

# NURSE EDUCATORS' PERCEPTIONS REGARDING ONLINE EDUCATION: A QUALITATIVE STUDY

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## ABSTRACT

*The fourth industrial revolution has brought about plenty of changes in the educational landscape. As a result, the implementation of online education is now a necessity for any higher education institution that seeks recognition in the 21st century. Furthermore, online education has become a well-established global practice that enables active, individual, and flexible learning. While online education is growing at a tremendous rate in higher education, in South Africa, its use in Nursing Education is a relatively new phenomenon. This explorative, descriptive, qualitative research design paper aimed to report the results of a whole study whose purpose was to explore and describe the perceptions nurse educators have towards online education at the Nursing Education Institution in the province of KwaZulu-Natal, South Africa. Three themes emerged: the perceived advantages of online education, the perceived disadvantages of online education, and the perceived measures that can be used to promote the use of online education. The study concludes that online education has both advantages and disadvantages.*

**Keywords:** *KwaZulu-Natal Province, nurse educators, online education, perceptions, explorative design, descriptive design*

## INTRODUCTION

Today's world has become more information and knowledge based due to an increased dependence on information, communication, and technology and the demands for an innovative and productive citizenry to function within this new economy, meaning that everyone should be proficient with technology as it is paramount for our survival (Mlambo et al., 2018). The fourth industrial revolution, or the Era of Technology, has brought about major advancements that have implications for the higher education arena. One of these implications is the introduction of online education in higher education, which is a relatively new dimension in the nursing education arena, especially in South Africa. Furthermore, the implementation of online education is now a necessity for any higher education institution that seeks recognition as a 21st century university (Coopasami

et al., 2017). The COVID-19 pandemic further boosted the change from traditional learning methods to online education for nursing students.

According to the South African Nursing Council's (SANC) Nursing Education and Training Standards (SANC, 2019), nursing education and training across South Africa is responding to the changing needs, developments, priorities, and expectations in health and healthcare. SANC's position on the transition of Public Nursing Colleges into higher education indicates that SANC will continue to support Public Nursing Colleges when working towards improving accreditation processes, and providing curriculum guidelines, nursing education and training standards, relevant regulations, and scopes of practice. This means that although nursing in South Africa is currently included in higher education institutions, it is imperative that nursing colleges adopt methods of online education.

The public Nursing Education Institution (NEI) offers several basic and postbasic programmes that are accredited by the South African Nursing Council (SANC) and the Council of Higher Education (CHE). The same NEI has made known its intentions of implementing online education; however, little is known about the perceptions of nurse educators with respect to online education in the above mentioned NEI. Hence the need for this study.

#### *Purpose of the Study*

The purpose of this paper is to report on the results of a whole study aimed to explore, describe, and interpret the perceptions of nurse educators towards online education at the NEI in the KwaZulu-Natal province, South Africa. Furthermore, the paper makes recommendations regarding online education.

#### *Significance of the Study*

- I anticipated gaining insight into the perceptions and readiness of nurse lecturers towards online education as they will play a major role in facilitating this method of teaching.
- If the stakeholders, including the authorities and decision makers, are made aware of the phenomena that will be generated by this study, they could use it in applying appropriate strategies in the role out of online education.
- The findings of the study could also make nurse lecturers at other campuses not participating in this study aware that others share the same sentiments and apprehensions about online education, which could bring about cohesion in fast tracking and using online teaching methods.
- Utilizing this study, authorities could be made aware of the misconceptions nurse lecturers hold and provide information to alleviate them.
- Online education has taken off in South Africa with many public and private higher education institutions making use of this mode of teaching and learning. The study could add to the body of knowledge encompassing both the healthcare and higher education arenas in the province.

## **MATERIALS AND METHODS**

### *Research Design*

This paper reports the results of an explorative, descriptive, and interpretive qualitative research design study that explored and described the perceptions of nurse educators towards online education. It also makes recommendations about online education at the selected nursing education institution in the KwaZulu-Natal Province of South Africa.

