

Evaluating Student Satisfaction and Preferences in Higher Education Online Learning: A Post-Pandemic Exploration

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Abstract. This study, grounded in transformational learning theories, investigated the satisfaction levels of higher education students with online learning during the COVID-19 pandemic. The study found that students expressed a neutral sentiment towards the online learning environment, with key aspects valued by students, including instructor support, guidance, and personalization. However, students reported the lowest satisfaction with the knowledge and skills acquired, indicating a need to align teaching methods with desired learning outcomes. Facility performance also received a neutral mean satisfaction score. Students appreciated webinars, seminars, and extracurricular activities, recognizing their importance in enriching online education. However, they wanted more than school-provided facilities, suggesting physical resources and service improvements. Regarding future learning modes, students preferred blended classrooms, face-to-face instruction, and specific online teaching platforms over exclusive online classes, emphasizing the need for diversified learning approaches and effective digital tools. A notable finding was the positive correlation between students' willingness to recommend online learning in the future and their overall satisfaction, underscoring the importance of instructor engagement, diverse learning modalities, and aligning teaching methods with desired learning outcomes to meet the evolving needs of students in a post-pandemic educational landscape. These findings have significant implications for the future of higher education, particularly in the design of online learning platforms and the role of educators in enhancing the student experience.

Keywords: Blended Learning; Higher Education; Online Learning; Post-pandemic education; Student satisfaction.

1.0 Introduction

Face-to-face training has traditionally dominated instructional methods in the Philippines. However, the COVID-19 pandemic forced higher education institutions to transition rapidly to online teaching platforms, regardless of students' and educators' technical readiness and expertise (Almusharraf & Kharo, 2020). This shift mirrors global trends observed by Raturi (2018), who noted that many higher education institutions worldwide are increasingly adopting virtual learning environments, breaking down barriers for learners and instructors. This transition to online teaching became widespread in the Philippines due to the pandemic's impact, compelling institutions to alter their teaching and learning modalities.

Student satisfaction with online learning has become a significant focus within higher education. The swift adoption of online teaching methods by community colleges, universities, and other institutions marked a crucial development in educational delivery (Dziuban et al., 2015). As a result, student satisfaction with these online

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platforms is now recognized as a key factor in the success of educational processes (Elshami et al., 2021). Various elements, such as teacher-related factors, technological challenges, and interactivity, are essential in determining student satisfaction. Bolliger (2004) provided reliable statistics demonstrating that specific tools could effectively estimate students' satisfaction with online courses. However, the pandemic presented new challenges; Foerderer et al. (2021) noted that during the spring semester of 2021, many students attended lectures from their bedrooms, with instructors struggling to share screens, class discussions occurring in impromptu breakout rooms with minimal engagement and passive video sessions replacing hands-on science labs. These conditions highlighted the strain on educational quality and student engagement. Nevertheless, online education was crucial in maintaining accessibility for students during COVID-19 lockdowns (Elshami et al., 2021).

The determinants of student satisfaction are dynamic and influenced by various educational experiences, services, and amenities (Weerasenghe, 2017). This sentiment measures the alignment between students' expectations and the services provided, encompassing feelings of contentment and dissatisfaction (Oliver, 1980, 1999). Learning satisfaction is often linked to teaching and learning activities, while contentment reflects the alignment between expectations and perceived services (Weerasenghe, 2017). Singley (2010) discussed factors influencing student satisfaction in Lent's model of well-being and psychosocial functioning, including academic self-efficacy, progress toward goals, and social support. These factors shape overall well-being and psychosocial adjustment among students. Social cognitive theory also contributes to understanding satisfaction, highlighting the significance of teaching strategies aligned with social cognition principles (Bandura, 1986, 1989). Malouff (2010) further supports the connection between social cognition theory, teaching styles, and student satisfaction.

