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## **CORRELATES OF LEARNING SATISFACTION AND LEARNING ENGAGEMENT IN ONLINE DISTANCE EDUCATION**

**Abstract.** Student nurses' perceived learning satisfaction and learning engagement are related to experiences and expectations of the courses' implementation and students' commitment. Due to the sudden shift to online distance learning caused by the COVID-19 pandemic, it is challenging for Higher Education Institutions (HEIs) to deliver quality instruction and achieved satisfaction of learning and engagement. This study was designed to appraise the correlation between apparent learning satisfaction and student nurses' learning engagement and to determine the aspects that were related to learning satisfaction and engagement in the implementation of Related Learning Experiences (RLE) of the nursing courses. This addresses many gaps in the literature regarding online distance learning during the COVID-19 pandemic and provides HEIs that can lead to increased student satisfaction and engagement with online distance learning (ODL). This study was a descriptive-correlational research design. A total of 133 students completed the two sets of online questionnaires: the Satisfaction of online learning (SOL) and the online student engagement scale (OSE). Pearson's correlations were utilized to look at the association between perceived learning satisfaction and learning engagement. A logistic regression model was employed to sightsee the associations of age, gender, year level, internet connectivity experience, and apparent learning satisfaction with higher learning engagement. The findings in the correlation among the OSE scores and mean perceived learning satisfaction was 0.36 (moderate degree of significance). Fifty-one students (38%) were classified as highly engaged (cut-off of  $\geq 3.5$  for the OSE mean score). The mean perceived learning satisfaction score was insignificant between highly engaged and not highly engaged students. The logistic regression model presented that a better internet connectivity experience and apparent learning satisfaction were associated with an increase in the probability of higher learning commitment. The outcomes imply that perceived learning satisfaction and internet connectivity forecast learning commitment among student nurses in virtual learning.

**Keywords:** online distance learning; nursing education; COVID-19; learning satisfaction; students' learning engagement.

### **1. INTRODUCTION**

E-learning is fast gaining popularity as a means of delivering emergency distance education during the COVID-19 pandemic. It refers to systems that may store, manage, or alter educational content while also allowing participants to engage as they absorb and input information. In undergraduate level nursing education, e-learning is not extensively utilized across areas, educational environments, and training levels due to the nature of the program that require hands-on experience and actual patient interaction.

The nursing education during pandemic totally shifted from traditional face-to-face classes and clinical exposure into a fully online and remote learning. The shifting of teaching and learning strategies explore innovative modalities that will facilitate migration from traditional strategies to flexible teaching and learning option [1].

Flexible learning as a set of educational concepts and systems aimed to deliver learners with more alternatives, accessibility, educational concepts, and systems designed to provide learners with more choices, convenience, and personalization to suit them. It provides learners with a choice of learning location, time, and method [1]. It has to do with the future of teaching and learning in digitalized classrooms [2].

Traditional teaching approaches have arguably been disrupted using technology, since teachers frequently find it hard to modify and incorporate their previous teaching with technology [3], [4]. Modern teaching scholars and researchers are willing to see advanced online teaching and learning approaches with the goal of improving student academic achievement in terms of learning satisfaction and learner's participation [5].

The COVID-19 pandemic had a major effect on course delivery in Philippine educational institutions, particularly higher education institutions (HEIs). Lectures, skills laboratory activities, and clinical duty of medical and nursing programs were all switched to a more flexible way in nursing through synchronous and asynchronous sessions, home-based learning tasks, case study and online case presentation. It has yet to be evaluated that the effectiveness of this technique for delivering accessible and comprehensive instructional content is effective in terms of learners' satisfaction and learners' engagement. Another form of implementation is that HEIs adopted tactics such as providing extra materials such as videos, clinical situations, oral revalidation, and critical thinking activities.

Students' learning satisfaction, learning engagement and outcomes are important markers for assessing the attribute and efficacy of e-learning. It is vital for academic organizations to distinguish whether their students are gratified with their learning experience in general. This is essential in improving the academic institution's e-learning policies, help in creating a learning plan models, strengthen student provision and advising, and helps in improving learning experiences [6].

Associated to this, learner engagement is an added crucial element of high-quality virtual education. Learner engagement refers to a learner's psychological commitment to stay engaged in the learning process, acquire knowledge, and develop critical thinking. When it comes to student engagement in online learning, advocates of learning analytics tend to focus on the analysis of platform access logs, including clicks on learning resources [7]. These are not enough without looking their shared presence, teaching experience, and intellectual presence.

In this study, the researchers will evaluate the correlation between perceived learning satisfaction and student nurses' learning engagement and to determine the factors that were concomitant with learning satisfaction and learning engagement in the implementation of related learning experiences (RLE) of the nursing courses. The outcomes will add to the body of knowledge by providing new insights into assessing students' involvement in online implementation of RLE nursing courses. Learning nature such as apparent learning satisfaction and testified learning engagement will be pragmatic in this study as valuable dimensions to enhance the learning design and e-learning environment and to improve student learning.

**The problem statement.** Most face-to-face classroom and hands on teaching had reformed to online means due to the COVID-19 situation. It would be beneficial to investigate the elements that contribute to student nurses' e-learning satisfaction and engagement.

The research questions were:

1. When it comes to e-learning, was there a positive correlation between apparent learning satisfaction and student nurses' learning engagement?
2. What factors were concomitant with learning satisfaction and engagement?

It was hypothesized that there would be positive relationship among levels of perceived learning satisfaction and learning engagement with the Bachelor of Science in Nursing students who studied in online distance learning.

**Analysis of recent studies and publications.** Learning satisfaction and engagement are critical components of the student experience, especially in online distance learning, where students may feel alienated and disconnected. Teachers, administrators, and researchers must be able to evaluate student participation as a result.