### *Study Setting*

This study setting was the three specific Nursing Campuses that form part of the NEI in the Kwa-Zulu-Natal Province of South Africa. The NEI however, has a total of ten campuses that are located throughout the province.

### *Population and Sampling*

In this study, the population included nurse educators employed by the nursing education institution in the Province of KwaZulu-Natal, South Africa. The sample included 21 educators from three out of ten nursing campuses located in the province. It was not my intention to achieve any demographic representivity or to generalize the findings.

The inclusion criteria used to select participants included nurse educators employed by the NEI in KZN and nurse educators willing to partake in the study. The exclusion criteria used to select participants included nurse educators not willing to partake in the study, and nurse educators not employed by the NEI in KZN.

It was my intention to obtain the richest, in-depth perceptions of the nurse educators towards online education. Therefore, convenience sampling was deemed fit for the purposes of this study. After gaining permission from the institution, I made appointments at the respective campuses. The prospective participants were made aware of my presence and those who were willing to take part in the study made themselves available. Each participant was given information regarding the study both verbally and in writing prior to the interviews. An informed consent was signed by participants prior to participating in the study.

### *Data Collection*

I conducted individual, face-to-face interviews using a semistructured guide to collect data that

assisted me in gaining insights into the perceptions of nurse educators towards online education. I asked several open-ended and closed questions using an interview schedule that served as a guide but remained fluid and evolved as the interviews progressed. Data were collected at participants' offices or other rooms such as classrooms or boardrooms prepared specifically for the interview to ensure a conducive environment. Each interview was limited to one hour but generally lasted only 40 minutes. Participants were given an information sheet about the study and each participant was required to sign an informed consent form. The interviews were audio recorded and later transcribed verbatim for data analysis. The transcribed data were not identified to participants and were kept electronically and stored on a password protected computer.

### *Data Analysis*

I used Colaizzi's (1978) seven-step method integrated with a computer-assisted qualitative data analysis software (NVivo) to manage, structure, and analyse the data. NVivo assisted in coding, arranging the codes into themes, examining the relationships between themes, and providing a hierarchy and structure to the analysis process.

Using Colaizzi's procedural steps as a guide I:

- familiarised myself with the data by reading the participants transcripts several times to submerge myself in the data;
- transcribed the interviews and uploaded them into NVivo, which assisted in sorting and arranging the different codes into themes and subthemes that I identified. I then used an enquiry audit to verify the analysis and maintain quality in terms of dependability;
- I used these themes, subthemes, and codes to write a rich and conclusive description of the perceptions of nurse educators towards online education; and
- I then condensed the information into a report to include only those aspects that were relevant to the phenomena.
- The last step proposed by Colaizzi in which the researcher returns to the participants to determine whether the study accurately captured their perceptions of the phenomenon was omitted in this study.

### *Ethical Considerations*

I submitted the research proposal to the University of South Africa, College of Human Sciences Research Ethics Review Committee (Ref. no: 35320869\_CRECHS\_2021), KwaZulu-Natal Department of Health Research Committee (Ref. no: KZ\_202201\_030) and the KwaZulu-Natal College of Nursing for ethical approval. Before the recruitment of participants and data collection, the study received unanimous approval from all the above-mentioned committees. Participants were required to sign consent forms prior to the interviews and were kept anonymous by means of a coding system using only letters and numbers indicating their gender and age. Furthermore, participants were informed they were free to withdraw from the study without consequences.

### **RESULTS**

The 21 audio recordings were transcribed verbatim and uploaded into NVivo. Each transcription was read to obtain a general feel of the perception of nurse educators towards the phenomena. Each transcription was then read again in more detail to identify codes. Related codes were then grouped together using NVivo, which allowed me to group, ungroup, regroup, and develop new groups of codes until clear themes and subthemes emerged. The codes, themes and subthemes were then verified by the research supervisor, which enhanced the validity of the findings.