E-learning presents benefits such as flexibility and cost-effectiveness facilitated through asynchronous and synchronous learning networks (Harsasi et al., 2018). However, bandwidth constraints can impede non-verbal communication and the transmission of cultural insights (Anderson, 2008). The "new normal" brought about by the COVID-19 pandemic emphasizes the need for efficient learning processes, with student contentment playing a critical role in this efficiency (Elshami et al., 2021). The quality of service, especially in private higher education institutions, directly influences student satisfaction, with particular emphasis on platforms, grading schemes, training sessions, and technical support (Ilias, 2008).

The pandemic further highlighted the need for professional development and innovative teaching strategies to enhance online learning experiences. Social cognitive theory suggests that knowledge formation occurs through participation in activities, feedback, and various forms of social interaction (Bandura, 2001). This perspective underscores the significance of learning environments and interactions, challenging the notion of cognition as an isolated process.

Despite the swift transition to online learning during the COVID-19 pandemic, a considerable research gap exists in fully understanding the complex factors influencing student satisfaction with online education in the Philippine context. Existing studies often address general aspects of online learning and student satisfaction but frequently overlook the specific challenges and technological limitations faced by Filipino students and educators. This study seeks to address this gap by exploring the factors that impact student satisfaction with online courses in the Philippines, focusing on technological limitations, teacher effectiveness, and interactive components. The importance of this research lies in its potential to guide policymakers and educational institutions in understanding the unique needs and experiences of students in the Philippines. This, in turn, can lead to better design and implementation of online learning environments and strategies, ultimately improving educational outcomes.

2.0 Methodology

2.1 Research Design

The study employs a quantitative cross-sectional survey design to systematically gather and analyze student satisfaction with online learning experiences at a State University in Surigao City, Philippines. This design enables the collection of detailed snapshot data simultaneously, facilitating a comprehensive evaluation of student satisfaction and identifying potential areas for improvement in online education.

2.2 Research Participants

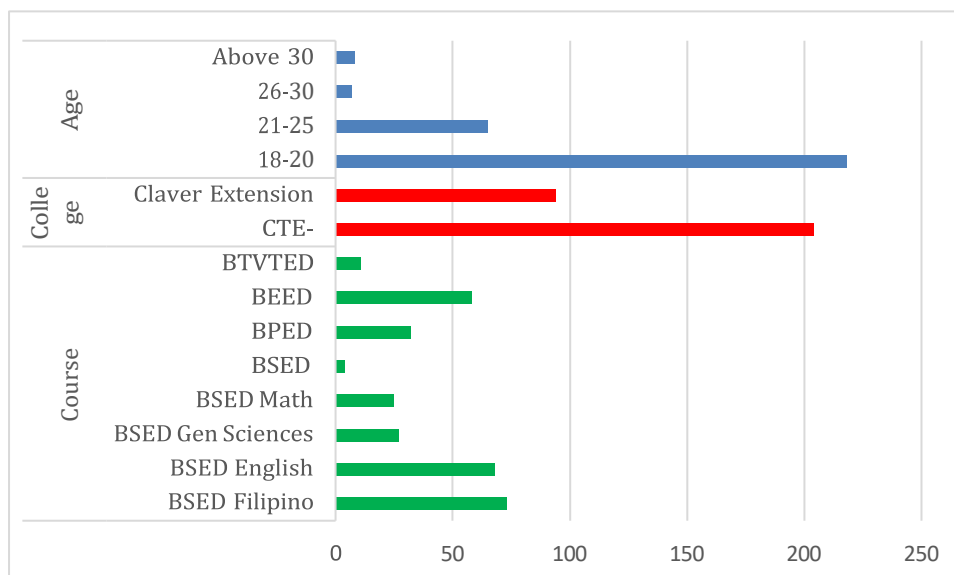


Figure 1. Summary of respondents' profile

The study involved 283 participants, comprising students across different academic levels—freshmen, sophomores, juniors, and seniors. The participants, aged between 18 and 30, were enrolled in various academic programs, including Bachelor of Elementary Education (BEED), Bachelor of Secondary Education (BSED), Bachelor of Physical Education (BPED), and Bachelor of Technical Vocational Teacher Education (BTVTED).

