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Online Teaching Effectiveness and Teacher's Readiness: Impact on Student's Satisfaction and Academic Performance

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This study looked at the impact of online teaching effectiveness (OTE) and faculty readiness on education students' satisfaction and academic achievement. This study took place on the NEUST Gabaldon campus in the first semester (mid-term) of the academic year 2021-2022. The study used descriptive correlational analysis to see if there was a relationship between the effectiveness of online teaching, faculty readiness, student satisfaction and academic achievement. The study included 186 education students and 12 faculty members from the College of Education. The students were picked by stratified sampling, while the 12 faculty members were chosen by intention. The results indicate that students are satisfied with online learning, faculty members are prepared to teach online, and the College of Education's online teaching is effective. The findings also reveal a relationship between online teaching effectiveness, faculty readiness, student satisfaction with online learning, and academic success. On the other hand, there is no link between the student responders' profiles and the effectiveness of online teaching or learning satisfaction. The theoretical and practical ramifications of the research were also discussed.

Keywords: academic performance, covid-19, learning satisfaction, online teaching effectiveness, teachers' readiness

INTRODUCTION

The covid-19 pandemic brought significant challenges and impacted the educational sectors (Tria, 2020). As a result, students and educators must adjust to the new educational standard, which necessitates a complete shift in pedagogical approaches to teaching and learning, as well as the use of a variety of new technologies (Gurley, 2018). Flexible learning in the Philippines uses a variety of learning platforms, including modules (printed materials), online (synchronous or asynchronous), television, radio, and recorded educational videos (Commission on Higher Education [CHED], 2020). Most of the public colleges and universities here in the Philippines utilize online and modular learning and one of these universities is the Nueva Ecija University of Science and Technology. It provides learning platforms that are suited to the needs and abilities of the students. When the Covid 19 started to spread all over the

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world the NEUST held classes using online platforms such as Zoom, Google Meet, Schoology, Facebook page, and others (Nueva Ecija University of Science and Technology [NEUST], 2020).

The acquisition of knowledge through the use of electronic technology and media is referred to as online or electronic learning. E-learning can be defined as "learning that is enabled electronically" in basic terms (Abernathy, 2020). The advantages of remote learning, convenience, and accessibility outweighed the disadvantages of inefficiency and the difficulty of maintaining academic integrity. According to the standards, faculty should be instructed on how to use online modalities and create lesson plans with reduced cognitive load and more involvement (Mukhtar, 2020). Likewise, according to Hiranrithikorn (2020), the benefits of online learning were inexpensive costs, flexibility in scheduling, and a large audience, while the drawbacks included a poor success rate, easy distractions, and no class interaction. In addition, Salame et al. (2023) emphasize that students reported adverse effects on their mental well-being due to online learning, particularly in terms of heightened anxiety levels concerning science coursework.

On the other hand, to effectively deliver large-scale online education, Bao (2020) ends with five principles of high-impact teaching practice, and these are sufficient interest, successful delivery, adequate support, involvement should be of high quality and the principle of contingency plan preparation. In a blog-based online course, online presence has a substantial impact on learning performance (Yang, et al., 2016). However, according to Ryan et al., (2016), evidence suggests that community college students participating in online-only courses had significantly worse outcomes than students enrolled in blended-learning courses.

According to Shah (2021), it is recommended that teachers must be empowered with ICT for better performance. Teachers should also be trained in virtual learning environments (Ventayen, 2018). In addition, students benefit from tenure-track and contingent faculty's willingness to teach online (Cutri & Mena, 2020). On the other hand, Kebritchi et al. (2017) revealed in their findings that online learners, instructors, and content development were identified as the three major categories. Learners' expectations, readiness, identity, and participation in online courses were among the issues raised by learners. Time management, faculty roles, and teaching styles were among the issues instructors had to contend with during the transition from face-to-face to online instruction. Among the content issues were the instructors' role in developing content, the integration of multimedia, the role of instructional strategies in developing content, and considerations for developing content. Higher education institutions must provide professional development for teachers, learner training, and technical support for content development to overcome these problems in online education.

During the pandemic, Ibrahim et al., (2021), revealed that online education was conducted regularly in the form of synchronous sessions. Theoretical online education was highly accepted by both staff and students. The design and fundamental design classes, on the other hand, were unsatisfactory to both groups. Faculty members complained about a lack of privacy and lengthy working hours, while students grumbled about technical difficulties. On the other hand, identifying the features of

good online teaching lays the groundwork for developing tangible constructs and robust assessment, expanding the influence on student outcomes, faculty development, and educational practice (Smith et al., 2021).