The codes were eventually grouped into three themes and 11 subthemes, which is illustrated in Table 1. In this section, each theme and subtheme is discussed using excerpts from the nurse educators' responses. Prior information from relevant literature is also used to compare the findings.

#### *Theme 1: Perceived Advantages of Online Education*

In this study, it was apparent from the interviews that nurse educators perceived that the advantages of online education are varied and vast. Of the various advantages online education that arose from the data, four subthemes emerged: (a) Flexible method of teaching and learning, (b) Cost effective and time efficient, (c) Improved feedback to students, and (d) Encourages innovative ways of teaching and learning.

### **Subtheme 1.1: Flexible method of teaching and learning**

Nurse educators recognise the flexibility of online education in terms of time, place, and presence. Nurse educators believed that they could teach even when not physically at the campus as indicated by the following excerpts:

*The perception was I only teach when I'm in class, I only teach when I'm in the premises. So, now, because there is online education, it's actually possible to teach even when you are not around (P21; age 50; Campus 3)*

*The flexibility, it helps in the sense that, if I'm unable to come to campus, then I'll be able also to set up an online for whatever lesson that I was supposed to do as face to face in campus (P14; age 55; Campus 2)*

*And even if a student is sick and may have just got the flu and ... they can take their medication and still listen to the lecture. They can. So, it gives that student that opportunity as well to be present, they are logging on and they can be present (P7; age 51; Campus 1)*

### **Subtheme 1.2: Cost effective and time efficient**

Information, Communication and Technology (ICT) not only increases economic growth in both high-income and low-income countries, but poor countries also tend to gain more from the ICT revolution (Appiah-Otoo & Song, 2021). Nurse educators believed an advantage of online education is that it saves time and money, as well as other resources, as indicated by the following excerpts:

*I think that's the way to go in the future because we are very technologically advanced and it also saves a lot of time and money and resources using this virtual platform. So, I'm for it (P7; age 51; Campus 1)*

*You can do assessments in real good time, it's time-effective. Can you imagine how quickly you can mark those assessments? So, that too are all of the benefits of using online teaching and learning. So, really,*

*for me, it's highly beneficial (P12; age 55; Campus 2)*

### **Subtheme 1.3: Improved feedback to students**

The nurse educators believed that online modalities improve feedback given to students as marks can be given as quickly as possible instead of waiting for the student to be back on campus from the clinical area or from leave. Furthermore, nurse educators believed they are not restricted to giving feedback during office hours. The following excerpts backs this perception:

*When you have looked at those assignments, you can quickly give them marks and you can communicate on your WhatsApp to the students. So, I think that's a huge advantage (P9; age 50; Campus 1)*

*It would benefit me because I would be able to send the assignments while they are in the clinical area and I also mark it and give them the feedback. I don't have to wait and see them when they are coming for their block (P4, age 56, Campus 1)*

### **Subtheme 1.4: Encourages innovative ways of teaching and learning**

The nurse educators declared that online education encourages innovation and allows them to be creative and create exciting teaching and learning experiences, as indicated by the following excerpts:

*It just broadens your mind as an educator. You can't be sitting there doing what was done to you when you were a student. You find new ways. And also, it allows you as an educator to explore a lot of things (P21; age 50; Campus 3)*

*With online learning, I think I also enjoy it because you are also able to explore a lot of options with regard to your teaching strategies, and you can take a lot from the internet with regard to your teachings as well (P6; age 60; Campus 1)*

### **Theme 2: Perceived Disadvantages of Online Education**

Although there are many advantages to online education, nurse educators were of the opinion



that there are also disadvantages, as illustrated by the following four subthemes: (a) Promotes the potential for academic dishonesty, (b) Limits interpersonal relationships among students and lecturers, (c) Problems with infrastructure, internet connection, and other technical aspects, and (d) Not suitable for clinical or practical teaching and learning.