During the COVID-19 pandemic, an abrupt change in teaching and learning modality was implemented by different countries. Majority of health sciences students were satisfied with their personal and institutional adaptation to this new method of learning [8] based on a research study in Croatia. It was done to examine students' attitudes and concerns about making the complete transfer to e-learning. Exclusive e-learning received an average rating and less than half of the students said they felt deprived or worried because of the lack of practical instruction [8].

If the COVID-19 pandemic continues, education may continue to be given through virtual education. Innovative ways for maintaining a healthy nursing education during COVID19 and possible future pandemics could be devised [9]. Distance education is incompatible with the nature of nursing education [9]. Due to the health protocols to stop the transmission, distance nursing education has become mandatory. However, nursing students have a positive attitude toward distance education and some variables may have a detrimental impact on attitudes toward distance learning. It will be unavoidable to establish several online education methods to maintain nursing education during the pandemic [9].

E-learning has been embraced internationally as another teaching or learning method to address the academic emptiness generated by the pandemic's present reality, which includes nationwide closures. Online learning increased the prevalence of anxiety and depression conditions among undergraduate college students throughout the COVID-19 quarantine [10].

Pilot research on the feelings of students receiving remote instruction was conducted. Before graduating, the seniors used the recorded lectures for remote education and spent two months in virtual clinicals. These students experienced the least degree of anger, out-of-control sensations, inability to manage, and virtual clinical issues. These results are unsurprising given that these students were the most mature and had already completed four semesters of clinical training [11].

More study is needed to establish the best practices for planning and implementing remote learning for students and teachers. The study was used to develop and implement modifications to remote course delivery in the following semester [11]. More research on sentiments and emotions, which affects students' engagement, as well as how the pandemic is affecting staff and student.

Researchers used content analysis to investigate nursing students' experiences with online peer tutoring using the Goal–Reality–Options–Will (GROW) paradigm [12]. The 14 students were interviewed in a focus group setting and content analysis was used to transcribe the data. It allowed participants to study in a novel way, increased learning efficiency across various dimensions, and encouraged them to persevere and advance academically. This research can help tutoring programs establish their course and goals [12].

In India, a study was conducted to see if online teaching methods for medical or nursing students are practicable, acceptable, and successful as in-class instruction [13]. The study's aims are to examine the practicality of online classes and identify health risks related to online classes. Constant view from teachers and students will be prerequisite to make e-learning efficient [13].

Research on the lived experience of nursing students learning psychomotor skills during the COVID-19 pandemic has a valuable finding [14]. Modifications to skill learning were

discussed in "Learning the Skills". Perseverance and comradeship were two sub-themes. The stress of quarantine, isolation, and online learning was highlighted in "Stress of the Pandemic". Participants acknowledged and praised faculty efforts in an unusual scenario, but they also remarked that learning was imperfect. Adapting learning styles and advocating for learning were discussed in "Finding My Own Way" [14].

Student satisfaction with Emergency Remote Teaching (ERT) was measured using open-ended questions [15]. Twelve undergraduate and graduate student nurses were chosen using convenience sampling and took a customized version of the Student Satisfaction Survey to assess the quality of instruction as well as learner's satisfaction. The findings showed that student satisfaction with ERT was influenced by faculty's ability to construct an appealing online learning environment [15].

A study in determining the factors of satisfaction with online learning in the new normal were conducted to faculty and students in a medical and health sciences colleges [16]. Based on their perspectives, students and teachers' contentment were influenced by study load and workload, increasing engagement, and technical challenges were the result of analysis [16]. Recommendations for improving student and teacher satisfaction include using synchronous and asynchronous approaches in online teaching and learning [16].

In South Korea, researchers looked at the arbitration effect of e-learning satisfaction negotiated by social-evaluative anxiety associated to COVID-19 [17]. The goal of the study was to figure out what was causing the link amongst learning flow and learning outcomes in student nurses. As a result, researchers discovered a link concerning learning flow and learning outcomes, which was mediated by e-learning satisfaction. The mediation effect of e-learning satisfaction was modulated by social-evaluative anxiety produced by the pandemic. The remote online distance system for student nurses was hampered by students' apprehension over COVID-19 [17].

Related research about learner satisfaction, engagement, and performance in an online program was conducted [6]. They look at student comments and present the results of a study that looked at the links concerning student satisfaction and participation in an online course and their overall grades. It was primarily evaluated through constant assessments and was created with a learning-by-doing pedagogical style in mind. Throughout the online program, they focused on acquiring innovative skills and competences and applying them in reliable micro schemes.

Satisfaction and engagement were found to have a strong and positive relationship. There was also a weak although substantial affirmative link concerning contentment and involvement with their total performance. Notwithstanding of performance levels, learners were largely satisfied with the learning plan philosophy. Learners, instead, whined about a scarcity of tutor support and technical confronts in unlike groups. In general, the findings have implications for established e-learning policies meant at refining student experiences. Policies, learning plan models, learner assistance and advising, and analysis of learning are all considered vital and connected to e-learning [6].

Student nurses showed a significant need to be understood, equipped, and braced during the COVID-19 pandemic [18]. Many students felt supported by their schools. Notwithstanding the efforts of nursing schools and clinical sites, learners were frequently confused in the pandemic's pandemonium. It is vital to prepare students for specialized competences in online remote learning. Despite best efforts, learners were frequently adrift in the pandemic's chaos. This caused in pragmatic difficulties, fewer possibilities for learning, and similar basic doubts about their desire to become a nurse. Conclusively, it's vital that educational institutions to communicate about topics like who's in charge of assessing nursing students' satisfaction and engagement, and who's in charge of sharing fundamentally shared procedures with learners to ensure protected patient care [18].

