ME
Use standardized tests sparingly and focus more heavily on informal assessments in the classroom	3.12	SE	2.51	ME
Reduce workload for students and faculty members	2.79	ME	2.78	ME
AVERAGE WEIGHTED MEAN	3.01	ME	2.85	ME

Legend: 4.51 – 5.00 Very Highly Effective (VHE) DE=Descriptive Equivalent

3.51 – 4.50 Highly Effective (HE)

2.51 – 3.50 Moderately Effective (ME)

1.51– 2.50 Slightly Effective (SE)

1.00 – 1.50 Least Effective (LE)

Assessment of the Faculty Members. The faculty members assessed that requiring training to serve not only as instructors but as social-emotional supports for students have been assessed as slightly effective as supported by the mean of 3.50.

Creating flexible and adaptable assignments that students can complete in different environments and with varied levels of technology access has also been assessed as moderately effective as supported by the mean of 3.17. Developing relationships and perform various online classroom routines with students they may have never met in person has been evaluated as moderately effective as evidenced by the mean of 3.15.

Other indicators that have been assessed as moderately effective are the following which are arranged in descending means: Use standardized tests sparingly and focus more heavily on informal assessments in the classroom, (3.12); Forge new roles or responsibilities for faculty members, (3.02) and rethought approaches to assessment, (3.00). Likewise, the reduction of the workload for students and faculty members has also been assessed as moderately effective as evidenced by the mean of 2.79. Lastly, the revisit of prerequisite skills in the context of instruction has been appraised by the faculty as moderately effective as indicated by the mean of 2.33.

Notwithstanding, the faculty members have assessed that online learning amidst Covid-19 pandemic along teaching pedagogy as moderately effective as evidenced by the average weighted mean of 3.01.

Assessment of the Students. The students have assessed that the rethought to the approaches to assessment as moderately effective as evidenced by the mean of 3.13. The revisit of the prerequisite skills in the context of instruction has also been evaluated as moderately effective as evidenced by the mean of 3.11. Developing relationships and perform various online classroom routines with students they may have never met in person has also been assessed as moderately effective as supported by the mean of 3.01. Other indicators that have been assessed as moderately effective are as follows: Reduce workload for students and faculty members, (2.78); Create flexible and adaptable assignments that students can complete in different environments and with varied levels of technology access, (2.78); and the forge new roles or responsibilities for faculty members, (2.76).

Also, requiring training to serve not only as instructors but as social-emotional supports for students has also been assessed as moderately effective with a mean of 2.75. Finally, the use of the standardized tests sparingly and focus more heavily on informal assessments in the classroom has been appraised as moderately effective as evidenced by the mean of 2.51. Over-all, the students have assessed that online learning amidst Covid-19 pandemic along teaching pedagogy as moderately effective as evidenced by the average weighted mean of 2.85.

C. Resource Utilization and Learning Environment

INDICATORS	Faculty Members		Students	
	Mean	DE	Mean	DE
No/Lesser time of travel and use of other learning resources	3.12	ME	3.01	ME
All virtual approach that does not need to require much of time and effort	3.23	ME	3.76	ME
Deliver a new learning environment which must be gender-sensitive, inclusive and should integrate psychosocial and socio-emotional support for learners during the pandemic	3.00	ME	2.78	ME
Adopt various learning delivery landscape options such as, but not limited to, face-to-face, blended learning and distance learning.	3.13	ME	2.77	ME
Use modes of delivery depending on the local COVID Risk Severity Classification and compliance with minimum health standards.	4.00	HE	2.76	ME
Technology-aided process of learning	3.00	ME	2.50	SE
Internet-based and data access mode of acquiring knowledge and concepts during pandemic	3.14	ME	2.44	SE
AVERAGE WEIGHTED MEAN	3.23	ME	2.86	ME

Legend: 4.51 – 5.00 Very Highly Effective (VHE) DE=Descriptive Equivalent
 3.51 – 4.50 Highly Effective (HE)
 2.51 – 3.50 Moderately Effective (ME)
 1.51– 2.50 Slightly Effective (SE)
 1.00 – 1.50 Least Effective (LE)

Assessment of the Faculty Members. The table shows that the faculty members assessed that the use of modes of delivery depending on the local COVID Risk Severity Classification and compliance with minimum health standards as highly effective as evidenced by the mean of 4.00.