### ***Subtheme 2.1: Promotes the potential for academic dishonesty***

Academic dishonesty can be described as unethical actions in an academic environment where students attempt to gain an unfair advantage for themselves over their peers (Amzalag et al., 2021). Nurse educators in this study perceived that online modalities can increase the risk of dishonesty during assessments, and they were unsure whether or not the mechanisms in place would be sufficient to limit the dishonesty, as is illustrated below:

*The biggest disadvantage is at the moment we have not come to a point where we trust our students. So, I saw during COVID-19 when they were writing tests, others were getting very good marks, online test, they were getting very good marks that you can see this person used open-book test. So, those trust issues are putting us at a disadvantage at the moment. (P21; age 50; Campus 3)*

*The disadvantage is that you never know whether they...what they're doing is true. They could be cheating, you may never know because you are obviously not face to face with them when they are doing the online assessment. Because obviously they could be on their tablet and they could be Googling on their cell phone to get the correct answer (P15; age 42; Campus 3)*

### ***Subtheme 2.2: Limits interpersonal relationships among students and lecturers***

Nurse educators felt that they were not able to gauge students' nonverbal responses, which could indicate they were not paying attention or just having a problem understanding. The following excerpts substantiate this:

*They [students] may not be engaging per se, whereas when it's face to face you can see that this student is daydreaming or if that student has a problem, they need to attend to something. So, you can negotiate conditions like that where you ask the student or you engage the student because you see now they are becoming bored, then you change your teaching strategy. You don't have that advantage with online (P1; age 47; Campus 1)*

*For me, I didn't like it because sometimes if you see the student in front of you, you can even see the facial expression, if she understands, but now if it is online, it is so difficult to identify that, to pick up that the student is not understanding and student is attentive enough, or sometimes you will find that they are busy doing their things there, not being attentive (P18; age 52; Campus 3)*

### ***Subtheme 2.3: Problems with infrastructure, internet connection, and other technical aspects***

Nurse educators observed that the various technical aspects, including infrastructure and resources, limited their use and efficiency of online modalities. They considered that load shedding by Eskom, who is the sole supplier of electricity to municipalities, causes disruptions to their use of online education strategies.

*The only time ... our country right now, that Eskom [Electricity Supply Commission] and that power supply, that is the biggest problem that you have, and if you don't have data (P10; age 63; Campus 1)*

*I reported and they're quite aware that I don't have a computer in my office that is why I took the initiative to use my own laptop (P5; age 47; Campus 1)*

Nurse educators voiced that their employer did provide them with a few tablets and a limited amount of data, which was not enough for their usage, and they had to resort to buying and using their own laptops and data.

*Also, with the issue of the data, data is quite expensive at the moment and our*

*government cannot always provide us with data (P21; age 50; Campus 3)*

*We do have tablets, also they are not for everyone, they are not sufficient (P14; age 55; Campus 2)*

#### **Subtheme 2.4: Not suitable for clinical or practical teaching and learning**

The clinical component is vital to nursing as it forms part of the nurse's core function. Many nurse educators felt that online modalities were not at all suitable for the clinical aspect of nursing, as illustrated by the following excerpts:

*Because, remember, we're not making cars here. It's a live person. A live person can die. So, you'll need a proper skill. After simulating it, do it in a live person. We must be skillful (P11; age 58; Campus 2)*

*No. Nursing is practical. You have got to be at the bedside. You have to see the patient. Therefore, there's no way you can teach the skill online. You have to demonstrate. I believe you've got to go to the wards with the student (P5; age 47; Campus 1)*

#### **Theme 3: Perceived Measures to Promote the Use of Online Education**

The nurse educators perceived that there are measures necessary to promote the use of online education modalities, described as follows: (a) Need for support by the institution, (b) Need for incentives in the form of reimbursements for teaching online, and (c) Utilisation of accurate dishonesty detectors during online assessments.