Student online learning satisfaction is determined by the compatibility of student expectations about online learning time and space, self-motivation, and the involvement of others, such as other students and instructor expectations, with the student's overall educational and personal goals for taking the course (Landrum et al., 2021). According to Al Soub et al. (2021), students displayed substantial satisfaction with utilizing e-learning for chemistry education during the COVID-19 pandemic at AUT, with high levels of contentment observed in relation to e-learning engagement and techniques, while satisfaction was moderately noted for instructional aspects and website improvements. Furthermore, Wei, H. C., and Chou, C. (2020) revealed that students' computer/Internet self-efficacy for online learning preparedness affected not only online learning views and online discussion scores but also course satisfaction.

Based on the above description, the following questions were analyzed in this study. How may the student's profile (sex, age, and course), learning satisfaction and academic performance be described? How may the teacher's readiness for online teaching be described? How may the online teaching effectiveness of the College of Education be described? Is there an association between online teaching effectiveness and the profile of the student respondent? Is there an association between student satisfaction and their profile? Is there a significant relationship between online teaching effectiveness, teachers' readiness, students' satisfaction and academic performance?

METHOD

Research Design

This study utilized a descriptive correlational research design. Correlational research is a nonexperimental method of predicting and explaining correlations between variables (Seeram, 2019). Furthermore, the observer does not interfere with the observation process or have any impact on any of the study's variables (Lambert and Lambert, 2012).

Sampling Technique

Slovin's formula was used to calculate the 186 education student respondents who were chosen using stratified random sampling. The 12 faculty members were purposively chosen due to their role as educators for the cohort of 186 education students.

Questionnaires Validity and Reliability

The questionnaire on online teaching effectiveness was adopted in the study of Reyes-Fournier et al. (2020), entitled "Development and validation of the online teaching effectiveness scale". The questionnaire on teachers' readiness was adopted in the study by Martin et al. (2019), entitled "Examining faculty perception of their readiness to teach online". While student satisfaction was adopted in the study by Simpson (2012), entitled "Student perceptions of quality and satisfaction in online education." The questionnaires have not been altered since they are appropriate for the study's context and setting. Furthermore, the surveys were initially written in English.

Even though the questionnaires were standardized, the researcher still conducted a reliability test and found that the reliability coefficients for "online teaching effectiveness," "teacher readiness," and "student satisfaction" were 0.91, 0.97, and 0.96, respectively.

Data Collection

The researcher requested authorization to perform the study from the director of the Nueva Ecija University of Science and Technology Gabaldon campus. The information was gathered using Google Forms.

Data Analysis

The data was analyzed using IBM-SPSS. The student's profile (sex, age, and course) and academic performance were described using frequency and percentage. The effectiveness of online teaching, instructor readiness, and student satisfaction were all described using means. The association of online teaching effectiveness and the profile of the student respondent (sex and course) were analyzed using the chi-square test. The association between student satisfaction and their profile (sex and course) was analyzed using the chi-square test. While the relationship of age to OTE and satisfaction Kendall's tau was utilized. On the other hand, the relationship between and among online teaching effectiveness, teachers' readiness, student satisfaction and academic performance was also studied using Kendall's tau.

The weighted mean and verbal interpretation were used to describe the online teaching effectiveness and students' satisfaction; it ranges from 1.00 – 1.74 for strong disagreement, 1.75 – 2.49 for disagreement, 2.50 – 3.24 for agreement, and 3.25 – 4.00 for strong agreement. For teachers' readiness; it ranges from 1.00 – 1.79 for no level of competence, 1.80 – 2.59, for a low level of competence, 2.60 – 3.39 for the average level of competence, 3.40 – 4.19 for a moderately high level of competence, and 4.20 – 5.00 for a high level of competence. The grading scale and verbal description of academic performance are given as 90 – 100 are outstanding, 85 – 89 is very satisfactory, 80 - 84 is satisfactory, 75 - 79 is fairly satisfactory, and 74 and below do not meet expectations.

