**NEAR EAST UNIVERSITY**

**GRADUATE INSTITUTE OF HEALTH SCIENCES**

**DEPARTMENT OF NURSING**

# PERCEPTION AND SATISFACTION LEVEL OF NURSING STUDENTS TOWARDS ONLINE LEARNING, SELF EFFICACY AND THE RELATION OF DIGITAL CITIZENSHIP DURING THE COVID-19 PANDEMIC.

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**M.Sc. THESIS**

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## Approval

We certify that we have read the thesis submitted by Gloria Sydney Ndahbros titled **"Perception and Satisfaction Level of Nursing Students Towards Online Learning, Self-Efficacy and the Relation of Digital Citizenship During the Covid-19 Pandemic"** and that in our combined opinion it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Educational Sciences.

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**Year:** 2022

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

**Date:**

**Signature:**

**DEDICATION**

Most importantly, I dedicate my dissertation to The Lord Almighty for His grace, strength and favour to be able to complete my project. I also dedicate this project to my beloved parents, Mr. and Mrs. Ejike Ndahbros, and siblings, Jude , Daniella, Sonia and Favour Ndahbros with a special sense of gratitude for their great assistance, encouragement, constant love, prayers, care and patience. A heartfelt thanks to my Pastor and His wife, Pst. Sebastian Chukwuebuka Nlebedim and Mrs. Francisca Nlebedim who had been an inspiration to me, his guidance and encouragement had been a great part of my success through this journey.

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**LIST OF ABBREVIATIONS**

| | |
|---|---|
| OLSES | Online Learning Self-efficacy Scale |
| DCS | Digital Citizenship Scale |
| NEU | Near East University |

**ABSTRACT**

**Background:** On March 11, 2020, The Corona Virus Disease 2019(COVID-19) was declared a pandemic by the World Health Organization. The COVID-19 pandemic has generated the greatest disturbance in the education system and health care system, over 100 million children fell below minimum proficiency level in reading due to the pandemic (UNESCO, 2021). The new hybrid model of learning called electronic education(e-learning) emerged due to the pandemic thereby creating a shift from face to face to virtual learning strategies. This has led to researchers to measure the perceptions of capability regarding specific computer-related knowledge and skills, satisfaction level toward online learning and how conversant they are in using the technological system (digital citizenship).

**Method:** A quantitative, descriptive and cross-sectional study was conducted among 281 students studying in TRNC, who were given a questionnaire to measure the perception and attitude in relation to online self-efficacy and digital citizenship toward online learning during the COVID 19 pandemic. The participants were selected by random sampling technique. Data were collected using self-administered, developed questionnaires from various research to measure the students' perception and level of satisfaction. Online self-efficacy scale and Digital Citizenship scale were also utilized in this study with a wide range of Likert scale. Two major statistical tools namely Cross tabulation and Correlation were adopted in this study. The correlation analysis poses that there is a positive statistical association between perception, self-efficacy, level of satisfaction and digital citizenship at a significant value of $p<0.05$. The data was analyzed using IBM Statistical Package for Social

Sciences (SPSS) version 20. Chi-square test was used to analyze associations of Perception, level of satisfaction, online self-efficacy and digital citizenship, at a significant value of **p<0.05**.

**Result:** Out of 350 students intended to be reached to participate in this study, only 281 students responded to give information on perception and attitudes towards online learning during the pandemic. The mean age of the participants is 1.79±0.56. It was investigated that 32% of the respondents were students within year 1, 27.4% of the respondents were in year 2, 26% were in year 3 and 14.6% were in year 4. In this study 22.1% of the respondents were male, 77.9% were female. The mean and standard deviation findings of the scale and subscale were as follows : Student Perception (27.83±9.52), Satisfaction Level (57.74±19.14), OLSES (76.98±22.09), DC (88.28±27.82)

**Conclusion:** The study concluded that, with the exception of perception, which is associated with age, online learning self-efficacy, satisfaction level, perception, and level of satisfaction have no effect / association on demographic characteristics (age, gender, and academic levels), Furthermore, the results show a significant positive correlation between perception, level of satisfaction, and digital citizenship.

**Key words:** Covid'19, nursing students, students' perception, online learning self-efficacy distance learning, attitudes, digital citizenship.

# 1. INTRODUCTION

## 1.1 Problem definition

The COVID 19 pandemic is the first corona-virus to be declared a pandemic (WHO, 2020). It has introduced a shift in education i.e. from traditional mode (in-class teaching) to online learning/ remote learning (with the use of TV, laptops, mobile phones, desktops/laptops). Lectures are now delivered through online webinars such as Zoom, Google Meet, Moodle, Crowd Connected, Meeting Pulse and many more as learning management systems in order to facilitate effectual learning for students (Mukhtar et al, 2020) to continue to receive teaching outside the four walls of the lecture halls/ classroom as the case may be. Although some universities use the hybrid mode of teaching (Talsma et al, 2021).

Governments all over the world have implemented health measures such as quarantine, donning of face masks and enforced lock downs in order to stop the transmission of this virus. Hence, this had led to psycho-social (mental suffering, anxiety, and suicide) and economic implications. ( Chen et al, 2020). The ongoing new corona-virus disease (COVID-19) pandemic, which began in late 2019, poses a serious threat to global public health. The burden of providing health care services falls heavily on front-line medical staff (Hseih et al, 2020).

The ability to learn independently online, including attention span, boredom tolerance, and selfcontrol, is essential. It has been defined by Singh and Thomas to be a tool used to bridge the gap between students and education with cyberspace. The benefits of online learning; a) Easy and ready access to lecture resources to catch up (Ali et al, 2009) b) Convenient time and location of learning c) Easy organization, management and evaluation research.

The COVID 19 pandemic brought about disparities to various aspects and sectors of human life ranging from education, food, social life and so on). Majorly, the sector of education has been totally hampered by the effect of the

pandemic, schools were instructed by the government to shut down to cushion the spread of the virus and thus continue education online.

The Nursing education which requires lots of practice in order to enhance student's critical thinking skills, clinical skills and professional abilities even during this pandemic, platforms have been guaranteed. Mary et al, 2020 explained how nursing students were unable to participate in hospital practice, laboratory experiments thus resulting in depleted psycho-motor skills which is fundamental in the development of a professional identity (Mary et al, 2021) therefore it becomes necessary to device a means to assist the health care students so as to prepare them for their future as nurses, doctors, midwives and all others. According to a study carried out among nursing midwives; An online Virtual Maternity Clinic (VMC) was used to develop their clinical skills. It helps the midwifery students to have "real life-like experience" (Downer et al, 2021). Online learning was not just developed as an alternative learning method in the insurgency of COVID-19.

As per best of knowledge, this sudy with the inclusion of digital citizenship will be first of its kindto be carried out among the International students in Near East University. This study will provide information about the students' capacity to interact costructively, critically and competently in thr digital world, utilizing the abilities of effective communication and creation to engage in social behaviors that respect others' rights and dignity while using technology responsibly. The outcome of this study could be used to provide recommendation to lecturers, institutions, students for the betterment of the delivery of online courses, and the need to get familiar with the digital world for education seeing the world is tending towards hybrid learning and technological advancement. And this study will also serve as a source of reference in this area of research for future research purposes.

### 1.2 Aim of the study:

The aim of this study is to determine the perception and satisfaction level of nursing students towards the ability to make use of the online technological systems available to them during the COVID-19 pandemic alongside the awareness on how to navigate through the digital world in order to be efficient and effective during online learning.

### 1.3 Research questions:

- Descriptive characteristics of the participants
- What is the association between Online learning self efficacy and participants' demographic characteristics?
- What is the association between digital citizenship and the students' demographic characteristics?
- What is the association between satisfaction level and demographic characteristics?

- Is there any correlation between online self-efficacy and digital citizenship?

- What is the correlation between students' perception and online self-efficacy?

# 2 LITERATURE REVIEW

## 2.1 COVID-19 Pandemic Outbreak

The first case of the novel corona-virus was identified in Wuhan, China in the capital of Hubei on the 31st of December 2019. Afterwards, it spread to over 200 countries and territories around the globe. (Stewart et al, 2021). On the 11th of March 2020, it was termed as a pandemic by the World Health Organization and designated as corona-virus disease. Corona-virus may play a role in the development and pathogenesis of autoimmune diseases, according to new evidence (Zhou et al, 2021). According to current theories, the development of an autoimmune disease necessitates a genetic predisposition as well as environmental factors that activate immune pathways that eventually lead to tissue destruction (Wang et al, 2015). Inflammation and tissue damage in selforgans are hallmarks of autoimmune diseases, which are mediated by self-reactive T cells and/or auto antibodies (Yu et al, 2015).

## 2.2 Overview of the COVID-19 virus

The SARS COv2 (Severe Respiratory Syndrome Corona-virus 2). In twenty-five nations (25), 43,103 COVID-19 cases were confirmed on the 7th of February,2020. Up to 2,459 incidents were certified in 33 additional countries in addition to the 77,780 instances that were verified in China alone in February 2020.. The overall number of people killed was 80,239 with 2,700 deaths globally. As of May 10, 2021, there were more than 157 million known cases of SARS-CoV-2, and more than 3.27 million people had died as a result, according to the World Health Organization. (Yin et al, 2021). As corona-virus has been gradually acknowledged, a professional consensus, criteria, and guidelines for diagnosis, therapy, and transmission avoidance have emerged. The SARS-COV-2 is a Corona-Virus (CoV) with a single stranded, enveloped positive sense RNA (ssRNA) that has been known since the 1960s. Humans and animals can be infected with the virus, which can cause respiratory, hepatic, gastrointestinal and neurological problems. Corona-virus gets its name from the spike-like projections on its surface that give a crown-like appearance under an electron microscope. Several new corona-viruses (CoVs) have been discovered since the emerge of novel corona-viruses (Ullah et al, 2020). These CoVs have been categorized by the International Committee on Virus Taxonomy (ICTV) into various genera. Examples of corona-viruses are the alpha, beta, gamma, and delta corona-viruses.

Corona-viruses (CoVs) are common causes of disease in both humans and animals. Although most human corona-viruses cause only minor respiratory ailments, two zoonotic corona-viruses, SARSCoV and MERS-CoV have the potential to be fatal and seriously ill(Yang et al, 2015). Spike (S) glycoprotein, tiny enclosure (E) glycoprotein, membrane (M) glycoprotein, and nucleocapsid (N) protein are the four main structural proteins that make up SARS-CoV-2. A few auxiliary proteins are also present (Astuti et al,2020). The nucleocapsid, sometimes referred to as the N protein, is what gives CoV its structural integrity. It is located in the endoplasmic reticulum-Golgi region and is structurally attached to the virus's nucleic acid content. (Astuti et al, 2020). N is also the virion's most abundant protein, a highly immunogenic antigen that influences virulence and disease (Zinzula et al, 2021). Enveloped

viruses use a variety of entrance mechanisms, which can be classified as non-specific or specific binds. Non-specific binds collect viruses on the cell surface, whereas specific bindings activate endocytosis proteins (Mobini et al, 2021). The virus which belongs to the Coronaviridae family is represented by a crown-like spike structure, spike protein and is 65-125nm in diameter (Shereen et al, 2020). It also said to contain a single strand of RNA found in different types of animals of which includes (bats, pigs, camels, cats etc.). Additionally, there are numerous ways to test for coronavirus, including serological IgM and IgG production tests, chest X-ray or computed tomography (CT), and molecular tests using the reverse transcription polymerase chain reaction (RT-PCR) (Boger et al, 2021). The symptoms of COVID19 can be mild to severe (WHO, 2021) and sometimes asymptomatic (Rahman et al, 2020). Those who have additional underlying illnesses may experience respiratory failure, arrhythmia, shock, renal failure, cardiovascular dysfunction, or liver failure. (Alimohamadi et al, 2020). Most common symptoms include fever, loss of taste and smell, tiredness, cough (WHO, 2021).

## 2.3 Effect of COVID-19 on Nursing Education

The transition of online education methods has become more of a need than a choice. (Singh et al, 2021). How to train nurses in a society where social distance and isolation are commonplace and where more and better therapeutic interventions are required is an increasing worry. (Tomeitto et al, 2020). The unprecedented pandemic has touched every aspect of life, including nursing education, making it impossible to manage pre-clinical activities like simulations and labs to advance technical and interpersonal abilities.(Tomeitto et al, 2020). Nursing, the well-known profession does not just focus on impacting knowledge into the students but also has a core value in practice.

