

SATISFACTION LEVEL USING E-LEARNING AMONG
UNDERGRADUATE NURSING STUDENTS AT
SCHOOL OF HEALTH SCIENCES, USM.

PUGELALAGGEN A/L SUPPRAMANIAM

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BY

PUGELALAGGEN A/L SUPPRAMANIAM

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LIST OF ABBREVIATIONS

ANOVA	- Analysis of Variance
ARCS	- Attention, Relevance, Confidence, and Satisfaction
CGPA	- Cumulative Grade Point Average
ELO	- Experiences of Online Learning
HREC	- Human Research Ethics Committees
ICT	- Information and Communication Technology
JEPeM	- Jawatankuasa Etika Penyelidikan Manusia
MCO	- Movement Control Order
OCSS	- Online Course Satisfaction Survey
SCL	- Student-Centred Learning
SPSS	- Statistical Package of Social Sciences
TAM	- Technology Acceptance Model
USM	- Universiti Sains Malaysia

TAHAP KEPUASAN MENGGUNAKAN E-PEMBELAJARAN DALAM KALANGAN PELAJAR KEJURURAWATAN DI PUSAT PENGAJIAN SAINS KESIHATAN, USM

ABSTRAK

Antara faktor utama yang mempengaruhi keberkesanan program “e-learning” dalam kalangan pelajar. Kajian ini bertujuan untuk mengukur tahap kepuasan para pelajar kejururawatan di Pusat Pengajian Sains Kesihatan, USM, Kelantan. Suatu kajian keratan rentas dengan penggunaan soal selidik yang diadaptasi dari Bolliger’s (2004) OCSS. Sebanyak 110 pelajar pra-siswazah dipilih untuk kajian ini melalui teknik Pensampelan Rawak Berstrata. Dalam kajian ini, sebanyak 90.0% berpuas hati dengan penggunaan e-learning. Dapatan kajian juga menunjukkan bahawa skor min tertinggi sejajar dengan laman web manakala skor min rendah sepadan dengan interaktiviti. Perbezaan tahap kepuasan pelajar kejururawatan antara tahun pengajian dikaji menggunakan ujian ANOVA sehalu. Terdapat perbezaan yang signifikan antara skor tahap kepuasan pelajar kejururawatan dengan tahun pengajian ($p=0.02$). Skor tahap kepuasan pelajar dalam penggunaan e-learning berkurangan apabila tahun pengajian meningkat. Seterusnya, ujian Kruskal Wallis digunakan dalam mengkaji kaitan antara tahap kepuasan penggunaan e-learning dengan skor CGPA pelajar kejururawatan. Kajian ini menunjukkan bahawa tidak terdapat perbezaan yang signifikan antara tahap kepuasan penggunaan e-learning dengan skor CGPA pelajar kejururawatan ($p>0.05$). Kesimpulannya, kajian ini menunjukkan bahawa pelajar kejururawatan berpuas hati dengan penggunaan e-learning di Pusat Pengajian Sains Kesihatan.

Kata kunci: *tahap kepuasan, e-learning, tahun pengajian, skor CGPA, laman web, interaktiviti*

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ABSTRACT

The satisfaction of students is one of the most important factors in determining the performance of e-learning program implementation. This study aimed to assess the satisfaction level using e-learning among nursing students at the School of Health Sciences, USM, Kelantan. A cross-sectional survey was conducted using a questionnaire adapted from Bolliger's (2004) OCSS. A total of 110 undergraduate nursing students were recruited via stratified random sampling. In this study, 90.0% of the undergraduate nursing students were satisfied using e-learning. Results also revealed that the highest mean score corresponds to the website and the lowest mean score corresponds to interactivity. One-way ANOVA test was used to determine the difference in satisfaction level towards e-learning between the year of study among undergraduate nursing students. There was a significant difference between undergraduate nursing students' satisfaction score using e-learning and the year of study ($p=0.002$). The satisfaction score of the students using e-learning decreases as the year of study increases. Moreover, the Kruskal-Wallis test was conducted to evaluate the difference between satisfaction level towards e-learning and the CGPA score nursing undergraduate students. There was no significant difference between satisfaction level towards e-learning and the CGPA score nursing undergraduate students ($p>0.05$). In conclusion, the study found that undergraduate nursing students were highly satisfied using e-learning at School Of Health Sciences.