#### **Subtheme 3.1: Need for support by the institution**

At the start of adopting a new way of teaching, a learning institution has the responsibility to make sure that their personnel are trained in the new way of teaching, and that continued in-service training is provided on the new medium of instruction and its assessment strategies (Anderson & Magruder, 2012). In this study, in terms of the nurse educators' perceptions of their preference for the type of support they needed, almost all of them felt they needed more training in online education modalities, as is evidenced by the following excerpts:

*More in-service should be done with technology and how to conduct online teaching, then I think we'll be more competent and confident in carrying out this online teaching (P15; age 42; Campus 3)*

*Training, proper training. Proper workshops, monitoring that people have all gone and people are versed with it (P13; age 60; Campus 2)*

#### **Subtheme 3.2: Need for incentives in the form of reimbursements for teaching online**

Nurse educators believed that they should be given incentives and reimbursed for teaching from home, as illustrated in the following excerpts:

*When it comes to financial matters as well, it would be nice if we were taught and the leeway being given to lecturers if we can be even given a chance to even teach from home and to actually reimburse that person for teaching from home (P9; age 50; Campus 1)*

*When you're at the campus, you know you're seeing the student from this time to that time, from that time to that time. At four o'clock it stops. But with online, it goes beyond that time. So, I would think that there should be perks (P3; age 50; Campus 1)*

#### **Subtheme 3.3: Utilisation of accurate dishonesty detectors during online assessments**

The reasons for academic dishonesty are varied. Nurse educators believed that students would find it easy to cheat during online assessments, as evidenced by the following excerpts:

*I've not used it but a friend of mine told me that students they can copy each other using the online, unlike when they write an examination. So, our children, they know technology far better than us. If you are slow, they can copy without you noticing that they are copying. That is the disadvantage (P19; age 62; Campus 3)*

*I think if you're using the right online assessment tools, then you shouldn't have*

*a problem with honesty. And you can... which I've seen, I haven't tried as yet, that when you're looking at online assessments, there's a timer that you use. So, the students do the first question and they have a minimal amount of time in which to do the question before the question gets taken away(P12; age 55; Campus 2)*

## DISCUSSION

### *Perceived Advantages of Online Education*

All nurse educators agreed that the benefits of online education were vast and varied, thus creating a whole new dimension to nursing education. From the study, I concluded that the advantages of online education included flexibility, cost effectiveness, time efficiency, and improved feedback, and that it encouraged innovative ways of teaching and learning. The educators felt that the flexibility goes so far as to afford the “off-sick” student the opportunity to still attend a lesson. The participants also alluded to the fact that the flexibility of online education brought about a certain level of comfort. Through common experience as a learner or educator, comfort improves many facets of teaching and learning. Meri-Yilan and Koruyan (2021) conducted a qualitative study using a sample of 15 lecturers from Saudi Arabia, Oman, and Turkey, and they concur with these findings, as well as Joshi (2021), who also found that educators felt online education was more flexible, convenient, and easily accessible. Other studies that agree with the above findings include those of Bagarukayo and Kalema (2015) and Padayachee (2017), who conducted studies in South Africa that support the fact that online modalities save educators time when using online marking and when capturing and disseminating results. Other researchers agree with this study that online education has the advantage of being cost effective as well as time efficient, suggesting that geographical aspects are vital benefits of online education with regards to cost effectiveness (Josep, 20190; Sun & Chen, 2016).

Feedback can be from the educator to the student as well as from the student to the educator. The learning that takes place because of feedback cannot be underestimated. The advantage of improved, efficient feedback suggests that teaching and learning activities are greatly enhanced. Because feedback is not restricted to traditional

hours, teaching and learning becomes a continuous process through online education modalities. The findings of this study are in line with Padayachee (2017), which reported that students can be easily tracked in the online environment and their progress can be monitored, as well as the study that found that immediate feedback to learners was useful to both the learner and the educator (Bagarukayo & Kalema, 2015).

