

Exploring the pedagogical benefits of a blended learning strategy at selected private nursing colleges in KwaZulu-Natal, South Africa

Cherie Lachman

(21950279)

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Supervisor: Prof. TSP Ngxongo

Co-supervisor: Dr. V Naidoo

Co-supervisor: Mrs. M Coopasami

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Declaration

This is to certify that the work is entirely my own and not of any other person, unless explicitly acknowledged (including citation of published and unpublished sources). The work has not previously been submitted in any form to the Durban University of Technology or to any other institution for assessment or for any other purpose.

29 March 2022

Mrs. C Lachman
Student

Date

Approved for final submission

29 March 2022

Dr. TSP Ngxongo
Supervisor

Date

29 March 2022

Dr. V Naidoo
Co-supervisor

Date

29 March 2022

Mrs. M Coopasami
Co-supervisor

Date

Abstract

Background

With the advancement in Information and Communication Technology (ICT), Nurse educators are now faced with the challenges of integrating different instructional methods of teaching to impact the various learners learning styles. The blended learning environment is a teaching-learning strategy that is becoming increasingly more common and refers to an optimised strategic learning process that utilises a blend of at least two learning strategies. Nursing requires individuals who can manipulate critical and creative thinking skills to solve problems as a team, making it important to explore whether nursing education is utilising an environment that is capable of creating critical and creative thinkers who can meet the needs of an ever-changing healthcare system.

Aim of the study

The aim of this study was to explore the practices regarding the use of blended learning as a teaching and learning strategy, in selected private nursing colleges in KwaZulu-Natal, South Africa.

Methodology

The study employed a qualitative research design, using an exploratory, descriptive approach. This approach enabled the researcher to explore the perspectives of the study population of nurse educators and learners regarding blended learning, as well as the teaching and learning practices that are currently in use. The study population consisted of 6 (six) nurse educators and 15 (fifteen) learners from Shekinah Nursing College in UMgungundlovu and Gandhi Mandela Nursing Academy in Durban, South Africa. Data saturation was achieved after interviewing 3 (three) nurse educators while the two focus group interviews conducted for learners did not require further interviews for data saturation to be

reached. The study was guided by Singh's (2003:54) adapted blended learning theoretical framework.

Findings

This study explored the practices regarding the use of blended learning as a teaching and learning strategy, in selected private nursing colleges in KwaZulu-Natal, South Africa. It drew on the theoretical framework of Khan's Octagonal framework (adapted by Singh 2003:54) related to a blended learning approach. The data analysis revealed three (3) major themes and sub-themes separately for nurse educators and learners. The study revealed that nurse educators and learners have minimal knowledge of blended learning. While some nurse educators have experienced online learning through their private studies, both Nurse educators and learners still have challenges in adopting a blended learning approach in the classroom.

Conclusion

A lack of college support, sophisticated technology and limited exposure to online learning strategies appeared to be the main issues of using a blended learning approach in undergraduate nursing studies at the private nursing colleges in the study. However, despite these issues, the nurse educators and learners appeared to be eager to embrace blended learning as a teaching and learning strategy, noting that these approaches may be an effective alternative to conventional teaching approaches in nursing education.

Keywords: blended learning, private nursing colleges, pedagogical, perceptions, Nurse educators, learners, online, face-to-face

Dedication

This dissertation is dedicated firstly to my Lord and Saviour Jesus Christ who has given me the strength and courage to attain this level of education. With His love and guidance, I am able to accomplish anything.

To my husband Jerome, and our children Matteo and Azenae, who have been so patient with me during my studies? Your love and overwhelming support have allowed me to achieve my goal.

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“The Lord bless you and keep you, the Lord make His face shine on you, and be gracious to you, the Lord turn His face toward you and give you peace”(Numbers 6:24-26)

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Glossary of terms

Blended learning: Blended learning is defined as the total mix of pedagogical methods, using a combination of different learning strategies, both with and without the use of technology (Verkroost, Meijerink, Lintsen and Veen 2008:501).

Clinical facilitator: A clinical facilitator is someone who gives direction, by drawing upon their own experience, to guide learners along a pathway appropriate to the learner's needs (Becket and Wall 1985:259-260).

Nurse educator: In the context of this study, nurse educators will refer to nurse lecturers/ educators and clinical facilitators who participate in learner teaching and learning.

E-learning: E-learning refers to internet-enabled learning which provides faster learning at reduced costs, increased access to learning, and clear accountability for all participants in the learning process (Gunasekaran, MacNeil and Shaul 2002:46).

Learner /Student Nurse: This means a person registered as such in terms of Section 32 of the Nursing Act 33 of 2005 (South Africa 2005:5).

Lecturer: In this study, the lecturer will refer to a qualified nurse educator who provides lectures on specific nurse training objectives and competencies.

Acronyms

Acronym	Full word/sentence
CAL	Computer-assisted learning
CD-ROM	Compact disc read-only memory
CHE	The Council on Higher Education
COVID -19	Coronavirus 2019
DUT	Durban University of Technology
HEI's	Higher education institutions
HOD	Head of Department
ICT	Information, Communication and Technology
IREC	Institutional Research Ethics Committee
KZN	KwaZulu-Natal
LCMS	Learning content management system
LMS	Learning management system
UNISA	University of South Africa
VAK	Visual-Auditory-Kinaesthetic
WHO	World Health Organisation
Wi-Fi	Wireless fidelity

CHAPTER 1: OVERVIEW OF THE STUDY

1.1 INTRODUCTION

The establishment of independent private nursing education institutions in South Africa commenced in the late 1990s, due to the shortage of nurse training facilities, the shortage of nurses, a declining interest in the nursing profession, as well as the disease burden of the country (Oulton 2006:345). The development of highly specialised technology coupled with less-skilled nurses to meet the health needs of a country negatively impacts patient care. To provide skilled and knowledgeable novice nurses, the integration of blended learning may assist to bridge the gap between theory and practice. Technology plays an important part in patient care, and nurse learners often find the integration of theory and practice difficult due to the rapid change in technological use in the clinical setting. The world has become saturated with the growing number of devices such as computers and smartphones, yet their full potential has not been sufficiently integrated into the learning environment. Blended learning is a term used to describe an innovative method of education delivery, which incorporates both face-to-face and an online learning platform. With the effective blend of online and classroom learning, learners take advantage of the flexibility of course delivery. Blended learning supports self-directed education and encourages learners to take responsibility for their knowledge which leads to knowledge retention and promotion of critical thinking skills. The study followed a qualitative, exploratory, descriptive approach to collect data from a purposively selected sample population, to explore the practice of blended learning as a teaching and learning strategy at selected private nursing colleges in KwaZulu-Natal, South Africa.

1.2 BACKGROUND

Blended learning emerged as one of the most popular pedagogical concepts in higher education at the beginning of 2000 (Güzer and Caner 2014:4596) and refers to a method of instruction that utilises two or more complementary approaches to teach the same material. Blended learning provides opportunities for tertiary education organisations to improve the engagement, satisfaction and achievement of learners by combining the benefits of both the face-to-face and online environments (Mackinven 2015:1).

Due to the rapid spread of online learning approaches, Nurse educators are faced with a selection of teaching methods to choose from (McCutcheon, Lohan, Traynor and Martin 2015:256). There are varied reasons for a change from a traditional face-to-face model to a blended model of learning and teaching. According to Prensky (2007:40), learners have been termed the digital natives of the 21st century as they live and learn in an environment proliferated by ICTs. The author adds that learners are frustrated without the use of ICTs in teaching and learning strategies. The systemic study by McCutcheon *et al.* (2015:225) has shown that with the use of blended learning, student access and engagement increase, interaction in learning is heightened, innovative teaching methods are utilised, there is the promotion of self-directed learning, convenience is a positive attribute and there is the promotion of internet usage and acquiring the much-needed computer skills for future nursing. Mackinven (2015:9) suggests that blended learning has the potential to transform tertiary education through its ability to provide flexible learning options, cost reductions and high-quality educational experiences. It also provides learners and lecturers with increased convenience, has great adaptability to learners' needs and its core focus is to make learning student-centred. Lewin, Singh, Bateman and Glover (2009:33) concur that the use of the blended learning model incorporates adult learning principles that can present material that simulates actual clinical encounters.

Blended learning attempts to overcome some limitations that are experienced in the conventional classroom environment and have yielded many positive outcomes. Studies have overwhelmingly shown that blended learning has not only improved pedagogy, access and flexibility but also learner engagement and participation (Ma'arop and Embi 2016:41). A study conducted in the Philippines by Toquero (2020:1) highlighted the massive impact that the Coronavirus 2019 (COVID -19) pandemic has had on higher educational institutions. With the resultant immediate closure of schools and higher education institutions, the country immediately opted for online learning. Toquero (2020:1) adds that while some teachers recorded and uploaded their lessons online for the students to access, some were even more innovative and used Google Classrooms, WebQuest and other online sites. There has, however, been a greater majority of teachers that are not prepared to deal with online education. The use of electronic learning environments has already been implemented in many educational institutions across the world. In the last 10-15 years, there has been a rapid advancement in computer and communications technology (Larsen 2012:1). Larsen (2012:1) adds that the cellular phone has become so advanced that it has the computing power and features of a desktop computer, and together with the rapid development of the internet in the past decade, has become an important resource for research, learning and socialisation for most learners. McCutcheon, O'Halloran and Lohan (2018:37) state that blended learning offers pedagogical benefits in terms of improving students' motivation, attitudes, satisfaction and subject-specific knowledge. Success in blended learning will involve a move away from thinking of how to integrate different sorts of content resources and towards developing educational processes that blend online with face-to-face interactions (Littlejohn and Pegler 2007:2). Blended learning is seen as a better approach as it conceptualises learning as a continuous process rather than a single-time event (Ma'arop and Embi 2016:41). Scholars predict that blended learning will become the new traditional model or the new normal in course delivery (Graham, Woodfield and Harrison 2013:4).

According to the South African Nursing Council (SANC) (5:2019), there are no private nursing education institutions in KwaZulu-Natal (KZN) that have been accredited to offer the new nursing qualifications for 2020. The National Department of Health: National Policy on Education and Training (2019:79) reports that inappropriate progression and articulation pathways, combined with limited clinical training, limit student nurses' abilities to attain competencies required to successfully complete the programmes leading to registration as a nurse. This further limits scopes of practice in the service delivery platforms for nurses who are transient between two nursing categories. The Council on Higher Education (CHE) (2004:12) under Criterion 7 titled 'Infrastructure and Library Sources', reports that a programme should have suitable and sufficient venues, ICT infrastructure and library sources, which emphasises the need for a blended learning approach. Further mention is made, under Criterion 5, of the use of e-learning as a mode of delivery for teaching and learning (Council on Higher Education 2004:11). While there is numerous research papers related to the use of blended learning in nursing universities, the researcher has found a gap in research related to the use of blended learning in private nursing colleges. The results of this study will contribute to understanding the use of blended learning as a teaching and learning strategy and may positively impact a change to include blending learning into the South African nursing studies curricula.

To gain a better understanding of the teaching and learning strategies utilised, this study was conducted to explore the teaching and learning practices used at selected private nursing colleges in the KZN region.

1.3 PROBLEM STATEMENT

Littlejohn and Pegler (2007:2) attest that blended learning has proved to be challenging for most Higher Education Institutions (HEIs), yet it is becoming an essential strategy for effective teaching and learning. Learners and teachers are

increasingly utilising blended learning within mainstream educational settings. Sife, Lwoga and Sanga (2007:57-65) emphasised that blended learning provides great opportunities for HEIs to improve their learning and teaching practices and processes. The authors have also revealed that blended learning has not permeated many HEIs in developing countries. The researcher, who is a hospital-based Nurse educator and employed by a private hospital group in KwaZulu-Natal, has observed that nurse learners enrolled at private nursing colleges find it difficult to integrate theory and practice when they are placed in clinical settings such as the hospital environment. This could be attributed to poor understanding of course content leading to difficulty in integrating theory and practice (Wrenn and Wrenn 2009:258). The researcher, therefore acknowledges that this study was useful in determining whether nurse learners enrolled at private nursing colleges, and who are allowed to obtain their clinical competencies in a hospital setting, are adequately prepared for professional practice and the changing digital world of healthcare delivery.

1.4 AIM OF THE STUDY

The aim of this study was to therefore explore the practices regarding the use of blended learning as a teaching and learning strategy, in selected private nursing colleges in KwaZulu-Natal, South Africa.

1.5 THE OBJECTIVES OF THE STUDY

The objectives of the study were to:

- Determine the current teaching and learning practices used at private nursing colleges in KZN.

- Explore the perspectives of nurse educators and learners with regard to blended learning as a teaching and learning strategy at private nursing colleges in KZN.
- Identify and examine potential strategies to facilitate the use of blended learning and teaching strategies at private nursing colleges in KZN.

1.6 RESEARCH QUESTION

The study aimed to answer one broad research question which was:

What are the practices and perspectives of nurse educators and learners regarding the use of blended learning as a teaching and learning strategy at selected private nursing colleges in KwaZulu–Natal, South Africa?

1.7 SIGNIFICANCE OF THE STUDY

Based on the literature reviewed, the researcher concurs that blended learning can bring about enhancements in teaching and learning especially in the areas of critical thinking, motivating learners and enabling them to participate actively whilst providing an environment that can maintain their interest and enthusiasm (Sife, Lwoga and Sanga 2007:57-65). Nursing learners can, therefore, become familiar with the use of technologies that are deeply rooted in simulating real-life situations, helping them to take responsibility for their learning. blended learning is about creating congruence between the teaching and learning relationship and understanding the barriers to effective implementation of blended learning will assist with the creation of transformative environments in HEIs especially in view of the current information age (Bornman 2016:276).The researcher, therefore, envisages the findings of this study will determine whether blended learning and teaching practices are adequate to adapt to the changing digital world of

healthcare delivery. This in turn can contribute towards producing better-prepared nursing graduates, whilst fostering a positive practice nursing education environment.

1.8 RESEARCH METHODOLOGY

This study has utilised a qualitative, exploratory, descriptive design to collect data from learners and nurse educators through semi-structured interviews held at selected private nursing education institutions. In this study, the perceptions of nurse educators and learners regarding blended learning were explored. Data was analysed using Tesch's eight-step qualitative data analysis.

1.9 THEORETICAL UNDERPINNING OF THE STUDY

Singh's Blended Learning Framework (Singh 2003:51), which was adapted from Badrul Khan's 2001 e-Learning Framework, was used to guide this study. The study focused on the eight dimensions of the Blended Learning and E-Learning framework, and the application of this framework to the study.

1.10 STRUCTURE OF THE DISSERTATION

Table 1.1 Structure of the dissertation.

Chapter	Title	Outline
1	Overview of the study.	Introduces and provides an overview of the study by identifying the topic of inquiry, research questions, and study aims. Background information on blended learning is provided to highlight the importance of the topic and justify this study.
2	Literature review	Presents a review of relevant literature about blended learning. The literature reviewed highlights the global use of blended learning and factors facilitating the use of blended learning.
3	Theoretical framework	Presents the theoretical framework that guides this study.
4	Research methodology.	Provides a detailed description and rationale of the study methodology. The study population, sample, data collection, and data analysis methods are further described.
5	Presentation of findings.	Presents the results on the use of blended learning as per participant's views.
6	Discussion of findings.	Discusses the findings of the study in relation to interviews by reviewing and interpreting data obtained. The limitations and strengths of the study are also identified in this chapter
7	Conclusions, limitations recommendations	Conclusions drawn from the findings are presented. Recommendations are made in relation to the key findings of the study

1.11 SUMMARY OF THE CHAPTER

The introductory chapter provided a background to the study and its research problem whilst contextualising blended learning. The chapter presented the aim and objectives of the study, the research question formulated to address the objectives, as well as the significance of the study. Chapter two will provide a review of relevant literature pertaining to blended learning.

CHAPTER 2: LITERATURE REVIEW

2.1 PURPOSE OF THE LITERATURE REVIEW

The introduction to and background of the study was discussed in the previous chapter. This chapter presents the literature review surrounding the use of blended learning in the undergraduate nursing student curriculum. A comprehensive literature search has been done to adequately contextualise blended learning, research gaps in the literature regarding the effectiveness of blended learning and establish how private nursing college nurse educators and learners feel about the use of blended learning as a mode of teaching and learning. The search allowed the researcher to find a gap in the blended learning approach to teaching and learning. While most of the literature is directed towards HEIs, and mainly universities, this study is focused on the private nursing colleges in the KZN region.

Searches on blended learning included dissertations, theses and peer-reviewed articles published in the English language. Databases such as DUT Open Scholar, Google Scholar, ProQuest Central, Science Direct, Researchgate and Wiley Online Library Journals were also used during searches for the study. This chapter begins with the introduction of blending learning and proceeds to outline the potential for blended learning to address the current challenges faced in teaching and learning.