Keywords: *satisfaction level, e-learning, year of study, CGPA score, website, interactivity*

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Technology is defined as a field of knowledge dealing with the development and use of technical means and their interrelationship with culture, community and the environment building on subjects such as industrial arts, engineering, applied science, and pure science (Technology, 2019). Humans are being steered into the future with these powerful technological advancements. These inevitable progressions are altering every aspect of a human's daily life. Technology has brought the most important revolution in education as well. Information and communication technology (ICT) will boost any business' operating processes and the education sector is no exception. Today, in many pedagogical practices, ICT plays a major role, such as instructional delivery, content planning, class interaction, and assessment. The use of ICT is the new standard of teaching and learning and it has become significant over the years.

In 21st century, this new paradigm has encouraged the traditional model of higher education is being replaced and has incorporated online learning environments (Allen & Seaman, 2015). ICT has increasingly influenced higher education. From playing a supplementary role, it now has permeated core teaching and learning in universities. E-learning is the learning style that is driven by digital technology and most often applies to learn through the Internet. In recent years, e-learning has become a major phenomenon and widely adopted as a promising solution by many universities to offer learning-on-demand opportunities to students to improve the teaching process. In Malaysia, the growth of

enrolment in online courses offered by private universities increased to nearly 160,000 students in 2012 (Malaysia Ministry of Higher Education, 2012).

E-learning environments provide collaboration, engagement and multimedia content delivery opportunities that enhance learner-driven learning, especially in higher education. The e-learning concept is depicted in several ways, like a flexible Internet environment, distributed computing, virtual learning environment, and general distance learning, etc. There are so many synonymous with e-learning like open-courseware, advanced distributed learning, Internet-based learning, web-based learning, e-education, open-learning, virtual education, virtual learning environment (Govindasamy, 2002). Furthermore, e-learning is a beneficial tool in enhancing the quality of teaching and learning, making students be powerful consumers of education. It is an “innovative approach to education delivery via electronic forms of information that enhance the learners’ knowledge and skills” (Siritongthaworn, Krairit, Dimmitt, & Paul, 2006).

Apart from that, e-learning consumers, particularly the learners gain undeniable advantages. The benefits include increased access to information, improved content delivery, accountability, self-pacing, confidence, and increased convenience. Sun, Tsai, Finger, Chen, and Dowming (2008) and Lin (2007) stated that e-learning aims to improve the quality of learning experiences through the re-use and sharing of information and knowledge, while learners can decide their speed. E-learning creates a flexible learning environment for teachers and students in terms of time and place. Learning does not require students to being physically present in the same place as an instructor nor at the same time (Walker, 2005). Academics and practitioners alike recognize e-learning systems as a valuable tool for communication and transfer of information. According to Lewis and Price (2007), the use of

e-learning upsurges the students' motivation and satisfaction, reduced instruction time and convenience. The advantages of e-learning are freedom, students can decide the lesson, express their thoughts, access online material, and progress in their pace (Bouhnik & Marcus, 2006). ICT has allowed students to quickly access their teachers and receive responses via email and discussion forums promptly.

Students of today have been involved in online communication from an increasingly early age. For instance, today's students are using YouTube for teaching and learning. YouTube videos can be viewed from any location to match the student at any time of the day. As Clifton and Mann (2011) noted, "the use of YouTube videos increased student engagement, critical awareness and facilitated deep learning" (p. 311). Despite these benefits, there are certain restrictions on the use of YouTube for teaching and learning, particularly regarding unregulated content, which is often misleading, inaccurate or biased.

Moreover, the use of e-learning becomes essential for higher education institutions and they are considering and accepting this fact to compete with other organizations and for meeting financial stability. The other reason for implementing this new learning paradigm in educational institutions by higher education officials is for enhancing students learning experiences and for the improved learning outcomes and abilities. Besides, the implementation of e-learning in tertiary education is well-known as an attractive practice enhancing traditional pedagogical methods in healthcare (Siassiakos, Illioudi & Lazakidou, 2008). Therefore, e-learning in nursing education is expanding rapidly.

Worldwide, e-learning has been introduced to nursing curricula in several western countries including Australia, Canada, Greece, Ireland, New Zealand, UK and the USA (Button, Harrington & Belan, 2013). Students can access online materials at any time in

asynchronous online learning, while synchronous online learning enables the communication between students and instructors in real-time. Learners can access up-to-date and relevant learning materials via the Internet and can communicate with the field experts they are studying. Situated learning, or applying knowledge and skills in specific contexts, is encouraged because learners can complete online courses while working on the job or in their own space and contextualize learning (Ally, 2004).