2.3 Research Instruments

The survey instrument used in this study was adapted with permission from Almusharraf and Khahro (2020). The instrument underwent rigorous validity and reliability testing. The survey began with three questions to collect demographic information from respondents. The remaining twenty-two questions required participants to indicate their level of agreement with statements designed to gauge their perceptions and satisfaction with various actions taken by university management to enhance online teaching and learning during the COVID-19 pandemic. The questionnaire was structured into four sections: demographics, satisfaction with the online learning environment, satisfaction with school support, and assessments of online learning platforms and approaches.

2.4 Data Gathering Procedure

The survey was distributed to participants through multiple platforms, including Google Classroom, messenger apps, and email.

2.5 Ethical Considerations

Prior ethical approval was obtained from the Office of the Division of Student Affairs and the Office of the Campus Director at the State University in Surigao City, Philippines. Participants were fully informed about the study's purpose and the use of their responses for research on student satisfaction. Completing the survey on Google Forms served as explicit consent from participants to participate in the research. Throughout the survey administration process, strict adherence to ethical principles was maintained, including ensuring informed consent, safeguarding participant anonymity and confidentiality, employing rigorous data security measures, promoting voluntary participation, protecting privacy, avoiding biased questioning, and ensuring responsible and ethical use of collected data. These measures were implemented to uphold the ethical integrity and credibility of the research study.

3.0 Results and Discussion

3.1 Level of Satisfaction with Online Learning Environment

Table 1. Descriptive statistics of the level of satisfaction in an online learning environment

Indicators	Mean	SD	Interpretation
1. I am satisfied with the teachers' help during COVID-19 (one-on-one feedback, inclusion in the learning process, comprehension of situations, etc.).	3.9	0.7	Agree
2. I am satisfied with the alternate assessment plans that faculty members used for the COVID-19. (An oral exam, project, case study, presentation, open-book test, or assignments).	3.8	0.9	Agree
3. The course has several online distribution methods (texts, audio, video, PowerPoint slides, games, and quizzes) that suit me.	3.8	0.8	Agree
4. I am satisfied that the online courses enabled me to meet the course's learning objectives.	3.6	0.9	Agree
5. I am satisfied with the teacher's direction and follow-up (phone calls, emails, and virtual meetings) during the online course activities.	3.9	0.9	Agree
6. I am satisfied with the knowledge and skills I have acquired from Covid-19 Online Teaching (e.g., analytical and research skills, flexibility, adaptability, interpersonal abilities).	3.5	0.9	Agree
7. I am satisfied with the extent of engagement in the course (e.g., active classroom vs. lecture-based) during online teaching.	3.7	0.8	Agree
8. I am content with the diverse online teaching methods employed by the instructors, including active learning opportunities, demonstrations, games, and group and individual discussions.	3.8	0.8	Agree
9. I am satisfied with the instructor's ability to personalize online instruction and encourage a student-centered methodology.	3.9	0.9	Agree
Composite	3.8	0.12	Agree

Legend: 1-1.79 – Strongly Disagree; 1.8-2.59 – Disagree; 2.6 – 3.39 – Neutral; 3.4-4.19 – Agree; 4.2-5 – Strongly Agree

As reflected in Table 1, the students rated the indicators with the highest mean of 3.9, verbally interpreted as Neutral. The indicators include, “I am satisfied with the amount of help I got from the teachers during the COVID-19 (one-on-one feedback, inclusion in the learning process, comprehension of situations, etc.). “I am happy with the direction and follow-up (phone calls, emails, and virtual meetings) provided by the teachers during the activities of the online course,” and “I am satisfied with the instructor's ability to personalize online instruction and encourage a student-centered methodology.” This preference aligns with the conclusion drawn by Zaheer (2015) that instructor support yielded the highest mean score.

