Assessment of e-learning Experience of Senior High School Students in a Private School

DOI: https://doi.org/10.52006/main.v5i4.562

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PHILIPPINE SOCIAL SCIENCE JOURNAL
ISSN 2672-3107 (Print) • ISSN 2704-288X (Online)
Volume 5 Number 4 October-December 2022

Article history:
Submitted: 6 July 2022
Revised: 7 December 2022
Accepted: 19 December 2022

Keywords:
e-learning
SERVQUAL
Descriptive-correlational
Philippines

ABSTRACT. The global pandemic drastically impacted the education landscape, directing schools to shift from traditional classrooms to online education. Online education paved the way for e-learning as the new normal mode of education. This study assessed the e-learning experiences of Senior High School students in a private academic institution that used a descriptive-correlational research design using mean, standard deviation, *t*-test, ANOVA, and Pearson correlation coefficient in data analysis. Three hundred sixteen students were surveyed. Results showed that perceived quality is very positive, and students were highly satisfied with their e-learning experience; however, this was not translated to the behavioral intention of recommending e-learning to other students. Results also showed that only the perceived quality significantly differs while the other dimensions do not vary. Finally, the results showed that e-Learning quality, level of satisfaction, behavioral intention, and grade expectation were all positively correlated. It can be concluded that students show a positive assessment of their e-learning experience. However, developing strategies that will enhance their educational learning experience is still recommended to fully embrace the new normal education.

1.0. Introduction

In 2020, the World Health Organization confirmed the COVID-19 pandemic as an international crisis (Chakraborty & Maity, 2020; Cucinotta & Vanelli, 2020) that caught everyone by surprise and brought unprecedented challenges to the lives of the people (Bahasoan et al., 2020; Lagat, 2020). Many aspects of society drastically changed, including the education sector (Daniel, 2020; Toquero, 2020), affecting the students, teachers, and academic institutions (Valladolid, 2021; Marinoni et al., 2020) and affecting more than 91% of the learners (UNESCO, 2020). Even the Philippine education system was not spared from this crisis, with reports that the immediate closure of schools affected learners in the Philippines (Joaquin et al., 2020).

Because of this health emergency, national leaders decided to innovate and develop strategies for delivering school instructions (Tria, 2020; Cuaton, 2020). Department of Education provided guidelines for remote learning opportunities. With this, different educational institutions carried out self-learning modalities such as modular distance learning (Talimodao & Madrigal, 2021) and online distance education to ensure that learning continues despite the global crisis (Gastar & Linaugo, 2022).

However, transitioning from conventional in-person teaching-learning to online and virtual learning is difficult (Adnan & Anwar, 2020), leading to various obstacles and challenges for teachers and students (Tirziu & Vrabie, 2015; Bao, 2020). Fabito et al. (2020) highlighted that some schools were not ready to embrace online learning, especially the students and teachers. Additionally, Fulgencio et al. (2021) identified internet access, numerous tasks, online costs, and mental health problems were some of the issues encountered by the students while adapting to e-learning.

The E-learning strategy utilizes online tools and media in teaching (Kumar Basak et al., 2018). Al Kurdi et al. (2020) highlighted that e-learning gained recognition because of its ability to deliver educational resources using the internet. According to Oliveira et al. (2021), the pandemic paves the way for the social acceptance of e-learning.

Behavioral intention refers to capturing one's motivation to perform a behavior (Fishman et al., 2020). In academic institutions, behavioral

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intention pertains to the students choosing to use technology as an alternative mode of learning (Alamri, 2021). Chao (2019) said satisfaction, trust, and performance expectancy contribute to a positive behavioral intention.

Educational institutions utilize various assessment tools (Lara et al., 2020) to develop improved and efficient educational processes that will cater to the needs of the students (Bulut, 2019). Many studies have identified the barriers and challenges of e-learning at the tertiary level (Barrot et al., 2021; Baticulon et al., 2021); however, there is limited research conducted at the SHS Basic Education level. It is necessary to assess the overall e-learning experience of the SHS students to help academic institutions evaluate their services in delivering online classes yielding strategies that can enhance the students' e-learning experiences in the new normal education.

This study assessed the e-learning experiences of the SHS students in the aspects of perceived quality using SERVQUAL, satisfaction, behavioral intention, and grade expectation when grouped according to sex and strand. Moreover, this study determined the relationship between variables of quality and satisfaction, quality and behavioral intention, and satisfaction and grade expectation.