**The research goal.** This study will tackle many gaps in the literature regarding nursing online distance education during the COVID-19 pandemic. In addition, it will provide the higher education institutions with course design information in the BS Nursing program that can lead to increased student learning satisfaction and learning engagement. By surveying students' feedback with online distance learning, best practices to the approach of delivering online learning course in nursing education may be identified and e-learning policies will be enhanced effectively.

## 2. THE THEORETICAL BACKGROUNDS

With the Covid-19 pandemic, the world is going through a difficult moment. Inevitably, this has had a negative impact on education all throughout the world. Educational institutions were closed, and many learners were forced to stay at home [19]. Due to the sudden shift to online and remote learning such discussion now has far more relevance than traditional classroom literature review and have been the focus of study by teaching scholars.

Learner's engagement emerges to have many meanings and many varieties of methods that teachers can utilize to increase it, making it a multidimensional phenomenon [20]. It is both behavioral and affective, an interpersonal component between the interactions of teachers and students, and an important part of the learning process. The evidence found for the four extents of student commitment, namely: general learning skills, emotional involvement with class material, participation or interaction with teachers and peers, and performance [20]. Thus, student engagement is characterized by a student that is actively involved in class interactions and working together with other students.

There are theories and models that define student engagement, namely: the Community of Inquiry (CoI) framework [21]; the generative theory of learning; Astin's theory of involvement; Pace's theory of quality of effort; and the triangular model by B.R. Schlenker, P.A. Schlenker, and K.A. Schlenker [20].

One of the most widely utilized and examined educational frameworks (Fig. 1) is the Community of Inquiry (CoI). This outline emphasizes social presence, teaching experience, and cognitive presence as the vital features to enable successful educational involvements in the environment of online distance learning [22]. The most important factor in achieving success in higher education is cognitive presence [22]. It also covers topics such as how helpful the model is in today's landscape of learning, how it can be enhanced, and how new incidences may be incorporated to the context [21].

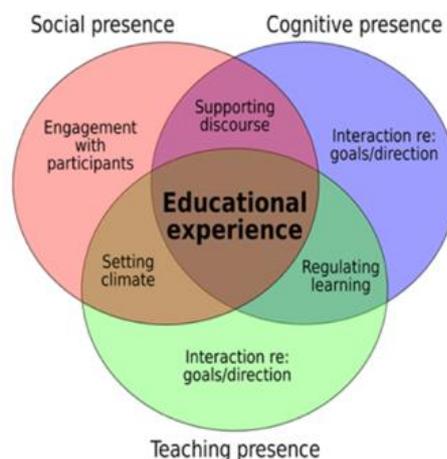


Figure 1. Elements of an Educational Experience [22, 21]

Computer-conferencing participants were asked to be less interactive, which is consistent with this finding. Students said less but had a better level of critical thinking. This raises the question of whether computer conferencing promotes more convergent, in-depth thinking, whereas face-to-face seminars appear to promote more divergent (i.e., creative) interaction. These findings also highlight the need of having an effective teaching presence in order to promote active conversation and knowledge construction [22].

The social presence is the second essential component. It is defined as participants' ability to reflect their personal qualities into the community, presenting themselves as "actual persons" to the other participants. The primary significance of this feature is that it serves as a support for cognitive presence, so indirectly enhancing the community of learners' critical thinking process. When there are affective as well as strictly cognitive goals for the educational process, however, social presence is a direct contributor to the educational experience's success.

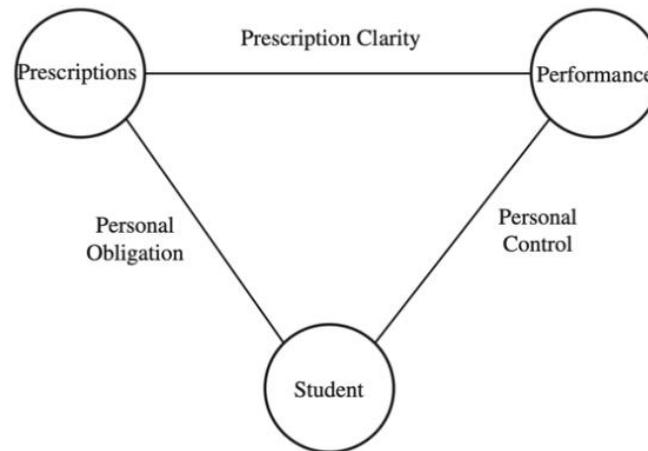
The framework's third component is teaching presence. It consists of two broad duties that may be fulfilled by any participant in a CoI, although these functions are likely to be the major responsibility of the instructor in an educational setting. The framework is an important tool in planning and evaluating educational experiences such as learning satisfaction and learning engagement in today's landscape. Each element are essential in ensuring the interaction and engagement of learners and facilitators. A collaborative constructivist educational experience is produced when these three mutually reinforcing factors come together.

In line with Wittrock's generative theory of learning, students learn best when they are engaged during the learning process [20]. Motivational processes, learning processes, knowledge development processes, and generation processes are the four components. A learning resource that enhances attention and desire, promotes active mental processing at all stages and levels of learning, and offers the learner with appropriate guidance in the creation process can enable meaning-making-learning based on these four processes. Active involvement, both physically and cognitively, in answering discussion questions and receiving feedback increases their attention and learning.

The difficulties of student involvement and engagement are addressed by Astin's idea of involvement and Pace's notion of quality of effort. The idea of Alexander Astin illustrates how desirable results for higher education institutions are evaluated in connection to how students grow and develop because of co-curricular involvement. Astin defined engagement as the amount of physical and mental energy invested in the academic experience by the student. A highly involved student is one that invests a large amount of time and effort in activities such as studying, attending class, participating in discussions, and participating in social and leisure activities. As a result, factors that increased student involvement had a beneficial impact on persistence.