On the other hand, the indicator “I am satisfied with the knowledge and skills I have acquired from Covid-19 Online Teaching (e.g., analytical and research skills, flexibility, adaptability, interpersonal abilities)” got the lowest mean score of 3.5. Manzanares (2022) emphasizes the importance of carefully assessing student and instructor satisfaction with the teaching-learning process in virtual environments to make the necessary modifications as soon as possible. According to Wu and associates (2010), learning satisfaction is a complex construct influenced by performance expectations and the prevailing learning climate. It is worth noting that various elements, including system functionality, content features, engagement, and computer self-efficacy, can significantly shape these performance expectations. Moreover, Foerderer (2021) provided intriguing insights into student satisfaction across different learning modalities. Surprisingly, even when students were compelled to enroll in the format dictated by their school, be it Online, Hybrid, or Person, there was no significant difference in their overall satisfaction ratings. This suggests that students' satisfaction may not be primarily tied to the mode of instruction but rather to other crucial factors. One such essential factor is the role of professors in enhancing satisfaction, as highlighted by Foerderer (2021). The study found that when professors were accessible, offered clear explanations of the learning process (including goals, expectations, and assessment criteria), and provided constructive criticism on assignments, students reported feeling the most satisfied with their lectures.

The findings from various studies shed light on factors influencing learning satisfaction and student preferences in different learning modalities. These findings underscore student satisfaction's multifaceted nature in various learning contexts. They highlight the importance of professor accessibility, course design, and student engagement in shaping satisfaction. Additionally, the effectiveness of different learning modalities and sensory engagement in online learning significantly influence student preferences and overall satisfaction.

3.2 Level of Satisfaction with Facility Performance

Table 2. Descriptive statistics of the level of satisfaction with facility performance

Indicators	Mean	SD	Interpretation
1. I am satisfied with the staff's response time to technical help during COVID-19 (such as account login, LMS support, and the Internet Technology Center)	3.7	0.8	Agree
2. I am satisfied with the social and emotional help provided by the school counselor.	3.7	0.8	Agree
3. I am satisfied with the support and follow-up I received from my academic advisor.	3.8	0.7	Agree
4. I am satisfied with the available extracurricular activities, seminars, and webinars.	4.0	0.8	Agree
5. I am satisfied with the school's resources, such as the mentors, e-learning center, tutoring center, and tutorials.	3.6	0.8	Agree
Composite	3.8	0.1	Agree

Legend: 1-1.79 – Strongly Disagree; 1.8-2.59 – Disagree; 2.6 – 3.39 – Neutral; 3.4-4.19 – Agree; 4.2-5 – Strongly Agree

Table 2 shows students' satisfaction with Facility Performance as rated by the students with a mean of 4.0, which is verbally interpreted as neutral. The indicator with the highest mean includes "I am satisfied with the extracurricular activities, seminars, and webinars that are available." The lowest mean, 3.6, verbally interpreted as neutral, indicates "I am satisfied with the resources offered by the school, such as the mentors, e-learning center, tutoring center, and tutorials."

However, it is worth noting that satisfaction with this particular form of education based on didactic and technical innovation was extremely high during the pandemic's first two years (Manzanares, 2022). As to offered webinars, seminars, and extracurricular activities, Choe (2019) emphasized that in the context of online learning, online courses employ distinct implementation strategies compared to face-to-face classes. Building a successful online learning environment requires a deep understanding of best practices, technology, content design, learning evaluation, student motivation, and factors unique to online situations.

Additionally, Carliner (2004) introduces an intriguing concept related to asynchronous online courses. Online courses can reduce learning time, possibly cutting it in half. This is attributed to its flexibility, allowing learners to skip through topics they already know, unlike traditional classroom settings where they must sit through everything. Furthermore, proponents of online learning argue that it can be more effective because it engages more senses, thus enhancing the learning experience (Carliner, 2004). The better the data is maintained, the more senses are involved in learning, potentially leading to increased comprehension and retention. These findings underscore student satisfaction's multifaceted nature in various learning contexts. They highlight the importance of professor accessibility, course design, and student engagement in shaping satisfaction. Additionally, the effectiveness of different learning modalities and sensory engagement in online learning significantly influence student preferences and overall satisfaction.