2.2 INTRODUCTION TO BLENDED LEARNING

Historically, there have been two common modes of e-learning delivery. These were distance learning that was utilised for learners at remote locations from the central site and computer-assisted instruction which consisted of the use of

information mainly from computers to deliver instructions (Al-Huneiti 2014:32). Computers also assisted in the delivery of stand-alone multimedia packages (Al-Huneiti 2014:32). According to Ma'arop and Embi (2016:42), blended learning is becoming a newly emerging trend in higher education as it combines the best of synchronous and asynchronous learning approaches. Moore, Dickenson-Deane and Galyen (2011:129) add that the world is bearing witness to many developments and changes, led by ICT. Online and blended learning in the 21st century has well surpassed the early forms of distance education which were based on correspondence-type courses, video conferencing and educational television programmes. Kiviniemi (2014:1-7) noted that the use of online learning in HEIs has continued to expand leading to new and innovative methodologies in teaching and learning. There is the continuous evolvement of the higher education setting, into a technologically rich environment to align itself with a technologically-minded generation. The rapid development of technology, communication and information, especially the internet, has resulted in a demand for teachers to be able to use it as a source of positive learning media to support the teaching and learning process. The use of media technology provides benefits for both teachers and learners to access the materials and interaction face-to-face conventional learning, but also outside the classroom through an online platform (Zainuddin and Keumala 2018:69).The introduction of technology into education allows nurse educators more flexibility in the modes of teaching and it supports a more student-centered approach where students are allowed to progress at their own pace (Beukes 2018:1).

2.3 THE CONCEPT OF BLENDED LEARNING

Learning is a process that leads to change, which occurs as a result of experience and increases the potential for improved and future learning (Ambrose, Bridges, DiPietro, Lovett and Norman 2010:3). Learning is intimately linked to student engagement and specifically to academic and cognitive

engagement (Beukes 2018:86). Traditional classroom instruction is expensive and offers little flexibility for the student or nurse educator when scheduling and classroom availability often determines presentation time and methods used in the conventional course of instruction (Washington 2016:17). E-learning, online learning, hybrid and blended learning are methods of instruction that incorporate both synchronous and asynchronous computer-mediated communication methods (Washington 2016:17).

2.3.1 Asynchronous e-learning

Hrastinski (2008:51-52), defines asynchronous e-learning as learning that is commonly facilitated by media such as e-mail and discussion boards, supports work relations among learners and with teachers, even when participants cannot be online at the same time and that it is thus a key component of flexible e-learning. Due to their asynchronous nature, many people take online courses because it allows them to combine education with work, family, and other commitments (Hrastinski 2008:51-52).

Hrastinski(2008:51-52) further states that asynchronous e-learning makes it possible for learners to log on to an e-learning environment at any time and download documents or send messages to teachers or peers. Students may spend more time refining their contributions, which are generally considered more thoughtful compared to synchronous communication.

2.3.2 Synchronous e-learning

Hrastinski (2008:52) describes synchronous e-learning as that which is supported by media such as videoconferencing and chat and which has the potential to support e-learners in the development of learning communities.

Learners and teachers experience synchronous e-learning as more social and avoid frustration by asking and answering questions in real-time. Hrastinski (2008:52) highlights that synchronous sessions help e-learners feel like participants and becoming a part of a community rather than isolated individuals communicating with a computer.

Blended learning is both simple and complex. Garrison and Kanuka (2004:96) state that at its simplest, blended learning is the thoughtful integration of classroom face-to-face learning experiences with online learning experiences. The authors add that blended learning includes the concept of integrating the strengths of synchronous (face-to-face) and asynchronous (text-based internet) learning activities. There is also considerable complexity in its implementation with the challenge of virtually limitless design possibilities. It is important to first distinguish blended learning from other forms of learning that incorporate online opportunities which include enhanced classroom or fully online learning experiences. While e-learning courses take place online and online-only, technology takes a supporting role in blended learning.

The term blended learning has been used since the year 2000 (Bliuc, Goodyear and Ellis 2007:231). Blended learning emerged as one of the most popular pedagogical concepts in higher education at the beginning of 2000 (Halverson, Graham, Spring, Drysdale and Henrie 2014:3). According to Mackinven (2015:8), blended learning has been suggested as having the potential to transform tertiary education through its ability to provide flexible learning options, cost reductions and high-quality educational experiences. The term blended learning has taken precedence over the initial labels of 'mixed mode learning', 'hybrid learning', 'combined learning' (Moskal, Dzuiban and Hartman 2013:17) and 'integrated learning' (Verkroost *et al.* 2008:501).

In its broadest sense, there is general agreement that blended learning is the combination of traditional, face-to-face and technology-mediated learning (Graham, Woodfield and Harrison. 2013:4). Most definitions of blended learning

include the utilisation of online media. Mortera-Gutiérrez (2006:313) provides a list of the most used elements within blended learning situations which includes collaborative software, threaded discussions, online testing, video-conferencing, audio-conferencing, virtual classrooms, e-mail-based communication, e-learning platforms, discussion boards, chat rooms and computer conferencing. Bodie, Fitch-Hauser and Powers (2006:120) argue that blended learning refers to a method of instruction that utilises two or more complementary approaches to teach the same material. When instructors use traditional lectures combined with activities, discussions, online modules, and/or textbook supplements, blended learning is being used.

Verkroost *et al.* (2008:501) define blended learning as the total mix of pedagogical methods, using a combination of different learning strategies, both with and without the use of technology. The authors' further state that blended learning does not necessarily involve an online component since it is viewed as the total mix of pedagogical methods, using a combination of learning strategies, both with and without the use of technology. Zainuddin and Keumala (2018:70) agreed that technology played a very important role, because it facilitates communication between fellow learners, as well as between learners and teachers outside the classroom and if utilised adequately, it will contribute greatly to the development of education. When instructors use traditional lectures combined with activities, discussions, online modules, and/or textbook supplements, blended learning is being used.

McCutcheon *et al.* (2015:225) explain that blended learning combines face-to-face teaching methods with online learning platforms. According to Boelens, van Laer, De Wever and Elen (2015:1), blended learning can be defined as learning that happens in an instructional context and is characterised by a deliberate combination of online and classroom-based interventions to instigate and support learning. Boelens *et al.* (2015:1) further state that learning happening in purely online or purely classroom-based instructional settings is excluded. Osgathorpe

and Graham (2013:227) defined blended learning as the combination of face-to-face with distance delivery systems so that the benefits of face-to-face and online methods can be maximised. Graham and Dziuban (2007:270) define blended learning as combining instructions from two historically separate models of teaching and learning which include traditional face-to-face systems and distributed learning systems. The authors further emphasise the central role of computer-based technologies in blended learning. Based on these definitions of blended learning, it is clear that face-to-face learning includes instruction that is conducted face-to-face in the traditional learning environment and online learning makes allowance for learners to access and utilise learning material alone or in the presence of lecturers, instructors and peers.

For this study, blended learning is defined as systems combining face-to-face and computer-mediated instruction. Blended learning is about a mixture of instructional modalities, delivery media, instructional methods and web-based technologies (Bonk and Graham 2006:3). Blends of instructional modalities usually include a balanced mixture of onsite, web-based, and self-paced learning. Adult learning principles and advances in technology collectively point to blended learning as the increasingly finest method for workplace learning (Dzakiria, Don, Abdul Rahman and Abdul Rahman 2013:126).

There are numerous factors to consider with the application of a blended learning approach. According to Khan (2001:77) and Singh (2003:53), these factors are interrelated and interdependent. Khan (2001:78) states that a systematic understanding of these factors will enable designers to create meaningful distributed learning environments and that an e-learning system should not only be meaningful to learners, but also to all stakeholder groups which includes instructors, support services staff and the institution. Blended learning combines multiple delivery media that are designed to complement each other and promote learning and application-learned behavior (Singh 2003:51).

2.4 LEARNING APPROACHES AND CHOICES

Blended learning is one of the methods of learning in this knowledge age, where teachers accept the role as facilitators, motivators, mentors, and consultants. This blended method of teaching and learning encourages students to learn openly, be flexible and learn to solve problems critically (Zainuddin and Keumala 2018:71). A live, collaborative learning environment depends on dynamic communication between learners that fosters knowledge sharing (Singh 2003:54) as seen in Table 2.1.

Table: 2.1 Synchronous and asynchronous formats for blended learning

Synchronous physical formats	Instructor-led classrooms and lectures
	Hands-on labs and workshops
	Field trips
Self-paced, asynchronous formats	Web/computer based training modules
	Assessments/tests and surveys
	Simulations
	Job aids and electronic performance support systems (EPSS)
	Recorded live events
	Online learning communities and discussion forums
	Distributed and mobile learning
Synchronous online formats (live e-learning)	Virtual classrooms
	Web seminars and broadcasts
	Coaching
	Instant messaging
	Conference calls

Source: (Singh 2003:51-54)

Synchronous discussions benefit students who are shy and who may not participate collaboratively within the traditional classroom. It also results in fast and efficient exchanges of ideas. This learning model aims to change the culture of learning, from teacher-centred learning to student-centred learning. Learning activities are conducted actively and interactively and are therefore more practical than listening to passive lectures in the classroom (Zainuddin and Keumala 2018:71).

2.5 FACTORS TO CONSIDER WITH BLENDED LEARNING APPROACHES

Factors such as communication, assignments and activities, the flipped classroom, learning styles, the nurse educator and the student need to be considered with blended learning approaches.

2.5.1 Communication

Interaction is at the core of the learning experience and is widely cited as a defining characteristic of successful learning in both traditional and online learning environments (Picciano 2002:21). Communication also affects students' motivation and learning outcomes. Strategies for creating dynamic discussions serve to facilitate online interactions among diverse learners and assist in designing assignments for effective interactions (Du, Harvard and Li 2005:207). Sometimes students can feel alienated in a face-to-face class as they do not feel part of a group. Introverts are seldom willing to participate in class or group activities. Online synchronous and asynchronous discussions assist by eliminating these negative aspects. In the blended learning environment, students are required to take more responsibility in the learning process, while the instructor acts as a facilitator (Du, Havard and Li 2005:211).

2.5.2 Assignments and activities

With the integration of interactive activities and inquiry-based learning pedagogies within online courses, students may be stimulated to use higher-order skills and increase their engagement and satisfaction in the course (Du, Havard and Li 2005:211). Participation in online learning activities strengthens student competence in computer skills which prepares them for the real world. The new generation is highly social and engaged in social networking, thus the use of online discussions and learning is more appealing to them. Blended learning offers the potential for self-paced learning, increased retention and better control over learning material (Ayandiran 2016:57).

2.5.3 The flipped classroom

Blended learning includes using a flipped classroom where students are given the opportunity to learn the study material before class. This is done by providing them with the necessary knowledge, through short online videos, case-based learning, Compact disc read-only memory (CD ROMs) and literature. They are then able to apply this information during class under the guidance of the nurse educator (Prescott, Woodruff, Prescott, Albanese, Bernhardi and Doloresco 2016:177). This approach stimulates interaction in the classroom as students already have a general idea of what is being taught. Ayandiran (2016:57) states that blended learning will bring about a synergistic effect of their benefits on teaching and learning. Using the flipped classroom in the blended learning approach can encourage active learning and results in improving learning outcomes, particularly in large cohorts that include poor attendance and low-level engagements by unprepared students (Ayandiran 2016:58).

2.5.4 Learning styles

Kolb (1984:38) as cited in Healey and Jenkins (2000:2) highlighted that learning is the process whereby knowledge is created through the transformation of experience. Kolb (1984:38) further states that learning involves the acquiring of abstract concepts that can be flexibly applied in a range of situations. In Kolb's theory, the driving force for the development of new concepts is provided by new experiences. McLeod (2010:3) states that Kolb's learning stages could be used by teachers to critically evaluate the learning provision typically available to students, and to develop more appropriate learning opportunities. Nurse educators should ensure that the designed activities are carried out in ways that offer each learner the chance to engage in the manner that suits students best. Learning styles are later explained in this chapter in Section 2.10.

2.5.5 The nurse educator

Nurse educators play a critical role in the blended learning environment and are continually seeking effective strategies to enhance their students' learning and encourage and promote their critical thinking abilities (Larsen 2012:39). With the internet being the most accessed technology in the world (Li, Tsai, Tao and Lorentz 2005:245), nurse educators can provide curriculum content in different teaching styles and from different environments. Young (2008:176) mentions that unless there is strong faculty and administrative support to ensure that teaching personnel obtain continuous professional development and training in teaching and technology, learner outcomes could be seriously compromised. Coryell and Chlup (2007:272), in their survey of adult English language learner programmes across the United States, discovered that nurse educators were found to need not only technical support, but also professional development in areas such as hardware, software, technical troubleshooting and integration strategies for instruction. Vaughan (2007:86) states that blended learning has also been

viewed as having the ability to improve student understanding of content by reaching students via their differences in learning styles. Nurse educators have the opportunity to personalise their teaching strategies. Nurse educators, at the universities included in a study conducted by Vaughan (2007:86), found that students are more engaged in learning when the blended online learning approach is used. They also state that there is enhanced interaction which is of a higher quality than in the typical face-to-face classroom. Blended learning has shown that there are high levels of satisfaction by both nurse educators and learners. Larsen (2012:43) found that the nurse educator's attitude towards teaching in a blended learning environment is closely connected to the issue of nurse educator training and support. The author concludes that this blending in the learning environment together with the required support, does not only mean that the students may be able to learn the same materials faster, but that it may also have a positive effect on learner autonomy and learner perceptions about the course.

2.5.6 The learner

Learners are generally positive about their experiences of blended learning as it increases accessibility to educational materials (at a time and place chosen by the student), personalised instruction to tailor education to individual student needs and standardisation of content (Vaughan 2007:84). Blended learning has proven potential to enhance both the effectiveness and efficiency of meaningful learning experiences.

The evidence is that learners achieve as well, or better, on exams and are satisfied with the approach of blended learning (Garrison and Kanuka 2004:100). Larsen (2012:41) found that learners with higher computer literacy skills were more likely to have a positive attitude towards the use of computer-assisted learning. Gunasekaran, MacNeil, and Shaul (2002:45) state that using

technology in both classroom and distance learning will produce advantages such as improved quality of learning, improved access to education and training, reducing the costs of education and improving the cost-effectiveness of education.

In a study conducted by Protsiv, Rosales-Klitz, Bwanga, Zwarenstein and Atkins (2016:160-170), students found the main benefit of blended learning course design to be the various forms of flexibility as compared to the traditional face-to-face teaching. Another benefit noted was affordability where students do not have to be in a classroom but can engage in synchronous online learning. This refers to students engaging in online learning at the same time, where instant messaging and feedback are given. This study also revealed that students reported that they were highly motivated and actively engaged throughout the blended learning course.

A study conducted by Song, Singleton, Hill and Koh (2004:61) reported that learners experienced challenges such as a lack of a sense of community and/or feelings of isolation during online learning experiences. Other challenges experienced by students were that they felt there was a lack of immediacy in responses in the online context in comparison to what could typically occur in a structured face-to-face class discussion. Larsen (2012:36-39) states that learners feel inexperienced and fearful towards using technology, but when nurse educators ensure that technology and online materials are well integrated into the course, it makes the online course content user-friendly.

2.6 BLENDED LEARNING IN HIGHER EDUCATION

HEI's have the role to ensure that student nurses receive a good correlation of theory and practice to meet their learning outcomes as indicated on their programme (Bruce, Klopper and Mellish 2011:284). There should be a congruency between theory and practice.

An examination of the root causes of the education system's insufficient capacity to meet undergraduate educational needs revealed four major barriers:

- The aging and shortage of nursing faculty;
- Insufficient clinical placement opportunities of the right kind or duration for prelicensure nurses to learn their profession;
- Nursing education curricula that fail to impart relevant competencies needed to meet the future needs of patients and to prepare nurses adequately for academic progression to higher degrees; and
- Inadequate workforce planning, which stems from a lack of the communications, data sources, and information systems needed to align educational capacity with market demands (Institute of Medicine of the National Academies 2011:179).

The approach to utilising the e-learning and blended learning methods has proved to have positive benefits at higher educational institutions. According to Armstrong and Rispel (2015:2), there is a convergence of ideas that these challenges could be overcome through the transformative scale-up of medical, nursing, and midwifery education.

Van der Merwe, Bozalek, Ivala, Nagel, Peté and Vanker (2015:13) expressed the following in an unpublished research article:

In the Cape Town area, the four HEIs have collaborated in developing professional development short courses on using emerging technologies to improve teaching and learning. Another collaborative initiative across three HEIs in the Western Cape has been the design, development and implementation of a Postgraduate Diploma in Higher Education Teaching and Learning. One of the elective modules focuses on teaching with technologies. This initiative is in the process of being taken further to ten HEIs in South Africa, who will collaborate on

sharing resources for postgraduate diplomas in teaching and learning through a common platform.