FINDINGS

Students Profile

Table 1 shows that the female group (f=157, P=84.40%) was greater than the male group (f=29, P=15.6%). It also shows the age distribution of the student respondents, 120 or 64.52% are 16-20, 57 or 30.65% are 21-25, 6 or 3.23% are 26-30, and 3 or 1.61% are 31-35 years old. Table 1 also shows the distribution of the respondents according to year level and course, most of them are BEEd second year (f=37, P=19.9%), followed by BEEd 3 (35, P=18.8%), BSed 1 (f=31, P=16.7%), BEEd 1 (f=29, P=15.6%), BEEd 4 (f=24, P=12.9%), BSed 3 (f=14, P=7.5%), BSed 4 (f=9, P4.8%), and the least is BSed 2 (f=7, P=3.8%). Table 1 also shows the distribution of the respondents according to academic performance, most of them are in the level of outstanding (f=97, P=52.15%), followed by very satisfactory (f=67, P=36.02), satisfactory (f=20, 10.75%), fairly satisfactory (f=2, P=1.08%), and no observed below passing grade.

Table 1
Distribution of the students according to sex, age, year level and academic performance

Sex	Frequency	Percent
Female	157	84.40
Male	29	15.60
Total	186	100.00
Age	Frequency	Percent
16 - 20	120	64.52
21 - 25	57	30.65
26 - 30	6	3.23
31 - 35	3	1.61
Total	186	100.00
Course	Frequency	Percent
Bachelor of Elementary Education 1 (BEEd 1)	29	15.6
Bachelor of Elementary Education 2 (BEEd 2)	37	19.9
Bachelor of Elementary Education 3 (BEEd 3)	35	18.8
Bachelor of Elementary Education 4 (BEEd 4)	24	12.9
Bachelor of Secondary Education 1 (BSed 1)	31	16.7
Bachelor of Secondary Education 2 (BSed 2)	7	3.8
Bachelor of Secondary Education 3 (BSed 3)	14	7.5
Bachelor of Secondary Education 4 (BSed 4)	9	4.8
Total	186	100.0
Academic Performance	Frequency	Percent
90 – 100 (outstanding)	97	52.15
85 – 89 (very satisfactory)	67	36.02
80 - 84 (satisfactory)	20	10.75
75 - 79 (fairly satisfactory)	2	1.08
74 and below (do not meet expectations)	0	0
Total	186	100.00

Student's Satisfaction with Online Learning

Table 2 shows that the students are strongly agree that the objectives for the online course were provided at the beginning of the course and were clearly described (3.30); the course objectives for the online course assisted with guiding their learning activities (3.35); they find it important to be provided with the course assessment methods at the beginning of a course (3.35); the course assessment methods for the online course were provided at the beginning of the course (3.47); the course assessment methods for the online course were clearly described (3.36); the course assessment methods for the online course included a variety of assessment methods (3.26); they find it important to be provided with the course resources and materials during a course (3.40); the purpose of course resources and materials for the online course were clearly described (3.31); the course resources and materials for the online course helped them reach the course objectives (3.30); the course resources and materials for the online course included a wide variety of resources and materials (3.27); they find it important to interact with the instructor during a course (3.44); the course interaction with the instructor for the online course helped them reach the course objectives (3.31); the amount of course interaction with other students for the online course was helpful in reaching the course objectives (3.32); and they find it important to be provided with course technology that enhances learning during a course (3.39). On the other hand, the students are agreeing that a clear introduction (including overall design, navigation, and faculty information) was

available at the beginning of the on-line course (3.22); student support (for example, advising, financial aid, registration) was available in using the online format of the course (3.15); the course objectives for the online course were closely related to what they was expected to learn (3.24); the course assessment methods for the online course were closely related to the course objectives (3.33); the course resources and materials for the online course were easily accessible during the course (3.18); the course instructor for the online course interacted with them in a timely fashion (3.20); the course technology for the online course was readily available during the course (3.19); the course technology for the online course functioned very well (3.09); and the course technology for the online course was helpful in reaching the course objectives (3.21). The total weighted mean for the satisfaction of the students towards online learning is 3.29, which can be interpreted as strongly agree. The statistical data unequivocally indicates a high level of student satisfaction with the online educational services delivered by the College of Education.