For instructors, tutoring can be done anytime, anywhere. Online resources can be modified and updated so students can instantly see the changes. When learners can access materials on the Internet, it is easier for instructors to direct them to appropriate information based on their needs. When properly designed, online learning systems can be used to assess the needs of learners and the current level of expertise and to assign appropriate materials to select learners to achieve their desired learning outcomes (Ally, 2004). Especially it is alternative and productive for subject areas where the traditional lectures have been regarded 'dry' in nature (Lymn, Bath-Hextall & Wharrad, 2008).

In 1996, e-learning programs were introduced in Malaysian public universities, with the rapid change in Malaysia's economy and education. Through unveiling Vision 2020, the nation welcomed the new decade. This move preceded the establishment of the Multimedia Super Corridor in 1996 and the privatization of tertiary education. This is accompanied by interrelated initiatives which have transformed the education. The type of e-learning offered to nursing students at the School of Health Sciences, Universiti Sains Malaysia (USM) is known as blended learning. Ministry of Education's Dasar e-Pembelajaran Negara (DePAN) requires that 50% of all courses offered by higher education intuitions be conducted in the blended learning model (where at least 30% of Contents and/or activities are done online).

In elearn@USM, if the following requirements are met, a course is considered blended. The requirements are information, activities, resources, and assessment. Information stands for course description. Activities listed include chat, external tool, feedback, forum (discussions), glossary, questionnaire, survey, attendance, etc. Resources can be a book, file folder, URL, etc. The assessments carried out can be a quiz, workshop or assignment. Besides, USM also encourages Student-Centred Learning (SCL), providing open educational resources, promoting mobile applications, and facilitate lecturers and students with resources needed (Blended Learning Course, 2019).

Blended learning is often defined as an integration of online and multimedia learning prospects used in conjunction with face-to-face learning (Driscoll, 2002). In other words, the blend of traditional classroom teaching, and e-learning is referred to as blended learning (Garrison & Vaughan, 2008). Before researches, Kinshuk and Yang (2003), Yang and Liu (2007), and Wu et al. (2008), stated both positive and negative aspects of the e-learning environments. Several negative aspects and drawbacks of e-learning have been highlighted, such as lack of peer communication and interaction, the high initial cost of preparing multimedia content of learning materials and substantial cost of maintaining and upgrading it, as well as the need for flexible tutorial support.

With the above concerns and dissatisfaction with e-learning in prior studies, people have searched for another instructional delivery solution. As Farrell, Cubit, Bobrowski, and Salmon (2007) stated, students also were hesitant to go without face-to-face classroom contact time and embrace the entire online environment. So, blended learning can come to help in such circumstances without eliminating the traditional classroom teaching, Blended e-learning has been discussed as a promising alternative (So, 2006).

1.2 Problem Statement

In this 21st century, nurse educators have at their fingertips a range of technical resources to support and promote the training of nursing students. There are emerging works of literature discussing how some of these technological developments are being introduced to student nurses in the classroom. What is less clear is the degree to which these innovations satisfy students and encourage better results? Despite the advantages outlined, e-learning has a higher rate of dropout than conventional training provided (Zhang, Zhao, Zhou & Nunamaker, 2004). Little is understood about the reasons many students stop learning online after their initial experience.

E-learning success can be defined through multiple perspectives. One way to define success is through factors such as enhanced learning, time savings, and academic success. User satisfaction is a successful indicator of an IT-based initiative's success. Since e-learning initiatives are strongly tied to ICT, students' satisfaction is an important outcome of e-learning. In an online environment, students are like customers or consumers. If the consumers are not satisfied with a service or product, they stop purchasing or using it (Yi, 2014), indicating that satisfaction is vital. The satisfaction of students is one of the most important factors in determining the performance of e-learning program implementation.

Rodgers and Withrow-Thorton (2005) noted that motivation is one of the psychological factors most relevant to learning. It is a psychological quality that helps students to learn and complete their learning activities. Motivation is defined as an internal drive that activates behaviour and gives it direction. The term motivation theory is concerned with the process that describes why and how human behaviour is activated and directed. Besides, in an online learning environment, motivation is an important variable in preserving

the satisfaction of learners. Moore (2005) stated that student satisfaction is considered one of the five pillars of quality in online education. Satisfaction one of the factors supplementing the learning process with motivation. Satisfaction according to John Keller's ARCS motivational theory is essential to learning.