On an informal level, as part of priority training short courses at the University of Pretoria, lecturers may attend training in the Learning Management Systems (LMS) and a course on the facilitation of e-learning. Many universities offer this type of in-house professional development.

The Durban University of Technology (DUT) has been offering a course in web-based learning and teaching to its staff for some ten years. For a participating academic, the course of 120 notional hours results in a piloted online course and conference paper. Popularly known as Pioneers Online, the course is designed to equip participants with design, facilitation and research skills into web-based learning. Successful candidates obtain a university short course certificate (Van der Merwe *et al.* 2015:13). Owing to Pioneers Online being rooted in the communities-of-practice philosophy, and due to courses and projects such as Induction, Curriculum Renewal and General Education that have run in tandem, DUT now has an established culture of teaching innovation.

According to Washington (2016:4), HEIs have been slow to adopt or settle on the blended learning instructional method and that are now faced with the academic challenge of defining a quality blended learning experience in higher education. Access, flexibility, cost-effectiveness, and a student-centred pedagogy are important considerations for HEIs hoping to capture the 21st-century student (Washington 2016:16). There is an emphasis on student retention and institutional resources which includes the need to manage technology resources more effectively (Washington 2016:15). The author explains that maintaining high levels of educational satisfaction with the learning experience creates a new competitive benchmark for many universities today, while government support decreases and student levels fluctuate.

In South Africa, there has been a gradual development of integration and usage of ICT in higher education (Beukes 2018:61). Although South Africa has become part of the mobile miracle where smartphones with internet access are more readily available, this has not realised the expected increase in ICT usage in education (Bornman 2016:276). South Africa has seen steady growth in the use of technology in education; however, students' development of skills has progressed at a much slower rate, due to a digital divide that is the result of limited access to computers, and therefore a slow development of the internet skills (Beukes 2018:64). Rose (2020:E1) states that the COVID - 19 pandemic has created unprecedented times. The pandemic precludes students from gathering in learning studios, lecture halls, or small-group rooms, which has forced faculty to respond by a quick transition of the curriculum to online formats. Examinations have also transitioned to online settings. Toquero (2020:4) concluded that the global COVID -19 pandemic opened up opportunities to upgrade educational modes of delivery and transfer attention to emerging technologies. Toquero (2020:5) adds that higher education institutions need to seize the opportunity to strengthen evidence-based practices and make the curriculum responsive to the needs of the changing times.

2.7 COVID -19 AND BLENDED LEARNING

Dhawan (2020:5) emphasises how COVID - 19 challenged the education system across the world and forced nurse educators to shift to an online mode of teaching overnight, while it forced many schools and institutions to remain closed temporarily. The author added that online learning is no more an option, but a necessity. While the COVID - 19 outbreak quickly snowballed into a global pandemic, nursing departments placed much effort to find relevant ways in which to use the available technology and create innovative and flexible education methods based on blended learning, since most formal education was suspended. E-Learning and blended learning-enabled nursing students to

continue their education by studying at home (Ozdemir and Sonmez 2020:4). Cahapay (2020:3) found that the COVID -19 global outbreak evidently redefined the approaches to instructional implementation and that education systems are required to not only contemplate opportunities but also challenges, in the process. The COVID - 19 outbreak has affected nursing students as much as any other student group, but the result of the unexpected virtual educational environment gives rise to concern that the nursing students may be disadvantaged in their professional lives when they graduate (Ozdemir and Sonmez 2020:2). Ozdemir and Sonmez (2020:7) concluded with findings that nurse educators are to ensure that nursing students receive the best education possible through e-learning especially since their training requires learning practical skills. The use of the blended learning methodology empowers nursing students to acquire practical skills that are of great help for nursing work in real intervention environments (Sáiz-Manzanares, Escolar-Llamazares, and González 2020:11).

2.8 CURRENT TRENDS IN NURSING EDUCATION

The primary goals of nursing education are that nurses must be prepared to meet diverse patients' needs, function optimally as leaders, and advance science that will benefit patients, as well as improve the capacity of health professionals to deliver safe, quality patient care (Institute of Medicine of the National Academies 2011:27). Major health system changes will require equally profound changes in the education of nurses to prepare them for new and transformed roles and responsibilities (Institute of Medicine of the National Academies 2011:28). Nurses have the potential to bridge the gap between communities and the healthcare system, coordinate care for patients with disease profiles that are becoming increasingly complex, and improve achieving the goal of universal health coverage (Armstrong and Rispel 2015:1), but this is most often undermined by

the poor transition from novice to professional nurse due to their lack of retained knowledge.

The knowledge received during the undergraduate study should be retained and utilised critically during the provision of healthcare in the practical environment, however, there remains a shortage of nurses in South Africa and many do not meet the requirements for undergraduate study at the university level, even though they are keen on pursuing a career in the nursing field (Oulton 2006:34S). There are varied causes for this nursing shortage, but they can also be complex, and far-reaching. Several factors exacerbate this shortage, but a key difference in today's shortage is that there are both supply and demand issues (Oulton 2006:34S). Student completion and retention have become a major concern for higher education institutions, not only in South Africa but also in most parts of the world (Essa 2011:253). Private nursing colleges play a key role in attracting students to the nursing education sector. They specifically provide an opportunity for students who may not have access to traditional university baccalaureate programs because of those programs' lack of enrollment capacity, distance, or cost (Institute of Medicine of the National Academies 2011:14). Essa (2011:256) states that student completion and retention rates have been adversely affected because of institutional factors, discouragement and inappropriate teaching and learning strategies. The author further states that communication is a factor that can enhance the retention of students and benefit teaching and learning. Zainuddin and Keumala (2018:71) add that blended learning establishes students' technological literacy, and information literacy, which can achieve meaningful learning experiences.

2.9 BLENDED LEARNING IN NURSING EDUCATION

A growing number of studies have been conducted on e-learning worldwide. Many of these studies have focused on identifying the key factors that explain the

differences of online education from face-to-face learning and analysing the advantages and disadvantages of online courses or strategies developed to achieve a suitable online learning environment (Alkhalaf, Drew and Alhussain 2012:99). New ICTs provide nurse educators and learners with a learning environment that is innovative to stimulate and enhance the teaching and learning process (López-Pérez, Pérez-López and Rodriguez-Ariza 2011:818). The past ten years have brought new educational delivery processes like e-learning to the forefront through the growth and improvement of information technology and the Internet (Haverila 2011:1).

The complexity surrounding reforms in nursing education and the feasibility/rationality of expanded use of blended e-learning in nursing education in any country cannot be done in isolation of the general polity and reforms of the country's educational system (Ayandiran 2016:26). Innovative advances in the healthcare system in the 21st century demands that nursing as a profession should prepare practitioners who are well equipped to meet the challenges of care within the context of a complex milieu. This is only plausible by a thoughtful, systematic and sustained continuing education and professional development of nurses that is consistent with global reforms and educational policy of the country (Ayandiran 2016:28).

Ahmed Mersal and Ahmed Mersal (2014:1037) report that nurse educators and students have an enormous opportunity to engage in exciting and innovative learning experiences. Studies conducted using blended learning show that the outcomes are more positive than traditional only methods.

According to McMullen, Jones and Lea (2011:428), the study revealed that the e-drug calculations video was more effective in teaching drug calculation abilities than the traditional handout method. It did, however, also reveal that there were no significant differences in individuals' confidence between the two groups' drug calculation abilities.

The hand washing skills study by Bloomfield, Roberts and While (2009:294) reported that after eight weeks, the Computer Assisted Learning (CAL) group showed higher scores in skill than those in the traditional learning. CAL was effective in teaching both theory and practice of hand washing skills in nursing students.

Gerdprasert, Pruksacheva, Panijpan and Ruenwongsa (2010:464-469) report on a study that was conducted where CAL multimedia material on vital signs was used, due to a disproportionate shortfall of faculty members in nursing schools to the increasing number of nursing students. It was found that all second-year undergraduate students in two comparable schools gained significantly higher performance skills regardless of whether the groups were subjected to CAL/lecture or CAL/lecture/demonstration. However, they did not gain factual knowledge.

According to Keefe and Wharrad (2012:66-72), nursing students who participated in an e-learning intervention on pain management showed a significant improvement in knowledge retention. In the study by Durmaz, Sarikaya, Cakan and Cakir (2012:196-203), nursing students who completed screen-based computer simulation training for pre- and post-operative care management compared to those in a skills laboratory, had similar results. No significant skills differences in practical deep breathing and coughing exercise education were noted, but there was a significant difference in terms of the complex skill of admission of the patient in the surgical clinic after surgery, which was attributed to students being able to repeat the lesson as many times as needed in the computer-based simulation.

Prescott *et al.* (2016:176) found that the blended learning model was associated with improved academic performance and was well received by students. This study used the blended learning model composed of a flipped-classroom format that integrates team-based learning and case-based learning to teach patient assessment skills to first-year pharmacy students.

In a study conducted by Owston, York and Murtha (2013:38-46), the perceptions of 577 students to a blended course in relation to their in-course achievement was assessed. The student perceptions were assessed in four areas: overall satisfaction with blended learning, the convenience afforded by blended learning, sense of engagement in their blended course, and views on learning outcomes. The results concluded were that high achievers were the most satisfied with their blended course and they found the course more convenient and more engaging. Compared with low achieving students, high achievers preferred the blended format over fully face-to-face or fully online modes.

2.10 ADVANTAGES OF BLENDED LEARNING

2.10.1 Increased learner engagement

Social media and other interactive online learning technologies are widely used by students entering HEIs today (Washington 2016:14). A blended learning platform enables teachers and trainers to direct trainees into a continuous loop of activities, feedback, interaction--using course materials and activities in ways that otherwise may not be possible in a purely face-to-face learning environment (Owston, York and Murtha 2013:38-46). Blended instruction has been found to have several positive effects on classroom dynamics and intellectual interaction (Larsen 2012:21). In a study of 450 students Larsen (2012:22), states that an increase in student preparedness led to a better understanding of course content. This included a successful mix of the ANGEL LMS and detailed study guides for the students to use the course's online and paper-based materials. Bowyer (2017:17) highlights that a benefit of blended learning is the opportunity for peer and tutor interaction through online discussion, which can be either asynchronous (such as discussion boards) or synchronous (such as instant messaging). Al-Huneiti (2014:33) states that a well-designed e-learning course can motivate learners to become more engaged with the content and it should

demonstrate an increased retention rate integrated with better utilisation of content, which results in better achievement in attitudes, skills and knowledge of the course. Ayandiran (2016:14) highlights that the development and subsequent adoption of e-learning in the education of nurses as intended by the study, promises to promote, foster and facilitate critical thinking, diversity, collaboration and evidence-based practice.

2.10.2 Flexibility and access

There is a significant shift in higher education and knowledge delivery due to student population demographic changes, the cost of education and the increasing use of technology which demands that HEIs focus more on flexibility and versatility in the learning environment (Washington 2016:10). Larsen (2012:22) states that the blended learning approach provides ultimate flexibility in presenting content by mixing face-to-face and online materials so that they can conduct both face-to-face and online discussions. Complex topics can be presented in the classroom, while other subject matter can be available online. It enables the student to access the materials from anywhere at any time. In the study conducted by Vaughan (2007:84), students preferred the blended learning design as it provided them with the flexibility to work from home. Al-Huneiti (2014:33) confirms this by stating that the key positive features of e-learning are that it allows learners to access the study material at their own place, speed and time.

2.10.3 Cost-effective training strategy

Al-Huneiti (2014:33) states that the incorporation of more and better online options in the blended learning programme, it not only saves the traveling cost but also the cost of missed work. This means, that as the events of a training

programme are integrated in an online setup, it not only eliminates the limitations of time and place but also reduces travel cost for both the instructor and the participants. Another advantage for the use of e-learning is that the learning module can be pre-packaged and therefore spread over computer networks at a low cost to large numbers of learners (Al-Huneiti 2014:34).

Mackinven (2015:9) notes that blended learning offers tertiary institutions opportunities to reduce costs through automated assessments, shared resources, staffing substitutions and the improved administration of large courses through learning management systems. Vaughan (2007:90) found that the largest cost savings are suggested to be realised via blended learning models which reduce seat time thereby reducing space requirements and operating costs.

2.10.4 Effectiveness of blended learning in higher education

Blended learning is consistent with the values of traditional higher education institutions and has the proven potential to enhance both the effectiveness and efficiency of meaningful learning experiences (Garrison and Kanuka 2004:104). Blended learning offers the opportunity to provide learning experiences that take advantage of the strengths of the face-to-face and technology-mediated environments whilst avoiding their weaknesses (Donnelly 2010:354). Mackinven (2015:8) found that the positive influence of blended learning can also be extended to science disciplines, where blended approaches can assist with visualisation in molecular subjects, conceptual understanding, problem-solving ability, attitude to science and development of scientific laboratory skills.

2.10.5 Application of technology

According to Mackinven (2015:10), blended learning necessitates reliable technological infrastructure and technology management which is forward-thinking and scalable. Mackinven (2015:10) adds that the blended learning technology breaks down the usual place and time boundaries for when and where teaching activities take place. Results from a study conducted by Gonzalez (2012:991) suggest that teachers who perceive themselves as having good computer skills would be more willing to incorporate e-learning in their study material. On the other hand, teachers who feel they do not have appropriate computer skills would be more reluctant to embrace e-learning in a significant way (Gonzalez 2012:991). Students gain confidence and competence in the use of technology, which helps prepare them for the technologically- rich work environment. Interactive technologies help students to increase their learning productivity, encourage a deeper approach to learning, promote the development of communication skills, and improve their understanding of course content (McCarthy 2010:738).

2.10.6 Learner learning styles

Ayandiran (2016:42) found that a lesson that emerged from the various learning theories of the study was that people learn differently and that there is no unified way of acquiring knowledge. Students can also learn through a variety of activities that apply to their individual and different learning styles (Ayandiran 2016:42). In a study done by Mackinven (2015:73), it was highlighted that students gave different responses to their preference for learning and being taught. Some students preferred lectures while others did not. Those that preferred the lecture method also stated that they enjoyed discussion-based, small group tutorials, while others preferred a mixture of learning experiences with visual learning material. Ayandiran (2016:42) states that there are different kinds of learners: the immature or young learners who call on the use of

structured pedagogical principles of learning, while the mature or adult learners prefer the more flexible andragogical approach.

Keefe (1982:44) defines learning styles as cognitive, affective and physiological traits that serve as relatively stable indicators of how learners perceive, interact with, and respond to learning environments. According to Keefe (1982:44):

- The cognitive component of learning styles involves information processing which is the learner's typical mode of perceiving, thinking, problem-solving and remembering.
- The affective component involves motivation which is viewed as the learner's typical mode of arousing, directing and sustaining behaviour.
- The physiological component involves the characteristic learning behaviours of the human body, modes of responses that are founded on sex-related differences, personal nutrition and health, and reaction to the physical environment.

Surjono (2011:2351) states that the Visual, Auditory and Kinesthetic (VAK) learning styles model suggests that most people can be divided into one of three preferred styles of learning. These three styles are as follows:

- Auditory (A) Learners: These learners prefer to absorb information by listening. They learn best from listening to lectures, participating in discussions and talking things out. When they recall information, they will remember the way they heard it.
- Visual (V) Learners: These learners learn best when information is presented in pictures, tables, charts, maps or diagrams. Seeing and reading are important activities for visual learners.

- **Kinesthetic (K) Learners:** These learners learn best through feeling and doing. They prefer laboratory activities or field trips over classroom lectures. They like to be involved with physical experiences; touching, feeling, holding, doing, and practical hands-on experiences.

According to the VAK model, learners' learning style can be assessed in the form of questionnaires. The questionnaire comprises several questions about learner personality, attitude, and behaviour.

2.10.7 Effective learning experience

Ayandiran's study (2016:58) found that blended learning can encourage active learning and results in improved learning outcomes. The study further mentions that the blended learning approach does not only facilitate and enrich the delivery of learning content with resultant efficiency in the transfer of knowledge, but it also holds the potential to significantly impact the quality and reach of education in any setting.

2.11 DISADVANTAGES OF BLENDED LEARNING

2.11.1 Technical challenges

Kaur (2013:615) states that the technical challenges are not about getting technology to work on networks. Rather, they consist of ensuring the success of the programme by utilising and supporting appropriate technologies. Technical challenges include:

- Ensuring participants can successfully use the technology.
- Resisting the urge to use technology simply because it is available.

Vaughan (2007:87-88) found that the main challenges to the implementation of blended learning, as identified by nurse educators, included a lack of time to develop blended learning modules, perceptions that students were being fed material, lack of confidence that technology would work, and a lack of support and resources for course redesign. Technical challenges are present for both the nurse educator and the student and these include unsuitability of available computer technology, poor technological infrastructure, lack of internet access and personal computers, lack of skills in using blended learning methods, computer anxiety and ICT illiteracy (Al-Huneiti 2014:35).