Table 2
Weighted mean and verbal interpretation of students' satisfaction with online learning

Students Satisfaction	wm	Verbal Interpretation
A clear introduction (including overall design, navigation, and faculty information) was available at the beginning of this online course.	3.22	Agree
Student support (for example, advising, financial aid, and registration) was available using the online format of this course.	3.15	Agree
The objectives for this online course were provided at the beginning of this course and were clearly described.	3.30	Strongly Agree
The course objectives for this online course were closely related to what I was expected to learn.	3.24	Agree
The course objectives for this online course assisted with guiding my learning activities.	3.35	Strongly Agree
I find it important to be provided with the course assessment methods at the beginning of a course.	3.35	Strongly Agree
The course assessment methods for this online course were provided at the beginning of the course.	3.47	Strongly Agree
The course assessment methods for this online course were clearly described.	3.36	Strongly Agree
The course assessment methods for this online course included a variety of assessment methods.	3.26	Strongly Agree
The course assessment methods for this online course were closely related to the course objectives.	3.33	Agree
I find it important to be provided with the course resources and materials during a course.	3.40	Strongly Agree
The course resources and materials for this online course were easily accessible during the course.	3.18	Agree
The purpose of course resources and materials for this online course were clearly described.	3.31	Strongly Agree
The course resources and materials for this online course helped me reach the course objectives.	3.30	Strongly Agree
The course resources and materials for this online course included a wide variety of resources and materials.	3.27	Strongly Agree
I find it important to interact with the instructor during a course.	3.44	Strongly Agree
The course instructor for this online course interacted with me in a timely fashion.	3.20	Agree
The course interaction with the instructor for this online course helped me reach the course objectives.	3.31	Strongly Agree
The amount of course interaction with other students for this online course helped me reach the course objectives.	3.32	Strongly Agree
I find it important to be provided with course technology that enhances learning during a course.	3.39	Strongly Agree
The course technology for this online course was readily available during the course.	3.19	Agree
The course technology for this online course functioned very well.	3.09	Agree
The course technology for this online course helped me reach the course objectives.	3.21	Agree
Total weighted mean	3.29	Strongly Agree

Teacher's Readiness for Online Teaching

Table 3 shows that the teacher respondents have high level of readiness in writing measurable learning objectives (4.42); designing learning activities that provide students opportunities for interaction (e.g., discussion forums, wikis) (4.25); organizing instructional materials into modules or units (4.25); using different teaching methods in the online environment (e.g., brainstorming, collaborative activities, discussions, presentations) (4.25); creating online assignments (4.33); managing grades online (4.33); sending announcements/email reminders to course participants (4.67); creating and moderate discussion forums (4.25); using email to communicate with the learners (4.75); responding to student questions promptly (e.g., 24 to 48hours) (4.50); communicating expectations about student behavior (e.g.,netiquette) (4.33); communicating compliance regarding academic integrity policies (4.42); applying copyright law and fair use guidelines when using copyrighted materials (4.33); applying accessibility policies to accommodate student needs (4.33); completing basic computer operations (e.g., creating and editing documents, managing files and folders) (4.33); and using online collaborative tools (e.g., Google Drive, Dropbox) (4.25). On the other hand, the teachers have moderately high level of readiness in creating an online course orientation (e.g., introduction, getting started) (4.08); creating instructional videos (e.g., lecture video, demonstrations, video tutorials) (4.17); creating online quizzes and tests (4.08); providing feedback on assignments (e.g., 7 days from submission) (4.17); using synchronous web-conferencing tools (e.g., Adobe Connect, Webex, Blackboard Collaborate, Skype) (3.33); scheduling time to design the course prior to delivery (e.g., a semester before delivery) (4.08); scheduling weekly hours to facilitate the online course (4.17); using features in learning management system in order to manage time (e.g., online grading, rubrics, Speed Grader, calendar) (4.00); using facilitation strategies to manage time spent on course (e.g., discussion board moderators, collective feedback, grading scales) (3.75); spending weekly hours to grade assignments (4.17); allocating time to learn about new strategies or tools (4.17); navigating within the course in the learning management system (e.g., Moodle, Canvas, Blackboard, etc.) (3.67); using course roster in the learning management system to setup teams/groups (3.42); creating and edit videos (e.g., iMovie, Movie Maker, Kaltura) (3.67); sharing open educational resources (e.g., learning websites, Web resources, games and simulations) (3.83); and accessing online help desk/resources for assistance (4.00). Overall, the teachers have a moderate level of readiness for online teaching. Based on the data, most of educators have demonstrated preparedness for online instruction and have effectively delivered lessons through digital platforms during the pandemic.