Pace proposed that all learning and development require an investment of time and energy. Education is viewed by Pace as both a process and a product. A product is created as a result of experiences or methods such as observation or discussion. It includes outcomes such as knowledge acquired or skills learned. Another feature of effort quality is that it stresses the student's learning responsibility.

The triangular model (Fig. 2) deals with the nature and implications of accountability in interpersonal relationships serves as the theoretical underpinning for student participation. The triangle approach focuses on three variables to solve the basic question of accountability: prescriptions, students, and performance. It's depicted as a series of connections or linkages between the three variables [20].



*Figure 2. Prescriptions (academic goals and regulations for achieving them), performance (academic successes, such as grades), and the student are linked in the triangle model [23]*

The psychological involvement is a direct function of the strengths of these components, according to the triangle model (Fig. 2). Students appear to be more accountable, devoted, and determined to achieve prescribed outcomes when the connection between these three elements is stronger. Engagement worsens when the three links are weaker - low prescription clarity, low student personal control, or prescriptions that seem inapplicable to the student. The three components would each make a unique contribution and would be linked to college students' academic engagement, as evidenced by reports of increased responsibility, dedication, and determination to get good marks. As a result, engagement will result in improved grades at the conclusion of the semester [23].

Individuals learn through connectedness, according to social constructivist ideas [25]. Students can accomplish several activities on their own, but when given the option to cooperate with others, they will perform better. The "zone of proximal development" denotes the gap between what students can do on their own and what they can do with others [25], [26], [27], [28], [29]. In an online conversation, learners can help one another by finding patterns in each other's knowledge and/or exhibiting specific tasks. Because of the zone, interaction with the professor and other students is essential to learning.

Students might also learn by observing others' behavior [24]. Students may engage in observant learning when reading arguments made by other students or the instructor in an online course. This trend toward more active learning and contact with students is particularly crucial in the online setting, where issues like as synchronicity and placidity must be overcome.

### **3. RESEARCH METHODS**

#### **3.1. Survey Questionnaire**

All students participating in RLE courses were requested to take an online questionnaire survey to assess their levels of perceived learning satisfaction and engagement. Before the tool was finished, consent was embedded. The questionnaire was divided into three sections: respondents' profiles, satisfaction with the online learning method, and online student involvement.

The demographic profile such as age, gender, year level, electronic devices used, internet service provider experiences, and the frequency in visiting the e-learning platform were included in the first part. This is important as to have an inventory of the devices used in online learning and their internet connectivity status.

The second part was for the perceived learning satisfaction assessment. The Satisfaction of Online Learning (SOL) tool was used in this study that was developed and validated by Antoinette Davis (2016) [30]. The instrument measures the students' learning satisfaction in taking the online courses. The SOL included 24 items embedded in eight components such as the effectiveness of the feedback, timeliness of feedback, use of discussion boards in the classroom, dialogue between instructors and students, perception of online experiences, instructor characteristics, feeling of a learning community, and computer-mediated communications. The questionnaire used a five-point Likert scale, ranging from 1-5, a higher score indicates higher satisfaction. The SOL showed evidence of validity, reliability, and internal consistency of the instruments' subscales in assessing satisfaction, had a Cronbach's Alpha of 0.98 [30].

The third part was for learning engagement questionnaire. The Online Student Engagement (OSE) tool includes 4 domains: skills engagement (e.g., study regularly), emotional engagement (e.g. apply to my life), participation engagement (e.g. have fun in online class), and performance engagement (e.g. do well on tests). The OSE covered 19 items that measured the behaviors, thoughts or feelings of students regarding online courses. Also, it has three primary functions: to aid research into online course design; to provide feedback to faculty about the level of engagement of their students; and to provide evidence of teaching effectiveness for merit arguments, teaching awards, and promotion or tenure cases [8]. The instrument used a five-point Likert scale: 1 – not at all characteristics of me, 2 – not really characteristic of me, 3 – moderately characteristic of me, 4 – characteristic of me, and 5 – very characteristic of me.

The OSE requires 10-15 minutes to complete. The maximum possible engagement score was 95, and the maximum scores in the domains of skills engagement, emotional engagement, participation engagement, and performance engagement were 30, 25, 30, and 10 respectively. The OSW exhibited face and content validity, had a Cronbach's Alpha of 0.91 and could function as a decisive indicator of student engagement in an online learning environment [7].

The researcher followed the procedure step by step. Initially, the study's conduct was approved by the Dean of the College of Nursing. Participants were advised that participation in the study was entirely optional, and that they might leave at any time with no repercussions. Before moving on to the survey proper, each participant must agree to the online consent, which is included on the face sheet of the Google Form. To preserve anonymity, every data was coded.

### **3.2. Quantitative Analysis**

Descriptive statistics were used to summarize the demographic characteristics of the respondents. Pearson's correlation coefficient was used to investigate the relationship between reported learning satisfaction and learning engagement. An independent samples t-test was used to compare the mean ratings for perceived learning satisfaction, skills engagement, emotional engagement, participation engagement, and performance engagement between the highly engaged and not highly involved groups. The impacts of gender, age, year level, internet service provider experience, and perceived learning satisfaction on the likelihood of higher learning engagement were investigated using a logistic regression model.

## 4. THE RESULTS AND DISCUSSION

### 4.1. Results

Understanding the characteristics that raise student nurses' perceived learning satisfaction and learning engagement in e-learning may give educators and administrators with information that will help them improve online courses delivery and programs that will improve learners' retention rates. This study will evaluate the correlation between perceived learning satisfaction and student nurses' learning engagement and to determine the factors that were associated with learning satisfaction and engagement.

#### 4.1.1. Respondents Profile

There were 113 student who completed the online survey among whom 64 (48%) were aged 16-20 years and 68 (51%) aged 21-25 years old, 79.6% were female and 99.2% of the respondents utilized cellular phone and 52.5% rely on mobile data for internet connectivity in online distance learning. Majority of the students described their internet connectivity as Fair, and majority visited the Learning Management System daily.