2.11.2 Organisational challenges

Kaur (2013:615) reports that management often agrees that blended learning is the correct direction for training initiatives, but it fails to understand that this is a complex process that needs to be taught beyond an individual programme. Organisational challenges include:

- Overcoming the idea that blended learning is not as effective as traditional classroom training
- Redefining the role of the facilitator
- Managing and monitoring participant progress

The challenge for tertiary education institutions has been to position their institutions to take advantage of blended learning to meet growing expectations for higher quality learning (Garrison and Vaughan 2013:24). Institutional alignment can be challenging to achieve because many administrators are not familiar with this mode of teaching and learning, having not experienced it during their own education. As a result, they may find it inherently difficult to link blended

learning with institutional strategies and success (Moskal, Dzuiban and Hartman 2013:16).

2.11.3 Instructional design challenges

According to Kaur (2013:616), when learning technologies are introduced, attention is often paid to the technology implementation, while the design of the actual appropriate content is left with too little time and budget to create a successful programme. Instructional design challenges include:

- Looking at how to teach, not just what to teach
- Matching the best delivery medium to the performance objectives
- Keeping online offerings interactive rather than just “talking at” participants.
- Ensuring participant commitment and follow-through with “non-live” elements.
- Ensuring all the elements of the blend are coordinated

2.12 BLENDED LEARNING AND STUDENT PREPAREDNESS

Despite the rapid proliferation and increased popularity of e-learning at the university level, very little research appears to have been done on the preparedness or readiness of students for such learning environments (Parkes, Stein and Reading 2015:1). Blended learning depends on students’ capacities to adopt resilient learning strategies (Bowyer and Chambers 2017:18). The authors add that although literature suggests that blended learning may be a valuable tool that enables students to work independently and develop their study skills, individuals will eventually respond differently to this challenge.

Coopasami (2014:84) concluded her study on students' readiness for e-learning with the findings that for a smooth transition in implementing e-learning, each student should be equipped with proper equipment that will help facilitate this migration. According to a study by Coopasami, King and Pete (2017:305), the study participants fell into Chapnick's overall readiness "proceed with caution" category which included three aspects of the Chapnick model (psychological, equipment and technological readiness) due to time constraints. Massey, Byrne, Higgins, Weeks, Shuker, Coyne, Mitchell, and Johnston (2017:60) concluded a study by stating that online video exemplars may be an effective way to assist students to learn clinical skills and attain clinical skill competency benchmarks, thus setting them up to develop crucial skills for real-world practice. Parkes *et al.* (2015:2) identified that the various survey instruments described in the study showed that online readiness scales have tended to converge into two broad categories of personal qualities that can be used to predict e-learning readiness: technical skills and learner characteristics. It was, however, also found that from a practical perspective, the issue with online learning readiness scales is that while they may assess the readiness of students to be online learners, very few of these scales provide an assessment of the actual knowledge, skills and attitudes students require as online learners.

In a study conducted by Hales and Fura (2013:104), it was concluded that most of the students declared manageable proficiency levels in the use of ICT which supports the belief that they would be well equipped to apply such technologies in the course of study.

2.13 SUMMARY OF THE CHAPTER

This chapter has helped to contextualise blended learning and defined it simply as a mixture of online and face-to-face learning. In the literature, blended learning is also known as e-learning, online learning and hybrid learning

(Washington 2016:17). This chapter also highlighted the factors to consider and the advantages and disadvantages of using blended learning as a teaching and learning strategy. The chapter introduced the VAK questionnaire as a tool to assess learner learning styles which could impact the choice of blended learning and teaching methods used by learners and nurse educators respectively.

The following chapter will focus on the methodology employed in this study.

CHAPTER 3: THEORETICAL FRAMEWORK

3.1 INTRODUCTION

The previous chapter has helped to contextualise and define blended learning. The literature review has also highlighted the many terms used to define blended learning, such as e-learning, online learning and hybrid learning (Washington 2016:17). This chapter will concentrate on Singh's Blended Learning Framework (Singh 2003:51) as shown in Figure 3.2, which was adapted from Badrul Khan's 2001 E-Learning Framework model, also known as Khan's Octagonal framework (see Figure 3.1). The study focuses on the eight dimensions (see Figure 3.3) of the Blended Learning and e-Learning Framework and the application to the study.

3.2 THE IMPORTANCE OF A THEORETICAL FRAMEWORK

Eisenhart (1991: 205) defined a theoretical framework as a structure that guides research by relying on a formal theory, that is, a framework is constructed by using an established, coherent explanation of certain phenomena and relationships. Burns and Grove (2007:238) define a framework as an abstract, logical structure of meaning, such as a portion of theory, which guides the development of the study and enables the researcher to link the findings to nursing's body of knowledge. According to Polit and Beck (2017:121), the relationship between theory and research is reciprocal and mutually beneficial.

A framework is the overall conceptual underpinnings of a study. Not every study is based on a theory or conceptual model, but every study has a framework (Polit and Beck 2017:119)

3.3 THE FRAMEWORK FOR BLENDED LEARNING/E-LEARNING

The e-Learning framework was created by Badrul Khan, who holds a Doctorate in Instructional Systems Technology from Indiana University. In 1997, Badrul Khan asked himself, "What does it take to provide flexible learning environments for learners worldwide?" This was the seed, with which the e-Learning Framework began germinating (Khan 2001:77; Khan 2005:14). Khan (2001:77) further states that numerous factors are systemically interrelated and interdependent that creates meaningful learning environments. Khan (2001:76) aimed to design a framework that will help develop flexible learning environments and design meaningful e-learning/blended learning experiences. Khan's Blended e-Learning model is also called an Octagonal Framework of e-Learning according to the eight dimensions in the model (Figure 3. 3) which is a detailed self-assessment instrument for institutions to organise their evaluation of educational technology (e-learning) readiness and opportunities for growth.

According to Singh (2003:51), Khan's framework serves as a guide to plan, develop, deliver, manage and evaluate blended learning programmes. The author adds that organisations exploring strategies for effective learning and performance have to consider a variety of issues to ensure effective delivery of learning and thus a high return on investment.

The e-learning framework was adapted by Singh (2003:51) to focus on blended learning (see Figure 3.2). Harvey Singh is the founder of NavoWave (www.navowave.com), an e-learning and e-performance solutions company. Previously, he was Chief Technology Officer at Centra Software. The eight dimensions of the framework are shown below in Figures 3.1 and 3.2.

The researcher proposes the use of Singh's blended learning framework (Singh 2003:51) as shown in the Figure 3.1 below, and the study focuses on the eight dimensions of the blended learning and e-learning framework and how this framework applies to the study (Figure 3.3).

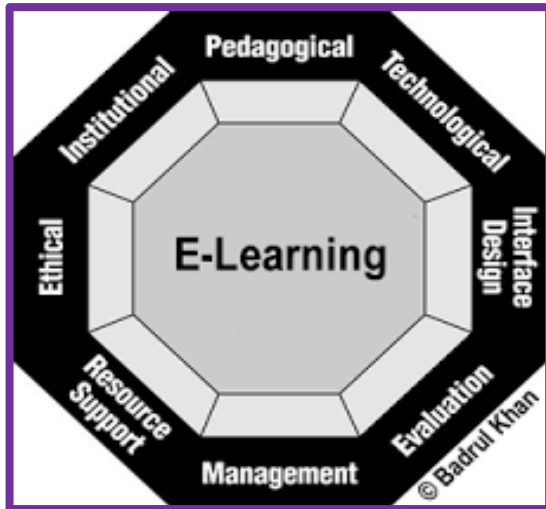


Figure 3.1: Khan's Octagonal Framework
Source : (Khan 2001:77)

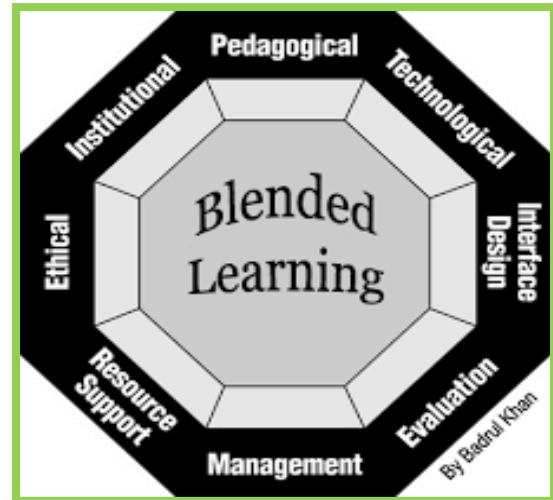


Figure 3.2: Singh's Blended Learning Framework
Source :(Singh 2003:51)

3.4 THE EIGHT DIMENSIONS OF KHAN'S OCTAGONAL FRAMEWORK

According to Singh (2003:52), each dimension in the framework represents a category of issues that need to be addressed. These issues help organise thinking and ensure that the resulting learning programme creates a meaningful learning experience. The dimensions and sub-dimensions of Khan's Octagonal Framework can be seen in Figure 3.3.

3.4.1 The institutional dimension

Having clear strategies for online learning which are supported by the institution's missions is vital for institutions of higher education (Khan 2001:92; Singh 2003:54). This dimension is concerned with issues of

- Administrative affairs (organisation and change, accreditation, budgeting, return on investment, information technology services,

instructional development and media services, marketing, admissions, graduation, and alumni affairs);

- Academic affairs (faculty and staff support, instructional affairs, workload class size, compensation, and intellectual property rights)
- Student services (pre-enrollment services, course and programme information, orientation, advising counseling, financial aid, registration and payment, library support, bookstore, social support network, tutorial services, internship and employment services, and other services) related to e-learning (Khan 2001:92-94).

Personnel involved in the planning of a learning programme could ask questions related to the preparedness of the organisation, availability of content and infrastructure and learners' needs (Singh 2003:54).

3.4.2 The pedagogical dimension

This dimension of e-learning refers to teaching and learning. According to Khan (2001:79), this dimension addresses issues concerning goals/objectives, content, design approach, organisation, methods and strategies, and medium of e-learning environments. Various e-learning methods and strategies include presentation, demonstration, drill and practice, tutorials, games, storytelling, simulations, role-playing, discussion, interaction, modeling, facilitation, collaboration, debate, field trips, apprenticeship, case studies, generative development and motivation (Khan 2001:79).

Singh (2003:54) states that the pedagogical dimension is concerned with the combination of content that has to be delivered (content analysis), the learner needs (audience analysis), and learning objectives (goal analysis). This dimension also encompasses the design and strategy aspect of e-learning (Singh 2003:54).

3.4.3 The technological dimension

Once the delivery methods that are going to be a part of the blend have been identified, the technology issues need to be addressed (Singh 2003:54). This dimension of the framework examines issues of technology infrastructure in e-learning environments. This includes infrastructure planning, hardware, and software used to create a learning environment and the tools to deliver the learning programme (Khan 2001:83). The most suitable learning management system (LMS) that would manage multiple delivery types and a learning content management system (LCMS) is also addressed in this dimension, which catalogs the actual content (online content modules) for the learning programme (Singh 2003:54). Technical requirements, such as the server that supports the learning program, access to the server, bandwidth and accessibility, security, and other hardware, software, and infrastructure issues are addressed in this dimension (Singh 2003:54)

3.4.4 The interface design

This dimension refers to the overall look and feel of e-learning programmes. It includes the page and site design, content design, navigation, and usability testing (Khan 2001:84). The design is critical in determining how learners interact with the presented information (Khan 2001:84). The interface design addresses factors of each element in the blended learning programme related to the user interface. It needs to support all the elements of the blend and be sophisticated enough to integrate the different elements of the blend (Singh 2003:54). This will enable the learner to use each delivery type and switch between the different types. The blended learning course includes studying online and attending a lecture and this should allow students to assimilate both the online learning and the lecture equally well (Singh 2003:54).

3.4.5 The evaluation dimension

This dimension for e-learning includes both assessments of learners and evaluation of the instruction and learning environment, which includes individual testing, participation in group discussions, questions and portfolio development (Khan 2001:85). Singh (2003:54) adds that the evaluation dimension is concerned with the usability of a blended learning programme. Singh (2003:54) further states that the programme should be able to evaluate how effective a learning programme has been as well as evaluate the performance of each learner. A blended learning programme requires the appropriate evaluation method to be used for each delivery type (Singh 2003:54).

3.4.6 The management dimension

This dimension of e-learning refers to the administration, maintenance and operation of the learning environment and distribution of information and it involves various individuals who are responsible for specific tasks and training (Khan 2001:87). Singh (2003:54) adds that the management dimension deals with issues related to the management of a blended learning program, such as infrastructure and logistics to manage multiple delivery types. Singh (2003:54) highlights that delivering a blended learning program is more work than delivering the entire course in one delivery type. Registration, notification, and scheduling of the different elements of the blend are also issues that the management dimension addresses (Singh 2003:54)

3.4.7 The resource support dimension

This dimension of the framework examines the online support (instructional/counseling support, technical support, career counseling services, other online support services) and resources (both online and offline) required to foster meaningful learning environments (Khan 2001:88).

Khan (2001:89) adds that all online resources should be limited to what learners require for specific tasks in the course. Singh (2003:54) states that the resource support dimension deals with making different types of resources (offline and online) available for learners as well as organising them. Resource support could also be a counselor/tutor, always available in person, via e-mail or on a chat system (Singh 2003:54).

3.4.8 The ethical considerations of e-learning/blended learning

This relates to social and cultural diversity, bias, geographical diversity, learner diversity, information accessibility, etiquette, and legal issues (policy and guidelines, privacy, plagiarism, copyright) (Khan 2001:89).

According to Singh (2003:54), the ethical dimension identifies the ethical issues such as equal opportunity, cultural diversity, and nationality that need to be addressed when developing a blended learning programme.

3.5 THE DIMENSIONS AND SUB-DIMENSIONS OF THE BLENDED LEARNING FRAMEWORK

The following diagram (Figure 3.3) depicts the researcher's presentation of the dimensions and sub-dimensions of the Blended Learning Framework with the student at the centre of the framework.

The framework design aims to help develop flexible learning environments and design meaningful e-learning/blended learning experiences. According to the eight dimensions in the model (Figure 3.3) is a detailed self-assessment instrument for institutions to organise their evaluation of educational technology (e-learning) readiness and opportunities for growth. According to Singh (2003:51), Khan's framework serves as a guide to plan, develop, deliver, manage and evaluate blended learning programmes. The author adds that organisations exploring strategies for effective learning and performance

have to consider a variety of issues to ensure effective delivery of learning and thus a high return on investment.

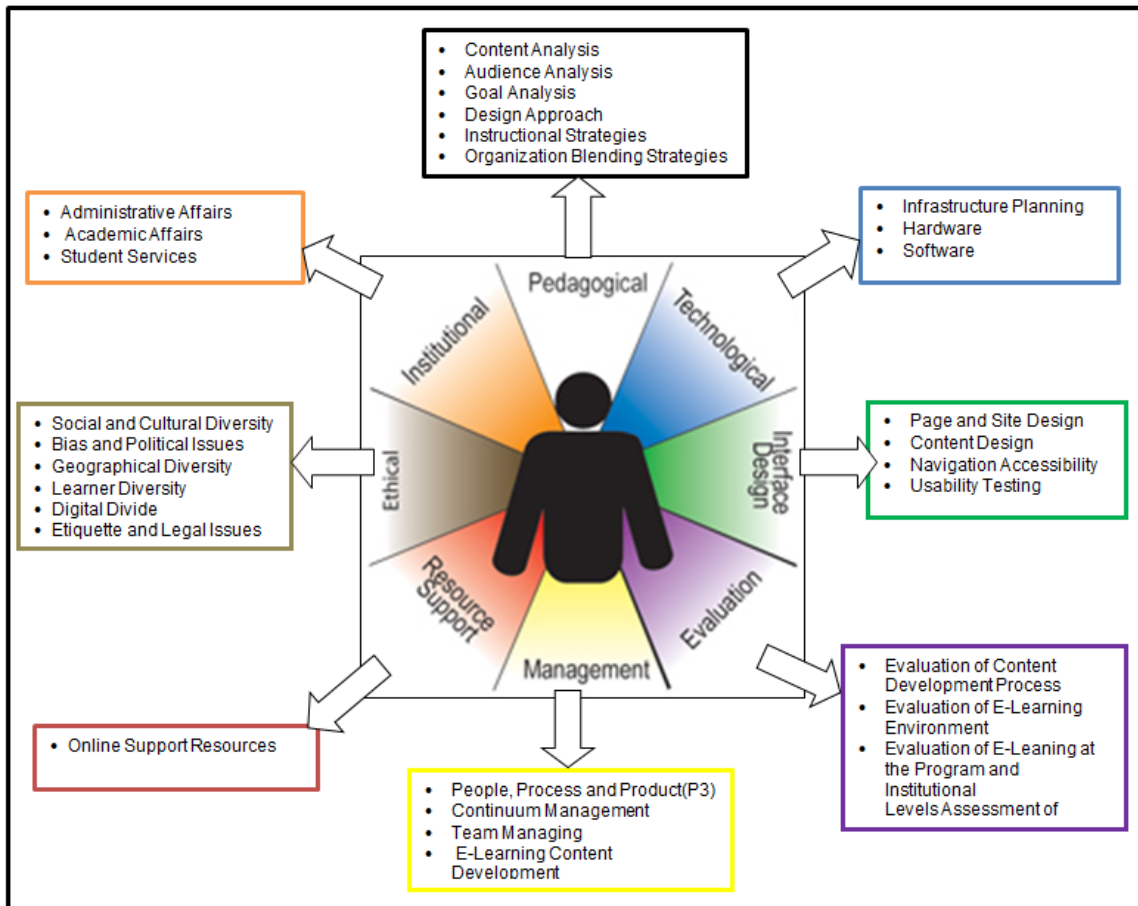


Figure 3.3: The Blended Learning Framework with the dimensions and sub-dimensions of the blended learning framework, depicting the student central to the learning process

Source: (Singh 2003:54)

3.6 APPLICATION OF THE THEORETICAL FRAMEWORK

3.6.1 The institutional dimension

For an online programme to be implemented successfully, the institution’s administrative affairs, academic affairs and student services must be

addressed. An organisation's preparedness will determine the success of a blended learning approach. Each of these sub-dimensions relies on the other to ensure that the benefits of blended learning are enjoyed by all concerned in its implementation and use. Without a solid institutional foundation, according to the three sub-dimensions mentioned above, the implementation of blended learning may not be appreciated for the numerous benefits that it possesses. For this study, the researcher aimed to gain an understanding of whether the colleges utilise a blended learning approach.