(Zendrato et al, 2021). This specific health sphere sector has been widely affected in the sense that traditional face-to-face teaching and in-hospital training have been predominant approaches to educating nursing students (Kim et al, 2021) therefore must adapt to this change by drafting a new curriculum to accommodate the new mode of learning which has posed difficult because nursing comprises on-site and hands-on clinical training. Due to closure of schools, colleges, universities, students have been necessitated to move to virtual online teaching classrooms whereas nursing students to virtual classrooms and virtual clinical experiences (Hargreaveset al, 2020). The changes done is not only limited to students and educators but also to health practitioners; in creating innovative solutions (telehealth) to meet the needs of patients who are in critical need and those who need health care services (Monaghesh et al, 2020) Telehealth is a viable option for combating the COVID-19 outbreak. It has been said to reduce the risk of cross contamination due to close contact (Smith et al, 2020). Utilizing telemedicine during epidemics (like the COVID-19 pandemic) may improve epidemiological research, infection control, and clinical case control. (Monaghesh et al, 2020). According to the WHO, "Telemedicine is the practice of health care by all health professionals who use information and communication technologies to exchange effective information for the diagnosis, treatment and prevention of disease, in order to promote individual and community health. It is the provision of health care services: we do injuries, research, evaluation and training of health care providers all to promote the health of individuals and communities." (WHO, 2010). It includes providing treatment and support to patient through video conferencing, emails, telephone and apps (Leontjevas et al, 2021).

A study shows the adoption of an aspect of telehealth; telenursing, for nursing students to bridge the gap of unavailability of clinical setting. According to the study, telenursing incorporates case studies or shared documents, student's co-operation and the use of telehealth to involve a patient. In this case, students are given time to prepare after clinical instructors offer a patient history or case study. Telenursing is also used to provide direct patient care during these virtual nursing students clinicals. The effect of COVID-19 on nursing

education has been a drastic one because nursing being a didactic course warrants experience in the clinical setting, prioritization, clinical expertise, critical reasoning, cognitive capacity and decision making have been shown to increase with virtual patient simulation (Jeong An et al, 2021). The virtual presentation and simulation that has been adopted by various universities has proven that students can understand the whole patient experiences by viewing virtual presentation of interactive case-based scenarios offered via slides, videos or online commercial training (Hargreaves et al 2021). Nursing is a profession based on caring for patients and close interaction with them, therapeutic touch and body proximity as a means of communicating and providing excellent nursing care and to ensuring the patient reaches optimal health. All of these challenges, when brought up in nursing education, provide students with learning opportunity, a chance to develop their professional identity and a way to focus on the nursing role (Tomeitto et al, 2020).

The Clinical Virtual Simulation was also introduced in nursing education during the pandemic, it can also be replaced for clinical practicum hours (Fung et al, 2021). It is a computer- based replica of reality that involves actual individuals running simulated systems. It is a form of simulation that puts people in the driver's seat by putting their decision making, motor control and communication skills to the test (Padilha et al, 2019). The studies have shown that it enhances information retention and initial clinical reasoning over time, as well as student satisfaction with learning without affecting the perception of overall efficiency. When compared to high fidelity simulation, virtual reality based simulation training could help nursing students gain more knowledge and confidence in clinical practice (Hao et al, 2022). During the COVID-19 pandemic, a simulation training exercise was established as a departmental initiative to increase skill in administering nasopharyngeal swabs. It was proven to boost the health-care personnel' confidence in performing the procedure (naso-pharyngeal swabs) (Mark M.E et al, 2020).

**2.4 Effect of school shutdown and distant education**

Distant learning is a well-known strategy that has been used in the aftermath of natural disasters and political conflicts (Khalif et al, 2021). Learning from a

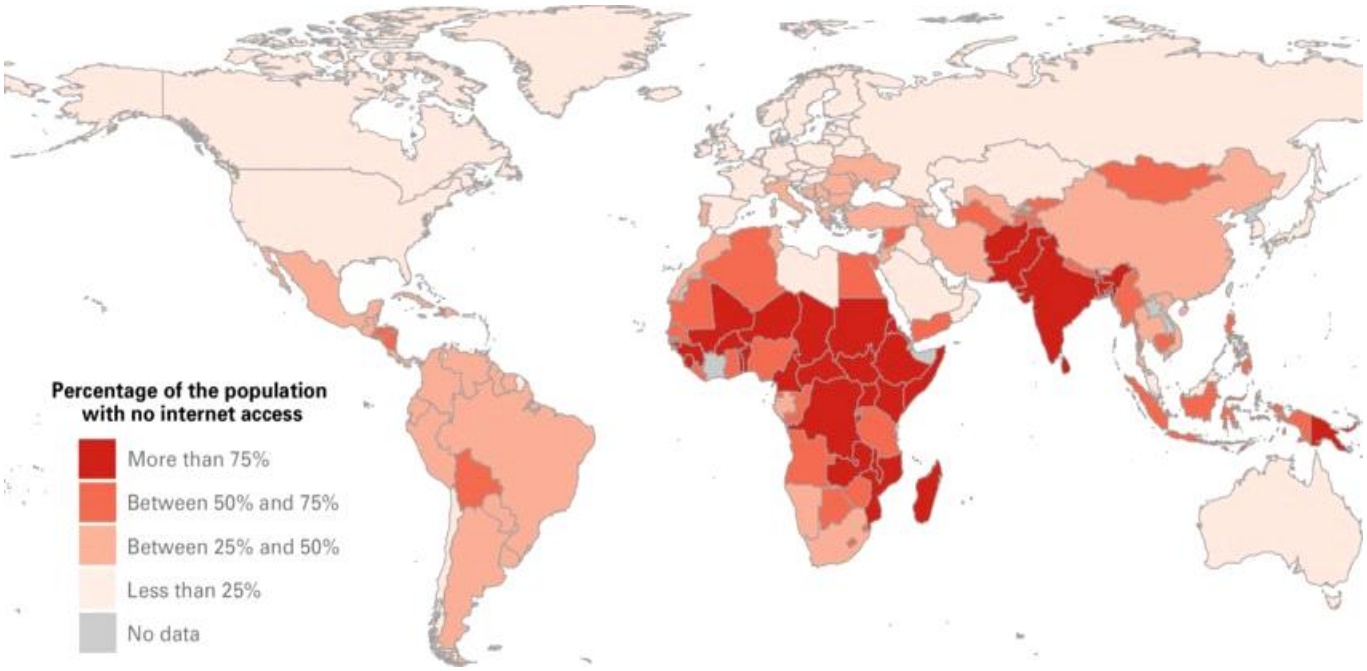
distance through electronic means such as; social media, television (Zacharia et al, 2020), social media (Greenhow et al, 2020, vocational education and training (Özer et al, 2020). It is also defined as direct teaching and learning that does not necessitate physical attendance in a classroom (Sadeghi et al, 2019), it is said to enhance selfpace learning (Tajik et al, 2021). According to UNICEF “Schoolchildren worldwide have lost 1.8 trillion hours and counting of in-person learning(UNICEF, 2021), 1.2 million children around the globe have been absent from school from the peak months of April and May (Chan et al, 2021) due to COVID-19 lockdown” . The COVID-19 pandemic has led to school closure (Shaw et al, 2021) posed a number of challenges to education, particularly with the shift from traditional faceto-face to distance learning, which has had an impact on teaching and learning around the world ( Halpern et al, 2021, Kör et al, 2016). School closure from past years even to the present has been for various reasons; summer holiday, weather-related school closures etc (Megan et al, 2020). Schools were able to keep in touch with students, primarily through online instruction. ( Gonzalez et al, 2021). Many scholars, teachers, parents, and policymakers have expressed concern about students' lost advancement and the resulting educational inequity (Maldonado 2021, Hammerstein 2021). The shutdown of schools have also led to a significant educational shortfalls for children, particularly those from lower-income families (Booth et al, 2021,Kaden et al, 2020), loss of employment which resulted in a widespread financial crisis among household however, families were eased of some expenditure possibilities and essentials. (Wielgoszewska et al, 2020). Across most countries around the world, government restrictions were imposed in order to reduce the number of infected people. People had to meet only in small groups to maintain social distance, limit face-to-face interactions, and develop web - based learning environments as a result. As a result, Distance E-learning emerged as a new teaching approach in order to sustain educational continuity during the COVID-19 pandemic's stoppage of academic system. (Balas et al, 2020). According to early data from online learning platforms, the number of courses completed has decreased ( Engzell et al, 2021). Proof from contexts where the impact of replacing onsite schools with online learning has been assessed shows that the pandemic has had a significant impact on education ( Gonzalez

et al, 2021). School closures is one of the most effective methods for preventing the spread of epidemics, particularly among students (Azhari et al, 2020) but has had its own negative and positive effect on students , mental and behavioral health (Monnier et al, 2021), individually and collectively, . A survey carried out among pupils in Finland, recorded students who perform better when they are studying in a private, distraction-free environment, than in a formal classroom setting. (Iivari et al, 2020).Schools are finding it difficult to keep up with recent advancements in digital technology (Scully et al, 2021) This event didn't jut pose new demands on students but also families and educators (Nusser et al, 2020).

**2.5 Equity of access and lifelong learning**

The pandemic indeed has had a great impact on students (negatively) especially those from low income countries, families, background; those who do not have access to remote instructions.(Li et al, 2020). Due to the difficulties that exists from inside and between geographical regions, more than 30% of students cannot have access to distant education practices (Avanesian et al, 2021). The said pandemic has posed challenges to students both in higher institutions, colleges, universities who live in areas where remote learning is partially or totally unrealistic and who don't have access to Information Technology such as television, radio, internet, cell phones and electricity. This makes students unable to return to school and put them at risk to academic setback even if the lockdown 'should be lifted', and makes them less likely to complete a university or college degree compared to students who live in urban areas (Echazarra et al, 2019). These sad realities pose inequalities in learning. It has been recorded that only 65% of households from the poorest quintile of the world have electricity, compared to those in the wealthiest part of the word (estimated 98%). Some educational ministries are working with UNICEF to eradicate the inequities towards digital learning in their respective countries

Figure 1 shows the countries that have no internet access as of from years (2015-2019)




Source: Digital Divide: Percentage of population with no internet access (Mizunoya et al, 2020).

If "disadvantaged students" (students who live in rural areas) had access to well-designed digital learning platforms, they could receive interactive and engaging remote education that would greatly benefit them (Hereward et al, 2020)

Few youths in a school in Washington were surveyed about their access to adequate online learning through technological devices such as smart phones, TV, radio etc. It was reported that access to adequate online technological system varied across geography. More so, the students who lived in rural areas reported to have less access to internet-enabled device of online education compared to those in the urban district. (Janessa et al, 2021). They experience

the larger percent of accessibility to household or broadband internet (Hampton et al, 2021). Access to high speed internet access is a dilemma in the urban areas in America. (Anderson et al, 2018). The available access to online learning and gadgets to enhance online education of students can interfere with the level of satisfaction among these students. In a study carried out among Pakistanis and Bruneians, it was later analyzed that Pakistanis were less satisfied compared to the Bruneians with dependable internet support and inability to provide tools/devices such as laptops, mobile phones, desktops to enhance their online learning (Qazi et al, 2020). The higher the level of access to online materials, the higher the level of satisfaction among students.

Online/remote/distance learning requires self-motivation especially on the part of the students, knowing how easily motivation can fade, most students get motivation from seeing their fellow students in class, having easy access to their instructors to ask questions either during and/or after class (which COVID 19 do not give a chance), and being in a learning environment (the school campus) , According to the Social Cognitive Theory by Bandura 1986, it was concluded that students learn more effectively in a social and more lively environment (Lengetti et al, 2021) i.e. where the students interact with the teacher and vice versa. Having viewed this dilemma from this point it is therefore necessary to maintain it during this period of online education. This ıs a very huge concern for the nursing students, medical students, dentistry and all the health care related departments. However, Grzych, 2020 reported a tool called Interactive Pedagogic Tools (IPT) that was developed to for the optimum delivery of education among students. it was said to be beneficial for continuing medical education and keeping the crucial human contact in learning. IPT encourages active learning by increasing comprehension and involvement during class. One of these pedagogic tools is called Woo clap which has different activities such as choice questions, polls, open questions, matchings (Grzych et al,2020). This tool enables students and teachers to ask and answer questions respectively during a live class session. To ensure effectiveness of lifelong learning, students and instructors satisfaction should be met. (Khanova et al, 2015). Another strategy that was used to enhance students interest to continuity in online education is The Peer group online

learning approach. A study was done to examine students' opinions of the experience of this peer group online learning. Out of 61 students who enrolled in the nursing pharmacological course, 66% liked the online tutorials while 31% didn't. Those who seemed to like the online tutorials recorded that it helped them to communicate effectively, in group dynamics and proper time management (Raymond et al, 2016).