In 1987, Keller developed the ARCS Model which is a tool to boost teaching materials ' motivational appeal. The ARCS Model developed by Keller (1987) defined four major conditions (Attention, Relevance, Confidence, and Satisfaction) that must be met for people to be inspired and stay motivated. The first requirement is attention, which is a motivational factor and a prerequisite for learning as well. The motivational factor aims to obtain and sustain focus. The second factor is relevance, which has to do with how well the training suits the needs and objectives of a learner. It emphasizes the need for the course content to be recent and consistent with the course goals. Learners need to perceive content as aligned with their learning interests, consistent with personal learning objectives, and related to their previous experiences.

Confidence is the third factor, which refers to the learner's attitude toward success or failure. Keller (2008) reported that the confidence factor involves variables that contribute to the personal control feelings and perceptions of the achievement of the students. In other words, the attitude toward success can influence learners' persistence and accomplishment. Finally, satisfaction being the final factor includes studies and activities that contribute to making people feel good about their achievements. In other words, knowledge of success is important as it motivates future learning. It is important for reinforcement given so that the motivated behaviour is maintained. Thus, the satisfaction obtained upon completion of a task plays a key role in motivating students.

Apart from that, factors are compromising the satisfaction level of students in using e-learning. These contributing factors should be identified to assess students' satisfaction level, which would help in implementing e-learning more effectively. Al-Rahmi, Othman, and Mi Yusuf (2015) highlighted such factors in the context of Malaysian higher education institutions. Such factors include technology infrastructure, effort expended by the faculty, satisfaction with the technology and the competency of graduates. Wang (2003) analysed adult participants in research to shed a light on students' satisfaction of e-learning and his findings highlighted four major factors namely personalization, content, learning community and learners' interface. Malik (2010) reported that technical facilitation, students and instructors' behaviour, computer efficiency, teacher's response during e-learning and a user-friendly interface all form the main factors in the students' satisfaction with web-learning.

Firstly, the technological facilities provided by the faculty or institution. The public universities with outdated systems tend to challenge the development of flexible and accessible e-learning based platform in higher education. The students are being transformed into powerful consumers of education in this age, considering the speedy adoption of mobile technologies. According to Jones (2002) and Ernst et al. (2005), the students have a very low level of patience and it causes dissatisfaction when the e-learning course is difficult to be navigated. Billings, Connors and Skiba (2001) and Creedy et al. (2007), reported that factors such as undependable university computer systems, lack of technical support and the amount of time wasted when computer applications did not work as expected made the student to distrust Learning. These issues such as computer troubles, not strong networks and download time being a barrier towards building a reliable e-learning platform.

Furthermore, anxiety is one of the common concerns raised by students about using information communication technology. An increase in anxiety levels among students about learning via online platforms was identified (Deltsidou, Voltyraki, Mastrogiannis & Noulas, 2010). Reliable e-learning platforms in courses build confidence in students and reduce the anxiety levels in students. Besides, the effective use of e-learning is dependent on levels of computer literacy. Elder and Koehn (2009) and Levett-Jones et al. (2009), revealed that the lack of ICT-related skills of students affected their learning progress. The students are more involved and satisfied using e-learning depending on their computer literacy.

To the researcher's knowledge, there are no studies conducted to assess satisfaction level using e-learning among nursing students at the School of Health Sciences, USM, Kelantan. Hence, this research aimed to assess undergraduate students' satisfaction towards e-learning. This research chose to highlight the significant relationship between e-learning and students' satisfaction so, students are prospectively motivated when using e-learning. Kim and Frick (2011) explained that motivated students are more likely to be involved in the learning and the students are the ones with actual achievement in the learning. Thus, students' satisfaction must be evaluated to enhance e-learning in nursing education being provided to nursing students.

1.3 Research Objectives

1.3.1 General Objective

To identify the satisfaction level using e-learning among nursing undergraduate students at the School of Health Sciences, USM, Kelantan.

1.3.2 Specific Objectives

1. To identify the satisfaction level using e-learning among nursing undergraduate students at the School of Health Sciences, USM, Kelantan.
2. To determine the difference in the satisfaction level using e-learning between the year of study among undergraduate nursing students at the School of Health Sciences, USM, Kelantan.
3. To determine the difference between the satisfaction levels using e-learning and CGPA scores among undergraduate nursing students at the School of Health Sciences, USM, Kelantan.