The faculty members also assessed all virtual approach that does not need to require much of time and effort as moderately effective as evidenced by the mean of 3.23. This means that resources are saved which make it so effective. RTI International (2020) [27] stressed that learners can benefit from virtual learning since it allows them to learn at any time and from any location. By leveraging technology to enhance and deliver instruction to learners, it also opens the door to a more personalized learning experience for all students. The internet, videoconferencing, multimedia resources, and/or learning platforms can all be used to deliver instructional content. Educators may engage students in innovative ways and promote their continuous progress by providing relevant virtual learning experiences for them.

Internet-based and data access mode of acquiring knowledge and concepts during pandemic has been assessed as moderately effective as supported by the mean of 3.14. Instruction, learning, and assessment have all benefited from the use of ICT. This is seen as a significant tool for educational reform and change. ICT can improve educational quality and relate learning to real-life problems when used properly (Fu, 2013) [28]

Other indicators that have been assessed as moderately effective are the following which are arranged in descending means: Adopt various learning delivery landscape options such as, but not limited to, face-to-face, blended learning and distance learning, (3.13); No/Lesser time of travel and use of other learning resources, (3.12) and deliver a new learning environment which must be gender-sensitive, inclusive and should integrate psychosocial and socio-emotional support for learners during the pandemic, (3.00).

Also, the technology-aided process of learning has been assessed as moderately effective as indicated by the mean of 3.00. Fundamental structural changes are ushered in by technology, and these changes can be crucial in

generating considerable productivity gains. Technology infuses classrooms with digital learning tools, such as computers and hand-held devices, to support both teaching and learning; expands course offerings, experiences, and learning materials; supports learning 24 hours a day, seven days a week; builds 21st century skills; increases student engagement and motivation; and accelerates learning. Technology has the potential to revolutionize education by bringing in a new type of connected learning. This paradigm connects teachers with their students as well as professional knowledge, tools, and systems to assist them in improving their own education and personalizing learning. By accelerating the rate of learning, decreasing expenses connected with instructional materials or program delivery, and better utilizing instructor time, online learning possibilities and the utilization of open educational resources and other technology can boost educational productivity (www.ed.gov, 2021) [29] Over-all, the faculty members have assessed that online learning amidst Covid-19 pandemic along student learning as moderately effective as evidenced by the average weighted mean of 3.23.

Assessment of the Students. The table shows that the students evaluated that No/lesser time of travel and use of other learning resources as moderately effective as supported by the mean of 3.01.

Working adults who need to reconcile employment and family life with the new obligations of going back to school may find an online education to be a welcome alternative. Not having to go back and forth to classes on a campus saves hours every week right away—and that's just the beginning. Returning to school improves the time management abilities by requiring to be diligent and find time to study (Walden, 2020) [30]

All virtual approach that does not need to require much of time and effort has been also assessed as moderately effective as supported by the mean of 3.76. Regular breaks throughout the day can significantly minimize disruptive behavior in younger pupils. As a result, individuals put more effort into their learning activities. Online school provides students with a unique opportunity to finish homework whenever it is convenient and comfortable for them. Many universities offer full or partial online degrees to individuals considering higher education. Even students who attend college in person must learn to stay focused and self-motivated, which they have acquired from online courses. Virtual learning has several advantages, including the ability to navigate software, communicate across many platforms, and work autonomously (Villa, 2021) [31]

Other indicators which were assessed as moderately effective are the following: Deliver a new learning environment which must be gender-sensitive, inclusive and should integrate psychosocial and socio-emotional support for learners during the pandemic, (2.78); Adopt various learning delivery landscape options such as, but not limited to, face-to-face, blended learning and distance learning, (2.77) and Use modes of delivery depending on the local COVID Risk Severity Classification and compliance with minimum health standards, (2.76).