**2.6 Digital divide, literacy and Digital skills**

Prior to the pandemic, the modern age demands high level of technological knowledge, skills and competencies among all distributions and sectors of life ( health, management, education, business and many others). The COVID 19 pandemic has not only made digital skills an essential proficiency for students to be able to have optimum participation during online learning but has also made knowledge of digital technology a necessary requirement (Telkar et al, 2021) for health care professionals to improve health care to their patients (especially outpatients) during the pandemic (an era of telehealth, teleconference, telemedicine). Digital literacy and skills is said to be limited to those in the urban areas of the country. It has been said to be a new approach of educational training in students to incorporate them into the new educational system (ManchoChavez et al, 2020). Azubuike et al, 2021 explained that the digital divide among students in Nigeria is hinged on the reality of lack of internet access, low income, among those from the rural area of the communities(Azubuike et al, 2021). A study reported the proportion of teachers (28%) who had complaints concerning their students on the lack of access to the internet and other digital tools for online learning (TEP, 2020)

Digital literacy can be said to be the ability to make use of technology confidently, to find, evaluate, create, and communicate information, requiring both cognitive and technical skills." Purnama et al, 2021 also defined digital literacy as the ability to grasp the 'know-how' to use the internet to get resourceful information (Purnama at al, 2021). Digital literacy is a must-acquired skill especially during this pandemic, although in some developing and underdeveloped countries, gender seem to be a limiting factor to digital literacy (women are more susceptible than men). Antee et al,2020 shows the perception of students from the low-income communities in adapting to the use of mobile technology and the lower the income and poor geographical location (developing, underdeveloped and undeveloped countries) the higher the negative impact on the individual's knowledge towards the usage of mobile technology for learning. Hence, resulting in dissatisfaction towards education (Antee et al, 2020).

**2.7 Self-efficacy in online learning and academic achievement**

The theory of self-efficacy was first established by Bandura ,1977 in the concept of Social Cognitive Theory (SCT). Self-efficacy can be said to be the credence in one's self to be able to carry out and complete a specific task. Online learning is a method of education that involves acquiring knowledge and boosting quality of the education through the use of information technology. Self-efficacy answers the question "Am I capable enough to execute this task/course?" (Hodges et al, 2008). It is the measurement of one's ability to be able to carry out and complete a specific task and determined by three important factors; personal, environmental and behavioral factors which are major influences on

the outcome (Gallagher et al, 2012, Alemany-Arrebola et al,2020). Shen et al, 2013 explained the five different aspects and features of online self-efficacy.

It is also a crucial part in accomplishing an online learning task and responsible for students' satisfaction toward online learning (Shen et al, 2013). Studies have shown that the ability to retain information in distant education have been seen to be lower (20%) than the traditional mode of education (Ali et al, 2009). More so, the self-efficacy on the usage of information technology has been shown to increase online learning result (Yokoyama et al, 2018) and academic achievement (Kundu et al, 2020). A study carried out by Wang et al, 2013 among students to examine the relationship between self-regulated learning, technology self-efficacy, and course outcomes, came to a conclusion that students who had previous knowledge of online technology, had higher level of motivation during participation in online courses and higher grade achievement (Wang et al, 2013). Ali and Leeds et al, 2009 also reiterated that the rate at which students taking the online courses are higher than those taking the face-to-face method of learning (Ali et al, 2009) hence, motivation of online learners towards distant education is key in the reduction of the drop-out rate and course dissatisfaction (Hodges et al, 2008, Yokoyama et al, 2018). Statistical analysis has shown that high level of self-efficacy induces a high level of academic performance, a study carried out by Rachel et al, 2017 proves the statement (Rachel et al, 2017). Scholars have found out that self-efficacy is a key in built incentive in individuals which can help facilitate the desired goal (Schunk et al, 2021). Self-efficacy can be affected by lack of sufficient resources to carry out a given task (Gallagher et al, 2012), this can explain the reason why some students who live in the rural areas or students who have limited access to online learning tools are affected, not because they don't necessarily know how to make use of the information technology system. Countless studies have shown a correlation between online learning self-efficacy and level of academic achievements (Lynch and Dembo 2004, Kitsantas and Chow 2007, Hodges 2008, Shea and Bidjerano 2010, Martin 2010, Wang 2013, Yokoyama 2019).

### 2.8 Attitude and perception toward educational technology and remote learning

Technological acceptance has been seen to influence the amalgamation of educational technology (Kaqinari et al, 2021). According to Ozdamli (2017) Students were said to embrace the new modality towards education and learning as a whole and found it more interesting to use the internet during learning process however it has been perceived that there are different technological tools greatly accepted by students on individual note in order to enhance learning thus it is a weight in the institution to discover the appropriate technological tool for academic tasks (Andrew M et al, 2018). The Learning Management System (LMS) which is an adjunct to remote/ traditional learning has been adopted by institutions in order to deliver online course materials and improve learning efficiency, examples of LMS include Moodle, Canvas, Google classroom, Blackboard Learn, e-khool LMS. Moodle provides a platform for e-learning and greatly assists various educators in conceptualizing the various courses, course structures, and curriculum, thereby facilitating interaction with online students on the other hand provides the students with ease of accessing different course syllabi, visual aids, videos, presentations, lecture notes. The 2.0 tools are also free digital programs for developing and disseminating student-created projects and products. It has also been said to have brought about the increment of interest towards personal and group study among students (Martinez S.J.R et al, 2020). Perception can be said to be the way people view a point differently according to personal discernment or reasoning (Muflih et al, 2021).

## 3. METHODOLOGY

### 3.1 Study Design:

The research design is of quantitative descriptive correlational and cross-sectional study among the international nursing students studying at Near East University in The Turkish Republic of North Cyprus (TRNC).

### 3.2 Study Setting:

This study was carried out in Turkish Republic of North among International Nursing students in

Near East University (NEU). It is a private university located in North Cyprus.It was founded in 1988 in North Nicosia by Turkish Cypriot Suat Günsel, who is 100% owner of NEU. The president of the association of committee is his son, his Irfan Günsel. NEU has various education methodologies ranging from electronically (online) and traditionally (Face-to-face) delivered lectures to class discussions and individual projects. The Health Sciences department consists of various faculties which Nursing faculty falls under. The NEU Nursing faculty upholds 350 number of international students

### 3.3 Sample Selection:

The NEU international students of the Nursing faculty were included in this study. Out of the target sample size, 350 and only 281 were able to participate in the research.

This study also utilized random sampling technique to recruit participants for the research. Random sampling is a technique used in data collection and analysis to determine a representative sample of respondents out of a larger population (Walker M et al, 2022) .

Slovin's Formula was implemented in the sample size determination. It is a random sampling technique formula to estimate sampling size. The sample size (281) was determined using Slovin's

Formula (1960) which is expressed as; $n$ =

- Where n is sample size
- N is population size = 657
- E is margin of error = 0.05

- n =

- n =

- n =

- n =

- n = 350

Response Rate= $\frac{281}{350} \times 100 = 80.2\%$

Out of the orıgınal sample size 350, there was 80.2% respondents as a result of the restrictions and panic caused by the worldwide coronavirus pandemic.

**3.4 Data Collection:**

Data was collected with structured 5 Likert scale questionnaire ranging from Strongly agree to Strongly Disagree from January to April 2022. The researcher gave a brief introduction about the research and why it was been distributed. The Questionnaire was shared by the researcher to International Nursing students who were found randomly in the school campus, classrooms and within the confines of the faculty. The exercise was made voluntarily and

not compulsory among the students. The completion of the questionnaire took only 10-15 minutes.

### 3.4.1 Study Tools:

A self administered questionnaire was used to obtain information regarding the Perception and
Attitudes of Nursing Students towards Online Learning, Self Efficacy and the Relation of Digital Citizenship during the Covid-19 Pandemic. The Questionnaire was divided into 3 sections:

First Section of the questionnaire includes questions regarding the demographic data of the students which include: age, gender, academic level, nationality, marital status and Grade Point Average (GPA) prepared by the researcher.

Second Section of the questionnaire are developed questions using research studies consisting of 25 questions in total and scales (OLSES and Digital Citizenship) consisting of 47 questions in total by (Chan Maggie (2020), Jimenez(2020), Dutta (2021) using Likert 5 point scale 1 “strongly disagree”, 2 “disagree”, 3 “neutral”, 4 “agree”, 5 “strongly agree” to analyse the view of students towards how lectures were/are delivered online and level of satisfaction towards online learning respectively.

The OLSES scale was developed by Zimmerman and Kulikowich in the year 2016. The scale was written in English and in its original form consists of three factors and 22 items. These factors are named learning in the online environment (10 items), time management (5 items) and technology use (7 items).

Digital Citizenship Scale: the Digital Citizenship scale developed by Choi, Glassman and Cristol (2017) .It is an 26 item scale with 5 sub-dimensions namely ; Internet Political Activism, Technical Skills, Local/ Global Awareness, Critical Perspective, Networking Agency.

The second section of the questionnaire includes 2 scales and 2 sub-scales regarding;

- Students Perception Cronbach’s Alpha Reliability Statistics .811 Factor Loading.

- Satisfaction Level Cronbach's Alpha Reliability Statistics .861 Factor Loading.
- Online Learning Self-efficacy Scale (OLSES) Cronbach's Alpha Reliability Statistics .904 Factor Loading.
- Digital Citizenship (DC) Cronbach's Alpha Reliability Statistics .925 Factor Loading.

### 3.5 Analysis of Data/Result

The data was analyzed using IBM statistical packages for social sciences (SPSS) Version 20 software. The frequency of the tables and graphs were obtained by descriptive methods. EXCEL software was used to create the graphs after analyzing the relevant information from the SPSS package. Multiple analysis like cross tabulation, correlation and reliability test with descriptive analysis were used to analyze variables with multiple responses.

Chi-square test was used to analyze associations of Perception, level of satisfaction, online selfefficacy and digital citizenship, at a significant value of $\mathbf{p<0.05}$.

### 3.6 Ethical Aspect

To proceed this study, the permission to use the developed Digital Citizenship Scale and Online Self Efficacy Scale was obtained from Prof. Moonsun Choi and Prof. Nuh Yavuzalp respectively.

In addition, ethical approval was given by Near East University/Health Sciences Institute.

## 4. RESULT

### 4.1 Descriptive Characteristics of the Participants

Participants' Age, Gender, Academic Level, Nationality, Marital Status and GPA are given in this section. The mean, standard deviation, minimum and maximum values of the descriptive characteristics of the participants are given below in Table 1

| ***Table 1 Descriptive Characteristics of the Participants (n=281)*** | | |
|---|---|---|
| **Descriptive Properties** | **Mean±SD** | **Minimum-Maximum** |
| **Age (years)** | 1.79±0.56 | 15-20 years - 31 and above |
| | N | % |
| **Age (years)** | | |
| 15 - 20 | 79 | 28.1 |
| 21 - 30 | 181 | 64.4 |
| ≥ 30 | 21 | 7.5 |
| **Gender** | | |
| Male | 62 | 22.1 |
| Female | 219 | 77.9 |
| **Academic Level** | | |
| 1st year | 90 | 32.0 |
| 2nd year | 77 | 27.4 |
| 3rd year | 73 | 26.0 |
| 4th year | 41 | 14.6 |
| **Nationalities** | | |
| Nigeria | 20.5 | 73.0 |
| Kenya | 19 | 6.8 |
| Zimbabwe | 17 | 6.0 |
| Others | 40 | 14.2 |
| **Marital Status** | | |
| Married | 19 | 6.8 |
| Single | 248 | 88.3 |
| Divorced | 14 | 5.0 |
| **G.P.A** | | |
| Below 2.00 | 9 | 32 |
| 2.00 - 2.50 | 26 | 9.3 |
| 2.51 - 3.00 | 46 | 16.4 |

| | | |
|---|---|---|
| 3.01 - 3.50 | 161 | 57.3 |
| 3.51 - 4.00 | 39 | 13.9 |

The above Table 1 shows the descriptive statistics of the nursing students who participated in this study summing up to 281 students from the Near East University. Continuous variables such as age was presented using mean and standard deviation, where the average age of the participants was 1.79 (±0.56) years. Majority of the participants were within the age 21-30 (64.4%). The number of females in this study 219 (77.9%) were indeed higher than the males 62 (22.1%). Most of the participants were seen to be in the 1st year with the sum of 90 persons (32.0%), the respondents were predominantly Nigerians 205 (73.0%) followed by Others 40 (14.2%) then Kenyans 19 (6.8%) and lastly Zimbabweans 17 (6.0%). Most of the persons who participated in the study were said to be single 248 (88.3%) and the highest Grade Point Average was recorded to be 3.01 - 3.50 (57.3%).