3.6.2 The pedagogical dimension

In this dimension, the principles and methods of instruction, which are teaching and learning are highlighted. A nurse educator has the responsibility of ensuring that student nurses are reared into professionals. The correct course content delivery methods are essential in ensuring that deep learning and understanding of course content are achieved. The blended learning approach is a method that aims to impact all types of learners with their own learning styles. In this study, the researcher ascertained whether the teaching and learning methods used at the colleges simplify course content, as well as enhanced classroom interaction. This will determine whether the method used has a positive effect on young learners.

3.6.3 The technological dimension

The technological dimension requires expensive hardware, software and infrastructure. The researcher aimed to identify the technological competencies and needs of both nurse educators and learners as well as how the participants felt about the use of technology in their current teaching and learning strategies respectively.

3.6.4 The interface design

In this study, the researcher aimed for the first impression that students received from the explanation of a blended learning approach, to be exciting, stimulating and attractive to all learning styles. This is a deciding factor for how students will respond to the content being taught using a blended learning approach.

3.6.5 The evaluation dimension

The researcher adopted a qualitative research design and was therefore not able to evaluate how effective a blended learning programme was. This study has however been able to evaluate the overall perceptions of nurse educators and learners on a blended learning approach for the current nursing course.

3.6.6 The management dimension

While the management dimension addresses aspects such as quality control, budgeting, staffing, security and scheduling, the researcher obtained consent from the principals of the nursing colleges before research data collection. The researcher liaised with the nursing college principals on what equipment and information was available and/or needed for the blending learning subject implementation and data collection to take place.

3.6.7 The resource support dimension

For this study, the researcher ensured that the required staff members from the nursing colleges were available to assist the researcher during the data collection process. The researcher also made herself available via emails and telephone, to answer any questions pertaining to the data collected for the study.

3.6.8 The ethical considerations of e-learning/blended learning

The researcher ensured that research ethical considerations were maintained. Data collection venues were made accessible to all nurse educators and learners by conducting the interviews at the colleges when the participants were present. Bias was prevented, and adherence to legal issues was promoted.

3.7 SUMMARY OF THE CHAPTER

This chapter described the dimensions and sub-dimensions of the blended learning framework and how these apply to this study.

The next chapter will focus on the methodology for this study and will provide the rationale and description of the research design. It will describe the following sections: type of research design, target population and study population, sampling, data collection tools, data processing and analysis, validity and reliability of the designed instruments, data management and ethical considerations.

This study measured the blended learning perceptions of nursing students at private nursing colleges in KZN. The methods used in this study draw on the theories and methods of Khan's Octagonal Framework as adapted by Singh (2003).

CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY

4.1 INTRODUCTION

This chapter provides the rationale and description of the research design. It provides a description of the following sections: type of research design, target population and study population, sampling, data collection tools, data processing and analysis, validity and reliability of the designed instruments, data management and ethical considerations.

This study measures the blended learning perceptions of nurse educators and nursing students at private nursing colleges in KZN. The methods used in this study draw on the theories and methods of Khan's Octagonal Framework adapted by Singh (2003:51-54).

4.2 AIM OF THE STUDY

The aim of this study was to explore the practices regarding the use of blended learning as a teaching and learning strategy at selected private nursing colleges in KwaZulu-Natal, South Africa.

4.3 OBJECTIVES OF THE STUDY

- Determine the current teaching and learning practices used at private nursing colleges in KZN.
- Explore the perspectives of nurse educators and learners at private colleges in KZN with regard to blended learning as a teaching and learning strategy.

- Identify and examine potential strategies to facilitate the use of blended learning and teaching strategy at private nursing colleges in KZN.

4.4 RESEARCH DESIGN

The study utilised a qualitative research design, using an exploratory descriptive approach. Exploratory, descriptive qualitative studies are studies conducted to explore and describe the topic of inquiry and addresses any problem that needs a solution (Grove, Burns and Gray 2013:66). This approach was chosen as the researcher explored the perspectives of learners regarding blended learning as well as the teaching and learning practices that are currently in use. Therefore this design was considered appropriate to extract the required information from the participants.

4.4.1 Qualitative design

Qualitative research design is the investigation of phenomena typically in an in-depth and holistic fashion, through the collection of rich narrative materials using a flexible research design (Polit and Beck 2017:741). This study is qualitative because it aims to understand the nurse learners' and nurse educators' experiences, practices and perspectives of blended learning at private nursing colleges. The reason for conducting the study at KZN private nursing colleges is because the researcher is a nurse educator at a private hospital in the KZN region.

4.4.2 Exploratory design

Polit and Beck (2017:15) state that an explorative study investigates the full nature of the phenomenon, is designed to shed light on the various ways in which a phenomenon is manifested and the other factors to which it is related. The exploratory nature of the study has therefore enabled the researcher to gain background information, and assist to develop a better understanding of the practices used in teaching and learning at the selected private nursing colleges in KZN.

4.4.3 Descriptive design

According to Creswell (2014:176), it is noted, that a descriptive research approach is used to develop a multidimensional picture of the problem which involves reporting from multiple perspectives. The author further adds that this approach helps to identify the many factors involved in a situation, and allows for a bigger picture to emerge. This method was deemed most suitable for this study because it allowed the researcher to obtain information from participants who are studying in the environment of interest, which allowed for the study to be conducted in a natural setting, and in this case, the learning environment of the nursing student.

4.5 STUDY SETTING

According to Polit and Beck (2017:65), a setting is a specific place where data collection occurs and can range from totally naturalistic environments to formal laboratories. The researcher, in this study, used two private nursing colleges in the KZN region with students who are enrolled in their second year of study. There are a total of three (3) private nursing colleges in the Northern UMgungundlovu area in Northern KwaZulu-Natal and 12 in the central eThekweni district. State-run nursing colleges were excluded from the study as operational management in these colleges is different from private colleges.

For confidentiality, the selected colleges from the UMgungundlovu area and the central eThekweni district have been renamed as College A and College B respectively.

4.6 POPULATION

Qualitative studies aim to discover meaning and to uncover multiple realities for a target population. The population is a group of people or type of element that is the focus of the study, whilst the target population is the entire set of individuals or elements who meet the sampling criteria (Polit and Beck 2017:491). The target population for this study included nurse educators as they play a leading role in developing lesson plans and formulating teaching and learning strategies for nurses in training. These nurse educators are responsible for teaching the second-year nursing students under the Regulation R.683 nursing course (Bridging from Enrolled Nurses leading to registration as a General Nurse) at the two selected private nursing colleges. The target population also included learners in their second year of nurse training and are enrolled under the R.683 nursing course (Bridging from Enrolled Nurses leading to registration as a General Nurse).

4.7 SAMPLING TECHNIQUE AND SAMPLE SIZE

According to Polit and Beck (2017:743), sampling is the process of selecting a portion of the population to represent the entire population. Sample size refers to the number of people who participate in a study. Polit and Beck (2017:743) add that sampling designs are classified as probability sampling or non-probability sampling. For the purpose of this study, the researcher used a non-probability, purposive sampling method, which is frequently used in qualitative research to select the research sample. In qualitative studies, samples are small, probability sampling is not used, and final sampling

decisions usually take place during data collection (Polit and Beck 2017:498). This is often done so that the participants can provide the possible insightful information required to answer the research questions that are based on the topic of interest in the proposed study. This study sought to interview a possible 20 nurse educators from the sample learning institutions and 30 nursing learners. Using a non-probability, purposive sampling method, the researcher did not know in advance how many participants were required. Data was generated through voluntary participation and was guided by data saturation.

According to Polit and Beck (2017:493-497), data saturation is a guiding principle for the sample size in a qualitative approach, which means that sampling is conducted to the point at which no new information is obtained and redundancy is achieved. The current study was therefore guided by data saturation which was achieved when there was no new information emerging from participants about the use of blended learning as a teaching and learning strategy. To monitor data saturation, data analysis occurred concurrently with data collection. The number of participants selected from both sites as the study sample were fifteen (15) learner participants and six (6) nurse educator participants to ensure that data saturation was reached.

4.8 RECRUITMENT PROCEDURE

Following provisional ethics approval from the DUTs Ethics Committee, gatekeeper permission to research College A (Appendix a 1) and College B (Appendix A 2) was requested from the Head of Department (HOD) of each college. Once gatekeeper permission was received from each selected college (Appendix B1 and B2), and full ethics clearance was received from DUTs Institutional Research Ethics Committee (IREC) (Appendix C), participants were selected using the non-probability, purposive sampling method.

4.8.1 Nurse educator sampling process and sample size

Prospective nurse educator participants (lecturers and clinical facilitators) from each private nursing college, who teach different subjects in the second year of the R.638 course (Bridging from Enrolled Nurses leading to registration as a General Nurse), were invited to participate in the interviews. Clinical facilitators were included in the nurse educator sampling process as they provide clinical teaching and training and perform practical assessments on learners. This allowed for diversity in perspectives on the teaching and learning practices at the selected colleges of nursing, related to a blended learning and teaching approach. With permission from the HOD of the college, the participants were informed about the study while maintaining COVID - 19 social distancing practices and without disrupting the normal operations of the college. They were allowed to read the letter of information (Appendix D1) which explained the study and given an opportunity to clarify any ethical issues relating to the study, the purpose of the study and the data collection method used. Once the nurse educator participants verbally agreed to participate in the study, they then provided written consent (Appendix E) to participate in the study.

4.8.2 Learner sampling process and sample size

Learners for the focus groups data collection were sampled from those learners who are in their second year of nurse training and are enrolled under the R.683 nursing course (Bridging from Enrolled Nurses leading to registration as a General Nurse). This, again, allowed for diversity in perspectives on the teaching and learning practices at the selected colleges of nursing related to a blended learning and teaching approach. With gatekeeper permission from the college HOD, a meeting with learner participants was held in a quiet and private classroom, while maintaining COVID -19 social distancing practices, without disrupting normal operations of

the college. These learner participants were informed about the study and given an opportunity to read the letter of information (Appendix D2) which explained the study and allowed the participants to clarify any ethical issues relating to the study, the purpose of the study and the data collection method used. Learner participants who agreed to participate in the study then provided written consent (Appendix C). Once informed consent was obtained, interviews were scheduled at a time that was convenient for the participants, at the nursing colleges. The following inclusion and exclusion criteria were used to determine the choice of sample (see Table 4.1).

4.9 INCLUSION AND EXCLUSION CRITERIA

Table 4.1: Inclusion and exclusion criteria

	Nurse educators	Nurse Learners
Inclusion criteria	Nurse educators who are teaching a subject in the second year of the R.638 course (Bridging from Enrolled Nurses leading to registration as a General Nurse)	Learners who are in their second year of nurse training and are enrolled under the R.683 nursing course (Bridging from Enrolled Nurses leading to registration as a General Nurse)
Exclusion criteria	Nurse educators who are not teaching any subject in the second year of the R.638 course (Bridging from Enrolled Nurses leading to registration	Learners who have not enrolled for the prescribed second year of the course.

	as a General Nurse).	
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4.10 DATA COLLECTION

Data collection, for this study, was done at the selected nursing colleges. A demographic questionnaire (Appendix F) was completed by each participant before the collection of data. Data collection was done using semi-structured individual interviews (Appendix G) for all selected nurse educators and focus groups interviews (Appendix H) for all selected learners. The individual interviews and focus groups interviews were conducted during office hours, without disrupting normal operations. All interviews took place in a quiet and private classroom at both college sites. Permission to record the interviews, using an audio recorder was obtained from participants.

4.10.1 Data collection process

Terre Blanche, Durrheim and Painter (2012:297) state that conducting an interview is a more natural form of interacting with people than making them complete a questionnaire, undergo a test, or perform some experimental task. In this study, the researcher was the interviewer during the semi-structured interviews and group focus interview sessions and guided the discussion using the written set of topics or questions. These topics or questions prepared for the interview guide were similar in both the nurse educator interviews and the focus group interviews as this promoted rich data achievement from both data collection techniques. The researcher aimed to encourage participants to talk freely about the interview questions and to convey stories in their own words (Polit and Beck 2017:510). Researchers doing qualitative research must gain and maintain a high level of trust with participants (Polit and Beck 2017:507). In this study, before the

commencement of interviews, the researcher gained trust from participants by introducing herself as a student studying for her Master's degree. Information shared and obtained during the interviews from both sites were audio-recorded for future data analysis. The pace of data collection was such that it prevented undue stress and fatigue to the researcher, which could have negatively affected concentration and the energy required to promote deep meaningful conversations with participants.

All interviews were conducted in English by the researcher who has no personal relationships with the nurse educator and learner participants at College A and College B. The setting at each site offered privacy, that protected against interruptions, and was adequate for audio-recording the interviews (Polit and Beck 2017:514).

4.10.2 Data collection tools

Polit and Beck (2017:515) state that the researcher should give careful thought to the wording of questions, which should make sense to participants and reflect their worldview. In this study, the researcher, nurse educator and learners all share a common worldview on nursing and healthcare. The researcher anticipated the need for audio-recording equipment, batteries and a charger, notepads, pens, and consent forms as data collection tools.

The use of semi-structured interviews for nurse educator participants and focus group interviews for learners provided the researcher an opportunity to further explore themes or responses, as well as encourage participants to speak freely on the topics in the interview guide (Polit and Beck 2017:510). Polit and Beck (2017:510) further state that semi-structured interviews are used because the researcher knows what she wants to ask, but cannot predict the answers from the nurse educator participants. The topic guides were developed by the researcher in a logical sequence (Polit and Beck 2017:510). Questions were arranged from general to specific and the topic

guide for all interviews included a demographic section and suggestions for probes designed to elicit more detailed information. Probing enhanced rapport by showing the informant that the researcher was truly interested in understanding the participant's experiences. It also provided the interviewer an opportunity to clarify and expand responses and explicate meaning. Each individual, face to face interview and focus group interview lasted approximately 20 minutes each, and took place in a quiet, private room at each research site. The information was collected until data saturation was achieved. Data saturation was monitored and analysed continuously for both categories of nurse educators and learners. Once no new data could be collected from each participant category, an assessment was done to identify whether additional interviews per category needed to be carried out. In this study, no additional interviews were required for data collection.

- Phase 1: Semi-structured interviews

One-on-one, face-to-face semi-structured interviews were used for nurse educators. Face-to-face interviews are regarded as one of the best methods of collecting survey data as it yields quality information and because refusal rates tend to be low (Polit and Beck 2017:243). Due to the impact of COVID -19 and the requirement of social distancing, interviews were conducted by the researcher in a private room. The researcher used an interview guide to probe and facilitate the discussion (Polit and Beck 2017:510).

- Phase 2: Focus group interviews

Focus group interviews were used for learners, by preparing a written set of questions or topics to be covered. Focus group interviews were conducted at study site A and B, by the researcher in a classroom using COVID -19 social distancing protocols. Focus groups are carefully planned interviews that stimulate respondents which leads to deeper expressions of opinion thereby accessing rich information in an economical manner, by taking advantage of

group dynamics (Polit and Beck 2017:511) by purposively selecting participants who are currently in their second year of study in the R.638 course of bridging from Enrolled Nurses leading to registration as a General Nurse. The researcher, as the interviewer, guided the interviews and audio-recorded the interviews to ensure that the data collected were accurate and could be transcribed verbatim. Data was collected until data saturation was achieved.