3.3 Preferences in Online Learning

Table 3. Descriptive statistics on preferences

Indicators	Mean	SD
1. I promote learning using ONLY online programs in the future.	2.7	1.1
2. I recommend acquiring knowledge through mixed classrooms, combining traditional instruction with interactive internet resources.	3.8	0.9
3. I recommend learning through in-person instruction alone.	3.9	0.9
4. The most efficient platform for instruction was Google Classroom, which was used to deliver courses virtually.	3.9	0.8
5. There were no technical or content difficulties, making the distribution of high-quality material in the module/LMS simple.	3.7	0.8
6. The best platform for teaching was Zoom/Google Meet, which was used for online courses.	3.9	0.9

Legend: 1-1.79 – Strongly Disagree; 1.8-2.59 – Disagree; 2.6 – 3.39 – Neutral; 3.4-4.19 – Agree; 4.2-5 – Strongly Agree

As observed in Table 3, the indicator with the highest mean rating is "I recommend learning through in-person instruction alone." This preference was similarly found in the population studied by Gherhes et al. (2021), indicating a stronger preference for face-to-face learning over e-learning. Another indicator that received the highest mean rating was: "The most efficient platform for instruction was Google Classroom, which was used to deliver courses virtually," and "The Zoom/Google Meet used for online course delivery was the most effective teaching platform." Additionally, Widiyatmoko A. (2021) emphasized that Google Classroom can facilitate

conversation activities for both professors and students, improving the online science learning process by making it more engaging, enjoyable, and efficient in terms of time management. Furthermore, Okmawati (2020) demonstrated the effectiveness of the Google Classroom platform, suggesting it as a viable option for schools and teachers looking to offer appealing digital learning experiences while transitioning to virtual courses. On the contrary, the indicator with the lowest mean of 2.7, interpreted as disagreement, is "I promote learning using only online programs in the future." This suggests that students prefer modes of delivery other than exclusively online classes.

3.4 Differences in Satisfaction with Online Learning Experience

Table 4 presents the analysis results, examining the variations in groups of students' satisfaction with online teaching and learning approaches during the COVID-19 pandemic.

Table 4. Group differences in their satisfaction with their online learning experience

Independent Variable	Group	Mean	F (df)	p-value	Remark
Course	BSED Filipino	3.68 ^a	2.055 (7)	0.04	Significant
	BSED English	3.48 ^a			
	BSED Gen Sciences	3.46 ^a			
	BSED Math	3.84 ^a			
	BSED	3.75 ^a			
	BPED	3.56 ^a			
	BEED	3.84 ^a			
College	BTVTED	3.18 ^b	1.36 (1)	0.24	Not Significant
	CTE-City	3.57			
	Claver Extension	3.7			
Age	18-20	3.65	0.87(4)	0.481	Not Significant
	21-25	3.47			
	26-30	3.42			
	Above 30	3.87			

Results indicated a statistically significant difference in students' satisfaction with online teaching and learning, primarily driven by their chosen course, as demonstrated by a one-way ANOVA ($F(7,296) = 2.055$, $p = 0.04$). A Tukey post hoc testing revealed that the BSED (Filipino, English, Gen Science, Math), BPED, and BEED groups were significantly more satisfied with online teaching and learning approaches than the BTVTED group ($p = 0.028$). However, there was no statistically significant difference among the BSED, BPED, and BEED groups ($p = 0.61$). Additionally, the results unveiled that satisfaction levels with online teaching and learning approaches during COVID-19 were likely to be similar between students in the CTE-City campus and those in the Claver extension. Similarly, among students aged 18 and over, there was no statistically significant difference in satisfaction levels. Given the uncertainty surrounding the upcoming semester in higher education institutions, whether entirely online, a mix of online and face-to-face classes, or traditional in-person lectures, this study also examined students' satisfaction with recommended online learning. The results of this analysis are presented in Table 5.