1.4 Research Questions

1. What is the satisfaction level using e-learning among undergraduate nursing students in USM?
2. Is there any difference in the satisfaction level using e-learning between the years of study?
3. Is there any difference between the satisfaction level using e-learning and the CGPA score?

1.5 Research Hypotheses

- Hypothesis 1:

- H₀₁:

There is no significant difference in satisfaction level towards e-learning between the year of study among nursing undergraduate students at the School of Health Sciences, USM, Kelantan.

- H_{A1}

There is a significant difference in satisfaction level towards e-learning between the year of study among nursing undergraduate students at the School of Health Sciences, USM, Kelantan.

- Hypothesis 2:

- H₀₂

There is no significant difference between satisfaction level towards e-learning and the CGPA score of nursing undergraduate students at the School of Health Sciences, USM, Kelantan.

- H_{A2}

There is a significant difference between satisfaction level towards e-learning and the CGPA score of nursing undergraduate students at the School of Health Sciences, USM, Kelantan.

1.6 Conceptual and Operational Definitions

Satisfaction Level: Cambridge Dictionary defined a pleasant feeling that a person gets when they receive something they wanted, or when they have done something they wanted to do (“Satisfaction”, 2019).

Satisfaction in this study refers to students’ satisfaction using e-learning. Student satisfaction using e-learning can be defined as the student's perception of value to the experience and perceived value of the education received via online learning while attending an educational institution. Course satisfaction is described as how much the online course fulfils or gratifies the student with their learning. According to Artino and Stephens (2009a), course satisfaction is significant because it will inspire and encourage learner. An adapted questionnaire from Bolliger’s (2004) Online Course Satisfaction Survey (OCSS) used to measure students’ satisfaction using e-learning.

E-Learning: An academic instrument in learning being supported using information communication technology which includes mobile technologies including personal smartphones (New Media Consortium, 2008).

E-learning is an education incorporated with digital technologies to facilitate learning in undergraduate nursing curricula at the School of Health Sciences, USM, Kelantan. The type of e-learning offered is known as blended learning. Learning occurs in both environments: online and face-to-face. A substantial proportion of the content is delivered online, typically using discussions and a reduced amount of face-to-face time (Allen & Seaman, 2014).

Undergraduate Nursing Students: Students currently studying, enrolled in Bachelor of Health Sciences (Nursing). In this study, the selected students are from the first, second, third and final year of studying at the School of Health Sciences, USM, Kelantan.

1.7 Significance of the Study

The significance of the study aims to provide information on the satisfaction level towards e-learning among undergraduate nursing students at the School of Health Sciences, USM, Kelantan. This research was focusing on potential factors that are in the field of the university or faculty management and have an impact on e-learner satisfaction. It provided the factors contributing to satisfaction level using e-learning among nursing students. These findings will be helpful to improve aspects of nursing education, especially in the implementation of e-learning in their curriculum.

Moreover, this information will be helpful administrative and educational staff develop the e-learning process and strive for high-quality teaching and learning experiences. For example, developing an effective e-learning environment which satisfies students' needs without challenging academic integrity. An essential condition for successful e-learning is the overall satisfaction of students with the proposed teaching-learning system (Teo, 2010). Course layout and performance of the course have a strong impact on online learning satisfaction: students are more pleased with well-designed online courses with clear goals and easy to navigate (Ghaderizefreh & Hoover, 2018). The data will be helpful to identify the students' preferences towards e-learning after their experience.

Besides, the results that will be presented in this study can help universities or faculties to adopt e-learning technology and reduce the risk of failure during the process of

implementation or system exploitation. Furthermore, researchers can utilise the findings of this study as a basis for initiating other related studies in the area of e-learning. Researchers can use the findings from this study as a framework for conducting other similar studies on e-learning. Lastly, the finding can also be contributing to further research study related to student satisfaction and e-learning.

The results from this study are aimed at providing a plan to improve the standard of online education and to increase the level of satisfaction with the course in Malaysia. This research adds to the body of knowledge and seeks to inform stakeholders who are directly or indirectly involved in the introduction, preparation, or projecting of online adult learner education. Academic policymakers will be better able to understand whether there are differential effects on variables such as satisfaction comfort, participation and mixed-mode learning between high and low achievements in blended courses. This will assist them in planning and supporting blended courses that usually involve students of different skill levels, such as honorary courses or compulsory non-major courses.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

A literature review is a collective and evaluative report that describe, summarise, evaluate and clarify information found in the literature related to the selected area of study. It acts as the basis for the research that helps maximize relevance, originality, generalizability, and impact (Maggio, Sewell, Artino, & Jr, 2016). The central aim of a literature review is to provide a context and existing body of knowledge for the research, establish the purpose of ideas and justify the research, illustrate previous findings and theoretical framework, show present research is adding to understanding knowledge of field, outline and refine previous studies from papers or detailed annotated bibliography of multiple research publications (Blanchard, 2018).