Likewise, the technology-aided process of learning has been assessed as slightly effective as supported by the mean of 2.50. Also, the internet-based and data access mode of acquiring knowledge and concepts during pandemic has been evaluated as slightly effective as evidenced by the mean of 2.44. Notwithstanding, the students have assessed that online learning amidst Covid-19 pandemic along student learning as moderately effective as evidenced by the average weighted mean of 2.86.

Summary on the Level of Effectiveness of Online Learning Amidst Covid-19 Pandemic

Area	Faculty Members N= 102		Students n=220		Combined	
	Mean	Qualitative	Mean	Qualitative	Mean	Qualitative
Student Learning	3.33	ME	3.04	ME	3.19	ME
Teaching Pedagogy	3.01	ME	2.85	ME	2.93	ME
Resource Utilization and Learning Environment	3.23	ME	2.86	ME	3.05	ME
OVERALL WEIGHTED MEAN	3.19	ME	2.92	ME	3.06	ME

Legend: 4.51 – 5.00 Very Highly Effective (VHE) DE=Descriptive Equivalent
 3.51 – 4.50 Highly Effective (HE)
 2.51 – 3.50 Moderately Effective (ME)
 1.51– 2.50 Slightly Effective (SE)
 1.00 – 1.50 Least Effective (LE)

The table shows that the level of effectiveness of online learning amidst covid-19 Pandemic as perceived by the respondents was moderate as evidenced by the overall weighted mean of 3.06. This means that online learning this pandemic is worthwhile to hamper the spread of the virus.

With the growth of e-learning, where instruction is done remotely and on digital platforms, education has altered tremendously. Online learning has been found to improve information retention and require less time, implying that the alterations brought on by the coronavirus to stay (Li, 2020) [32]

SIGNIFICANT RELATIONSHIP BETWEEN THE LEVEL OF EFFECTIVENESS OF ONLINE LEARNING AMIDST COVID-19 PANDEMIC ACROSSTHEIR PROFILE VARIABLES

PROFILE VARIABLES	Student Learning		Teaching Pedagogy		Resource Utilization and Learning Environment	
	Statistics	Sig.	Statistics	Sig.	Statistics	Sig.
Sex ^a	.063	.275	.333	.022	.249	.210
Civil Status ^b	.050	.390	.105	.071	.076	.190
Monthly Family Income ^a	.069	.236	.076	.192	.149*	.010
Academic Rank ^a	.027	.648	-.021	.714	.022	.705
Highest Educational Attainment ^a	.197**	.001	.226**	.000	.235**	.000
Length of teaching service ^a	.072	.215	.129*	.026	.066	.258
Number of Memberships to Professional Organizations ^a	.129	.086	.125*	.031	.153*	.018

a Spearman Rank, b Eta Coefficient, the minimum tolerance for a statistically significant association between variables is above 0.2

***Relationship significant at 1% level, *Relationship is significant at 5% level*

It could be gleaned on the table that most of the profile variables are correlated to the level of effectiveness of online learning amidst Covid-19 pandemic. The monthly family income of the faculty members is associated to the resource utilization and learning environment as supported by the value of .149* sig=.010. This means that the higher the income or the salary maybe, the more resources are purchased and utilized for the learning of the students online.

Moreover, the highest educational attainment, student learning (197**, sig=.001) teaching pedagogy (226**, sig=.000) resource utilization and learning environment (.235**, sig=.000). The length of teaching service is also associated to the teaching pedagogy of the faculty members as supported by the value of .129*, sig=.026. This means that the higher the teaching service, the wider the knowledge in handling students for their learning.

Teachers must have more potent learning chances than simply reading and discussing new pedagogical ideas to acquire advanced knowledge and establish a practice that is distinct from what they experienced as students (Darling-Hammond, 2019) [33]

Lastly, the number of memberships to professional organizations has its relationship to student learning and teaching pedagogy as indicated by the values of .125*, =.031 and .153*, sig=.018. This means that organizations are beneficial to the learning and teaching process. Students learn more from the knowledge that the faculty adopt from seminars, and their teaching competence will be enhanced as well. Professor William Sanders of the University of Tennessee strongly argues that "the teacher training is the single most important element determining student academic gain."