4.11 DATA ANALYSIS

Polit and Beck (2017:530) state that the purpose of data analysis is to organise, provide structure to, and generate meaning from data. The authors add that data collection and analysis in the qualitative study often occur concurrently rather than after all data has been collected, which ultimately increases validity and trustworthiness of the study. Demographic data collection was collected using a short questionnaire concerning gender, age, race, marital status, level of education; current employment and place of residence, after participants signed the consent to participate form. According to Polit and Beck (2017:747), triangulation refers to the use of multiple methods to collect and interpret data about blended learning to link an accurate representation of reality. In this study, space triangulation was attained by collecting data on blended learning in two sites to test for cross-site consistency, and person triangulation was achieved by collecting data from different levels of people, namely nurse educators and learners, to validate data through multiple perspectives on blended learning (Polit and Beck 2017:563).

Identifying important themes and concepts began from the moment that data collection was initiated. In this study, the audio recordings were carefully listened to, immediately following data collection, so that transcription of collected data was accurate and enabled the researcher to assess whether or

not improvements in subsequent interviews were required (Polit and Beck 2017:516). Verbatim transcription of audio data is critical in preparing for data analysis because its accuracy validly reflects the interview experience (Polit and Beck 2017:531). In this study, during data analysis, the researcher transcribed all audio data which was hand-coded. The study made use of Tesch's eight steps in the coding process (Creswell 2014:198) to analyse the content of the narrative data, to identify prominent themes and patterns among the themes as follows:

- Step 1.** Carefully reading all transcriptions to get a general sense of the whole
- Step 2.** Go through one document at a time, write down thoughts about underlying meanings in the margin
- Step 3.** Make a list of all topics and cluster together similar topics under column headings of Major, Unique and Leftover Topics
- Step 4.** Abbreviate these topics as codes and write these codes next to the appropriate segments of the text data. This served as a preliminary organising scheme to assess if new categories and codes emerge
- Step 5.** Using the most descriptive words, these topics were converted into categories. By grouping topics related to each other, the total list of topics were reduced
- Step 6.** Finalise the decision on abbreviations for each category, and alphabetise the codes
- Step 7.** Assemble the data material belonging to each category in one place, and perform a preliminary analysis
- Step 8.** Recode existing data, if necessary

4.12 DATA MANAGEMENT AND ORGANISATION

Data management and organisation involve carefully and deliberately scrutinising data in search of meaning and understanding. Data management in qualitative research is reductionist in nature and it involves converting masses of data into smaller, manageable segments (Polit and Beck 2017:535). The authors add that qualitative data analysis is contrasting to data management in that it is constructionist in nature and it involves putting segments together into meaningful conceptual patterns. The researcher ensured that data was kept confidential and stored on a computer that is password protected. Managing and organising data collection includes transcribing data, developing a coding scheme and coding the data.

- In the study, audio-recorded data from interviews and focus groups from both College A and College B was collected verbatim. It was transcribed and proofed against the audio-recorded interviews, to ensure that transcriptions were accurate, and to ensure that the reflection of the face to face interviews and focus group experience was accurate (Polit and Beck 2017:531).
- The transcribed face to face interviews and focus group data from both sites were scrutinised carefully and deliberately, by reading and re-reading data to search for meaning and understanding.
- Once the researcher became familiar with the data, insights into the data emerged.
- The researcher made reflective remarks in the margins of both the face to face interviews and focus group transcriptions, and made a memorandum of the meanings of remarks as they became clear.

4.13 RESEARCH RIGOUR

According to Brink, van der Walt and van Rensburg (2012:126), rigour in qualitative research refers to openness, relevance epistemological and methodological congruence, thoroughness in data collection and the data analysis process, as well as the researcher's self-understanding. In this study, the researcher did not allow preconceived ideas and judgments about the phenomenon or participants to cloud the researchers' understanding of the data collection and analysis process and participated with openness in the research. Polit and Beck (2017:161) state that qualitative researchers pursue methods of enhancing the trustworthiness of the study's data.

4.13.1 Trustworthiness

According to Brink, van der Walt and van Rensburg (2012:172), trustworthiness is an alternative construct for validity and reliability in qualitative research and is based on the 1985 model of Lincoln and Guba. It is often grouped as part of qualitative validity and is a way of ensuring data quality or rigour in qualitative research. Qualitative validity means that the researcher checks for the accuracy of the findings by employing certain procedures (Polit and Beck 2017:231). Guba and Lincoln (1994:105-117) as cited in Polit and Beck (2017:559) suggested that trustworthiness encompasses several dimensions, which include:

- Credibility
- Dependability
- Confirmability
- Transferability
- Authenticity

4.13.1.1 Credibility

Credibility refers to confidence in the truth of the data and interpretations of them (Polit and Beck 2017:559). The researcher ensured credibility by building trust and rapport between the researcher and participants at the very start of data collection, by ensuring clear and open channels of communication by the researcher and participants throughout the process of data collection. This assisted in obtaining rich data.

4.13.1.2 Dependability

Polit and Beck (2017:559) state that dependability refers to the stability or reliability of the data obtained over time. It refers to providing evidence, such that, if it were to be repeated with the same or similar participants, in the same or similar context, then its finding would also be similar (Brink, van der Walt and van Rensburg 2012:172). Polit and Beck (2017:559) also state that credibility cannot be attained without dependability. Reflexivity in qualitative data collection is an important concept which refers to the researchers' awareness of themselves as part of the data they are collecting (Polit and Beck 2017:508). The researcher maintained dependability by reflecting on the researcher's own behaviour and how it can affect the data obtained, which included guarding against getting emotionally involved with participants. The researcher also maintained dependability by ensuring that supervisors reviewed the data.

4.13.1.3 Confirmability

Confirmability is concerned with establishing that the data represents information provided by the participants and is not the interpretation of the researcher (Polit and Beck 2017:560). To maintain confirmability, the researcher ensured that the researchers' bias and perceptions were not

reflected in the study, thereby ensuring confirmability. The interviews for this study were audio-recorded which ensured that information provided by the participants was accurate and truthful. The researcher developed an audit trail so that an independent auditor and supervisors of the study could be able to reach conclusions about the data.

4.13.1.4 Transferability

Brink, van der Walt and van Rensburg (2012:173) define transferability as the ability to apply the findings in other contexts or to other participants. Polit and Beck (2017:164) highlight that transferability is the extent to which qualitative findings can be transferred to other settings, as an aspect of a study's trustworthiness. The authors add that a thick description of research settings and the sample of participants support transferability. The methodology and analysis of this qualitative research show why the research can be clearly transferred to other studies within the same or similar context. The population in this study consisted of nurse educators (lecturers and clinical facilitators) and learners from private nursing colleges in the KZN region, which allowed for application in other contexts if the need arises.

4.13.1.5 Authenticity

Polit and Beck (2017:560) state that authenticity refers to the extent to which researchers show a range of realities in a fair and faithful manner. Authenticity was achieved in this study, by conveying the context, experiences, feelings and emotions of the participants in the study, by ensuring that audio-recorded data was transcribed verbatim so that the reader can develop an increased sensitivity to the issues being discussed in the study (Brink, van der Walt and van Rensburg 2012:173). Authenticity in this study also concerns aiding

knowledge generation of blended learning practices as experienced by the participants in the research.

4.14 ETHICAL CONSIDERATIONS

Ethics refers to a system of moral values that is concerned with the degree to which research procedures adhere to professional, legal and social obligations in interacting with participants (Polit and Beck 2017:727). This study commenced after the DUT Institutional Research Ethics Committee (IREC) granted full ethics clearance. Certain ethical principles are vital for ethical consideration by any researcher, and must be maintained to ensure that the rights of participants are upheld according to the following three broad principles as articulated in the Belmont Report, identified by Polit and Beck (2017:139-144).

4.14.1 Beneficence

Beneficence is an important ethical principle in research that outlines the researcher's obligation to avoid, prevent or minimise harm and discomfort to participants such as physical, psychological, emotional, social or legal, but rather increase benefits for the participants (Polit and Beck 2017:139). For the study, the researcher maintained beneficence by respecting and protecting the participants and the organisation's culture as well as its reputation by ensuring that their respective identities do not appear in the report or any publication based on the report. The researcher also ensured that participants were protected from exploitation by adhering to the consented time frame for the interviews and focus groups.

4.14.2 Respect for human dignity

This is the second ethical principle in the Belmont Report, as cited in Polit and Beck (2017:140), which includes the right to self-determination and the right to full disclosure. In the study, the self-determination of participants was promoted by ensuring that participants decided whether to be a part of the study, to refuse or even withdraw from the study, without prejudice from others or the researcher. Coercion was avoided and there was no monetary incentive for participants of the study. Full disclosure regarding the study's description, the participant's right to refuse participation, the researcher's responsibilities and likely risks and benefits was provided for all participants.

4.14.3 Justice

The third broad principle articulated in the Belmont Report is that of justice, which refers to participants' right to fair treatment and the right to privacy (Polit and Beck 2017:141). The researcher ensured that participant selection was based on the requirements for the study and not on the group's vulnerability, therefore adhering to the right to fair treatment. The right to privacy was preserved by ensuring that participants' privacy was maintained, especially during the completion of the report. The researcher also ensured that the research was not more intrusive than it needed to be during the period of data collection.

4.14.4 Risk/benefit assessments

This assessment was designed to evaluate whether the risk or benefit of those participating in the study, be it financial, social, physical or emotional costs, is acceptable. A summary of risks and benefits was communicated to the participants so that they were able to decide whether or not participation in the study will be in their best interest (Polit and Beck 2017:142). There were no risks involved in this study.

4.14.5 Informed consent and participation authorisation

Polit and Beck (2017:143) highlight that obtaining informed consent is an important procedure for safeguarding participants, by ensuring that they have adequate information about the research, understand that information and be able to consent to or decline participation voluntarily. For the study, written consent was obtained from the participants. Due to the nature of qualitative research, the researcher did not know how the study would evolve and made provision for this by ensuring that participants were made aware of the possibility to include process consent into the study. To ensure that participants comprehended consent information, the researcher provided a spoken and written explanation of the details of the consent. Ample time was given to the participants to review the consent information before the interviews.

4.14.6 Confidentiality procedures

Anonymity, according to Polit and Beck (2017:147-148), is the most secure means of protecting confidentiality, which occurs when the researcher cannot link participants to the data. In qualitative research, extra measures need to be taken to ensure participants' anonymity, because of the in-depth nature of qualitative studies. The researcher in this study strived to ensure that participant privacy was adequately disguised in the reporting of data by assigning the codes to the sites and participants.

4.14.7 Debriefings, communications and referrals

Polit and Beck (2017:148-149) state that researchers should proactively minimise emotional risks by showing their respect concerning their interactions with participants. In the study, the researcher ensured that questions were phrased tactfully, and the verbal tone used was polite and

gracious. A debriefing session was offered to allow participants the opportunity to ask questions or air complaints related to the data collection process.

4.14.8 External reviews and the protection of human rights

The ethical dimensions of a study should normally be subjected to an external review to prevent the possibility of a biased self-evaluation (Politand Beck 2017:148-149). For the study, research plans were submitted to IREC for approval before the commencement of data collection.

4.15 SUMMARY OF THE CHAPTER

This chapter explained the research methodology and design that was used for the study. Data was collected through semi-structured and focus group interviews and responses to perceptions on the use of blended learning.

The next chapter focuses on the presentation of the study's results.

CHAPTER 5: PRESENTATION OF FINDINGS

5.1 INTRODUCTION

This previous chapter outlined the research methodology used to conduct the study. This chapter presents the results of the data obtained during the individual, semi-structured interviews that were conducted with six (6) nurse educators and focus group interviews conducted with fifteen (15) learners at two private nursing colleges in the KZN region in the last week of February 2021. The chapter highlights the themes and sub-themes that emerged from the interviews conducted.

This study measures nurse educators' and learners' perceptions of blended learning at private nursing colleges in KZN. The methods used in this study drew on the theories and methods of Khan's Octagonal Framework (Singh, 2003:51-54).

5.2 SAMPLE REALISATION

Data was collected in two phases from two study sites. For the presentation of the results, Phase 1 presentation will detail the findings from the nurse educator interviews at both study sites A and B. Phase 2 presentation details the findings from the learner interviews at both study sites A and B. The data for Phase 1 was collected from nurse educators using face-to-face semi-structured interviews while the data for Phase 2 was collected from nurse learners using focus group interviews. Interviews were conducted by preparing a written set of questions or topics to be covered. Sample sizes from both sites were guided by data saturation and monitored concurrently for both phases.

Phase 1 included six (6) nurse educators from both sites and data saturation was reached after five (5) interviews, while Phase 2 included fifteen (15) learners from both sites and data saturation was achieved after conducting the two focus group interviews. A further one (1) face-to-face interview was conducted for nurse educators to confirm data saturation while the two (2) focus group interviews conducted for learners did not require further interviews for data saturation to be reached.

The research objectives supported the purpose of this study to understand nurse educators' and learners' perceptions of using blended learning as a teaching and learning method.

- Determine the current teaching and learning practices used at private nursing colleges in KZN.
- Explore the perspectives of nursing nurse educators and learners at private colleges in KZN with regard to blended learning as a teaching and learning strategy.
- Identify and examine potential strategies to facilitate the use of blended learning and teaching strategies at private nursing colleges in KZN

Table 5.1: Sample realisation for the study population

Study Site	Nurse educators	Learners
A	4	11
B	2	4
Total	6	15

5.3 DEMOGRAPHIC DATA

Demographic data were collected from a total of six (6) nurse educators and fifteen (15) learners at Sites A and B in the KZN region. Six (6) participants were of the Indian race, twelve (12) were African, two (2) were White, and one (1) participant was of a mixed international race. A summary of the demographic data of nurse educators and learner participants' respectively is presented (Tables 5.2 and 5.3).

5.3.1 Phase 1: Nurse educator participants

Nurse educator participant ages ranged from 36 years to over 40 years of age. All the participants were female and their teaching experience ranged from 3 to 14 years. Two (2) participants are studying for their Bachelor's degree; three (3) participants hold a Bachelor's degree, while there was one (1) nurse educator who had a Master's degree. Nurse educator participants were of different races and marital statuses, thus revealing the diversity of perspectives in the study. The residential distance was included in the demographic data to illustrate the time and costs associated with travelling to and from a designated study site. Table 5.2 illustrates the demographic data of nurse educators.

Table 5.2: Demographic data of nurse educators

Study Site	Participant Code	Gender	Age	Race	Marital Status	Level Education of	Teaching Experience	Residence
SITE A: Nurse educators								
A	1	Female	>40	Indian	Widowed	Masters Degree	10 years	Permanent residence in city
A	2	Female	>40	Indian	Married	Undergraduate	6 years	Permanent residence in city
A	3	Female	36-40	African	Married	Bachelors Degree	3 years	Permanent residence in city
A	4	Female	>40	Indian	Single	Bachelors Degree	14 years	Permanent residence in city
SITE B: Nurse educators								
B	5	Female	36-40	African	Married	Undergraduate	8 years	Permanent residence in city
B	6	Female	>40	Other	Married	Bachelors Degree	11 years	Travelling long distance

5.3.2 Phase 2: Learner Participants

The demographic data obtained from learner participants in the study is indicated in the table below (Table 5.3). Learner participant ages ranged from 21 years to over 40 years of age which contributed to a diverse set of data collected. All the participants were female and included ten (10) African, three (3) Indian and two (2) White participants, which added a variety of experiences and perspectives to the study. All participants held a certificate

qualification in Enrolled Nursing and from the fifteen (15) participants only five (5) were funded by the hospital for their education, while the remaining ten (10) were self-funded. Two (2) learner participants had permanent residence in the rural areas and therefore required residence in the city whilst attending college, and two (2) learners travelled long distances daily, which added to their financial burden of a self-funded education.