**4.2 Students perspective on online lecture**

The frequency, percentage and mean results on the perspective of students toward online lecture are shown in the table below.

*Table 2 Students perspective on online lecture (n=281)*

| Students perspective | Strongly Disagree n(%) | Disagree n(%) | Neutral n(%) | Agree n(%) | Strongly Agree n(%) | M±SD |
|---|---|---|---|---|---|---|
| The classes are more interactive. | 35 (12.5) | 29 (10.3) | 77 (27.4) | 88 (31.3) | 52 (18.5) | 3.33±1.25 |
| Videos were recorded and sent online. | 19 (6.8) | 29 (10.3) | 46 (16.4) | 94 (33.5) | 93 (33.1) | 3.76±1.21 |
| The learning is more image and animation | 28 (10.0) | 37 (13.2) | 96 (34.2) | 83 (29.5) | 37 (13.2) | 3.23±1.14 |

| | | | | | | |
|---|---|---|---|---|---|---|
| based | | | | | | |
| Practical classes are covered in online demonstration and videos | 43 (15.7) | 44 (15.7) | 74 (26.3) | 80 (28.5) | 40 (14.2) | 3.11±1.27 |
| Interactive applications such as zoom meeting, google meetings are used instead of just forwarding PPT/PDF file | 20 (7.1) | 26(9.3) | 51 (18.1) | 104(37.0) | 80 (28.5) | 3.70±1.18 |
| Classes are properly scheduled with prior information | 12 (4.3) | 18 (6.4) | 77 (27.4) | 102 (36.3) | 72 (25.6) | 3.73±1.05 |
| For theory classes online mood is enough and for practical classes physical presence is necessary | 26 (9.3) | 26 (9.3) | 57 (20.3) | 84 (29.9) | 88 (31.3) | 3.65±1.27 |
| Clinical simulation such as virtual patients, online clinical scenarios, through simulated video consultations are to provide students with near reality for clinical practice | 26 (9.3) | 36 (12.8) | 83 (29.5) | 94 (33.5) | 42 (14.9) | 3.32±1.15 |

The Table 2, in regards to online lecture the highest percentage (31.3%) of students agreed that classes are more interactive while (33.5%) agreed that videos were recorded and sent online, 34.2% of students were neutral concerning the lecture being more image and animation based,28.5% of students agreed that practical classes are covered in online demonstration and videos, 37.0% of the students agreed also that Interactive applications such as zoom meeting, google meetings are used instead of just forwarding PPT/PDF files. 36.3% of students agreed that classes are properly scheduled with prior information while 29.9% agreed that for theory classes online mood is enough and for practical classes physical presence is necessary. 33.5% agreed that clinical simulation such as virtual patients, online clinical scenarios, through simulated video consultations are to provide students with near reality for clinical practice.

### 4.3 Participants' level of satisfaction towards online learning

The frequency, percentage and mean results of the level of satisfaction of the students toward online learning are shown in table 3.

*Table 3 Participants' level of satisfaction towards online learning (n=281)*

| Level of satisfaction | Strongly Disagree n(%) | Disagree n(%) | Neutral n(%) | Agree n(%) | Strongly Agree n(%) | M±SD |
|---|---|---|---|---|---|---|
| With the online class, I felt more comfortable introducing myself to the faculty compared to conventional classroom teaching | 37 (13.2) | 27 (9.6) | 95 (33.8) | 65 (23.1) | 57 (20.3) | 3.27±1.27 |
| While teaching online the goal of each topic were met by the lecturer | 10 (3.6) | 44 (15.7) | 63 (22.4) | 108 (38.4) | 56 (19.9) | 3.56±1.09 |
| During online teaching, the content of the class was communicated effectively | 16 (5.7) | 28 (10.0) | 80 (28.5) | 99 (35.2) | 58 (20.6) | 3.55±1.10 |
| I am satisfied with the time management for the online classes | 17 (6.0) | 28 (10.0) | 68 (24.2) | 103 (36.7) | 65 (23.1) | 3.61±1.13 |
| I have/had | 41 (14.6) | 58 (20.6) | 86 (30.6) | 59 (21.0) | 37 (13.2) | 2.98±1.27 |

| | | | | | | |
|---|---|---|---|---|---|---|
| difficulties in understanding the topics during online teaching | | | | | | |
| I don't find it difficult to manage my studies as compared to traditional classroom teaching. | 29 (10.3) | 37 (13.2) | 93 (33.1) | 85 (30.2) | 37 (13.2) | 3.23±1.15 |
| I feel the quality of the teaching material projected during online classes are the same or comparable to the one used during conventional classroom teaching. | 21 (7.5) | 45 (16.0) | 76 (27.0) | 96 (34.2) | 43 (15.3) | 3.34±1.14 |
| I prefer online teaching and feel online education is worth my time. | 23 (8.2) | 44 (15.7) | 98 (34.9) | 72 (25.6) | 44 (15.7) | 3.25±1.14 |
| I am satisfied with online teaching because it has helped me gain knowledge regarding technology and being technically sound. | 18 (6.4) | 34 (12.1) | 81 (28.8) | 93 (33.1) | 55 (19.6) | 3.47±1.13 |
| Overall, how will you grade your experience with online teaching? | 16 (5.7) | 24 (8.5) | 108 (38.4) | 76 (27.0) | 57 (20.3) | 3.48±1.08 |
| The lecturers made learning an active | 10 (3.6) | 28 (10.0) | 83 (29.5) | 101 (35.9) | 59 (21.0) | 3.61±2.62 |

| | | | | | | |
|---|---|---|---|---|---|---|
| process by motivating us, helping to develop thought, encouraging us to participate in discussion. | | | | | | |
| I feel interactive online discussion alongside a power point presentation has made learning very effective for me. | 17 (6.0) | 31 (11.0) | 91 (32.4) | 92 (32.7) | 50 (17.8) | 3.45±1.09 |
| Communication and discussion with my classmates are easier during online classes. | 17 (6.0) | 46 (16.4) | 84 (29.9) | 82 (29.2) | 52 (18.5) | 3.38±1.14 |
| I am not afraid to ask questions during online classes if I am in doubt about a topic. | 15 (5.3) | 27 (9.6) | 84 (29.9) | 90 (32.0) | 65 (23.1) | 3.58±1.11 |
| Online teaching has helped me build discussion and recognize problem areas in my studies. | 17 (6.0) | 40 (14.2) | 94 (33.5) | 75 (26.7) | 55 (19.6) | 3.40±1.13 |
| I often have lingering questions about the content that are left unanswered. | 18(6.4) | 48 (17.1) | 106 (37.7) | 79 (28.1) | 30 (10.7) | 3.20±1.05 |
| I feel more engaged with my studies during online teaching. | 16 (5.7) | 42 (14.9) | 100 (35.6) | 67 (23.8) | 56 (19.9) | 3.37±1.13 |

Table 3 shows the student's level of satisfaction toward online learning, the highest percent (33.8%) of students were neutral with being more comfortable introducing themselves to the faculty compared to conventional classroom teaching whilst 38.4% of students agreed that the goal of each topic was met by the lecturer during online teaching. (35.2%) of the students agreed that the content of the class was communicated effectively during online teaching, The greater percent 36.7% of the students recorded that they were satisfied with the time management for online classes 21.0% recorded to have had difficulties in understanding the topics during online teaching while 33.1% found it difficult to manage their studies as compared to traditional classroom teaching. 34.2% of students were neutral about the quality of the teaching material projected during online classes are the same or comparable to the one used during conventional classroom teaching,

34.9% of the student had the highest preference to online teaching and feel it is worth their time. 33.1% were neutral concerning the satisfaction towards online teaching and how it has helped them gain knowledge regarding technology and being technically sound. The highest percent (38.4%) of students were also neutral on how they would grade their experience with online teaching. 35.9% agreed that lecturers made learning an active process through motivation, techniques on the development of thoughts and encouragement to participate in the discussion, 32.7% of the students agreed that interactive online discussion alongside a power point presentation made online learning very effective. 29.9% were neutral concerning the ease of communicating and discussing with classmates during online learning.The highest percent (32.0%) of students agreed that they are not afraid to ask questions during online classes if in doubt about a topic, 33.5% of students neither agreed nor disagreed about online teaching has helping them build discussion and recognize problem areas in their studies while 37.7% of students were neutral about often having lingering questions about contents that are left unanswered and 35.5% of students agreed that they feel more engaged with my studies during online teaching.

### 4.4 Online self efficacy of the Participants

The mean, frequency and percentage values of the participants are given in Table 4 below.

*Table 4 Participants' online learning self-efficacy (n=281)*

| Online Learning Self-efficacy | Strongly Disagree n(%) | Disagree n(%) | Neutral n(%) | Agree n(%) | Strongly Agree n(%) | M±SD |
|---|---|---|---|---|---|---|
| Navigate online cou materials effectively | 19 (6.8) | 21 (7.5) | 74 (26.3) | 109 (38.8) | 58 (20.6) | 3.59±1.10 |
| Communicate effectively with my instructor via e-mail. | 13 (4.6) | 19 (6.8) | 68 (24.2) | 116 (41.3) | 65 (23.1) | 3.72±1.04 |
| Communicate effectively with technical support via email, telephone, or live online chat | 13 (4.6) | 19 (6.8) | 68 (24.2) | 116 (41.3) | 55 (19.6) | 3.62±1.05 |
| Submit assignments to an online drop box | 8 (2.8) | 18 (6.4) | 65 (23.1) | 111 (39.5) | 79 (28.1) | 3.84±1.00 |
| Overcome technical difficulties on my own. | 14 (5.0) | 19 (6.8) | 88 (31.3) | 105 (37.4) | 55 (19.6) | 3.60±1.03 |
| Navigate the online grade book | 12 (4.3) | 15 (5.3) | 78 (27.8) | 118 (42.0) | 58 (20.6) | 3.69±1.00 |
| Manage time effectively. | 26 (7.1) | 21 (7.5) | 67 (23.8) | 118 (42.0) | 55 (19.6) | 3.59±1.10 |
| Complete all assignments on time. | 10 (3.6) | 15 (5.3) | 64 (23.1) | 109 (38.8) | 82 (29.2) | 3.99±2.55 |
| Learn to use a new type of technology efficiently | 12 (4.3) | 16 (5.7) | 63 (22.4) | 123 (43.8) | 67 (23.8) | 3.77±1.01 |
| Learn without being in the same room as the instructor. | 10 (3.6) | 18 (6.4) | 72 (25.6) | 119 (42.3) | 62 (22.1) | 3.73±1.00 |
| Learn without being in the | 12 (4.3) | 15 (5.3) | 78 | 122 | 54 | 3.68±0.98 |

| | | | | | | |
|---|---|---|---|---|---|---|
| same room as other students. | | | (27.8) | (43.4) | (19.2) | |
| Search the internet to find the answer to a course-related question. | 11 (3.9) | 24 (8.5) | 68 (24.2) | 106 (37.7) | 72 (25.6) | 3.73±1.06 |
| Search the online course materials. | 10 (3.6) | 24 (8.5) | 74 (26.3) | 100 (35.6) | 73 (26.0) | 3.72±1.05 |
| Communicate using asynchronous technologies (discussion boards, e-mail, etc.) | 10 (3.6) | 20 (7.1) | 82 (29.2) | 106 (37.7) | 63 (22.4) | 3.68±1.01 |
| Meet deadlines with very few reminders | 13 (4.6) | 18 (6.4) | 30 (28.5) | 102 (36.3) | 68 (24.2) | 3.80±2.04 |
| Complete a group project entirely online. | 11 (3.9) | 30 (10.7) | 71 (25.3) | 101 (35.9) | 68 (24.2) | 3.66±1.08 |
| Use synchronous technology to communicate with others (such as Skype). | 18 (6.4) | 30 (10.7) | 82 (29.2) | 87 (31.0) | 64 (22.8) | 3.53±1.14 |
| Focus on schoolwork when faced with distractions | 15 (5.3) | 38 (13.5) | 88 (31.3) | 82 (29.2) | 58 (20.6) | 3.46±1.12 |
| Develop and follow a plan for completing all required work on time. | 9 (3.2) | 23 (8.2) | 77 (27.4) | 108 (38.4) | 64 (22.8) | 3.69±1.01 |
| Use the library's onli resources efficiently | 22 (7.8) | 29 (10.3) | 91 (32.4) | 81 (28.8) | 58 (20.6) | 3.44±1.16 |
| When a problem arises, promptly ask questions in the appropriate forum (e-mail, discussion board, etc.) | 15 (5.3) | 20 (7.1) | 67 (23.8) | 109 (38.8) | 70 (24.9) | 3.71±1.08 |