In a world where change is the only constant, creativity and innovation are imperative to all facets of our lives. This study suggests that online education encourages innovation and creativity that should be a vital aspect of education not only in nursing but in all professions in the labor market. Mbanga and Mtembu (2020) conducted a study on the perceptions of educators towards online education also supports this study, adding that online education modalities offer a wide range of tools and solutions that enhance creativity and empower and equip both educators and students. This study was conducted at a South African Higher Education Institution, and the researchers also found that participants viewed online modalities as making teaching and learning more meaningful and more fun.

### *Perceived Disadvantages of Online Education*

Along with the great advantages and benefits of online education in nursing, participants also perceived the disadvantages as being very apparent. The study suggests that the disadvantages of online education include dishonesty, limited interpersonal relationships, problems with internet connection and other technical aspects, and not being suitable for the clinical aspect of teaching. Indeed, the study suggests that online education modalities create a playground for dishonesty. Participants did not shy away from elaborating on their perceptions regarding dishonesty in assessments and during normal online lessons and in other online teaching strategies. The participants also felt that there were limited mechanisms in place to reduce dishonesty, if any at all. This should be of grave concern for institutions and should be prioritized for online education to continue. A quantitative study conducted in Israel also found that there was a high level of dishonesty when it came to online assessments, and there was lack of mutual trust between educators and students (Amzalag et al., 2021).



Another perceived disadvantage was the obvious fact that education online brings about limited personal interaction, which can have a detrimental effect to the teaching and learning process. The nurse educators alluded to the fact that they were unable to gauge the nonverbal responses and maintain the attention of students during online modalities. Against the backdrop of the traditional classroom, where face-to-face interaction is high, this disadvantage can seem quite compelling. In a study conducted on nurse educators, Junus et al. (2021) similarly found that motivating students to focus and encouraging them to be actively involved during online education modalities was a challenge.

From this study as well as other relevant literature, especially in developing countries, the problems with internet and other technical aspects seem to be the biggest disadvantage of employing online education modalities. The nurse educators mentioned problems such as load shedding, poor internet connection, lack of computers, limited data, and having to fund their own use of online activities in terms of devices and data as being the biggest disadvantages in the implementation and use of online education modalities. From the literature it was refreshing to note that developed countries did not have these obstacles and were rather pain free in implementing the online modalities. Because South Africa is a “developing country” it gives encouragement in the sense that we can only progress to become a “developed country” one day. The issue of internet connectivity and proper infrastructure is not only specific to Africa as it was also reported in previous studies (Junus et al., 2021; Matlhaba, 2023; Mbangwa & Mtembu, 2020). Various studies, mainly in developing countries, support the fact that a lack of infrastructure and equipment remains one of the biggest barriers to successfully implementing online education (Mpungose, 2020; Nwagwu, 2020; Paudyal & Rana, 2021; Shindjabuluka et al., 2022). These studies also found that lack of support in the form of equipment and technical devices was an obstacle.

Nursing education in South Africa is composed of a 60% clinical aspect vital to the effective functioning of a nurse. This component can be considered the core function of a nurse. The study revealed that nurse educators were

unsure and apprehensive towards the use of online modalities in the clinical component. While some participants demonstrated that online modalities do indeed have a very tangible place in the clinical component, others felt that it would reduce the quality of nursing education. I believe this may point towards the inadequate training or the lack of knowledge in different avenues of online modalities that could improve the clinical education component of nursing. In line with these findings, researchers in other studies found conducting practical classes online to be extremely difficult as opposed to the theoretical component, which they found to be easier (Joshi, 2021; Kulal & Nayak, 2020; Nambiar, 2020).

#### *Perceived Measures to Promote the Use of Online Education Modalities*

The study suggests that to promote the use of online education modalities it is vital for the institution to provide adequate support and incentives in the form of reimbursements and proper mechanisms to avoid dishonesty.

With regards to support that should be provided by the institution, the study reported that adequate, structured training should be provided as well as a dedicated ICT person that can tend to the needs of the nurse educators. Other studies including that of Shindjabuluka et al., (2022); Shrestha et al. (2022), as well as Tuma et al. (2021), found that training in managing online resources, tools, and platforms; training to boost student morale; training for teachers to assist students psychologically; and workshops that assist in embracing online teaching methods would greatly improve the implementation of online education.