This chapter discusses the previous studies carried out on this whole topic which is the satisfaction level using e-learning among undergraduate nursing students. In this chapter, the literature review consists of the concept of e-learning, factors influencing satisfaction level using e-learning, academic achievement, and level of education. It also focuses on the details of the conceptual framework and Khan's E-learning framework that guided this study.

2.2 Review of Literature

2.2.1 Concept of E-Learning

There are many definitions of online learning in the literature, reflecting the diversity of practice and associated technologies. Throughout time, the definition of e-learning is to keep changing in various researches. For example, Carliner (1999) defined online learning as an educational material that is presented on a computer. Khan (1997) defined online teaching as an innovative method for delivering education to a remote audience, using the Web as the medium.

Online learning, however, comprises more than just the presentation and delivery of materials using the Web: the learner and the learning process should be the focus of e-learning. In that perspective, Ally (2004) defined online learning as “the use of the Internet to access learning materials; to interact with the content, instructor, and other learners; and to obtain support during the learning process, to acquire knowledge, to construct personal meaning, and to grow from the learning experience”. Teaching and learning in higher education are transforming to focus on increasing the level of interaction between human and technology-based support through collaboration, virtual communities, instant messaging, and blogging. This learning transformation seeks to lead higher education to use daily. In other words, e-learning is becoming a part of students’ ordinary life.

Besides, the learning environment of the traditional educational system led by an instructor in face-to-face situations. Traditional classroom-based instruction takes place in a closed system, within the confines of a given classroom, school, textbook, or field trip. Whereas, e-learning offers guidance for different students in an atmosphere where learners, teachers and support staff do not see each other. The structure of such a learning environment

varies from conventional teaching in the classroom. E-learning takes place in an open system. For example, it expands the educational boundaries to an open and flexible environment where students determine where and when to learn (Khan, 2001).

Moreover, to continue their learning processes, undergraduates in an open, flexible and distributed learning environment need immediate attention and feedback on their work. Therefore, e-learning users need the best support networks, so they do not feel isolated and enter the dropout list. The study conducted in the UK (Blake, 2009) stated that e-learning was accepted by most nursing teaching staff as a supplementary element in teaching but there is a concern in students' support. Assessing the factors influencing the satisfaction of students using e-learning enhances the students' online learning experience.

The undergraduate nursing students of the School of Health Sciences, USM are exposed to the blended learning in their curriculum. Blended learning is a new method of education that incorporates conventional face-to-face learning with online learning. The term blended learning is used to describe a learning situation that incorporates multiple delivery methods to provide by such combination the most efficient and effective instruction experience (Harriman, 2004). The combination could be between any form of instructional technology with face-to-face instructor-led training (videotape, CD-ROM, Web-based training, films) (Joy-Matthews, Megginson, & Surtees, 2004). Regarding student satisfaction, there is an overwhelming body of research that indicates that students are more comfortable with blended courses compared to both conventional face-to-face and online learning modes (Castle, & McGuire, 2010; Martinez-Caro, & Campuzano-Bolarin, 2011; Farley, Jain, & Thomson, 2011).

The study by Kang and Seomun (2018) stated the better alternative to nursing education is blended learning. Cavanagh (2011) concluded that institutions see it as a model

that makes effective use of classroom space; faculties benefit from increased flexibility in their teaching schedules, and students seem to be more satisfied and attain higher grades than in either fully face-to-face or fully online classes. Blended learning not only has the ease, flexibility, and resources of online learning but also enhances the link between teachers and students so that students can provide prompt, meaningful feedback. Blended learning increases student satisfaction and strengthens nursing students' professional knowledge (Sherman, Comer, Putnam & Freeman, 2012).