Significant Relationship Between the Level of Effectiveness of Online Learning Amidst Covid-19 Pandemic Across Profile Variables of Students

PROFILE VARIABLES	Student Learning		Teaching Pedagogy		Resource Utilization and Learning Environment	
	Statistics	Sig.	Statistics	Sig.	Statistics	Sig.
Sex	.062	.273	.133	.122	.149	.110
Monthly Family Income	.113	.002	.043	.464	.143*	.014
Number of Hours Spent Online	.050	.000	.105	.071	.076	.190

Mode of Online Access	.247	.001	.224	.201	.199	.712
Service Engines Used	.224	.201	.133	.122	.149	.110

a Spearman Rank, b Eta Coefficient, the minimum tolerance for a statistically significant association between variables is above 0.2

***Relationship significant at 1% level, *Relationship is significant at 5% level*

The table shows that the monthly family income is correlated to the student learning (.113, sig=.002) and the resource utilization and learning environment (.143*, sig=.014). The higher the students' family income, the higher their acquisition of learning. This is attributed to their power to purchase the resources that they need for their online learning. Moreover, the income has also a factor to have their resources for learning and for them to have a good learning environment.

In his study, Beck (2013) [34] showed how pupils from high-income homes do better than children from low-income families. He demonstrated how essential time is for a family's income. The impact of income can be seen in the early stages of a student's education. This may have a positive impact on the student's academic performance. Furthermore, pupils from high-income families have a better chance of getting into any institution or university than others.

In China, Xiao (2012) [35] looked at the income of students and their families. He is now studying nearly 407 students in their early years. The research assessed students' reading abilities and observed families at home. It also had a role in the families' homes and the students' abilities. Furthermore, the study with the chosen youngsters and the procedure of measuring them and their families was well-organized. The numerical results were very apparent, demonstrating how a family's income might affect their children's learning (Zhang, 2012) [36].

Further, the number of hours spent online is related to student learning as evidenced by the value of .050, sig=.000. This means that their time being spent online is such an important matter for them to know, do, and understand more. Finally, the mode of online access is associated to student learning as evidenced by the value of .247, sig=.001. The use of having access to Wi-Fi connection is a medium for the students to have the wider world to own their learning biosphere. Opposed by Kim (2020) [37] who said that because most classes are online and rely on high-speed internet for synchronous distant learning, the quality of education for university students has been reduced, as only 27% of sessions have an in-person component.

IV. CONCLUSIONS

1. Most of the faculty members of the PSU-Urdaneta Campus are male, married, MA holders, holding positions as instructors with 1-5 years of teaching experience and having 1-2 memberships to professional organizations. Moreover, most of the students are male with a family monthly income of 11,690.00 and below, spend 7 hours and more online, use WiFi and google.com as research engine.
2. Online learning is moderately effective amidst Covid-19 pandemic.
3. The monthly family income, highest educational attainment, length of teaching service and the number of memberships to professional organizations of the faculty members are vital in the online learning of students. Likewise, the profile variables among students are also highly correlated to student learning.

V. RECOMMENDATIONS

1. Faculty members of the Campus should ponder other NBC 461 criteria for promotion. They should also continue pursuing their graduate studies that could also contribute for the elevation of their ranks. On the other hand, the institution should offer more didactic privileges and educational opportunities to improve the skills, knowledge, and proficiencies of the faculty members.
2. Online learning should be strengthened through provision of electronic-grounded teaching paraphernalia. Faculty members should be constantly provided with technological advancement preparations like teaching applications and platforms that are aligned to the times of pandemic.
3. Since monthly family income, highest educational attainment, length of teaching service and the number of memberships to professional organizations, the University should find ways to help the faculty members find ways to augment other endeavors for additional financial resource, provide various scholarship opportunities, and offer relevant seminars and training for the enhancement of their online teaching competence. Outside collaboration and strong linkages with other agencies should be given premium especially in this time of pandemic for the learning of students not to be compromised and the faculty members would still have the strong spirit to fulfill their functions with dedication and strong volition.

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