#### 4.1.2. Satisfaction of Online Learning

Table 1 shows the mean ratings for the eight criterion and sub criteria of online learning satisfaction. The effectiveness of feedback ( $2.72 \pm 0.80$ ), timeliness of feedback ( $2.63 \pm 0.79$ ), use of discussion boards ( $2.99 \pm 0.75$ ), dialogue between Clinical Instructors and Students ( $2.90 \pm 0.71$ ), perceptions of online experiences ( $2.21 \pm 0.76$ ), Clinical Instructors' characteristics ( $2.77 \pm 0.79$ ), the feel of a learning community ( $2.84 \pm 0.82$ ), and computer-mediated communication ( $2.60 \pm 0.87$ ) were the mean satisfaction based on the criteria. The overall mean for satisfaction with online learning is  $2.71 (\pm 0.61)$ .

Table 1

Perceived Satisfaction of Online Learning (N=133)

		M (SD)	SD/D % (n)	N % (n)	A/SA % (n)
Effectiveness of feedback	Constantly provided to me in terms of clarification for my questions about the course.	2.70 (0.86)	42.9% (57)	37.6% (50)	19.5% (26)
	Constantly provided to me in terms of instruction on how to fix incorrect problems in assignments.	2.65 (0.97)	50.4% (67)	25.6% (34)	24.1% (32)
	Constantly provided to me in terms of sufficient explanations on my specific questions related to my class work.	2.80 (0.86)	38.3% (51)	39.1% (52)	22.6% (30)
Timeliness of the feedback	Constantly provided to me so that I am able to complete my assignments efficiently.	2.65 (0.90)	45.1% (60)	36.8% (49)	18% (24)
	Constantly provided to me so that I am able to improve my assignments for better grades.	2.61 (0.85)	45.1% (60)	39.8% (53)	15% (20)
	Constantly provided to me so that I am more focused on learning.	2.59 (0.84)	45.9% (61)	39.8% (53)	14.3% (19)
Use of Discussion Boards	Make me more comfortable in participating than traditional modes of discussion.	2.62 (0.86)	48.9% (65)	35.3% (47)	15.8% (21)
	Asynchronous discussions are more convenient to my schedule than traditional discussions.	3.20 (1.04)	27.8% (37)	24.1% (32)	48.1% (64)
	I have plenty of time to think and draft my responses and submit my requirements for online discussions.	3.14 (0.98)	24.8% (33)	32.3% (43)	42.9% (57)

		M (SD)	SD/D % (n)	N % (n)	A/SA % (n)
Dialogue between Clinical Instructors and Students	I am able to communicate effectively with my instructor throughout the semester.	2.97 (0.89)	25.6% (34)	48.9% (65)	25.6% (34)
	Online dialogue with my instructor helps me as I learn in the online course.	3.02 (0.80)	26.3% (35)	45.1% (60)	28.6% (38)
	I feel less distant in my online learning due to online dialogue with my instructor/professor.	2.71 (0.86)	39.8% (53)	41.4% (55)	18.8% (25)
Perceptions of Online Experiences	My personal needs as a student are met in the online environment.	2.35 (0.89)	59.4% (79)	30.8% (41)	9.8% (13)
	Many aspects of online education are enjoyable to me as a learner.	2.41 (0.91)	54.9% (73)	34.6% (46)	10.5% (14)
	Overall, I would rather take online courses than traditional courses.	1.87 (0.97)	78.9% (105)	14.3% (19)	6.8% (9)
Clinical Instructor Characteristics	I still get the same explanation from online instructors or professors as I do from traditional instructors or set-up.	2.74 (0.97)	43.6% (58)	31.6% (42)	24.8% (33)
	Online instructors and traditional instructors offer the same amount of help with my learning issues.	2.68 (0.96)	47.4% (63)	30.8% (41)	21.8% (29)
	Technology makes online instructors more creative in teaching than a more traditional classroom.	2.89 (1.02)	36.8% (49)	34.6% (46)	28.6% (38)
The feel of a Learning Community	I can communicate with other students.	2.95 (1.05)	33.1% (44)	30.8% (41)	36.1% (48)
	Promotes sufficient sharing and caring among students.	2.86 (0.94)	35.3% (47)	39.1% (52)	25.6% (34)
	A safe place where I can be confident in completing group work with other students in the class.	2.71 (0.98)	42.1% (56)	36.8% (49)	21.1% (28)
Computer-mediated Communication	Makes me feel like a real person when I communicate in the online environment.	2.53 (1.02)	54.1% (72)	27.1% (36)	18.8% (25)
	Makes it easier to form meaningful relationships among students in the online environment.	2.62 (0.97)	47.4% (63)	32.3% (43)	20.3% (27)
	Allows me to feel the presence of my instructor and other students in the online environment.	2.65 (1.01)	48.9% (65)	29.3% (39)	21.8% (29)

SD = Strongly Disagree; D = Disagree; N = Neutral; A= Agree; SA = Strongly Agree

### 4.1.3. Online Student Engagement

Table 2 shows the mean scores for perceived learning satisfaction, as well as the OSE mean score and its dimensions (skills engagement, emotional engagement, participation engagement, and performance engagement).