In the above table 4 in relation to the students capability in computer- related skills, the highest percentage (38.8%) of students agreed to the fact that they are able to navigate online course materials effectively, (41.3%) of students agreed communicate effectively with my instructor via e-mail, another (41.3%) of students agreed communicate effectively with technical support via email, telephone or live online chat. Concerning submission of assignment to an online drop box the greater percentage 39.5% of students were in agreement

whilst 37.4% of the participants agreed that they are able to overcome technical difficulties on their own. 42.0% were in agreement of being able to navigate the online grade book, 42.0% also agreed that they are able to manage their time effectively. 38.8% claimed to be able to complete all assignment on time and 43.8% recorded that they are able to learn to use a new type of technology efficiently. The highest percentage (42.3%) and (43.4%) of the participants indicated that they are able to learn without being in the same room as the instructor and other students respectively. 37.7% agreed that they are able to search the internet to find the answer to a course-related question whilst 35.6% of the students were in agreement in being able to search the online course materials. In using asynchronous technologies such as discussion boards, e-mail and others, 37.7% were in agreement. 36.3% of the participants recorded that they are able to meet deadlines with very few reminders. 35.9% agreed to be able to complete a group project entirely online. The highest percentage (31.0%) of students agreed that they are able to use synchronous technology to communicate with others (such as Skype). 31.3% are able to focus on schoolwork when faced with distractions. In developing and following a plan for completing all required work on time, the highest percentage of student was 38.4% whilst 32.4% of the students agreed that they are able to use the library's resources online efficiently and 38.8% of the participants are able to promptly ask questions in the appropriate forum such as e-mail, discussion board and many others when problem arises.

**4.5 Digital citizenship of the Participants**

The frequency, percentage and mean values of the participants are given in Table 5 below

*Table 5 Digital citizenship of the Participants (n=281)*

| Digital Citizenship | Strongly Disagree n(%) | Disagree n(%) | Neutral n(%) | Agree n(%) | Strongly Agree n(%) | M±SD |
|---|---|---|---|---|---|---|
| I attend political meetings or public meetings online (on the internet)<br><br>about local city or school-related issues | 39 (13.9) | 47 (16.7) | 74 (26.3) | 78 (27.8) | 43 (15.3) | 3.14±1.26 |
| I work with people to solve local national and global issues | 32 (11.4) | 47 (16.7) | 101 (35.9) | 69 (24.6) | 32 (11.4) | 3.08±1.15 |
| I organize petitions about social, cultural, political | 30 (10.7) | 59 (21.0) | 100 (35.6) | 55 (19.6) | 37 (13.2) | 3.04±1.17 |

| | | | | | | |
|---|---|---|---|---|---|---|
| and economic issues<br><br>Online | | | | | | |
| I regularly post thoughts related to political or social issues online | 49 (17.4) | 60 (21.4) | 90 (32.0) | 61 (21.7) | 21 (7.5) | 2.80±1.18 |
| I sometimes contact government officials about an issue that is<br><br>important to me via online methods | 43 (15.3) | 79 (28.1) | 76 (27.0) | 55 (19.6) | 28 (10.0) | 2.81±1.21 |
| I express my opinions online to change dominant perspectives or the<br><br>status quo with regard to political or social issues | 39 (13.9) | 55 (19.6) | 90 (32.0) | 69 (24.6) | 28 (10.0) | 2.97±1.18 |
| I sign petitions about social cultural political or economic issues online | 34 (12.1) | 53 (18.9) | 84 (29.9) | 77 (27.4) | 33 (11.7) | 3.08±1.19 |
| I work or volunteer for a political party | 49 (17.4) | 59 (21.0) | 82 (29.2) | 62 (22.1) | 29 (10.3) | 2.87±1.24 |

| | | | | | | |
|---|---|---|---|---|---|---|
| or candidate via online methods | | | | | | |
| I belong to online groups that are involved in political or social issues | 44 (15.7) | 53 (18.9) | 84 (29.9) | 67 (23.8) | 33 (11.7) | 2.97±1.24 |
| I can use the | 14 (5.0) | 16 (5.7) | 65 (23.1) | 91 (32.4) | 95 (33.8) | 3.84±1.11 |

| | | | | | | |
|---|---|---|---|---|---|---|
| internet to find information I need | | | | | | |
| I can use the internet to find and download applications (apps) that are useful to me | 7 (2.5) | 17 (6.0) | 59 (21.0) | 89 (31.7) | 109 (38.8) | 3.98±1.03 |
| I am able to use digital technologies (e.g., mobile/smart phones, Tablet PCs, Laptops, PCs) to achieve the goals I pursue | 9 (3.2) | 19 (6.8) | 56 (19.9) | 90 (32.0) | 107 (38.1) | 3.95±1.07 |
| I can access the Internet through digital technologies (e.g., mobile/smart phones, Tablet PCs, | 15 (5.3) | 14 (5.0) | 62 (22.1) | 81 (28.8) | 109 (38.8) | 3.91±1.13 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Laptops, PCs) whenever I want | | | | | | |
| I am more informed with regard to political or social issues through using the Internet | 18 (6.4) | 26 (9.3) | 76 (27.0) | 93 (33.1) | 68 (24.2) | 3.59±1.14 |
| I am more aware of global issues through using the Internet | 13 (4.6) | 14 (5.0) | 69 (24.6) | 106 (37.7) | 79 (28.1) | 3.80±1.05 |
| I think online participation is an effective way to make a change to | 14 (5.0) | 21 (7.5) | 93 (33.1) | 99 (35.2) | 54 (19.2) | 3.56±1.04 |

| | | | | | | |
|---|---|---|---|---|---|---|
| something I believe to be unfair or unjust. | | | | | | |
| I think I am given to rethink my beliefs regarding a particular issue/topic when I use the Internet | 14 (5.0) | 21 (7.5) | 101 (35.9) | 98 (34.9) | 47 (16.7) | 3.51±1.02 |
| I think online participation is an effective way to engage with political or social issues | 12 (4.3) | 24 (8.5) | 102 (36.3) | 101 (35.9) | 42 (14.9) | 3.49±1.00 |
| I think online participation promotes offline engagement | 9 (3.2) | 28 (10.0) | 112 (39.9) | 82 (29.2) | 50 (17.8) | 3.48±1.00 |
| I think the Internet reflects the biases and dominance present in offline power structures. | 13 (4.6) | 24 (8.5) | 115 (40.9) | 94 (33.5) | 35 (12.5) | 3.41±0.97 |
| I am more socially or politically engaged when I am online than Offline | 22 (7.8) | 32 (11.4) | 96 (34.2) | 85 (30.2) | 46 (16.4) | 3.36±1.12 |
| I use the internet in order to participate in social movement/change or Protest | 18 (6.4) | 37 (13.2) | 89 (31.7) | 86 (30.6) | 51 (18.1) | 3.41±1.12 |
| Where possible, I | 12 (4.3) | 24 (8.5) | 108 (38.4) | 89 (31.7) | 48 (17.1) | 3.48±1.01 |

| | | | | | | |
|---|---|---|---|---|---|---|
| comment on other people's writings in news | | | | | | |
| websites, blogs, or SNSs I visit. | | | | | | |
| I enjoy communicating with others online | 14 (5.0) | 20 (7.1) | 81 (28.8) | 99 (35.2) | 67 (23.8) | 3.66±1.07 |
| I enjoy collaborating with others online more than I do offline. | 16 (5.7) | 21 (7.5) | 93 (33.1) | 77 (27.4) | 74 (26.3) | 3.61±1.12 |
| I post original messages, audio, pictures, or videos to express my feelings/ thoughts/ ideas/ opinions on the Internet. | 24 (8.5) | 25 (8.9) | 86 (30.6) | 81 (28.8) | 65 (23.1) | 3.49±1.19 |

According to Table 5, the highest percentage (27.8%) of students agreed that they attend attend political meetings or public meetings online (on the internet) about local city or school-related issues while 35.9% were neutral concerning the point that they work with people to solve local, cultural, political and economic issues online. Organizing petitions about social, cultural, political and economic issues online accounted for 35.6% of students neither agreeing nor disagreeing. 32.0% of the participants were neutral to regularly posting thoughts related to political or social issues online whilst 28.1% disagreed to sometimes contacting government officials about an issue that is important to them via online methods. 32.0% of students were neutral to expressing their opinions online to change dominant perspectives or the status quo with regard to political or social issues, the highest percentage 29.9% of students were neutral on signing petitions about social cultural political or economic issues online. 29.2% were neutral/undecided as to working or volunteering for a political party or candidate via online methods. The greatest proportion 29.9%

of students were undecided about joining online groups that are involved in political or social issues. The largest portion 33.8% of students strongly agreed that they can use the internet to find information they need, 38.8% of the participants strongly agreed that they can use the internet to find and download applications (apps) that they find useful. The majority, 32.0% agreed that they are able to use digital technologies (e.g., mobile/smart phones, Tablet PCs, Laptops, PCs) to achieve the goals they pursue.whilst 38.8% of students can access the Internet through digital technologies (e.g., mobile/smartphones, Tablet PCs, Laptops, PCs) whenever they want. The greater percent 33.1% were in agreement that they are more informed with regard to political or social issues through using the Internet whilst majority 37.7% agreed that they are more aware of global issues through using the Internet while larger percentage 35.2% think online participation is an effective way to make a change to something I believe to be unfair or unjust.Most of the students 35.9% were neutral about themselves being given to rethink my beliefs regarding a particular issue/topic when using the Internet, larger percentage 35.9% of students agreed that they think online participation is an effective way to engage with political or social issues. 39.9% were neutral about if online participation promotes offline engagement. Greater percentage 40.9% of the participant think the Internet reflects the biases and dominance present in offline power structures.34.2% recorded that they are more socially or politically engaged when I am online than offline. 31.7% were indecisive about using the internet in order to participate in social movement/change or protest. 38.4% were also undecided about being able to comment on other people's writings in news websites, blogs, or SNSs they visit whenever possible. Most of the students 35.2% agreed that they enjoy communicating with others online whilst 33.1% were neutral about enjoying collaborating with others online more than they do offline and 30.6% were indecisive concerning posting original messages, audio, pictures, or videos to express their feelings/ thoughts/ ideas/ opinions on the Internet.

### 4.6 Distribution of Scale and Sub-scale score points for all participants

The table below shows the scale and sub scale score points for all the participants, the mean, standard deviation, minimum, maximum and the total score point values were calculated.

*Table 6 Distribution of Scale and Sub-scale score points for all participants (n=281)*

| **Scale - Sub-scale** | **M ± SD** | **Min - Max** |
|---|---|---|
| Students Perception | 27.83 ± 9.52 | 8 - 40 |
| Satisfaction Level | 57.74 ±19.14 | 17 - 85 |
| Online Learning Self-efficacy (OLSES) | 76.98 ± 22.09 | 21 - 105 |
| Digital Citizenship | 88.28 ± 27.82 | 26 - 130 |
| **Total score Point** | **250. 83 ± 78.57** | **72 - 360** |

Table 6 expresses the mean, standard deviation, minimum and maximum values for the distribution of scale and sub-scale score points for all students, Mean and Standard deviation total score point for all students was 250.83±**78.57**, Students Perception 27.83±**9.52**, Satisfaction Level 57.74±**19.14**, Capability in computer-related skills 76.98±**22.09** and Digital Literacy 88.28±**27.82**. The minimum and maximum total score points for all students was 72-360, Students Perception 8-40, Satisfaction Level 17-85, Capability in computer-related skills 21-105, Digital Literacy 26130.