Table 3
Weighted mean and verbal interpretation of teacher's readiness for online teaching

Teachers Readiness	wm	Verbal Interpretation
Create an online course orientation (e.g., introduction, getting started)	4.08	Moderately high level
Write measurable learning objectives	4.42	High level
Design learning activities that provide students opportunities for interaction (e.g., discussion forums, wikis)	4.25	High level
Organize instructional materials into modules or units	4.25	High level
Create instructional videos (e.g., lecture videos, demonstrations, video tutorials)	4.17	Moderately high level
Use different teaching methods in the online environment (e.g., brainstorming, collaborative activities, discussions, presentations)	4.25	High level
Create online quizzes and tests	4.08	Moderately high level
Create online assignments	4.33	High level
Manage grades online	4.33	High level
Send announcements/email reminders to course participants	4.67	High level
Create and moderate discussion forums	4.25	High level
Use email to communicate with the learners	4.75	High level
Respond to student questions promptly (e.g., 24 to 48hours)	4.50	High level
Provide feedback on assignments (e.g., 7 days from submission)	4.17	Moderately high level
Use synchronous web-conferencing tools (e.g., Adobe Connect, Webex, Blackboard Collaborate, Skype)	3.33	Moderately high level
Communicate expectations about student behaviour (e.g., netiquette)	4.33	High level
Communicate compliance regarding academic integrity policies	4.42	High level
Apply copyright law and fair use guidelines when using copyrighted materials	4.33	High level
Apply accessibility policies to accommodate student needs	4.33	High level
Schedule time to design the course before delivery (e.g., a semester before delivery)	4.08	Moderately high level
Schedule weekly hours to facilitate the online course	4.17	Moderately high level
Use features in the learning management system to manage time (e.g., online grading, rubrics, Speed Grader, calendar)	4.00	Moderately high level
Use facilitation strategies to manage time spent on the course (e.g., discussion board moderators, collective feedback, grading scales)	3.75	Moderately high level
Spend weekly hours grading assignments	4.17	Moderately high level
Allocate time to learn about new strategies or tools	4.17	Moderately high level
Complete basic computer operations (e.g., creating and editing documents, managing files and folders)	4.33	High level
Navigate within the course in the learning management system (e.g., Moodle, Canvas, Blackboard, etc.)	3.67	Moderately high level
Use course roster in the learning management system to set up teams/groups	3.42	Moderately high level
Use online collaborative tools (e.g., Google Drive, Dropbox)	4.25	High level
Create and edit videos (e.g., iMovie, Movie Maker, Kaltura)	3.67	Moderately high level
Share open educational resources (e.g., learning websites, Web resources, games and simulations)	3.83	Moderately high level
Access the online help desk/resources for assistance	4.00	Moderately high level
Total weighted mean	4.15	Moderately high level

Online Teaching Effectiveness

Table 4 shows that the student respondents strongly agree with the following statement: enthusiasm for teaching (3.26); good presentation skills (3.33); creativity to increase student interest (3.29); meaningful examples (3.37); respect for students (3.62); subject matter knowledge (3.53); appropriate schedules and deadlines (3.37); and clear

expectations (3.27). On the other hand, student respondents are agreeing on the following statement: sharing their relevant professional experiences (3.20); explanations/presentations of material in novel ways (3.08); timely responses to questions (3.13); and online and offline availability (3.22). The total weighted mean is 3.31, which can be interpreted as strongly agree. The data suggests that students perceive the online teaching provided by the College of Education as effective. This finding aligns with the results presented in Table 2, which indicate high student satisfaction with their online learning experiences, and Table 3, demonstrating that teachers are well-prepared for online instruction.

Table 4
Weighted mean and verbal interpretation of online teaching effectiveness

Online Teaching Effectiveness (OTE)	wm	Verbal interpretation
Sharing their relevant professional experiences	3.20	Agree
Enthusiasm for teaching	3.26	Strongly agree
Good presentation skills	3.33	Strongly agree
Creativity to increase student interest	3.29	Strongly agree
Explanations/presentations of material in novel ways	3.08	Agree
Meaningful examples	3.37	Strongly agree
Respect for students	3.62	Strongly agree
Subject matter knowledge	3.53	Strongly agree
Appropriate Schedules and deadlines	3.37	Strongly agree
Clear expectations	3.27	Strongly agree
Timely responses to questions	3.13	Agree
Online and offline availability	3.22	Agree
Total weighted mean	3.31	Strongly agree

Association Of Student's Profiles to Online Teaching Effectiveness and Satisfaction

Table 5 shows that online teaching effectiveness has no link to sex ($\varkappa$=21.416[a], p>0.05), course ($\varkappa$=173.65[a], p>0.05), and age (Ƭ=-.013, p>0.05). Also, there is no association of satisfaction with sex ($\varkappa$=37.684[a], p>0.05), course ($\varkappa$=259.307[a], p>0.05), and age (Ƭ=.010, p>0.05). The data indicates that students' profiles do not exhibit a direct link with their perceptions of online teaching effectiveness or their satisfaction with online learning.