Table 2

#### Online Student Engagement

		M (SD)	NAACOM n (%)	NRCOM n (%)	MCOM n (%)	COM n (%)	VCOM n (%)
Skills	Making sure to study on a regular basis.	3.08 (0.73)	3 (2.3%)	17 (12.8%)	83 (62.4%)	26 (19.5%)	4 (3%)
	Staying up on the readings.	3.26 (0.78)	1 (0.8%)	17 (12.8%)	69 (51.9%)	39 (29.3%)	7 (5.3%)
	Looking over class notes between getting online to make sure I understand the material.	3.65 (0.87)	1 (0.8%)	13 (9.8%)	37 (27.8%)	63 (47.4%)	19 (14.3%)

		M (SD)	NAACOM n (%)	NRCOM n (%)	MCOM n (%)	COM n (%)	VCOM n (%)
	Being organized.	3.55 (0.97)	0 (0)	20 (15%)	46 (34.6%)	41 (30.8%)	26 (19.5%)
	Listening/reading carefully.	3.56 (0.73)	0 (0)	6 (4.5%)	60 (45.1%)	54 (40.6%)	13 (9.8%)
	Taking good notes over readings, PowerPoints, or video lectures.	3.52 (0.91)	1 (0.8%)	15 (11.3%)	51 (38.3%)	46 (34.6%)	20 (15%)
Emotion	Putting forth effort.	3.83 (0.72)	0 (0)	4 (3%)	35 (26.3%)	73 (54.9%)	21 (15.8%)
	Finding ways to make the course material relevant to my life.	3.49 (0.85)	1 (0.8%)	13 (9.8%)	54 (40.6%)	50 (37.6%)	15 (11.3%)
	Applying course material to my life.	3.5 (0.84)	1 (0.8%)	13 (9.8%)	51 (38.3%)	54 (40.6%)	14 (10.5%)
	Finding ways to make the course interesting to me.	3.59 (0.80)	0 (0)	10 (7.5%)	51 (38.3%)	56 (42.1%)	16 (12%)
	Really desiring to learn the material.	3.65 (0.81)	1 (0.8%)	9 (6.8%)	42 (31.6%)	65 (48.9%)	16 (12%)
Participation	Having fun in online chats, discussions or via email with the instructor or other students.	2.95 (0.98)	9 (6.8%)	35 (26.3%)	48 (36.1%)	36 (27.1%)	5 (3.8%)
	Participating actively in small-group discussion forums.	3.18 (0.89)	4 (3%)	24 (18%)	56 (42.1%)	42 (31.6%)	7 (5.3%)
	Helping fellow students.	3.97 (0.78)	0 (0)	3 (2.3%)	33 (24.8%)	62 (46.8%)	35 (26.3%)
	Engaging in conversations online (chat, discussions, email).	3.26 (0.95)	4 (3%)	25 (18.8%)	47 (35.3%)	47 (35.3%)	10 (7.5%)
	Posting in the discussion forum regularly.	2.59 (0.88)	13 (9.8%)	48 (36.1%)	54 (40.6%)	16 (12%)	2 (1.5%)
	Getting to know other students in the class.	3.21 (1.10)	9 (6.8%)	26 (19.5%)	42 (31.6%)	40 (30.1%)	16 (12%)
Performance	Doing well on the tests/quizzes.	3.12 (0.78)	1 (0.8%)	24 (18%)	72 (54.1%)	30 (22.6%)	6 (4.5%)
	Getting a good grade.	3.29 (0.78)	1 (0.8%)	14 (10.5%)	72 (54.1%)	37 (27.8%)	9 (6.8%)

NAACOM = Not at all characteristics of me; NRCOM = Not really characteristic of me; MCOM = Moderately characteristic of me; COM = Characteristic of me; VCOM = Very characteristic of me

The findings for the online student engagement showed the characteristics of a learner in online learning. In the skills category, a “Moderately characteristic of me” was the respond of the students in making sure to study on a regular basis (62.4%), staying up on the readings (51.9%), being organized (34.6), listening/reading carefully (45.1%), and in taking notes (38.3%). A “Characteristics of me” were showed in their response for the looking over the notes while having or in between online class (47.4%).

A response of “Characteristics of me” were noted on the following: putting forth effort (54.9%), applying course material for my life (40.6%), finding ways to make the course interesting (42.1%), and really desiring to learn the material (48.9%). In addition to this emotion category, the finding ways to make the course material relevant to life got a “Moderately characteristic of me” (40.6%).

The participation category acquired a “Moderately a characteristic of me” for the following: having fun in online chats, discussions or via email with each other (36.1%);

participating actively in small group discussion (42.1%); posting in the discussion forum regularly (40.6%); and getting to know each other in the class (31.6%). Furthermore, helping a fellow student (46,8%) and engaging in conversation online (35.3%) were responded as “Characteristic of me”. The performance category with the following component such as doing well in quizzes and getting a good grade showed a “Moderately characteristic of me” response from the students.

The overall mean scores of the different domains of OSE were shown in Table 3. The mean scores for skills engagement are 3.43 ( $\pm 0.61$ ), emotional engagement is 3.61 ( $\pm 0.62$ ), participation engagement is 3.19 ( $\pm 0.71$ ), and performance engagement is 3.21 ( $\pm 0.74$ ). Also, the perceived learning satisfaction mean score is 2.71 ( $\pm 0.61$ ).

Table 3

**The mean perceived learning satisfaction, the OSE mean, and the OSE domains mean scores**

	Mean (SD)	Minimum value	Maximum Value
Perceived learning satisfaction mean score (1-5)	2.71 (0.61)	1	4.12
OSE mean score (1-5)	3.36 (0.53)	2	5
OSE domain: mean score of skills engagement	3.43 (0.61)	1.83	5
OSE domain: mean score of emotional engagement	3.61 (0.62)	2	5
OSE domain: mean score of participation engagement	3.19 (0.71)	1.5	5
OSE domain: mean score of performance engagement	3.21 (0.74)	1	5

In determining the correlation between the perceived learning satisfaction, OSE mean score and domains, Pearson’s correlation was computed and presented in Table 4 of the succeeding page. The perceived learning satisfaction and OSE mean has a positive correlation and a medium strength of association ( $r = 0.36$ ). For each OSE domains and perceived learning satisfaction, the coefficients have a positive correlation such as the skills engagement ( $r = 0.33$ ), emotional engagement ( $r = 0.27$ ), participation engagement ( $r = 0.30$ ), and performance engagement ( $r = 0.26$ ). The correlation of the overall mean of OSE and the OSE domains were computed and resulted all positive correlation with large strength of association.