2.0. Framework of the Study

This study is anchored on the SERVQUAL model of Parasuman et al. (1988). This model is proven effective for measuring consumer satisfaction and expectations (Springer & Tyran, 2022).

Uppal et al. (2018) modified the SERVQUAL model to evaluate the e-learning process of a learning institution. The scale consists of the following dimensions: Tangibles which include physical amenities, equipment, and personnel grooming; Reliability which refers to a company's capacity to deliver on its promises consistently and precisely; Responsiveness which is defined as a readiness to cater to the needs of the clients by providing a quick service; Assurance, which is a mark of an employee's ability to prove their authority through the familiarity of their service and manners; and Empathy, defined as the service firm's ability to deliver sympathetic and personalized attention to its customers (Pakurar et al., 2019).

Gupta and Kaushik (2018) emphasized that SERVQUAL is the most widely acceptable predictor used in academic institutions to determine students' satisfaction and perceptions of instruction quality. Moreover, Abd Rahman and Hamid (2017) said that user experience, operation, and value of information are key factors in determining the quality of e-learning services.

Crucial aspects of e-learning include administrative and support services, instructional materials and implementation, and security and privacy (Pham et al., 2018). These findings accord with prior studies conducted in face-to-face and online education (Al-Rahmi et al., 2018).

Students' expectations were significantly high when using online tools, modern facilities, and a relaxed online learning environment provided by academic institutions (Li et al., 2018). Because most online learning is done electronically, current learning equipment such as PCs and learning management systems (LMS) significantly impact the students' e-learning. According to various studies, adopting e-learning

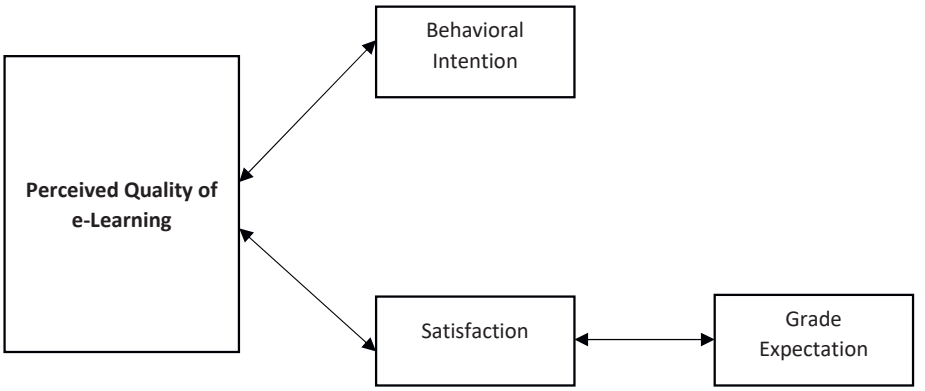

Figure 1. Paradigm of the Study

to improve the school experience positively impacts learners' expectations and satisfaction. In connection with other research, the efficiency of e-learning determined the quality of the e-learning services. Figure 1 illustrates that the perceived quality of e-Learning would affect the behavioral intention and satisfaction of the students. The paradigm represents the variables in the study.

3.0. Methodology

This research study is a descriptive-correlational design. According to Baker (2017), this research design is appropriate to measure the relationship between two variables. According to Boru (2018), the research design sets the process, methods, analysis, and interpretation of results.

Using a stratified sampling technique, 316 SHS students participated in this study, dividing the population into strata. Stratified sampling is used when the population does not have a homogenous group to represent each group well (Etikan & Bala, 2017). There were 31 students from Accounting and Business Management (ABM), 44 students from Arts and Design (AD), 42 students from Humanities and Social Sciences (HUMSS), 83 students from Science, Technology, Engineering, and Mathematics (STEM), 64 students from Technical Vocational Livelihood-Home Economics (TVL-HE), 12 students from Technical Vocational Livelihood-Information, Communication, and Technology (TVL-ICT), and 40 students from Technical Vocational Livelihood-Tourism Management (TVL-TM).

This study utilized an adapted-modified questionnaire from Udo et al. (2011) with the following descriptors:

No. Code	Scale	Descriptors		
		Perceived e-Learning Quality	Level of Satisfaction	Behavioral Intention
4	3.25-4.00	Very Positive	Highly Satisfied	Highly Recommend
3	2.50-3.24	Positive	Satisfied	Recommend
2	1.75-2.49	Negative	Slightly Satisfied	Slightly Recommend
1	1.00-1.74	Very Negative	Not Satisfied	Do not Recommend

Fifteen experts validated the instrument getting a 0.91 content validity index proving it was a valid instrument. The alpha coefficient of the tool was 0.97, establishing it as a reliable instrument.