2.2.2 Satisfaction Level Using E-Learning

Course satisfaction in online learning has grown into concern among online educators, to prevent students from dropping, withdrawing, or otherwise leaving their course of study online. Students' satisfaction is an important factor in measuring the quality of blended learning (Naaj, Nachouki & Ankit, 2012). According to Kuo, Walker, Belland and Schroder (2013), student satisfaction means the perceptions of learners of the value of a course and their experiences in the learning program. Wu, Tennyson, and Hsia (2010) viewed student satisfaction as “the sum of student’s behavioural beliefs and attitudes that result from aggregating all the benefits that a student receives” (p. 157). On the other hand, Sener and Humbert (2003) stated maintaining satisfaction is a vital element in creating a successful online program.

On that note, researches on e-learning satisfaction have developed with different perspectives. For example, a study by Abdous & Yoshimura (2010) focused on the degree of satisfaction with classroom teaching compared to online teaching. This study examined the final grade and satisfaction level differences among students taking specific courses using three different methods: face-to-face in class, via satellite broadcasting at remote sites, and

via live video-streaming at home or work. The same course was taught by the same instructor in all three delivery methods. Results indicated no grade or satisfaction level differences among the three populations. However, self-reported computer literacy skills revealed a slight fit between the chosen delivery mode and the reported computer literacy skills. These results provide additional evidence to support the use of distance education as a viable, convenient and flexible alternative delivery model capable of extending learning opportunities to non-traditional students.

Whereas, Kim & Lee (2011) analysed the most influential factors in the degree of satisfaction of underprivileged student with online learning. This study aimed to examine factors affecting the satisfaction of underprivileged students in online learning. There were 1043 students and 915 underprivileged students being the subjects in this study. The underprivileged students found themselves more satisfied with online learning than the students, and the students who were guided by their online homeroom teachers expressed better satisfaction than the self-study type students. This study was significant in that it attempted to suggest what kind of assistance to raise the satisfaction of underprivileged students in online learning should be provided.

Furthermore, Kransow (2013) stated that students would be more likely to remain in the program if students were satisfied with their online experiences. Kransow (2013) asked instructors who work in the online environment a critical question. How can online courses be designed to maximise student satisfaction as well as student motivation, performance and persistence? Kransow, drawing on the literature, stressed the importance of building a sense of community within the online environment. To strengthen the instructor's role in the design of satisfying online curricula, building an online community that promotes student satisfaction involves strategies that go beyond facilitating interaction with the components of

the course. Building a community also requires interaction with one another, among other elements, that is, between student and instructor, and in the course between students. Besides, Bradford and Wyatt (2010) focused on satisfaction with diverse aspects of a single course. They stated the ease of learning, the degree of participation and cooperation, and the flow of information in their study. Improving on these aspects in delivering online education increases the satisfaction of the students.

There was an argument made on how people learn how learners are taught via e-learning, therefore, there was an increasing need to understand what contributes to student satisfaction with online learning (Sinclair, 2011). This study investigated student satisfaction and learning interest relationship when the teacher was using a web-based learning platform. Participants were drawn from a tertiary institution in central Taiwan, ages between the ages of 19 and 24. The results of this study showed that the satisfaction and learning interest of the students were positively correlated at a significant level when using a web-based learning platform. The outcome could thus be interpreted as the more in teaching instruction a teacher used a web-based learning platform; the more likely the students were satisfied with the class, which also affected their learning interest. Also, the results showed only the satisfaction of the students differed considerably in the aspect of the ages of the students.

Apart from that, a study done by Estelami (2012) showed that the content and characteristics of the course and the quality of the instruction were the main driving force behind student satisfaction and overall learning experience. The researcher surveyed student satisfaction and learning outcomes in purely online and hybrid-online course formats among those who enrolled in marketing and financial courses across ten-course sections studied over two years with the same instructor. The primary contributors to positive student experiences

for both courses were factors such as instructor quality, clarity of assignments and tasks, quality of the instructional material used and course communications. Hybrid delivery did not affect learning experience whereas the course of the financial services showed a positive relationship between learning perceptions and hybrid delivery of the course.

Moreover, the study conducted by Harrison, Gemmell, and Reed (2014) at the University of Manchester, England identified key themes and feedback including peer support highly influenced satisfaction of fully online students. This study surveyed fully online students' levels of satisfaction of the dissertation course in 2001. Researchers have found that the number of contacts initiated with their supervisor and the time spent working on their dissertation course has not been significantly associated with the satisfaction of either part-time or full-time students. Whereas among entirely online students who participated in public health courses, opposite findings have been reported. Largely, 85% were satisfied or very satisfied with the dissertation course, overall. They recommended exploring class, age and past online satisfaction experiences for future research.