### 4.7 Reliability Test, Cronbach's Alpha (α)

A reliability test using Cronbach's Alpha statistics was utilized to examine the internal consistence of the questions used in measuring the constructs for the study. The tests are reported below:

*Table 7 Reliability analysis (n=281)*

| Variable | N of Items | Cronbach's Alpha |
|---|---|---|
| Perception | 8 | .811 |
| Level of Satisfaction | 17 | .861 |
| Online Learning Self-efficacy (OLSES) | 21 | .904 |
| Digital citizenship | 26 | .925 |

The reliability of the items Internal consistency indicates that higher consistency with values > .070 (Cronbach's alpha, with values of>0.70 being considered acceptable) was investigated and reported. Perception, level of satisfaction, self-efficacy and digital citizenship had a reliability of .811, .861, .904, .925 respectively.

### 4.8 Mean scores of the variables and their Interpretations.

*Table 8 Mean scores and Interpretations.*

| Scales and subscales | Mean scores | Interpretations |
|---|---|---|
| Student's perception | 27.83 | Very low |
| Level of satisfaction | 57.74 | Low |
| Online Self-efficacy | 76.98 | High |
| Digital Citizenship | 88.28 | High |

Table 8 reveals the various mean score and interpretations of the scales and subscales; Online Learning self-efficacy (76.98), Digital citizenship (88.28), Students perception (27.83) and Level of satisfaction (57.7)

### 4.9 Cross tabulation of the variables

As reported the results as contained in table below, the t-value and p-value for self-efficacy, digital citizenship, perception and level of satisfaction as contained in the tables were 178.014; p= .464, 62.735; p=.345, 115.145; p=.557, 118.114; p= .929, 72.843; p= .417, 218.839; p= .377, 77.093; p= .048; 31.141; p=.359, 88.436; p=437, 114.950; p= .306, 43.410; p= .848 167.751; p= .362 respectively. Furthermore, the results indicated that there is no association between self-efficacy, digital citizenship, perception and level of satisfaction with the demographic characters (age, gender and academic level)

p> .05 except perception which associated with age t-value= 77.093; p= .048 hence, p<.05.

Furthermore, the result reveals that there is a significant positive correlation between perception, self-efficacy and level of satisfaction Pearson correlation= .488**, p< 0.01; .526**; p< 0.01 respectively.

*Table 9 Cross-tabulation of variables (n=281)*

| Variables | | M±SD | P value |
|---|---|---|---|
| | **Age** | | |
| | 15-20 | 3.80 ± 0.87 | t = 115.145 |
| | 21-30 | 3.66 ± 0.68 | **p = .557** |
| | 30 and above | 3.80 ± 0.84 | |
| Self-efficacy | **Gender** | | t = 62.732 **p = .345** |
| | Male | 3.55 ± 0.82 | |
| | Female | 3.71 ± 0.75 | |
| | **Academic Level** | | t = 178.014 **p = .464** |
| | Year 1 | 3.71 ± 0.82 | |
| | Year 2 | 3.68 ± 0.64 | |
| | Year 3 | 3.64 ± 0.72 | |
| | Year 4 | 3.69 ± 0.66 | |
| Digital Citizenship | **Age** | | t = 118.114 **p =.929** |
| | 15-20 | 3.42 ± 0.62 | |
| | 21-30 | 3.39 ± 0.66 | |
| | 30 and above | 3.34 ± 0.78 | |
| | **Gender** | | t = 72.843 **p =.417** |
| | Male | 3.32 ± 0.64 | |
| | Female | 3.42 ± 0.66 | |
| | **Academic Level** | | t = 218.839 **p = .377** |
| | Year 1 | 3.42 ± 0.77 | |
| | Year 2 | 3.68 ± 0.64 | |
| | Year 3 | 3.30 ± 0.56 | |

| | | | |
|---|---|---|---|
| | Year 4 | 3.52 ± 0.63 | |
| Students' Perception | **Age** | | t = 77.093 |
| | 15-20 | 3.59 ± 0.83 | **p = .048** |
| | 21-30 | 3.45 ± 0.72 | |
| | 30 and above | 3.32 ± 1.08 | |
| | **Gender** | | t = 31.141 |
| | Male | 3.46 ± 0.58 | **p = .359** |
| | Female | 3.48 ± 0.83 | |
| | **Academic Level** | | t = 88.436 |
| | Year 1 | 3.53 ± 0.90 | **p = .437** |
| | Year 2 | 3.61 ± 0.70 | |
| | Year 3 | 3.39 ± 0.76 | |
| | Year 4 | 3.27 ± 0.66 | |
| Level of satisfaction | **Age** | | t = 114.950 |
| | 15-20 | 3.38 ± 0.72 | **p = .306** |
| | 21-30 | 3.40 ± 0.69 | |
| | 30 and above | 3.49 ± 0.80 | |
| | **Gender** | | t = 43.410 |
| | Male | 3.39 ± 0.52 | **p = .848** |
| | Female | 3.43 ± 0.75 | |
| | **Academic Level** | | t = 167.751 |
| | Year 1 | 3.41 ± 0.76 | **p = .362** |
| | Year 2 | 3.43 ± 0.62 | |
| | Year 3 | 3.38 ± 0.72 | |
| | Year 4 | 3.39 ± 0.75 | |

****Pearson Chi-square test was used to determine the significant difference the variables where $p<0.05$.*

### 4.10 Correlation Analysis of Variables

The Pearson correlation analysis helps to explore the association between the variables that are been considered. The variables that are considered in this study are : Students Perception, Satisfaction Level, Online Learning Self-efficacy(OLSES), Digital Citizenship. The table for this relationship is presented as follows:

**Table 10. Correlation between Online Learning Self-efficacy and Digital Citizenship (n=281)**

| | | Self-efficacy | Digital citizenship |
|---|---|---|---|
| Online Learning Self-efficacy | Pearson Correlation | 1 | .631** |
| | Sig. (2-tailed) | | .000 |
| | N | 281 | 281 |
| Digital citizenship | Pearson Correlation | .631** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 281 | 281 |

**. Correlation is significant at the 0.01 level (2-tailed).

From the above table 26, it is observed that the p value is .631 which shows that there is a positive correlation between Digital citizenship and Online self efficacy.

**Table 11. Correlation between Students' Perception and Online Learning Self-efficacy**
**(n=281)**

| | | Perception | Self-efficacy |
|---|---|---|---|
| Students'Perception | Pearson Correlation | 1 | .488** |
| | Sig. (2-tailed) | | .000 |
| | N | 281 | 281 |
| Online Learning Self-efficacy | Pearson Correlation | .488** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 281 | 281 |

**. Correlation is significant at the 0.01 level (2-tailed).

The above table shows the correlation between perception and self efficacy with p= .488 which reveals that there is a significant positive correlation between Students' Perception and Online Learning Self-efficacy .

**Table 12. Correlation between Students' Perception and Level of Satisfaction (n=281)**

| | | Perception | Level of satisfaction |
|---|---|---|---|
| Students' Perception | Pearson Correlation | 1 | .526** |
| | Sig. (2-tailed) | | .000 |
| | N | 281 | 281 |
| Level of satisfaction | Pearson Correlation | .526** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 281 | 281 |

**. Correlation is significant at the 0.01 level (2-tailed).

Table 11 shows the correlation between perception and level of satisfaction where p=.526. This indicates that there is a significant positive correlation between perception and level of satisfaction.

## 5. DISCUSSION

This is a Descriptive Cross-sectional and quantitative study on the perception and attitudes of students towards online self efficacy and the relation of digital citizenship during the COVID 19 pandemic process. A self-administered questionnaire was used to investigate the perception of nursing students towards online learning self-efficacy during Covid-19 pandemic and relationship between online learning self-efficacy and digital citizenship. The Questionnaire was administered to 281 students who provided detailed information about their perception and attitude toward the online learning during the COVID 19 pandemic. In this study, the mean scores of the scales and sub-scales,

### 5.1 Descriptive characteristics of participants.

In the distribution of the questionnaire, in regards to the study it was observed that more females

(77.9%) participated in the study than males (22.1%) which is similar to the study conducted by Muflih et al, 2021, with the total of (n=1,210) medical students where the females were 80.5% and the males 19.5% . Kumar et al, 2021 also stated that amongst 219 students who participated in the study, 217 (99.1%) were female and only 02 (0.9%) were male, Moreso, most of the students who participated in the study were from ages 21-24 which is also in resonnce with this research, further resemblance to more females participating in the study than males can be seen in various studies such as (Abbasi et al, 2020, Choi et al, 2021).

### 5.2 Association between Online learning self-efficacy and participants' demographic characteristics

Online self efficacy is the perceived ability to successfully accomplish task(s) online. In this study, as regards to gender it was observed that the females(3.70±0.74) had a higher score in self efficacy than males (3.55± 0.59) where generally $p = 0.31$, $p>0.05$ showing that there is no significant

difference between online self efficacy and gender as supported by a previous study conducted among 406 online students to measure their online self efficacy and learning satisfaction (Yu, 2022) . In addition, a study carried out by Limiansi, 2021 stated that females had a higher mean score in terms of online learning self efficacy than men which is in line to this study, also the participants within the age 18-23 had the higher scores in self efficacy which is in consonance with this study where the participants within the ages 15-20 had the highest mean scores (3.42 ± 0.62) than the rest of the age groups. The reason being that females have the ability to organize and develop ways to overcome the challenges they face.

**5.3 What is the association between digital citizenship and students' demographic characteristics (age, gender, academic level)?**

In this study, there is no association between digital citizenship and students' demographic characteristics. In relation to this (Elcicek et al, 2018) found no association between digital citizenship and the demographic characteristic (age) among the students. In a recent study (Erdem et al, 2019), the association between digital citizenship with gender and academic level was seen to have no significant difference which corresponds to this study .

**5.4 What is the association between satisfaction level and demographic characteristics (age, gender, academic level)?**

According to this research, there is no significant difference between satisfaction level and the demographic characteristics (age, gender and academic level) of the students. This finding is in line with Mohamad et al, 2020. Hamdan, 2021 reported in his study that satisfaction of students came mostly from blended pedagogy i.e partially online and dissatisfaction of the students is as a result of lack of interaction. Ke and Kwak 2013 reported that there is no significant difference between the age of students on level of satisfaction, Hettiarchchi 2021 also reported that there is no association between the age and gender of students on satisfaction level.

**5.5 Is there any correlation between online learning self-efficacy and digital citizenship?** In this study, there is a positive significance between online self-efficacy and digital citizenship as has also been seen in other studies (Hussainy S et al, 2021, Ke et al, 2017,Choi et al, 2015). Hence the research question asked if there was any correlation between online self efficacy and digital citizenship can be answered based on the findings of this study, literature and other studies that there is a relationship between online self efficacy and digital citizenship. A study carried out among 508 students in a Mid-Western University measuring Digital citizenship, internet self efficacy and internet anxiety. Choi and colleagues (2017) reported in their study that there is a significant positive correlation between the Digital Citizenship Scale and internet self efficacy.

**5.6 Is there any correlation between students perception and online learning self-efficacy?**

The relationship between students' perception and online self efficacy stated that students' perception affected online self efficacy which is in line with other studies (Stanton et al, 2017). Hence the research question asked if there were any correlation between students perception and online self efficacy can be answered based on the findings of this study and the literature cited above that there is indeed a significant relationship between students perception and online self efficacy. A study examined the perception of students towards online learning for English proficiency class among 270 students studying in Malaysia. The study found that there was a significant relationship between the perception of students and online learning (Kasuma et al, 2021).

## 6. CONCLUSION

The sudden switch from traditional form of education to online learning has had an impact in students and lecturers alike. Institutions began to come up with technological systems to help better the experience of learning online, so many platforms such as gmail, dropbox and the likes which were not really used by students sometimes because of its formality and so on, were now used, to either communiate with the lecturer one on one or in the delivery of assignments, students were mostly used to the online chatting platfors such as instagram, facebook, twitter and so on. While working on this study, it was realized that individuals were able to use the internet properly for their good to improve education experience. The study settled that online learning self efficacy, perception and level of satisfaction does not have an effect / association on demographic characteristics (age, gender and academic levels). In relation to this study, findings have shown that there is no impact on age and online lerning as seen in Artino et al, 2008. with the exception of perception which associated with age. The scale scores from the highest to the lowest were seen to be 27.83 for students' perception, 57.74 for satisfaction level. 76.98 for Online learning selfefficacy and 88.28 for digital citizenship. The study shows that Digital citizenship having the highest mean score value, the participants of this study were more conversant with the use of technological platforms for online learning. Further more, the result reveals that there is a positive significant correlation between perception, level of satisfaction and digital citizenship.