This study distributed an online survey to the students. The school's administrators secured a letter to survey before the questionnaire was distributed. Once done with data gathering, the researchers used mean, standard deviation, *t*-test, ANOVA, and Pearson correlation coefficient in analyzing the data.

This study ensured that all information would be kept confidential and used solely for academic purposes. The respondents were asked to sign a consent form, and they could not write their names for confidentiality. The respondents were also given the right to withdraw immediately should they deem it appropriate.

4.0. Results and Discussion

Perceived quality of e-learning

Overall, the mean was 3.45; the SD of 0.462 and interpreted as very positive. This implies that the student's perception of e-learning is positive. The positive experiences abetted by the unconventional methods of conducting classes, a self-paced module of instructions, and access to online resources. The results agreed with Bastos et al. (2021), highlighting students' positive attitudes toward e-learning and digital hybrid pedagogy. Online education created more opportunities for students to be engaged in complex situations and challenges.

Results showed that both males and females have a very positive perception of the quality of e-learning, with a mean of 3.51, an SD of 0.471 for females and a mean of 3.38, and an SD of 0.438 for males. The results also showed a significant difference in the perception of male and female SHS students, with a p-value of 0.011. This implies that both sexes have a positive perception of e-learning during online classes, although the male and female perceptions vary significantly. This supports the study of Elumalai et al. (2021), stating a significant difference in the perceived quality of e-learning between males and females.

The results showed that all strands were very positive in their perception of the quality of e-Learning. This implies that all students, regardless of their strands, were very positive about the quality of e-learning. This supports the findings of Bastos et al. (2021), who concluded that students have a good perception of the e-learning platform. The results also showed a significant difference in the perception of the SHS students when grouped according to strand,

with a p-value of 0.026. This implies that the student's perception of e-learning quality varies significantly.

Level of satisfaction

When taken collectively, the results showed that the students were highly satisfied with their e-learning experience with 3.28; SD of 0.607. This implies that the SHS students were satisfied with the school's online platform, including access to online tasks, learning materials, and virtual learning. Accordingly, the study by Abbasi et al. (2020) also highlights that students were pleased with e-learning, especially in acquiring general information, although not as effective in achieving clinical and technical skills. According to Goh et al. (2017), students' experiences in e-learning are essential indicators of learning results and satisfaction.

When grouped according to sex, female respondents were highly satisfied with a mean of 3.32; SD of 0.578, compared to males with a mean of 3.21; SD of 0.634 as satisfied. This suggests that female students are more content with their e-learning experience than males. This agrees with the study of González-Gómez et al. (2012), stating that females are more pleased with e-learning as they value the importance of planning and more accessible communication with teachers. The results also showed no difference in the level of satisfaction between the opposite sexes, with a p-value of 0.102. However, this contradicts the study of Soub et al. (2021), who said there was a noteworthy difference in the level of satisfaction between males' and females' e-learning experiences. Puška et al. (2021) found that metacognitive strategies directly affect the students' satisfaction using e-learning.

When grouped according to strands, it was revealed that ABM, HUMSS, and TVL TM were highly satisfied with their e-learning experience with a mean score of 3.60, 3.71, and 3.48, respectively, while AD, STEM, TVL HE, and TVL ICT obtained a mean score of 3.20, 3.17, 3.21, and 3.06, interpreted as satisfied. This implies that not all strands were highly satisfied with their e-learning experience. This is the same with the study of Ice et al. (2017), which articulates that most students were primarily satisfied with e-learning but not all courses. Abbasi et al. (2020) suggest a blended medical and technical studies approach, including STEM and TVL strands.