Table 5
Association of student's profiles to online teaching effectiveness and satisfaction.

		Sex	Course/year level		Age
Online Teaching	Pearson Chi-Square	21.416[a]	173.65[a]	Kendall's-Tau	-.013
Effectiveness	Asymp. Sig. (2-sided)	.556[ns]	.234[ns]	Sig. (2-tailed)	0.819[ns]
Satisfaction	Pearson Chi-Square	37.684[a]	259.307[a]	Kendall's-Tau	.010
	Asymp. Sig. (2-sided)	.392[ns]	.362[ns]	Sig. (2-tailed)	0.854[ns]

Correlation Between and Among the Online Teaching Effectiveness, Teachers' Readiness, Student Satisfaction and Academic Performance

Table 6 shows that there is a significant relationship between online teaching effectiveness (OTE) and teachers' readiness (Ƭ=0.151, p<0.01); OTE and students' satisfaction (Ƭ=0.621, p<0.01); OTE and GPA (Ƭ=0.506, p<0.01); teachers' readiness and student satisfaction (Ƭ=0.162, p<0.01); teacher readiness and GPA (Ƭ=0.146,

p<0.05); and students' satisfaction and GPA (ζ=0.359, p<0.01). The data conclusively illustrates that the preparedness of teachers plays a pivotal role in determining the efficacy of online instruction. Furthermore, the effectiveness of online teaching significantly contributes to student satisfaction with their online learning experience, ultimately leading to improvements in their academic performance.

Table 6
Correlation between and among online teaching effectiveness, teachers' readiness, student satisfaction and academic performance

		OTE	Teacher's Readiness	Student's Satisfaction	GPA
OTE	Correlation Coefficient	1.000	.151**	.621**	.506**
	Sig. (2-tailed)		.004	.000	.000
	N	186	186	186	186
Teacher Readiness	Correlation Coefficient	.151**	1.000	.162**	.146*
	Sig. (2-tailed)	.004		.002	.0405
	N	186	186	186	186
Student's Satisfaction	Correlation Coefficient	.621**	.162**	1.000	.359**
	Sig. (2-tailed)	.000	.002		.000
	N	186	186	186	186

DISCUSSION

The sample size comprises mostly females, it is because most of the students taking education degree courses are female. Most of the student respondents are between the age of 16-20 and the least are between the age of 31-35. It shows that even though some of them are in the adult-youth age bracket they still manage to pursue a degree course. It also shows that most of the education students are taking bachelor of elementary education courses than secondary education.

Data implies that most of the students in the college of education have satisfactory to outstanding performance. It implies that the students are giving their best potential even amid a global crisis. Tus (2021) claims that despite the epidemic, students retain excellent academic achievement.

Based on the student's rating on the online learning platform, they strongly agreed that the course objectives, materials, technology, assessment, and the instructors' strategies were properly provided. They are satisfied with the online learning provided to them by the College of Education. It also shows that the students have a positive view of online learning platforms. Furthermore, as an initial finding teachers and students are also well equipped in using the different online learning platforms. As a result of the appropriate and proper utilization of different online learning platforms, students were shown their satisfaction towards this online learning. Conversely, it's essential to acknowledge that some student's express dissatisfaction with online teaching, which can be attributed to various factors. These factors include the reliability of their internet connection, access to the necessary electronic devices for online learning, and environmental conditions.

According to Sultana and Khan (2019), the overall satisfaction of students can be linked to the quality of the e-platform and the facilitating conditions. It also demonstrates that students are relatively satisfied with the e-platform and the level of delivery by lecturers, but not with facilitating conditions. In addition, the majority of students were pleased with the timely response from the relevant universities and departments over the Internet, as well as the content of the lessons (Sharma et al., 2020).

Table 3 shows that teachers are prepared to offer their lessons utilizing a variety of e-learning platforms and technologies. Teachers are continuing to learn despite the pandemic; in fact, one faculty member noted,

"The university supplied us with various training in employing modern technology in teaching."

In addition, the faculty of the College of Education is capable of working in an online setting. To organize e-materials, they can use their LMS and Google Drive. They can provide learning materials that are properly tailored to the student's needs. As an initial interpretation, faculty members who are well-versed in the online environment may help students learn more efficiently through online learning. According to the teacher-respondence of Dimaculangan et al., (2021), they not only have the abilities and readiness to shift to online education, but they also have a positive attitude toward it. Furthermore, according to Khtere and Yousef (2021), online preparedness was defined as assessing students' successes and limitations, problem-solving skills, information technology and computer skills, monitoring and motivational approaches, communication, and class management skills.