Besides, research carried out to study the effect of ethnicity and gender on e-learning in higher education suggested that females are more satisfied than males about e-learning. Ashong and Commander (2012) surveyed among African American and White-American students at a research institution in the southeastern United States. They focused on computer satisfaction, teacher support, student interaction and collaboration. The results also indicated that African American and White students had a positive overall view of online learning.

2.2.3 Factors Influencing Satisfaction Level Using E-Learning

2.2.3.1 Instructor

Instructors may also be referred to as facilitators, who are competent and skilled in the learning content but also be used more for their guiding abilities and ability to provide students with learning materials (“Instructor-led training,” 2019). Instructors are responsible for providing accurate and timely information to prospective students, current students and relevant members of the university community about their courses. Instructors must provide accurate descriptions of the courses to academic units and students on time. Instructors can provide training in a lecture or classroom format, as an interactive laboratory, or even as a demonstration with the opportunity for the learners to have hands-on experience (“Instructor-led training,” 2019).

In the era of modernisation, the instructors need to have facilitation and teaching skills, in which they use different methods to engage learners and embrace different learning styles. For example, virtually, using video-conferencing tools. Other forms of learning delivery include e-learning that provides online self-paced learning and blended learning that combines instructor-led and e-learning elements. While there are still many similarities between online teaching and in the classroom, many areas are qualitatively different. Online teaching requires the instructor to take on roles different from those in the traditional classroom. Such accustomed improvements will be successful in helping students learn from a distance with success (Taylor-Massey, n.d.).

Firstly, the instructor should act as an e-learning designer in an e-learning environment. An online course must meet the same objectives and requirements of the

curriculum. The online teacher is taking the role of an e-learning designer and must re-conceptualize the course and develop it for the virtual world. As an e-learning designer, the online instructor is challenged to adapt (or create new) the course in such a way as to take these considerations into account as well as to achieve the learning objectives (Taylor-Massey, n.d.).

Secondly, online instructors as a technology specialist. Otherwise, technology can become a source of frustration or distraction for students or be a hindrance to learning. If the technical aspects of the course run without problems, the students will concentrate on learning and will be more satisfied with their e-learning experience. Thirdly, the e-learning instructor plays the role of content coach and must devote time to mentoring students while processing the information they obtain. The online teacher is challenged to find innovative ways to ensure virtual classroom learning (Taylor-Massey, n.d.).

Moreover, the connection between and between the teacher and the students is more consistent when teaching a traditional class on campus. A sense of community and class culture tend to be organically established. These things require a little more effort and creativity for an online course. Student-to-instructor and student-to-student interactions are important elements in the design of a Web-based because learners can experience a “sense of community,” enjoy mutual interdependence, build a “sense of trust,” and have shared goals and values (Davies & Graff, 2005). The online instructor becomes a social director and must purposefully establish a sense of community and modes of interaction among all participants.

On that note, Ni (2013) stated that an important component of classroom learning is the social and communicative interactions between student and teacher, and student and student. A student’s ability to ask a question, to share an opinion, or to disagree with a point

of view is fundamental learning activities. It is often through conversation, discourse, discussion, and debate among students and between instructors and students that a new concept is clarified, an old assumption is challenged, a skill is practised, an original idea is formed and encouraged, and ultimately, a learning objective is achieved. The goal is to help students feel part of the group and get involved in the course, thus increasing their feelings of connection and reducing their feelings of isolation.

Finally, managing correspondent. The goal of this role is to make the material manageable and understandable. Online courses often substitute classroom interaction with discussion boards, synchronous chat, electronic bulletin boards, and emails. Therefore, students must believe that instructors in online environments know how to teach well in online classes. When all these roles are carried out and done successfully, students feel confident and competent in their online course (Taylor-Massey, n.d.).

In the study conducted by Sher (2009), found the interaction between student and instructor and among students to be significant factors in student satisfaction and learning. The instructor is an essential element for the students to achieve a higher satisfaction level using e-learning. Instructors play a vital role in promoting students' motivation. An instructor's counselling and support are important aspects of academic development and the acquisition of new knowledge. Apart from that, a study conducted in engineering disciplines on student satisfaction stated having continuous access to the instructor is perceived as an important factor in students' satisfaction with blended learning (Martinez-Caro & Campuzano-Bolarin, 2011).

Meyers (2010) stated that the online environment can pose problems for instructors trying to establish positive relationships between students. Setting clear expectations and