Table 1. Perceived quality of e-learning taken collectively and grouped according to variables

Variables	Mean	SD	Verbal Interpretation
Sex			
Male (n=138)	3.38	0.438	Very Positive
Female (n=178)	3.51	0.471	Very Positive
Strand			
ABM (n=31)	3.54	0.470	Very Positive
AD (n=44)	3.40	0.588	Very Positive
HUMSS (n=42)	3.62	0.404	Very Positive
STEM (n=83)	3.35	0.431	Very Positive
TVL-HE (n=64)	3.44	0.400	Very Positive
TVL-ICT (n=12)	3.29	0.411	Very Positive
TVL-TM (n=40)	3.55	0.443	Very Positive
As a whole (316)	3.45	0.462	Very Positive

Behavioral intention

When taken collectively, the results showed a mean of 3.18 and an SD of 0.640, interpreted as recommended. This implies that the students have average behavioral intent in recommending e-learning to other learners. Chang et al. (2017) mentioned that positive attitudes regarding e-learning increase the behavioral intention to use it. Although several critical elements influence the outcome, usefulness, ease of use, and facilitating conditions affect students' behavioral intention (Humida et al., 2022).

When grouped according to sex, females have a higher intent of recommending e-learning to other students, with a mean of 3.23; SD of 0.607, than males, with a mean of 3.21; SD of 0.670. This result contradicts the study of Ong and Lai (2006), which states that men have a higher behavioral intention to utilize e-learning than women. However, both sexes imply that they will not highly recommend e-Learning to other students. Results also showed no significant

Table 2. Level of Satisfaction taken collectively and grouped according to variables

Variables	Mean	SD	Verbal Interpretation
Sex			
Male (n=138)	3.21	0.634	Satisfied
Female (n=178)	3.32	0.578	Highly Satisfied
Strand			
ABM (n=31)	3.40	0.637	Highly Satisfied
AD (n=44)	3.20	0.734	Satisfied
HUMSS (n=42)	3.43	0.615	Highly Satisfied
STEM (n=83)	3.17	0.542	Satisfied
TVL-HE (n=64)	3.21	0.513	Satisfied
TVL-ICT (n=12)	3.06	0.605	Satisfied
TVL-TM (n=40)	3.48	0.572	Highly Satisfied
As a whole (316)	3.28	0.607	Highly Satisfied

difference in behavioral intention between sexes, with a p-value of 0.131. This finding contradicts the study of Alghamdi et al. (2022), who said that there were significant differences between students' behavioral intentions. Samsudeen and Mohamed (2019) argued that constructs on the use of technology significantly impact the behavioral intention of students to engage in e-learning.

When grouped according to strands, ABM, HUMSS, and TVL TM highly recommend e-Learning with a mean score of 3.31, 3.29, 3.28, and SD of 0.682, 0.702, and 0.697, respectively. On the other hand, AD, STEM, TVL HE, and TVL ICT only recommend e-learning with mean scores of 3.07, 3.17, 3.13, 2.92, and SD of 0.698, 0.586, 0.522, and 0.563, respectively. This implies that not all students intend to recommend e-learning to other students highly. The results also showed that when grouped according to strands, the behavioral intention has no significant difference with a p-value of 0.280. According to Tarhini et al. (2017), behavioral intention is influenced by performance, environment, motivation, self-efficacy, and trust.

Grade Expectation

When taken collectively, the results showed that the students have high expectations in online education, showing a mean of 3.20 and; SD of 0.584. This implies that students expect to receive higher marks when attending online education compared to traditional classes. According to Gopal et al. (2021), teachers and students must work together to improve the e-learning experience and meet grade expectations.

Results showed that females' grade expectation was higher, with a mean of 3.24; SD of 0.566, than males, with a mean of 3.15; SD of

Table 3. Behavioral Intention taken collectively and grouped according to variables

Variables	Mean	SD	Verbal Interpretation
Sex			
Male (n=138)	3.12	0.670	Recommend
Female (n=178)	3.23	0.607	Recommend
Strand			
ABM (n=31)	3.31	0.682	Highly Recommend
AD (n=44)	3.07	0.698	Recommend
HUMSS (n=42)	3.29	0.702	Highly Recommend
STEM (n=83)	3.17	0.586	Recommend
TVL-HE (n=64)	3.13	0.522	Recommend
TVL-ICT (n=12)	2.92	0.563	Recommend
TVL-TM (n=40)	3.28	0.697	Highly Recommend
As a whole (316)	3.18	0.640	Recommend

0.604. This implies that females are expecting to receive higher marks during online education compared to males. The results also showed no difference in the grade expectation of the male and females, with a p-value of 0.208. Magnus and Peresetsky (2018) discussed that gender has a small and insignificant difference in the grade expectation of the students. Ryan (2022) also found out that males received lower grades during the pandemic than females.