However, it's worth noting that while teachers are generally prepared for online discussions with students, adapting to this new mode of teaching can be challenging. This challenge arises because they are accustomed to traditional face-to-face settings. On faculty member noted,

"Initially, I faced a significant challenge in connecting with students because this mode of learning wasn't part of my academic experience when I joined this university as a faculty member."

As per the findings of Bayir et al. (2022), pre-service educators encounter challenges in motivating their students to engage in online settings due to the absence of direct eye contact, which makes it hard to establish a connection.

Based on the results, students agree that the online instruction provided by faculty members at the College of Education was effective. They saw that their teacher enjoys teaching and is knowledgeable about the subject. When it comes to creating engaging educational materials and activities for students, teachers are resourceful. Furthermore, the teachers have a high level of respect for their students, which is critical in an online environment. Preliminary data indicate that the College of Education's online instruction was notably effective.

According to Al Natour and Woo (2021), perceived social and utilitarian benefits increase enjoyment with the online video presentation approach from both the creator's

and the learner's perspectives. Furthermore, according to Shukla et al. (2020), the emphasis in an online context is on enhancing engagement through cognitive and social presence, such as significant use of conversations and forums, and facilitating utilization through short-duration courses and assignments. Furthermore, critical learning environments in which students may develop self-awareness, creativity, and problem-solving talents and capabilities must be established.

According to the data, both males and females share the same opinion on the efficiency of online teaching at the College of Education. Furthermore, sex has no bearing on the effectiveness of online courses. There is no link between the effectiveness of online teaching and the student's course/year level, implying that the differing year levels of the two courses have an equal impact on the effectiveness of online teaching. Likewise, according to the study by Tuladhar (2020), there were no variations in the efficiency of online classes between medical and dentistry students ($p=0.414$). Age and the effectiveness of online teaching have no link, meaning that younger and older students have identical views on the effectiveness of online classes. Furthermore, the College of Education's faculty members caters to the diversity of their students. They give both male and female students, upper- and lower-year groups, and older and younger students proper and equal attention. According to Reyes-Fournier (2020), age, gender, student status, the field of study, or expected course grade should have no bearing on OTE, and it should produce similar findings regardless of these variables.

The data also shows that online learning satisfaction is unrelated to sex, implying that male and female students are equally satisfied with their teacher's online instruction. Satisfaction and course/year level also have no relationship, implying that every year level is equally satisfied. It also demonstrates that both younger and older students are equally satisfied with the College of Education's online learning.

Teachers' readiness is closely associated with the efficacy of online teaching, which indicates that if a teacher is well-versed in virtual teaching platforms and other technological benefits, online teaching or instruction will be effective. Teachers with sufficient knowledge and abilities in technical advantages will be able to give their full potential in online education, just as they would in face-to-face instruction. Faculty qualities assist higher education institutions in evaluating faculty's visible talents and personal characteristics to improve the efficacy of online teaching in many academic areas (Khtere & Yousef, 2021).

On the other hand, if online teaching is successful, students will be satisfied with their education. They will be more satisfied with online learning if the online instruction is effective. They will be enthusiastic about learning and will be motivated to do so. According to Maheshwari (2021), to boost students' perceived satisfaction with online learning, professors may be encouraged to contact and provide feedback to students through videos, audio, and instant messaging. Universities must be prepared for future crises. Furthermore, interaction in the classroom, student motivation, course structure, teacher knowledge, and facilitation are all elements that positively influence students' perceived learning outcomes and satisfaction (Baber, 2020).

The data also demonstrate that if online teaching is effective, student performance will improve considerably because faculty members deliver the lectures appropriately. Jaggars (2016) claims that frequent and effective student-instructor contact creates an online atmosphere that motivates students to commit to the course and perform well academically. In addition, asynchronous courses provided with virtual, interactive, real-time, instructor-led (VIRI) classroom technology have the same degree of student performance results as face-to-face learning (Francescucci & Rohani, 2019).