Table 5.3: Demographic data of learners

Study Site	Participant Code	Gender	Age	Race	Marital Status	Level of Education	Education Financial Support	Residence
SITE A: Learners								
A	7	Female	26-30	African	Single	Certificate	Self funded	Permanent residence in city
A	8	Female	>40	African	Living with partner	Certificate	Self funded	Permanent in the rural areas
A	9	Female	26-30	African	Married	Certificate	Self funded	Permanent residence in city
A	10	Female	36-40	African	Single	Certificate	Self funded	Permanent in the rural areas
A	11	Female	36-40	Indian	Married	Certificate	Hospital funded	Permanent residence in city
A	12	Female	21-25	African	Single	Certificate	Self funded	Travelling long distance
A	13	Female	21-25	African	Single	Certificate	Self funded	Permanent residence in city
A	14	Female	36-40	African	Married	Certificate	Self funded	Travelling long distance
A	15	Female	31-35	African	Single	Certificate	Self funded	Travelling long distance
A	16	Female	26-30	African	Single	Certificate	Self funded	Permanent residence in city
A	17	Female	26-30	Indian	Single	Certificate	Self funded	Permanent residence in city

Study Site	Participant Code	Gender	Age	Race	Marital Status	Level of Education	Education Financial Support	Residence
SITE B: Learners								
B	18	Female	26-30	African	Single	Certificate	Hospital funded	Permanent residence in city
B	19	Female	>40	White	Married	Certificate	Hospital funded	Permanent residence in city
B	20	Female	21-25	Indian	Single	Certificate	Hospital funded	Permanent residence in city
B	21	Female	36-40	White	Living with partner	Certificate	Hospital funded	Permanent residence in city

5.4 OVERVIEW OF PRESENTATION OF FINDINGS

In this chapter, the findings of the descriptive study are provided. The researcher utilised a qualitative research methodology with an exploratory, descriptive approach to explore and clearly describe the essence of teachers' and learners' perceptions of the use of blended learning in private nursing colleges in the KZN region. Semi-structured interviews were utilised in understanding as participants shared their feelings, describing what they perceived and experienced blended learning to be.

For clarity, the presentation of findings will be done separately for nurse educators and learners. In the study, nurse educator findings are explained under the heading "Phase 1" and learner findings are explained under the heading "Phase 2." This aids in facilitating the presentation and discussion of the findings from the perspectives of nurse educators and learners.

5.5 PHASE 1: THEMES AND SUB-THEMES THAT EMERGED FROM THE INTERVIEWS

Data analysis led to the identification of three (3) main themes with subthemes. The themes and sub-themes revealed in the nurse educator data collection interviews are illustrated in Table 5.4.

Table 5.4 Themes and sub-themes from nurse educator responses

NURSE EDUCATOR INTERVIEW THEMES AND SUB-THEMES		
THEME	SUB-THEMES	
Theme 1: Contextualising blended learning	1.1	Understanding blended learning as a concept
	1.2	Advantages of blended learning for learners
	1.3	Embracing change in teaching and learning
Theme 2: Experience using technology for instructional purposes	2.1	nurse educators' experience using blended learning
	2.2	Social media for communication and learning
	2.3	Supplementing learning using online resources
Theme 3: Nurse educator Preparedness	3.1	Lack of instructional technology
	3.2	Computer literacy and blended learning
	3.3	Lack of support structures

5.6 PHASE 1 PRESENTATION OF FINDINGS

5.6.1 Nurse educator interview themes and sub-themes

5.6.1.1 Theme 1: Contextualising blended learning

Nurse educators from College A and B contextualised blended learning differently with regards to their understanding of the concept of blended learning. While the blend incorporates that of face-to-face and online learning, many nurse educators assumed it to be a blend of theory and clinical practice. Nurse educators understood blended learning to incorporate the different modes of face-to-face instruction such as discussion, presentations, group work, demonstration and practice. College B clinical facilitators had experience using a blended learning approach with e-learning initiatives at the private hospital in which they were employed.

5.6.1.1.1 Sub-theme 1.1 Understanding blended learning as a concept

The majority of nurse educator participants at College A understood blended learning to be a blend of theory and clinical practice. Blended learning has been described as the appropriate combination of face-to-face teaching and technology-mediated instruction that offers synchronous and asynchronous teaching tools and pedagogical methodologies (Dziuban, Graham, Moskal, Norberg and Sicilia 2018:1). The interviews revealed that while some nurse educators have been exposed to online and face-to-face learning, the term blended learning was not something that they were familiar with. The following texts disclose the nurse educators' understanding of blended learning as a concept.

Nurse educators at College A revealed that blended learning was:

“The different strategies of teaching and learning and incorporating the clinical teaching as well.” (Participant 1)

“Blended learning is an approach where the students integrate theory and practical together.” (Participant 2)

“I think it means not using only certain methods of teaching students but blending everything together to make it work for the students...lectures, PowerPoint presentations, personal analogies, group discussions and group plays.” (Participant 3)

“...where you incorporate theory and practice...” (Participant 4)

Nurse educators from College B consisted of the clinical facilitators, who perform much of their teaching while the learners are nursing patients; however, they had a better understanding of what blended learning entailed.

“...a mixture of face-to-face classroom learning and online learning.” (Participant 5)

“...using online education, not just face-to-face learning, and e-learning as well...” (Participant 6)

5.6.1.1.2 Sub-theme 1.2: Advantages of blended learning for learners

Nurse educators from both sites revealed that blended learning would benefit the learners by providing learning that is self-paced where learners can revise study material and work with it according to their individual needs. They also highlighted the flexibility where study material can be accessed in the learners' own time and space, as well as decrease costs derived from travelling and added living expenses away from home. Blended learning can work well with the teacher— allowing him or her to concentrate on human attributes such as being caring, creative, and engaging in problem-solving.

This can, of course, as with all technical advancements, be used to save resources and augment the role of the teacher (Dziuban *et al.* 2018:3). The COVID - 19 pandemic lockdown called for nurse educators to support their learners via distance learning. Whatsapp social media was the common platform utilised during this period, but this could not adequately reveal the actual advantages of using a blended learning approach with nurse learners.

“It gives you a lot of freedom to do the things in your own time and space.”
(Participant 2)

“...obviously it’s online and you can do it at your own pace. It saves time and travelling costs.” (Participant 4)

“...with blended learning I think it could be more self paced...” (Participant 5)

“I had to attend my sister’s funeral which was in another province and I was able to fly through and travel to the other province and in the morning I was still able to connect and finish up with the group which would never have happened if the class was limited to a physical classroom face-to-face contact.” (Participant 5)

5.6.1.1.3 Sub-theme 1.3: Embracing change in teaching and learning

In terms of planning, delivery, assessment and student communication, nurse educators felt that there is a need for change in teaching methods, especially while moving into the fourth industrial revolution which refers to the digital

revolution. Hirschi (2018:192) stated that the accelerating digitisation and automation of work, known as the fourth industrial revolution, will have an enormous impact on individuals' career experiences. Nurse educators referred to the fourth industrial revolution knowing well that the use of technology in this digital age could far benefit both learners and nurse educators alike, by allowing and promoting independent thinking.

“Well think we should use blended learning seeing that we moving into the fourth industrial revolution and we are going to use online teaching and using a lot of technology. It’s quite positive that we move from our traditional methods of teaching and learning into the blended learning and teaching.”
(Participant 1)

“Technology is moving; we’re going to get left behind if we don’t get with the programme now. Unfortunately at this age, I had to get with the program whether I liked it or not.” (Participant 2)

“I think there’s more advantages because it’s more flexible and we have to admit that we are living in the era of technology, the fourth industrial revolution is here and the sooner we embrace it and put it into our day to day experiences including learning and teaching then the better because it doesn’t help to want to be stuck in the old fashioned ways. Things are moving and we have to adapt and I think it’s helpful because it means I don’t have to be limited.” (Participant 5)

“I think it’s positive , I think we living in a generation where they’re far more in touch with being able to be educated through different means and it’s far more versatile.” (Participant 6)

5.6.1.2 Theme 2: Experience using technology for instructional purposes

Nurse educators had varying degrees of experience using blended learning. Those nurse educators that did utilise blended learning obtained their experience while studying for their Bachelor's Degree through the University of South Africa (UNISA). Prior experience with blended learning was not noted. Considering that their experience stemmed from utilising blended learning as a learner themselves, the nurse educators did not utilise this approach to teach via an online platform.

5.6.1.2.1 Sub-theme 2.1: Nurse educators' experience using blended learning

Participants were asked about their experiences using an online learning approach. Experiences included using the approach in both learning and teaching. The experiences revealed below was only as learners studying for their Bachelor's Degree via a distance learning tertiary education institution, who continued educating through the COVID - 19lockdown period via a blended learning approach.

“With us, at the college, we don't actually use any online at all or any technology. We still teach very traditionally.” (Participant 1)

“Online was used right through the course – Bachelors degree in nursing education and administration.” (Participant 2)

“Currently I'm studying with Unisa and we are..., we have had a practical session previously. Practical sessions is where there is a week where a lecturer is coming and we attend a dedicated centre and there is a practical where you have your colleagues, and you have present and all of that. But

with COVID - and all the restrictions, we've had to do even the practical sessions online. Although there were a few technical glitches in not everybody is okay with the use of technology, but in the end we were able to have a practical session online, where you would share you slides and you teach the class..." (Participant 5)

5.6.1.2.2 Sub-theme 2.2: Social media for communication and learning

The COVID - 19 pandemic lockdown called for nurse educators to support their learners via distance learning. WhatsApp social media was the common platform utilised during this period. While nurse educators made use of WhatsApp for communicating study material, it was not used to its full potential. Nurse educators sent worksheets for learners to complete and use for studying. WhatsApp has a video feature that could have been utilised to send lectures or explanations of learning content. The major issue that was highlighted with using WhatsApp was that nurse educators had to use their own data to communicate with learners, at their own cost. They could not access video content while at the college, due to restrictions imposed by management on access to online websites. Although the information was limited via this social media platform, nurse educators felt that learners responded positively to its use.

"During COVID - when the students were on lockdown, we did use a bit of WhatsApp and groups but not online sessions. There was no live streaming or anything like that. We just sent them messages or work on our WhatsApp groups. So it was quite limited." (Participant 1)

"It was more on the WhatsApp group. I think this generation likes it. There were more questions asked... We were actually using our own data for WhatsApp groups and all the WhatsApp media to ensure that our students were getting something." (Participant 3)

“The only form of online communication was on WhatsApp during the COVID - period...It was our personal WhatsApp so it did create some issues like taking up your personal time. It was positive as well, the students learned from it” (Participant 2)

5.6.1.2.3 Sub-theme 2.3: Supplementing learning using online resources

Nurse educator participants expressed that they supplement learning by using internet educational sites to research information online and prescribed textbooks. While textbooks have always been the traditional means of researching information for lectures, nurse educators are finding that many verified online educational sites provide simpler and more exciting methods to teach their respective subjects. The readily available visual information that is now found at the click of a button provides immediate updated information to use in supplementing traditional teaching methods.

“We use text books here, and the internet. We use online stuff, different websites to make up our lessons. We do research online and we do use the students’ prescribed and reference books.” (Participant 1)

“Face-to-face is just teaching theory, you know, you’re just reading from a book. They don’t have much to relate to.” (Participant 2)

“...in terms of researching other things, things like Khan’s Institute is a verified learning thing, use of You Tube video clips, Medscape is already verified.” (Participant 6)

5.6.1.3 Theme 3: Nurse educator preparedness

5.6.1.3.1 Sub-theme 3.1: Lack of instructional technology

Nurse educators at College A did not have proper Wi-Fi access at the college in order to research or supplement teaching and learning. They utilised their own data in order to access online learning material and share learning material during the COVID - 19 lockdown, as mentioned in 5.5.1.2.2 Sub-theme 2.2 (Social media for communication and learning). Besides access to Wi-Fi, learners and nurse educators did not have access to onsite computers which they could use for research purposes. Many of the nurse educators had to utilise their own laptops if required for their lessons. Online access is limited and does not work consistently.

“We do have a good IT system that manages the entire company. We’re about 1500 staff. I think all the managers have laptops and we only use our laptops. We do presentations in the boardroom. Well now everything is online. We do all our meetings on Zoom or Microsoft teams or one of these webinars. We don’t meet anymore so they have the capacity to do that, but they didn’t incorporate the students’ in it.” (Participant 1)

“We have access to Wi-Fi. Some websites are blocked, not all of them. Most of the things are controlled by IT, so it’s limited. You go on the other side and it doesn’t open (work). You cannot play videos on our laptops except if it’s a disc. Other than that you cannot go on YouTube and say that you feel this lecture is nice, you can understand better, let me play it for them. We can’t do that.” (Participant 3)

When asked if the computers at the college were functional the participants replied:

“I don’t think so. It’s available if needed for a lesson, and then it’s taken away to the IT department. It’s back and forth. Students are not on it. No.” (Participant 3)

“We have a computer lab upstairs, but it’s not functional because there’s no wifi access so the students don’t use it. They’ll use the computers to maybe type out assignments but not for research purposes” (Participant 4)

“There are some computers, but they’re outdated and not sufficient for the students to use. It hasn’t been activated and the students haven’t used them as yet, if they were activated I think they would use it.” (Participant 2)

5.6.1.3.2 Sub-theme 3.2: Computer literacy and blended learning

Most nurse educators have been forced to become computer literate through their private studies via distance learning systems. Cloete (2017:3) expresses that not only physical access is needed but also epistemological access, requiring both students and lecturers to be computer literate as well as conventionally literate and numerate. Nurse educators use the computer for their private studies, attending online meetings, emailing purposes, as well as preparing their lectures. They also utilise it for PowerPoint presentations in the classroom, which clearly shows that their basic knowledge of utilising technology is already in place. Nurse educators revealed that they utilise smartphones and can utilise their full potential. This information reveals that they are ready to learn how to educate using a blended learning approach. As mentioned earlier in the study, most nurse educators have been exposed to an online learning method via their UNISA Bachelor’s Degree studies, which has already provided a glimpse into a blended learning approach to teaching

and learning. They have agreed that blended learning would be beneficial to learners based on their own experiences.

“I think me personally; I am equipped because previously I come from a company that was paper-free.” (Participant 1)

“I would say I’m quite computer literate because I’m studying through Unisa at the moment. Everything is online, and they expect you to do your pracs online. Everything is online. So yes, I’m using Zoom, Micro-teams. I’m okay with it.” (Participant 2)

“I think I’m fine computer literacy wise, but we not equipped here at the college.” We don’t have access so which means us using our own data so that slows me down more. (Participant 4)

5.6.1.3.3 Sub-theme 3.3: Lack of support structures

Participants were asked whether the college management supported blended learning or face-to-face teaching strategies. Most nurse educators responded that there was little, if no support, for the use of a blended learning environment. While nurse educators have requested an online medium to teach, it is not within the budget constraints of the institution at which they teach. One nurse educator also mentioned that just a day before this interview, a questionnaire regarding learner opinions on the use of online learning was done at the college. The nurse educators revealed that learners were pro online learning, especially during the unprecedented era of COVID - 19.

“Yes, we at the college definitely support the use of blended learning. It’s just that we don’t have from the management of the company – that we

haven't purchased a student management system, more an online system. That's perhaps due to the fact that in KZN we have not yet acquired the new nursing qualifications and many of the private nursing colleges are closing." (Participant 1)

"We the lecturers and the principal support it, but Management is old fashioned-unfortunately." (Participant 3)

"No not fully supporting the blended learning in terms of financial resources and equipment. They can see the value in it but for now they haven't invested in the equipment that we as facilitators perhaps need to incorporate blended learning, so as a result we're having to use our cellphones and tablets." (Participant 5)

5.7 PHASE 2: THEMES AND SUB-THEMES THAT EMERGED FROM THE LEARNER INTERVIEWS

5.7.1 Phase 2: Overview of themes and sub-themes from nurse learner responses

Data analysis of the learner interviews identified three (3) main themes with sub-themes. The themes and sub-themes are illustrated in Table 5.5.

Table 5.5 Themes and sub-themes from nurse learner responses

NURSE LEARNER INTERVIEW THEMES AND SUB-THEMES		
THEME	SUB-THEMES	
Theme 1: Contextualising blended learning.	1.1	Understanding of a blended learning approach
	1.2	Self-directed learning of a blended learning approach
	1.4	Concentration and time required for a blended learning approach
Theme 2: Supplementing learning	2.1	Use of the internet to understand learning content
	2.2	Social media for communication and learning during the COVID - 19 lockdown
	2.3	Learning style factors
Theme 3 College infrastructure and support	3.1	Use of online learning strategies
	3.2	Internet connectivity
	3.3	Learners' perspectives on current teaching methods used

5.8 PHASE 2: PRESENTATION OF FINDINGS

5.8.1 Learner interview themes and sub-themes

5.8.1.1 Theme 1: Contextualising blended learning

From the interviews conducted with learners, blended learning is not a term that the learners were acquainted with. Blended learning was then defined for the learners before the interview continued. This gave the learners a brief understanding of what blended learning encompassed so that learners could relate to the subject matter. While it was found that College B learners had exposure to e-learning at the hospital in which they worked, College A learners did not have any experience utilising any online or blended learning approaches.

5.8.1.1.1 Sub-theme 1.1: Understanding of a blended learning approach

College A learner participants did not respond to the question “What do you understand by the term blended learning?” When probed on whether they have heard the term before, all learners responded “No.”

Similar to the nurse educator’s responses, College B learner participants initially understood blended learning to be an integration of theory and practical facets of education.