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DOI: HYPERLINK "https://doi-org.ezproxy.neu.edu.tr/10.1080/1475939X.2020.1851752"10.1080/1475939X. HYPERLINK "https://doi-org.ezproxy.neu.edu.tr/10.1080/1475939X.2020.1851752"2020.1851752 HYPERLINK "https://doi-org.ezproxy.neu.edu.tr/10.1080/1475939X.2020.1851752"

# 8. APPENDICES

## 8.1 APPENDIX A

**PERCEPTION AND ATTITUDES OF NURSING STUDENTS TOWARDS INTERNET BASED DISTANCE LEARNING DURING THE COVID-19 PANDEMIC PROCESS.**

**Dear Participant,**

*You are invited to participate in a research study titled "Impact of COVID'19 in Nursing Education and Nursing student's perception about learning". The information gathered through the questionnaire will be used as a part of research study to measure the impact of the novel pandemic in Nursing Education and the view of students in regards to online learning. The research is conducted for the completion of a Master's Degree Program. Please take note that the responses* ***you provide are completely anonymous and confidential.***

***Thanks for participating.***

**SECTION I**

**Demographic Data.**

**Please answer the following questions by placing a check mark (✓) near the option that best suits your response.**

**1. Age:**

(a) 15-20 (b) 21-30 (c) 31 and above

- **Gender:** (a) Male (b) Female
- **Academic level:**

(a) 1st year (b) 2nd year (c) 3rd year (d) 4th year

**4. Nationality:**

(a) Nigeria (b) Kenya (c)Zimbabwe (d) Others

**5. Marital Status:**

(a) Married (b) Single (c) Divorced

**6. What's your GPA last semester?**

(a) Below 2.00 (b) 2.00 - 2.50 (c) 2.51 – 3.00 (d) 3.01 -3.50 (e) 3.51 - 4.00

**SECTION II**

**This section of the questionnaire includes questions to analyse your view towards how lectures were/are delivered online.**

**6. Please indicate your level of agreement in the following statements by selecting from the following options: (1) "strongly disagree (SD)", (2) "disagree (D)", (3) "neutral (N)" (4) "agree (A)" and (5) "strongly agree (SA)".**

| No. | Students' View | SD | D | N | A | SA |
|---|---|---|---|---|---|---|
| **6.1** | The classes are more interactive. | **1** | **2** | **3** | **4** | **5** |
| **6.2** | Videos were recorded and sent online. | **1** | **2** | **3** | **4** | **5** |
| **6.3** | The learning is more image and animation based | **1** | **2** | **3** | **4** | **5** |
| **6.4** | Practical classes are covered in online demonstration and videos | **1** | **2** | **3** | **4** | **5** |
| **6.5** | Interactive applications such as zoom meeting, google meetings are used instead of just forwarding PPT/PDF file | **1** | **2** | **3** | **4** | **5** |
| **6.6** | Classes are properly scheduled with prior information | **1** | **2** | **3** | **4** | **5** |
| **6.7** | For theory classes online mood is enough and for practical classes physical presence is necessary | **1** | **2** | **3** | **4** | **5** |
| **6.8** | Clinical simulation such as virtual patients, online clinical scenarios, through simulated video consultations are to provide students with near reality for clinical practice | **1** | **2** | **3** | **4** | **5** |

**SECTION III**

**This section of the questionnaire measures your level of satisfaction towards online learning.**

**7. Please indicate your level of agreement in the following statements by selecting from the following options: (1) "strongly disagree (SD)", (2) "disagree (D)", (3) "neutral (N)" (4) "agree (A)" and (5) "strongly agree (SA)".**

| No. | Level of satisfaction | SD | D | N | A | SA |
|---|---|---|---|---|---|---|
| 7.1 | With the online class, I felt more comfortable introducing myself to the faculty compared to conventional classroom teaching | 1 | 2 | 3 | 4 | 5 |
| 7.2 | While teaching online the goal of each topic were met by the lecturer | 1 | 2 | 3 | 4 | 5 |
| 7.3 | During online teaching, the content of the class was communicated effectively | 1 | 2 | 3 | 4 | 5 |
| 7.4 | I am satisfied with the time management for the online classes | 1 | 2 | 3 | 4 | 5 |
| 7.5 | I have/had difficulties in understanding the topics during online teaching | 1 | 2 | 3 | 4 | 5 |
| 7.6 | I don't find it difficult to manage my studies as compared to traditional classroom teaching. | 1 | 2 | 3 | 4 | 5 |
| 7.7 | I feel the quality of the teaching material projected during online classes are the same or comparable to the one used during conventional classroom teaching. | 1 | 2 | 3 | 4 | 5 |
| 7.8 | I prefer online teaching and feel online education is worth my time. | 1 | 2 | 3 | 4 | 5 |
| 7.9 | I am satisfied with online teaching because it has helped me gain knowledge regarding technology and being technically sound. | 1 | 2 | 3 | 4 | 5 |
| 7.10 | Overall, how will you grade your experience with online teaching? | 1 | 2 | 3 | 4 | 5 |
| 7.11 | The lecturers made learning an active process by motivating us, helping to develop thought, encouraging us to participate in discussion. | 1 | 2 | 3 | 4 | 5 |
| 7.12 | I feel interactive online discussion alongside a | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | power point presentation has made learning very effective for me. | | | | | |
| **7.13** | Communication and discussion with my classmates are easier during online classes. | **1** | **2** | **3** | **4** | **5** |
| **7.14** | I am not afraid to ask questions during online classes if I am in doubt about a topic. | **1** | **2** | **3** | **4** | **5** |
| **7.15** | Online teaching has helped me build discussion and recognize problem areas in my studies. | **1** | **2** | **3** | **4** | **5** |
| **7.16** | I often have lingering questions about the content that are left unanswered. | **1** | **2** | **3** | **4** | **5** |
| **7.17** | I feel more engaged with my studies during online teaching. | **1** | **2** | **3** | **4** | **5** |

**SECTION IV**

**This section of the questionnaire measures perceptions of capability regarding specific computer-related knowledge and skills**.

**8. Please indicate your level of agreement in the following statements by selecting from the following options: (1) "strongly disagree (SD)", (2) "disagree (D)", (3) "neutral (N)" (4) "agree (A)" and (5) "strongly agree (SA)".**

| No. | Online Leaning Self-efficacy (OLSES) | SD | D | N | A | SA |
|---|---|---|---|---|---|---|
| **8.1** | Navigate online course materials effectively | **1** | **2** | **3** | **4** | **5** |
| **8.2** | Communicate effectively with my instructor via e-mail. | **1** | **2** | **3** | **4** | **5** |
| **8.3** | Communicate effectively with technical support via email, telephone, or live online chat | **1** | **2** | **3** | **4** | **5** |
| **8.4** | Submit assignments to an online drop box | **1** | **2** | **3** | **4** | **5** |
| **8.5** | Overcome technical difficulties on my own. | **1** | **2** | **3** | **4** | **5** |
| **8.6** | Navigate the online grade book | **1** | **2** | **3** | **4** | **5** |
| **8.7** | Manage time effectively. | **1** | **2** | **3** | **4** | **5** |
| **8.8** | Complete all assignments on time. | **1** | **2** | **3** | **4** | **5** |
| **8.9** | Learn to use a new type of technology efficiently | **1** | **2** | **3** | **4** | **5** |
| **8.10** | Learn without being in the same room as the instructor. | **1** | **2** | **3** | **4** | **5** |
| **8.11** | Learn without being in the same room as other students. | **1** | **2** | **3** | **4** | **5** |
| **8.12** | Search the internet to find the answer to a course-related question. | **1** | **2** | **3** | **4** | **5** |
| **8.13** | Search the online course materials. | **1** | **2** | **3** | **4** | **5** |
| **8.14** | Communicate using asynchronous technologies (discussion boards, e mail, etc.) | **1** | **2** | **3** | **4** | **5** |
| **8.15** | Meet deadlines with very few reminders | **1** | **2** | **3** | **4** | **5** |
| **8.16** | Complete a group project entirely online. | **1** | **2** | **3** | **4** | **5** |
| **8.17** | Use synchronous technology to communicate with | **1** | **2** | **3** | **4** | **5** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | others (such as Skype). | | | | | |
| **8.18** | Focus on schoolwork when faced with distractions | **1** | **2** | **3** | **4** | **5** |
| **8.19** | Develop and follow a plan for completing all required work on time. | **1** | **2** | **3** | **4** | **5** |
| **8.20** | Use the library's online resources efficiently | **1** | **2** | **3** | **4** | **5** |
| **8.21** | When a problem arises, promptly ask questions in the appropriate forum (e-mail, discussion board, etc.) | **1** | **2** | **3** | **4** | **5** |

**SECTION V**

**This section of the questionnaire includes questions to measure your digital literacy (how conversant are you in using the technology system)**

**9. Please indicate your level of agreement in the following statements by selecting from the following options: (1) "strongly disagree (SD)", (2) "disagree (D)", (3) "neutral (N)" (4) "agree (A)" and (5) "strongly agree (SA)".**

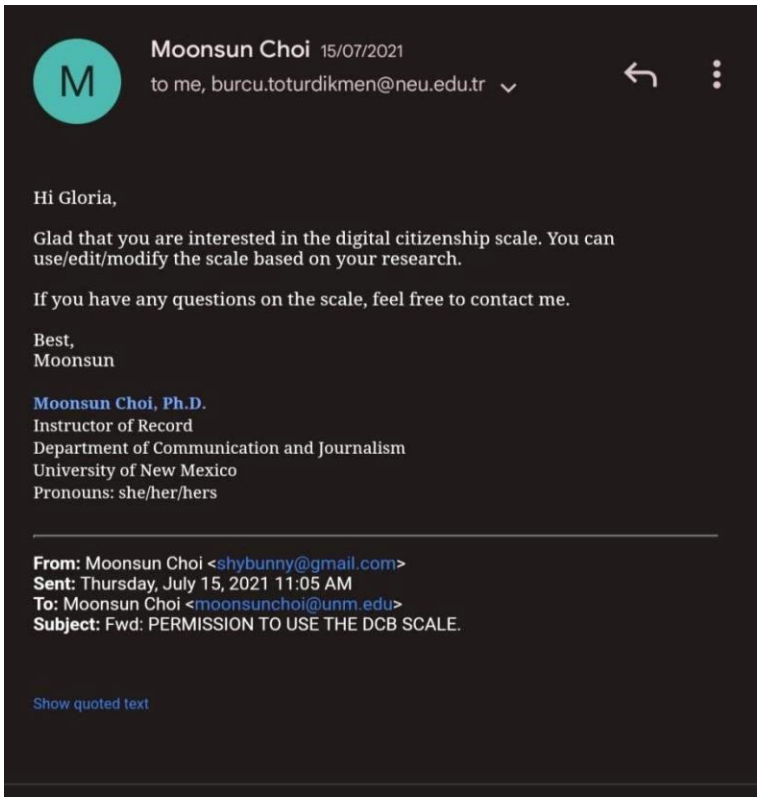
| No. | Digital Citizenship | SD | D | N | A | SA |
|---|---|---|---|---|---|---|
| **9.1** | I attend political meetings or public meetings online (on the internet) about local city or school-related issues | **1** | **2** | **3** | **4** | **5** |
| **9.2** | I work with people to solve local national and global issues | **1** | **2** | **3** | **4** | **5** |
| **9.3** | I organize petitions about social, cultural, political and economic issues online | **1** | **2** | **3** | **4** | **5** |
| **9.4** | I regularly post thoughts related to political or social issues online | **1** | **2** | **3** | **4** | **5** |
| **9.5** | I sometimes contact government officials about an issue that is important to me via online methods | **1** | **2** | **3** | **4** | **5** |
| **9.6** | I express my opinions online to change dominant perspectives or the status quo with regard to political or social issues | **1** | **2** | **3** | **4** | **5** |
| **9.7** | I sign petitions about social cultural political or economic issues online | **1** | **2** | **3** | **4** | **5** |
| **9.8** | I work or volunteer for a political party or candidate via online methods | **1** | **2** | **3** | **4** | **5** |
| **9.9** | I belong to online groups that are involved in political or social issues | **1** | **2** | **3** | **4** | **5** |
| **9.10** | I can use the internet to find information I need | **1** | **2** | **3** | **4** | **5** |
| **9.11** | I can use the internet to find and download applications (apps) that are useful to me | **1** | **2** | **3** | **4** | **5** |
| **9.12** | I am able to use digital technologies (e.g., mobile/smart phones, Tablet PCs, Laptops, PCs) to achieve the goals I | **1** | **2** | **3** | **4** | **5** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | pursue | | | | | |
| **9.13** | I can access the Internet through digital technologies (e.g., mobile/smart phones, Tablet PCs, Laptops, PCs) whenever I want | **1** | **2** | **3** | **4** | **5** |
| **9.14** | I am more informed with regard to political or social issues through using the Internet | **1** | **2** | **3** | **4** | **5** |
| **9.15** | I am more aware of global issues through using the Internet | **1** | **2** | **3** | **4** | **5** |
| **9.16** | I think online participation is an effective way to make a change to something I believe to be unfair or unjust. | **1** | **2** | **3** | **4** | **5** |

| | | | | | | |
|---|---|---|---|---|---|---|
| **9.17** | I think I am given to rethink my beliefs regarding a particular issue/topic when I use the Internet | **1** | **2** | **3** | **4** | **5** |
| **9.18** | I think online participation is an effective way to engage with political or social issues | **1** | **2** | **3** | **4** | **5** |
| **9.19** | I think online participation promotes offline engagement | **1** | **2** | **3** | **4** | **5** |
| **9.20** | I think the Internet reflects the biases and dominance present in offline power structures. | **1** | **2** | **3** | **4** | **5** |
| **9.21** | . I am more socially or politically engaged when I am online than offline | **1** | **2** | **3** | **4** | **5** |
| **9.22** | . I use the internet in order to participate in social movement/change or protest | **1** | **2** | **3** | **4** | **5** |
| **9.23** | Where possible, I comment on other people's writings in news websites, blogs, or SNSs I visit. | **1** | **2** | **3** | **4** | **5** |
| **9.24** | I enjoy communicating with others online | **1** | **2** | **3** | **4** | **5** |
| **9.25** | I enjoy collaborating with others online more than I do offline. | **1** | **2** | **3** | **4** | **5** |
| **9.26** | I post original messages, audio, pictures, or videos to express my feelings/ thoughts/ ideas/ opinions on the Internet. | **1** | **2** | **3** | **4** | **5** |