Table 4

**Pearson's correlation coefficients between perceived learning satisfaction, OSE, and OSE domains**

	OSE	Skills engagement domain	Emotional engagement domain	Participation engagement domain	Performance engagement domain
Perceived learning satisfaction	0.36	0.33	0.27	0.30	0.26
OSE	-	0.83	0.80	0.75	0.81

Table 5 below displayed a comparison of satisfaction mean ratings by engagement category. Based on the questionnaire, a scale was utilized to determine the level of participation. Using a cut-off of 3.5, 51 (38%) students were identified as highly engaged students (HES) and 82 (62%) students were classed as not highly engaged students.

Table 5

### Contrast of mean perceived learning satisfaction scores between the HES and NHES students

	Perceived learning satisfaction mean score	P value	Interpretation
Highly engaged students' (HES) group (n=51)	2.91 ( $\pm 0.64$ )	1.29	Not significant
Not highly engaged students' (NHES) group (n=82)	2.58 ( $\pm 0.34$ )	2.15	Not significant

#### 4.1.4. Logistic Regression Analysis

In Table 6, the impacts of age, gender, year level status, internet connectivity experience, and perceived learning satisfaction on the likelihood of higher learning engagement were investigated using a logistic regression model. The model successfully identified 67.7% of cases and explained 19.8% of the variance in learning engagement (Nagelkerke  $R^2$ ). Greater internet access was found to be associated with a higher likelihood of higher learning engagement, with an adjusted odds ratio (OR) of 2.07, 95 percent CI:0.305-3.287,  $p = .002$ . It means that an increase of one unit on the internet connectivity experience scale was linked to a 2.071-fold increase in learning engagement. The increasing score in internet connectivity experience contributes to the students' increased learning engagement.

Table 6

#### Logistic regression model analysis

Model	Coefficients (B)	Odds ratio (OR)	95% CI	P value
Age group (age 16-20 vs. aged 21-25 or above)	-0.222	0.801	(0.301, 2.127)	.655
Gender (male vs. female vs. LGBT+)	-1.025	0.359	(0.141, 0.915)	.032
Year level (level 1 vs. level 2 vs. level 3)	-0.201	0.818	(0.436, 1.535)	.532
Internet connectivity experience	0.728	2.071	(0.305, 3.287)	.002
Perceived Learning satisfaction	0.545	1.725	(0.958, 3.107)	0.69

C.I., confidence interval

For the gender, this variable has a negative value so it might be easier to interpret results as not related to learning engagement. It was found out that a greater perceived learning satisfaction, adjusted odds ratio (OR): 1.725, 95% CL: 0.958 - 3.107,  $p = 0.69$ , was associated with an increased likelihood of learner's engagement. Meanwhile, there was insignificant association between higher learning engagement with age ( $p = 0.655$ ) and year level ( $p = 0.532$ ).

## 4.2. Discussions

The satisfaction of student and engagement in online distance learning are related to several factors, such as the course, learning facilitators, learning community, and learning performance. To the best of my knowledge, no study has measured the student's satisfaction and engagement during the new normal. Hence, this study was conducted to report the students' satisfaction and engagement in the implementation of online distance learning during the new normal.

### 4.2.1 Online Distance Learning Satisfaction

This research study took the position that satisfaction and engagement is achieved when students are involved during the learning process, acknowledge, and supported. In this online

distance learning, all strategies were deployed in accordance with the framework of Community of Inquiry (CoI) and shown to enhance students' engagement based on the OSE domains.

In this study, the overall perceived level of satisfaction to online distance learning showed a neutral response from the participants. Of the 8 criteria, the use of discussion boards and dialogue between clinical instructors showed a high satisfaction score. Using the discussion boards make them more comfortable in participating the forum, can post anytime their ideas and have plenty of time to think and draft their responses related to the topics. This supports the Wittrock's generative theory, Astin's theory of involvement, and Pace's theory of effort. The learning wherein the "meaning-making-learning" leads to a deeper understanding of the concepts, involving in the discussion boards made them involved in the learning process and help in generation process of learning. Further, the theory of involvement by Astin and pace's theory of quality effort were validated based on the findings as to comfortable participation and plenty of time to think creates a desirable outcome to the learners.

#### **4.2.2. Students' Engagement in Online Distance Learning**

The OSE is composed of four essential domain such as the skills engagement, emotional engagement, participation engagement and the performance engagement. The OSE scale could help to differentiate between highly engaged students and not highly engaged students based on the cut-off of mean score at  $\geq 3.5$ . A significantly higher mean of perceived learning satisfaction score for highly engaged students compare to the mean score of the not highly engaged students' group.

#### **4.2.3. Correlation between Perceived Learning Satisfaction and Engagement**

In this study, correlations were conducted between the OSE score, and the perceived learning satisfaction mean score. A positive correlation with medium strength of association was observed between the mean of perceived learning satisfaction and the OSE mean score. Furthermore, the OSE domains have also showed a positive correlation with a large strength of associations to the overall OSE mean score. It means that these two variables have a positive relationship. An increase in the perceived learning satisfaction will lead to an increase in the learning engagement of the students.

More importantly, the logistic regression model showed that a greater internet connectivity experience was associated with an increased likelihood of higher learning engagement. In supplement, the mean perceived learning satisfaction is contributory to the likelihood in increasing the online learning engagement. However, insignificant association were observed in age and year level of the student nurse. These findings were well supported by the reports who suggested that the perceived usefulness and perceived satisfaction will further improve the learner's engagement in online distance education [16], [17], [5].