Teachers' preparedness, on the other hand, will improve student satisfaction and academic achievement significantly. According to Zhong (2017), student happiness and the efficacy of the instructor's instruction were shown to have substantial connections. A teacher who is well-versed in the subject matter has the skills needed, and is prepared to teach online has a significant impact on students' academic progress. To summarize, if a teacher is prepared to teach in an online setting, online instruction will be effective, and students will be satisfied in a virtual classroom, resulting in students' academic success. The greater the student's pleasure with online learning, the higher the student's academic success (Basith et al., 2020). According to Setiawan et al., (2021), student satisfaction is as mediating as possible between learning and schools, and it has a major and explicit impact on their academic progress. It will also help students understand and progress. Furthermore, faculty need training and should employ tactics like deliberate practice, which includes complete engagement, multiple tries at success, openness to taking chances, and reflection on learning and failures to mindfully enhance online learner retention (McClendon et al., 2017). In addition, for students to achieve academic success, online teachers must assist, connect, lead, and work in unison with them (Frazer et al., 2017).

CONCLUSION

This study provides valuable insights into the dynamics of online learning within the College of Education at NEUST. Several novel aspects emerge from the research, shedding light on the relationship between student demographics, teacher preparedness, online teaching effectiveness, and overall student satisfaction. One notable finding is predominantly positive academic performance of students in the online learning environment. This underscores the adaptability and resilience of students in embracing remote education. Most importantly, the unanimous agreement among students regarding the fulfillment of their online learning expectations indicates the success of online teaching practices at NEUST's College of Education. However, the study acknowledges certain limitations. Notably, some students express dissatisfaction with online learning due to factors such as internet reliability, access to devices, and environmental conditions. These challenges suggest areas for improvement in terms of technology infrastructure and support services. In examining faculty readiness for online teaching, the study establishes a moderately high level of preparedness among teachers. While teachers show aptitude in engaging students in online discussions, the adaptation to this mode of teaching presents a challenge due to their traditional face-to-face teaching backgrounds.

The research demonstrates a significant interplay between various factors. It reveals a strong correlation between online teaching effectiveness and teacher preparedness. This underscores the importance of teacher readiness in ensuring the success of online instruction. Similarly, the connection between online teaching effectiveness and student satisfaction reinforces the idea that effective teaching directly contributes to positive student experiences. Importantly, the study transcends demographic boundaries. It establishes that regardless of gender, age, or course, student satisfaction with online learning remains consistent. This robust finding underscores the inclusivity and universality of effective online education. The research identifies gaps in the current online learning paradigm. While the study does not delve into detailed pedagogical approaches, it paves the way for future research to explore innovative teaching methodologies in the online setting. Furthermore, avenues for enhancing technical support and infrastructure to mitigate student challenges are evident.

As educational institutions continue to grapple with the dynamics of online and blended learning, these findings provide actionable insights. By focusing on teacher preparedness and online teaching effectiveness, institutions can elevate student satisfaction and academic performance. Overall, this study contributes significantly to the understanding of online learning within the College of Education at NEUST. It underscores the need for robust teacher training, technical support, and infrastructure improvement to optimize online education. The findings bridge the gaps between teacher preparedness, teaching effectiveness, student satisfaction, and academic performance, paving the way for enhanced educational experiences in the digital age.

RECOMMENDATIONS

In light of the research findings, NEUST's College of Education is encouraged to embark on a multi-faceted approach to enhance its online education paradigm. Firstly, the college should prioritize the development of comprehensive teacher training initiatives that equip educators with the necessary digital pedagogical skills, fostering a seamless transition from traditional to online instruction. Concurrently, investments in upgrading the institution's technical infrastructure are essential to ensure consistent internet connectivity and accessibility for all students, effectively mitigating challenges related to device availability and connectivity.

Furthermore, establishing dedicated student support services can significantly improve the overall online learning experience. These services should encompass technical support for troubleshooting, study-from-home guidance, and platforms for fostering a sense of virtual community. Simultaneously, embracing pedagogical innovation through interactive learning methods, such as gamification and multimedia content, can enhance student engagement and comprehension in the online environment. The integration of regular student feedback mechanisms enables the college to adapt and refine its strategies, aligning online teaching effectiveness with student satisfaction and academic achievement. A nuanced approach to intergenerational teaching strategies should be employed to cater to the diverse age groups within the student body, ensuring inclusivity and ease of learning for all.

As a final note, future researchers may undertake a study pertaining to the efficacy of online instructional methods under typical circumstances, building upon the foundations established in this study. Further research endeavors can delve into deeper analyses of specific pedagogical techniques, long-term impacts on student performance, and the evolving landscape of digital education.

LIMITATIONS OF THE STUDY

The outcomes of this study were confined to the research questionnaires provided by the researcher. Furthermore, the scope of this study was centered around implementing a particular intervention within this university.

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