Moreover, results showed that ABM, HUMSS, and TVL TM have very high expectations with means of 3.34, 3.40, 3.39; SD of 0.530, 0.569, and 0.542, respectively, while AD, STEM, TVL HE, and TVL ICT only have a high-grade expectation with means of 3.09, 3.13, 3.07, and 3.04; SD of 0.615, 0.565, 0.564, and 0.594, respectively. This implies that only a few strands have high expectations during online education. Tarhini et al. (2017) articulated that e-learning, when performed effectively, allows students to accomplish activities more quickly, improves their learning performance, and raises their productivity. Additionally, Jawad and Shalash (2020) argued that the e-learning paradigm facilitates access to a vast quantity of knowledge with less time and effort and allows for more flexibility in learning while considering individual differences.

Table 4. Grade Expectations taken collectively and grouped according to variables

Variables	Mean	SD	Verbal Interpretation
Sex			
Male (n=138)	3.15	0.604	High
Female (n=178)	3.24	0.566	High
Strand			
ABM (n=31)	3.34	0.530	Very High
AD (n=44)	3.09	0.615	High
HUMSS (n=42)	3.40	0.569	Very High
STEM (n=83)	3.13	0.565	High
TVL-HE (n=64)	3.07	0.566	High
TVL-ICT (n=12)	3.04	0.594	High
TVL-TM (n=40)	3.39	0.542	Very High
As a whole (316)	3.20	0.584	High

Relationships among perceived quality of e-learning, level of satisfaction, behavioral intention, and grade expectation

Using Pearson coefficient correlation, the results showed that Perception and Satisfaction were strongly positively correlated, $r(178) = 0.769$, $p < 0.001$. Perception and Behavioral Intention were also strongly positively correlated, $r(178) = 0.712$, $p < 0.001$, and Level of Satisfaction and Grade Expectation were strongly positively correlated, $r(178) = 0.702$, $p < 0.001$. These results imply that all the variables were strongly positively correlated with each other.

According to Pham et al. (2019), much evidence shows the correlation between service quality and customer satisfaction in the online learning environment. Furthermore, as Uppal et al. (2018) mentioned, the implication is that e-learning quality will affect the students' behavioral intention and may warrant their satisfaction. The results of this study concurred with Mohd Satar et al. (2020), showing a significant relationship between the perceived quality and level of satisfaction of e-learners. This is the same with the perceived quality and the behavioral intention of the e-learners who experienced the e-learning environment. Moreover, Nugroho et al. (2019) highlighted the

Table 5. Relationship between variables

Variables	p-value	Decision	Significance @ α=0.05
Perception & Satisfaction	0.001	Reject Ho	Significant
Perception & Behavioral Intention	0.000	Reject Ho	Significant
Satisfaction & Grade Expectation	0.000	Reject Ho	Significant

Note: Significant correlation at p-value < 0.05

significant relationship between perceived value and endless choice to use e-learning. This study also proves that grade expectation has a strong positive relationship with the level of satisfaction of the e-learners with their e-learning experience.

5.0. Conclusion

The researchers concluded that the student's overall experience with e-learning is very positive, and they have high expectations for their grades. The positive results imply that students were satisfied with the school's implementation of e-learning and their educational learning experiences during online education. However, it was also concluded that no matter how positive the student's experience with e-learning and their satisfaction with online education, students' intent to recommend online education to other students is not that high. This may be a result of the sudden transition from the traditional to the online classroom and the fact that students are still looking forward to interacting with their classmates.

This study also concluded that service quality, behavioral intention, and grade expectation positively correlated. Students showing a positive assessment of their e-learning experience has a favorable implication for the educational learning experience despite the ongoing pandemic that shifted the educational platform to online learning. These positive experiences can be associated with the flexibility of class schedules, access to online materials, and cost-efficient and contextualized learning materials.

This study was limited to e-learning and did not consider the modular learning modality. After two years of struggling with the pandemic, the education system is gearing toward adopting blended learning as the new normal of education. With this, future researchers can assess both learning modalities to develop pedagogical strategies benefiting the learners.

It is highly recommended to utilize various assessment tools in designing, implementing, and evaluating the students' e-learning experience to develop strategies to enhance their educational learning experience. Moreover, the academic staff should expand the quality of their e-learning programs and offer appropriate up-to-date information capable of addressing students' demands to entice students to utilize e-learning.

6.0. Declaration of Conflicting Interests

The authors declared no potential conflicts of interest concerning this article's research, authorship, and/or publication.

7.0. Funding

The authors received no financial support for this article's research, authorship, and/or publication.

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