In this study, 64 (48%) students were aged 16-20 years and 68 (51%) aged 21-25 years old. Majority were female respondents. A preponderance of the respondents utilized cellular phone and 52.5% rely on mobile data for internet connectivity in online distance learning. In terms of learning experiences, online distance learning provides the students a greater control and assumes much responsibility [5]. Utilizing cellular phone and mobile data in online distance learning is a challenging experience. This was supported in a study that to be successful as an online learner, one should have skills in good time management, self-motivated, and well-organized to keep up the pace in learning [5]. In addition, being resourceful and persistent are the important attributes in facing this sudden shift caused by the COVID-19 pandemic.

#### 4.2.4. Implications

One of the current study strengths is that it reports the perceived learnings satisfaction and the student engagement in online distance learning. Students who are highly engaged in online learning looked to experience more satisfaction [5]. The perceived learning satisfaction can be achieved when the students were given enough time to different learning tasks, consider the learner's pacing, an effective communication between the instructor and the students, and a supportive online environment where it promotes sufficient sharing of ideas, caring avenue, and a safe online environment that enable the learners to complete independent and group learning tasks.

This study also highlighted the factors that promotes student engagement in online learning. Findings revealed that internet connectivity experience is one of the factors that affect the level of engagement. The OSE showed a high mean score in emotional domain. Despite of the adversities caused by the pandemic; learners put forth effort, really desire to learn the material, and finding ways to make the course interesting to them. Furthermore, the learners find ways to help fellow students in traversing the challenges in online learning.

#### 4. CONCLUSIONS AND PROSPECTS FOR FURTHER RESEARCH

Online distance learning has been worthwhile and is a practical way for instructional transition and delivery during the COVID-19 pandemic. The current study's strength is that it describes student nurses' perceptions of learning satisfaction and engagement with online learning. For better online learning engagement, the study emphasized the relevance of stable internet connectivity and perceived learning satisfaction. Furthermore, the flexibility of instruction, good communication, and the sense of belonging to a learning community that online distance learning provides have all been associated to increased student satisfaction and increased learning engagement. Due to the challenges faced by students, educational leaders have been able to identify answers and satisfy the demands of the country's future leaders and human resources.

Based on the findings and conclusion of the study, the following are proposed:

1. Extend it to additional degree programs and research areas.
2. To give a more in-depth investigation of factors affecting satisfaction and engagement in online distance learning on a larger scale, more research is needed considering the factors emerges in the literatures.
3. The application of a wide range of qualitative research methods.

The current health crisis is still unknown as to how it will end, and there is no other way of continuing the learning process than through online distance learning. With the nature of its teaching pedagogy for nursing education, HEIs should come up with strategies for incorporating e-learning effectively into the implementation of flexible learning. The only way to best meet the demand for learning during the pandemic is through online distance learning. Forming the groundwork of distance education procedures, organizing policies, and updating course contents should be held and kept as a whole.

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*Text of the article was accepted by Editorial Team 17.03.2022*

## **КОРЕЛЯТИ ВІДЧУТТЯ ЗАДОВОЛЕННЯ ВІД ПРОЦЕСУ НАВЧАННЯ ТА ЗАЛУЧЕННЯ ДО НЬОГО В ДИСТАНЦІЙНОМУ ОНЛАЙН НАВЧАННІ**

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**Анотація.** Залучення до навчального процесу студентів факультету медсестринства та відчуття задоволення ними цим процесом взаємопов'язане з досвідом, очікуваннями студентів та їх відповідальністю під час навчання. Через раптовий перехід до онлайн дистанційного навчання, спричинений пандемією COVID-19, закладам вищої освіти (ЗВО) важко підтримувати надання якісного навчання, яке б забезпечувало відчуття задоволення від навчального процесу залученим

до нього. Представлене дослідження було розроблене з метою оцінити кореляцію між явним задоволенням від навчання та залученістю до нього студентів факультету медсестринства, а також визначити аспекти, які були пов'язані із задоволенням від навчання та залученістю до нього під час проходження програми *Відповідного досвіду навчання* (Related Learning Experiences - RLE). У дослідженні розглянуті проблеми, що виникли під час дистанційного онлайн навчання в період пандемії COVID-19, які раніше не висвітлювались у науковій літературі та які можуть сприяти підвищенню рівня задоволеності студентів від їх залучення до онлайн дистанційного навчання (ОДН). Це дослідження є описово-кореляційним. В онлайн опитуванні, яке складалося з двох етапів, взяли участь 133 студенти, які заповнили відповідні онлайн анкети: «Задоволеність онлайн навчанням» (ЗОН) і «Шкала онлайн залучення студентів» (ОЗС). Кореляція Пірсона була використана для вивчення зв'язку між відчуттям задоволення від навчання та залученістю до нього. Логістичну регресійну модель було використано, щоб побачити зв'язок віку, статі, рівня навчання, досвіду з використання Інтернету та очевидного задоволення від навчання з більшою залученістю до нього. Результати кореляції між показниками ОЗС та середнім показником відчуття задоволення від навчання становили 0,36 (помірний ступінь значущості). П'ятдесят один студент (38%) був класифікований з високим рівнем залученості (порогове значення  $\geq 3,5$  для середнього балу ОЗС). Середня оцінка відчуття задоволеності навчанням була незначущою між дуже зацікавленими та не дуже зацікавленими студентами. Модель логістичної регресії продемонструвала, що кращий досвід використання Інтернету та явне задоволення від навчання були пов'язані зі збільшенням імовірної відповідальності. Результати означають, що відчуття задоволення від навчання, успішне використання Інтернету прогнозують відповідальне ставлення до набуття знань при дистанційному навчанні студентів факультету медсестринства.

**Ключові слова:** онлайн дистанційне навчання; медсестринська освіта; COVID-19; відчуття задоволення від навчання; залучення студентів до навчання.