3.5 Regression Analysis

Table 5. Regression analysis on the students' satisfaction with online learning and teaching approaches

Independent Variable	B	Beta	t	p	Remark
Constant	2.81		22.6	0	Significant
I recommend learning to use only online classes in the future.	0.29	0.37	6.94	0	Significant

$R^2_{adj} = 0.37$ ($N=298$, $p = 0.00$)

The significant change in the students' satisfaction with online teaching and learning approaches is due to the recommendation of online learning (because the p-value is $0.000 < 0.5$ level). With a 1% increase in the extent of student's recommendation of online learning, the satisfaction rate will increase by 0.29% (B value). Therefore, the analysis suggests that the students' recommendation of online learning in the future has a significant positive relationship with their satisfaction with online teaching and learning approaches.

The study's key findings reveal several important insights regarding students' satisfaction with the online learning environment, facility performance, future learning modes' recommendations, and demographics' impact. Firstly,

the overall mean satisfaction score for the online learning environment is 3.8, which falls within the "Neutral" category. This suggests a balanced sentiment among students regarding their online learning experiences.

Secondly, the highest-rated indicators pertain to instructor support, guidance, and personalization of online learning. This underscores the significance of instructor involvement and adaptability in enhancing students' satisfaction with the online learning process. Conversely, the lowest-rated indicator is related to students' satisfaction with the knowledge and skills gained during online teaching. This finding highlights where improvements may be needed to better align online teaching methods with students' learning outcomes. Moving on to facility performance, the study indicates an overall mean satisfaction score of 3.8, again placing it in the "Neutral" category. Of note is that the highest-rated indicator is satisfaction with offered webinars, seminars, and extracurricular activities, suggesting that students value these additional resources. However, the lowest-rated indicator pertains to satisfaction with school-provided facilities. This outcome suggests room for enhancement in terms of the physical resources and services offered by the institution. Concerning recommendations for future learning modes, students appear less inclined to recommend learning using ONLY online classes, with a mean score of 2.7, indicating disagreement. On the other hand, higher ratings are given to recommendations for blended classrooms, face-to-face classrooms, and specific online teaching platforms. This indicates a preference among students for a mix of learning modalities and effective online tools.

Finally, the study reveals that the course significantly influences online teaching and learning satisfaction. Specifically, BSED, BPED, and BEED students express higher satisfaction levels than BTVTED students. Meanwhile, college and age do not significantly impact satisfaction levels, indicating that these factors are less influential in students' online learning experiences. Additionally, there is a significant positive relationship between students' recommendation of online learning in the future and their satisfaction with online teaching and learning. This suggests that as students become more open to recommending online learning, their satisfaction with online education increases. These discoveries offer valuable perspectives for educational institutions aiming to enhance online learning experiences and customize their methods to better align with students' preferences and needs.

4.0 Conclusion

The results indicate that participants generally expressed satisfaction with online learning. Additionally, this study highlights the need for further investigation into integrating professional development seminars with practical training programs to enhance effective teaching and learning in online settings. The findings contribute to our understanding of student satisfaction in higher education during the pandemic, elucidating factors that influence this satisfaction. Notably, students reported satisfaction with instructor support, alternative assessment plans by faculty members, and specific online platforms such as Google Workspace, Google Classroom, and Learning Management Systems. Furthermore, the study emphasizes the critical role of interactions in online courses, which is consistent with social cognitive theory.

While the overall satisfaction with online learning was positive, variations were observed among different courses and programs. BSED, BPED, and BEED students and students from other specific courses reported higher satisfaction than BTVTED students. There was no significant difference in satisfaction levels between students at the CTE-City site and those at the Claver extension, nor was there a significant age-related difference in satisfaction levels.

An interesting finding is the student's preference for a combination of online and face-to-face learning over purely online classes in the future, suggesting that a blended learning approach might be more favorable. Regression analysis indicates a significant positive relationship between students' future recommendation of online learning and their satisfaction with current online teaching and learning approaches. This implies that students who are satisfied with their online learning experiences are more likely to endorse online learning in the future.

5.0 Contributions of Authors

This is a single-author study.

6.0 Funding

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7.0 Conflict of Interests

The author declares no conflicts of interest about the publication of this paper.

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