This study also suggests that nurse educators should be reimbursed for using online modalities when they are not supplied with appropriate devices and data, especially since the nurse educators work beyond their normal working hours. Supporting this study, previous studies found that educators felt they should be paid more when conducting online lessons and the lack of a decent incentive in terms of salary affected their mental health (Shrestha et al., 2022) and educators felt they should have a separate salary for conducting online classes (Le et al., 2021).

With regards to dishonesty, the study concluded that there is a need for appropriate dishonesty detectors to conduct online assessments. In this



regard nurse educators should also look at creative strategies to conduct assessments, which may require a new mindset as to how assessments are conducted in an online environment. Amzalag et al. (2021) concurred with the above findings.

### **LIMITATIONS OF THE STUDY**

The study did have the following unavoidable limitations:

- The study did not seek to interpret the findings to any significant depth but to merely present summaries of the perceptions of nurse educators towards online education that was in line with the chosen research design.
- The study lacks generalizability to other Nursing higher education institutions as different institutions may have different contexts in which they function.
- Convenience sampling involves choosing readily available participants for the study (Brink et al., 2018). Participants in this study were not chosen according to any specific criteria in terms of demographics; therefore, the generalizability of the findings outside of the NEI is not suggested.

### **RECOMMENDATIONS**

Using the findings, previous literature, and conclusions of this study, recommendations for nursing education, nursing practice, and nursing research are provided below.

#### *Recommendations for Nursing Education*

It is recommended that for the effective implementation of online education in nursing education it is paramount to provide proper infrastructure, equipment, training, and support, and to improve nurse educators' attitudes, reduce dishonest activities, encourage innovative ways of teaching and learning, predetermine clear working arrangements, and make online education suitable to the clinical component. Furthermore, it is recommended that online education modalities be included in nurse training curricula as modules with specific outcomes and core competencies. This will ensure that online education is taken seriously instead of something used just as a form of communication. It should be seen as a means to teaching and learning.

#### *Recommendations for Nursing Practice*

It is recommended that training in the form of workshops in online education modalities should also be given to permanent nursing staff in the clinical area. This can be used as a form of continuous professional development with the intention to assist in broadening the horizon of all categories of nursing staff. Additionally, it is recommended that practicing nurses be encouraged to use online modalities when executing their daily tasks, for example, by using the internet's reliable sites by merely googling specific conditions to drawing up care plans. The actual use of online education modalities here is limitless and can have a profound effect on improving the efficiency of the nurse to ultimately improving the care of the patient.

#### *Recommendations for Nursing Research*

It is recommended that research be conducted into the perceptions of students on the use of online education modalities in the same province. Also, comparative studies between public nursing education institutions and private nursing education institutions should be conducted. Furthermore, mixed-methods studies using triangulation can obtain perceptions of both the nurse educators and students with regards to online education in nursing. Lastly, research into the use of Learning Management Systems and perceptions on the use of online education modalities in clinical nursing should be conducted.

### **CONCLUSION**

The study concludes that online education saves all stakeholders time and money, including the student, the educator, and the institution overall. Against a political economic climate such as in South Africa, this has far reaching implications for all concerned. From this study, as well as other relevant literature, especially in developing countries, the problems with internet and other technical aspects seem to be the biggest disadvantage of employing online education modalities.

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### **AUTHORS' CONTRIBUTIONS**

S.G. conceptualized the study, collected data, conducted data analysis, and wrote the manuscript. K.L.M. was a supervisor for Master's degree,

guided the conceptualization of the study, proof reading, and approval of the manuscript.

#### **INFORMED CONSENT STATEMENT**

Written informed consent has been obtained from the patients to publish this paper.

#### **DATA AVAILABILITY STATEMENT**

Data are contained within the article.

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#### **CONFLICTS OF INTEREST**

The authors declare there is no conflict of interest.

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