## 8.2 APPENDIX B

### Permission To Use OLSES (Online Self Efficacy Scale) and DCS (Citizenship Scale)



Moonsun Choi 15/07/2021
to me, burcu.toturdikmen@neu.edu.tr

Hi Gloria,

Glad that you are interested in the digital citizenship scale. You can use/edit/modify the scale based on your research.

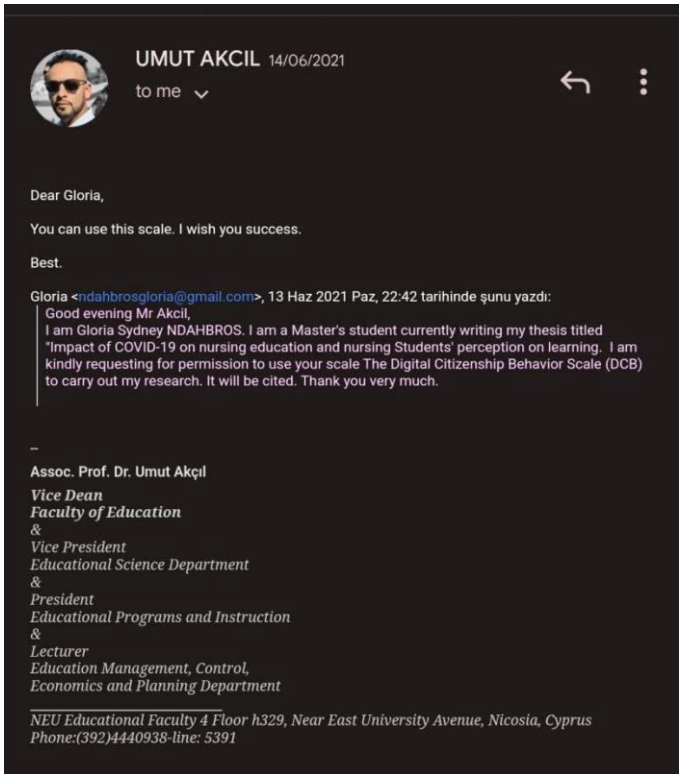
If you have any questions on the scale, feel free to contact me.

Best,
Moonsun

Moonsun Choi, Ph.D.
Instructor of Record
Department of Communication and Journalism
University of New Mexico
Pronouns: she/her/hers

**From:** Moonsun Choi <shybunny@gmail.com>
**Sent:** Thursday, July 15, 2021 11:05 AM
**To:** Moonsun Choi <moonsunchoi@unm.edu>
**Subject:** Fwd: PERMISSION TO USE THE DCB SCALE.

Show quoted text



**UMUT AKCIL** 14/06/2021
to me

Dear Gloria,

You can use this scale. I wish you success.

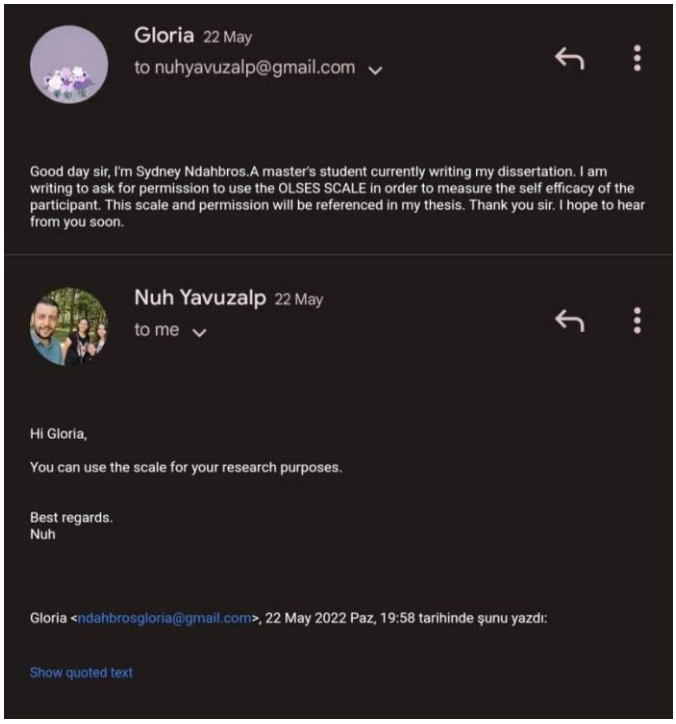
Best.

Gloria <ndahbrosgloria@gmail.com>, 13 Haz 2021 Paz, 22:42 tarihinde şunu yazdı:

> Good evening Mr Akcil,
> I am Gloria Sydney NDAHBROS. I am a Master's student currently writing my thesis titled "Impact of COVID-19 on nursing education and nursing Students' perception on learning. I am kindly requesting for permission to use your scale The Digital Citizenship Behavior Scale (DCB) to carry out my research. It will be cited. Thank you very much.

--

**Assoc. Prof. Dr. Umut Akçıl**
*Vice Dean*
*Faculty of Education*
*&*
*Vice President*
*Educational Science Department*
*&*
*President*
*Educational Programs and Instruction*
*&*
*Lecturer*
*Education Management, Control,*
*Economics and Planning Department*
*NEU Educational Faculty 4 Floor h329, Near East University Avenue, Nicosia, Cyprus*
*Phone:(392)4440938-line: 5391*



**Gloria** 22 May
to nuhyavuzalp@gmail.com

Good day sir, I'm Sydney Ndahbros.A master's student currently writing my dissertation. I am writing to ask for permission to use the OLSES SCALE in order to measure the self efficacy of the participant. This scale and permission will be referenced in my thesis. Thank you sir. I hope to hear from you soon.

**Nuh Yavuzalp** 22 May
to me

Hi Gloria,

You can use the scale for your research purposes.

Best regards.
Nuh

Gloria <ndahbrosgloria@gmail.com>, 22 May 2022 Paz, 19:58 tarihinde şunu yazdı:

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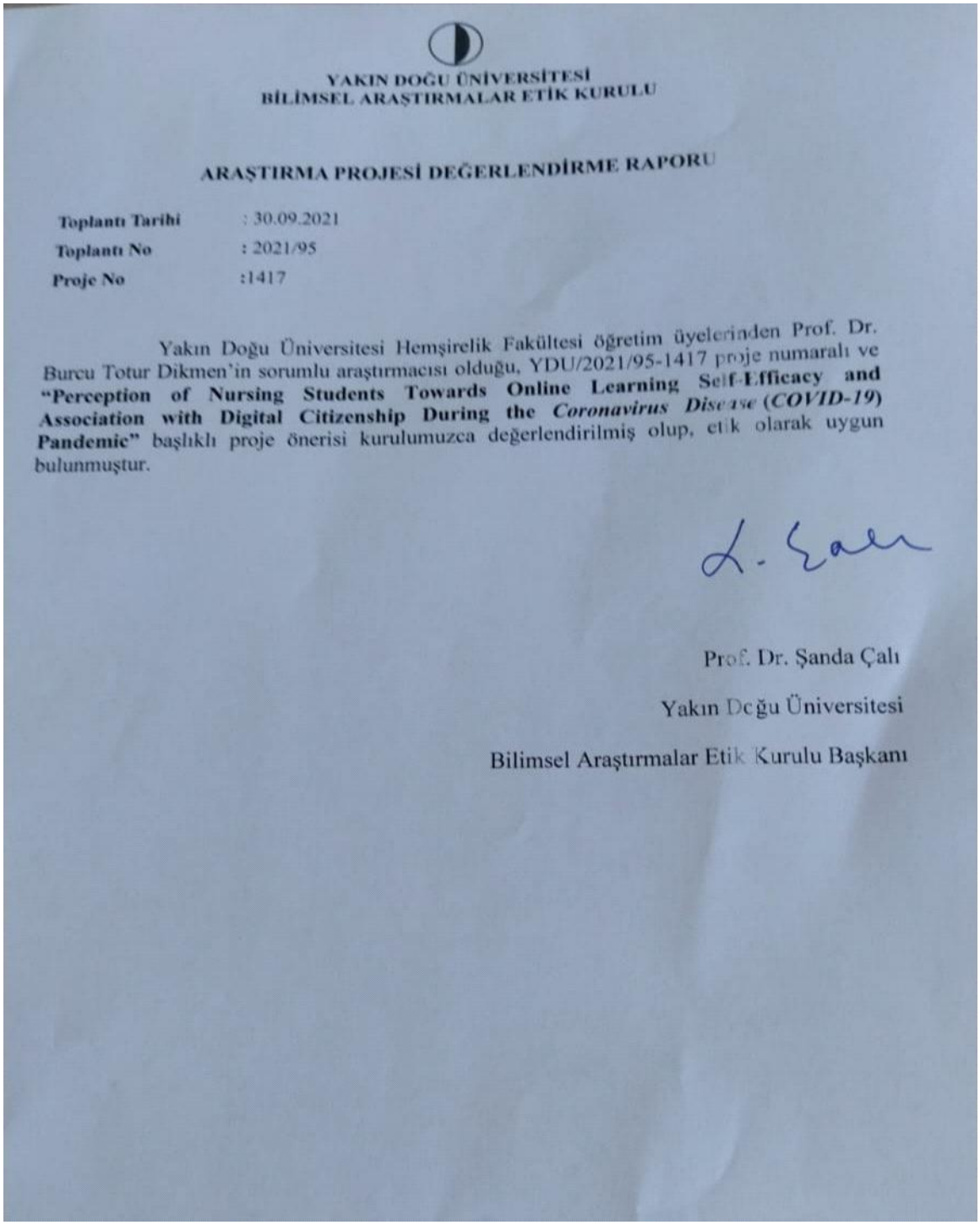
## 8.3 APPENDIX C. NEAR EAST UNIVERSITY APPROVAL DECISION



YAKIN DOĞU ÜNİVERSİTESİ
BİLİMSEL ARAŞTIRMALAR ETİK KURULU

ARAŞTIRMA PROJESİ DEĞERLENDİRME RAPORU

**Toplantı Tarihi** : 30.09.2021
**Toplantı No** : 2021/95
**Proje No** :1417

Yakın Doğu Üniversitesi Hemşirelik Fakültesi öğretim üyelerinden Prof. Dr. Burcu Totur Dikmen'in sorumlu araştırmacısı olduğu, YDU/2021/95-1417 proje numaralı ve **"Perception of Nursing Students Towards Online Learning Self-Efficacy and Association with Digital Citizenship During the *Coronavirus Disease* (*COVID-19*) Pandemic"** başlıklı proje önerisi kurulumuzca değerlendirilmiş olup, etik olarak uygun bulunmuştur.

Prof. Dr. Şanda Çalı

Yakın Doğu Üniversitesi

Bilimsel Araştırmalar Etik Kurulu Başkanı