“For me, it would mean when you learning in theory and doing practical aspects.” (Participant 20)

“I would also think it’s the use of different types of studying – group, individual. Using projectors, computers, and books. That’s how I would see it, as well as using practical and theory.” (Participant 18)

5.8.1.1.2 Sub-theme 1.2: Self-directed learning of a blended learning approach

Barnard-Brak, Lan and Paton (2010:61) explain that self-directed learning refers to those active and volitional behaviors on the part of individuals to achieve in their learning. These behaviors include but are not limited to goal setting, time management, task strategies, environment structuring, and help-seeking. Learners at College B inaccurately assumed that the approach suggested that learning involved self-study, with no guidance during learning, while College A learners had no prior knowledge of the term blended learning.

“I’d say it’s more impersonal cos you not getting that face-to-face, not able to ask questions. You sort of by yourself.” (Participant 20)

“It’s self learning.” (Participant 18)

5.8.1.1.3 Sub-theme 1.3: Concentration and time required for a blended learning approach

Learners revealed that they preferred coming to a classroom setting because they would get distracted at home while attending online learning. Learners have other family members and children at home, which does not allow for a quiet space and time to engage in the online aspect of blended learning. What was also important is that learners shared a living space with extended family members and this contributed to a lack of personal space for studying.

“I prefer coming to class.” (Participant 18)

“I prefer coming to class than to be online teaching, because at home you get distracted. Maybe some of us have children, we don’t have nannies.”

We've got a lot of siblings living in the same house and my own space. I think for me it would be very challenging." (Participant 8)

"It's easier to come to college and listen where you can concentrate."
(Participant 6)

5.8.1.2 Theme 2: Supplementing learning

Learners voiced the need for colourful and video-related content. They agreed that they often utilised videos and online information to supplement their learning. Learners declared that while they accessed the internet to supplement learning, it can also be confusing as to which information is reliable; highlighting the fact that learners do not have adequate knowledge on which educational sites are authentic in the information that is supplied.

5.8.1.2.1 Sub-theme 2.1: Use of the internet to understand the learning content

Learners from College A and B had varying degrees of internet usage. When learners at College A were asked whether or not they use videos to understand their work, responses were as follows:

"Some of us use videos to expand on what was taught" (Participant 9)

"Never, we're really old school. Maybe if it's introduced we'll get used to it."
(Participant 12)

"There's so many out there, so you don't know which one to use and which is correct and if you doing the right thing." (Participant 11)

5.8.1.2.2 Sub-theme 2.2: Social media for communication and learning

The only form of a blended learning approach that was utilised during the COVID - 19 lockdown restrictions was the use of the social media platform, WhatsApp. Learners did not have any face-to-face interaction with nurse educators and therefore received learning material and communication via WhatsApp. This mode of communicating learning material proved insufficient owing to problems with Wi-Fi or data connection. Learners did not always have data available to download learning material and felt that this would be a problem in using a blended learning approach. It was highly surprising to learn of the amount of money learners without Wi-Fi at home, spent on data for their smartphones. Learners declared that they spent up to 500 rands (R) a month, which could easily be utilised to obtain Wi-Fi access at home. While WhatsApp was used for communicating with learners, its full potential was not. The exchange of videos for teaching lecture material to learners could have supplemented and eased the transition and anxiety to the distance learning approach that was enforced during the lockdown period.

“There’s a form of learning we did during COVID - – WhatsApp. It was nerve wrecking. Most of the time, you don’t know whether you’re doing something right or something wrong. We didn’t have someone guiding us to tell us if we were on the right track.” (Participant 21)

“Do we have enough information? That’s the biggest thing.” (Participant 21)

“On WhatsApp it was mostly questions.” (Participant 18)

“They sent worksheets with questions on WhatsApp, and then we had to do our research and fill out those questions. We had the opportunity to ask if we were on the right track. We did that quite often where we would present our answer and then ask if we were on the right track. They would reply to say yes you’re on the right track or no let’s do it from this way” (Participant 20)

5.8.1.2.3 Sub-theme 2.3: Learning style factors

Learner participants explained that they prefer the use of videos and colourful teaching methods, and many of which were visual learners, so the use of textbooks was an insufficient method of understanding learning material. Learners at College B did not clearly understand the meaning of learning styles, however they did disclose that they were only accustomed to the use of textbooks and they were “old school” learners. They also stated the introduction of videos as a teaching method will result in them becoming familiar with its use.

“With me, I’m an auditory learner so I can’t sit and look at books. If I hear someone explain something or see pictures of...., chances are I won’t get it as quickly as if someone explains it or I see a video of it.” (Participant 18)

“I like the colours because I can relate more. So I’m a visual learner.”
(Participant 19)

“I need to have something to make me remember it whereas a textbook is just a bunch of words.” (Participant 20)

5.8.1.3 Theme 3: College infrastructure and support

One of the promises of online technologies is that they can increase access to non-traditional and under-served students by bringing a host of educational resources and experiences to those who may have limited access to on-campus only higher education (Dziuban *et al.* 2018:4). The COVID - 19 lockdown restrictions proved that the sites in the study have a poor infrastructure for a blended learning approach to teaching and learning. Besides poor online access for learners and nurse educators alike, computers are not readily available for learners to utilise when necessary. Learners at College B attend an off-site private college but have a contact session on a Friday at the private hospital at which they work. It is at the hospital that they have online access and access to computers for research purposes. In terms of management support, they felt that there was limited infrastructure support for embracing a blended learning approach. Learners also revealed that most nurse educators utilised the traditional lecture approach, while reading from textbooks.

“Only face-to-face.” (Participant 13)

“Some lecturers can sit and read 55 pages and by the end of the lesson you don’t even remember 2 words. So with her section it was the most challenging because it is words. You can’t put colours to her words. That was the most challenging for me. One lecturer was a bit more open to blended learning by using the internet and adding information” (Participant 19)

“Traditional face-to-face. But it also depends on the tutor.” (Participant 18)

5.8.1.3.1 Sub-theme 3.1: Use of online learning strategies

When learners were asked if they felt equipped to use blended learning, their responses were fairly negative but were keen to use blended learning as a

strategy to learn. Learners at College A did not have any online learning experience, while College B learners revealed that they engaged in e-learning activities at the private hospital at which they worked. These activities were part of monthly learning activities conducted by the hospital training department. These learners agreed that the experience was positive. While this was the only form of online learning experienced by learners, all learners disclosed that they did not feel confident in engaging a blended learning approach. They added that they required training on its use, but were keen to utilise this approach in future education and view it as an approach to improve understanding of their course content.

“Not really equipped.” (Participant 8)

“Yes, after learning about it, we will need help to use it. It will help us to understand the work better.” (Participant 10)

“Yes, for variety and for the increased guarantee of understanding.”
(Participant 21)

5.8.1.3.2 Sub-theme 3.2: Internet connectivity

Learners also felt that the management of the private nursing colleges in this study did not pay attention to the concern regarding poor online access. Learners made use of their own data if they needed to use the internet for information on their cellphones. This added to their financial burden because they were forced to purchase more data for their cellphones. Wi-Fi at College B was available but unreliable. These learners explained that the Wi-Fi rarely worked, so they did not use it. Learners at College A had no access to Wi-Fi at all.

“At college there is Wi-Fi but its limited data. Hardly works. They have access to all websites but it’s there for a day and then not there for months, so we used our own. But when we come to the hospital on a Friday for our contact session then it’s available. We had the computers, was able to sit down and do our work. We could even print some important things.” (Participant 20)

“No. They (Management) don’t bother.” (Participant 10)

“There’s nothing else except the text books provided.” (Participant 9)

“Yes we do at the hospital, but nothing at the college.” (Participant 21)

5.8.1.3.3 Sub-theme 3.3: Learners’ perspectives on current teaching methods used

Current teaching methods that emerged from the study consisted of face-to-face lecture methods only and the use of a very limited WhatsApp social media platform during the COVID - 19 lockdown restrictions. There was a negative response from all participants regarding whether or not face-to-face strategies would encourage learners to become critical thinkers and prepare them for clinical practice. Learners expressed the need to improve their use of technology because the clinical area of nursing requires them to use advanced technology. A learner also voiced that learning visually using video content for anatomy and physiology would increase understanding of how the body works and how illnesses affect the body.

“My red and someone else’s red is different. So if you actually have that visual of, Okay! That’s how it should look! Then it will help.” (Participant 20)

“Not really, No.” (Participant 19)

“I literally remember the first 15 minutes of the lesson and after that it’s gone.” (Participant 21)

5.9 SUMMARY OF THE CHAPTER

Chapter 5 presented the research findings according to the themes and sub-themes which emerged from the data analysis of the semi-structured one-on-one interviews and focus group interviews with the participants. The data revealed that all learner participants had minimal prior knowledge related to blended learning, but data analysed revealed that participants have observed that the current traditional lecture method of education is insufficient to adequately prepare them for the fourth industrial revolution era. Chapter six will conclude the research report with a discussion of the findings, recommendations and limitations of the study.

CHAPTER 6: DISCUSSION OF FINDINGS

6.1 INTRODUCTION

In Chapter 5 the findings of the study were presented. In this chapter, the researcher will discuss the results from the findings of the one-on-one, semi-structured nurse educator interviews and the focus group interviews conducted with learners. The discussion is based on the themes that emerged from the analysis of the data collected during the interviews with participants.

6.2 DISCUSSION OF FINDINGS

The research question that was asked:

What are the practices and perspectives of nurse educators and learners in selected Private Nursing Colleges in KwaZulu–Natal, South Africa, regarding the use of blended learning as a teaching and learning strategy?

The study included six (6) nurse educators and fifteen (15) learners in the interview data collection phase. The data collected was based on the objectives of the study and was, guided by Khan's Octagonal Theoretical Framework (Singh, 2003:51-54).

6.3 RELEVANCE TO OBJECTIVES OF THE STUDY

The objectives of this study were to:

- Determine the current teaching and learning practices used at private nursing colleges in KZN.
- Explore the perspectives of nursing nurse educators and learners at private colleges in KZN with regard to blended learning as a teaching and learning strategy.

- Identify and examine potential strategies to facilitate the use of blended learning and teaching strategies at private nursing colleges in KZN

The objectives ensured that the researcher was able to gain relevant insight into the study. It guided the researchers' questions during the interviews, to gain an understanding of nurse educator and learner perspectives on the use of blended learning as well as the teaching practices utilised at the respective research sites.

6.4 RELEVANCE TO THE THEORETICAL FRAMEWORK

Khan's Octagonal framework (Singh 2003:51-54) is a guide to plan, develop, deliver, manage and evaluate blended learning programmes. Singh (2003:51-54) adds that to ensure effective delivery of learning and thus a high return on investment, organisations exploring strategies for effective learning and performance have to consider a variety of issues.

The framework's dimensions and sub-dimensions crucially guided the study by exploring the readiness of nurse educators, learners and nursing colleges in the KZN region of South Africa, for the use of blended learning as a teaching and learning strategy. While the nurse educators and learners perceive blended learning to be a promising strategy to teach and learn; nursing college infrastructures are not ready to meet the growing needs for a digital level of education.

6.5 OVERVIEW OF THE RESEARCH DISCUSSION

For clarity, the presentation of findings was done separately for nurse educators and learners under the headings of Phase 1 and Phase 2 respectively. The data

analysed revealed three (3) major themes and sub-themes separately for nurse educators and learners as follows:

6.5.1 Phase 1: Nurse educator themes and sub-themes

6.5.1.1 Theme 1: Contextualising blended learning

Theme 1 sub-themes included:

- Understanding blended learning as a concept
- Advantages of blended learning for learners
- Embracing change in teaching and learning

6.5.1.2 Theme 2: Experience using technology for instructional purposes

Theme 2 sub-themes included:

- Nurse educators experience using blended learning
- Social media for communication and learning
- Supplementing learning using online resources

6.5.1.3 Theme 3: Nurse educator preparedness

Theme 3 sub-themes included:

- Lack of instructional technology
- Computer literacy and blended learning
- Lack of support structures

6.5.2 Phase 2: Learner themes and sub-themes

6.5.2.1 Theme 1: Contextualising blended learning

Theme 1 sub-themes included:

- Understanding of a blended learning approach
- Self-directed learning of a blended learning approach
- Concentration and time required for a blended learning approach

6.5.2.2 Theme 2: Supplementing learning

Theme 2 sub-themes included:

- Use of the internet to understand the learning content
- Social media for communication and learning during the COVID - 19 lockdown
- Learning style factors

6.5.2.3 Theme 3: College infrastructure and support

Theme 3 sub-themes included:

- Use of online learning strategies
- Internet connectivity
- Learners' perspectives on current teaching methods used

6.6 PRESENTATION OF THE RESULTS

The themes are discussed, interpreted and supported with relevant literature where appropriate to do so.

6.6.1 Phase 1 Nurse educator themes and sub-themes discussion:

6.6.1.1 Theme 1: Contextualising blended learning

The study's findings revealed that the majority of the nurse educators perceived blending learning to be an integration of theory and practical work. However, the clinical facilitators from College B understood that the blended approach included face-to-face and an online blend of learning. There was an understanding that blended learning involved a self-paced learning approach, where study material could be accessed flexibly in one's own time and space. This understanding is in keeping with Vaughan's (2007:84) study that students preferred the blended learning design as it provided them with the flexibility to work from home.

While there are nurse educators who preferred the face-to-face learning environment and attributed it to being old school, those nurse educators that studied privately via a distance learning tertiary education facility, experienced the benefits of accessing online learning and being a participant in online education. As one participant found, the benefit of being able to attend an important personal event, while still being able to attend an online examination far outweighed the need to be at a pre-selected venue to conduct the practical examination. This prevented the participant from having to rebook the practical examination and prevented an extension of study time.

The study findings included that the movement into the Fourth Industrial Revolution necessitates a change from utilising traditional methods of teaching and learning into a blended approach to teaching and learning. Naidoo and Singh-Pillay (2020:583) agree that teachers embrace the Fourth Industrial Revolution to promote effective teaching and learning as they need to be exposed to and be well acquainted with using technology-enabled pedagogy. Nurse educators expressed the need to adapt and move from traditional strategies of teaching to a more online teaching approach.

Nurse educator participants declared that a blended learning approach would eventually lead to learners becoming critical thinkers, and this would better

prepare them for the clinical setting of nursing. They stated that they felt as if they are lagging behind by only using the traditional classroom teaching strategy.

6.6.1.2 Theme 2: Experiences using technology for instructional purposes

Most nurse educators have experienced online and blended learning only via their private nursing degree studies with the University of Southern Africa (UNISA). The nurse educators revealed that while they had no prior experience with online or blended learning, they had a positive experience using it via their UNISA studies. The online aspect of their studies offered flexibility that would otherwise not have been attainable during the lockdown period of COVID - 19. While the initial experience of online learning proved to have technical glitches and difficulties for some older learners completing their UNISA nursing degree, the learners were able to meet their learning outcomes through this mode of learning.

The COVID - 19 pandemic lockdown forced nurse educators to make use of WhatsApp to communicate with learners, however, the social media platform was not utilised to its full potential. While nurse educators attempted to communicate and provide direction for learners to reach their education goals during the unprecedented COVID - 19 lockdown, synchronous sessions may have alleviated the anxieties faced by learners. Hrastinski (2008:52) highlighted that synchronous sessions help e-learners feel like participants and becoming a part of a community rather than isolated individuals communicating with a computer. One nurse educator explained that the results obtained from the final examinations post lockdown were the worst ever obtained at the college.

This study also highlighted the discontent with Wi-Fi access at College A by nurse educators and learners, thereby increasing their own costs by buying data

to send and access study content when WhatsApp was used during the COVID - 19 lockdown. Nurse educators at College A also stated that while they had Wi-Fi access at the college offices for nurse educators to use, they were highly restricted to certain online sites, which prevented them from using YouTube to access videos and other teaching sites to supplement teaching material.

Hurtubise, Martin, Gilliland and Mahan (2013:13) agree with the findings of the study and state further that videos are a powerful teaching and learning tool. They add that it is one of the few mediums that have been used effectively in many facets of medical education face-to-face teaching and at a distance. Participants at College A made very little use of video-related teaching and learning content, whether that included YouTube videos or not. A disc containing teaching material, which is obtained with prescribed books for the subjects Primary Health Care subject and Anatomy and Physiology is the only video-related content used for teaching. Clinical facilitators at College B made use of videos to supplement their in-service teaching, especially when the WhatsApp social media method was used for teaching during the COVID - 19 pandemic lockdown.

In a study conducted by Wong, Ho, Olusanya, Antonini and Lyness (2020:2), it was found that guidelines, protocols and standardised operating procedures, usually kept within institutions were shared at an unprecedented rate during the pandemic, with social media such as WhatsApp being used as an effective vehicle.

Learner engagement was highlighted in this study. While the only form of anything close to a blended learning approach used was WhatsApp, nurse educators expressed that there was more learner engagement on this platform than in the classroom setting. An anatomy and physiology nurse educator stated that she found learners to be more engaged when she used videos in the classroom. Nurse educators at College B revealed that when learners are battling to grasp new content, she shows them a video related to the content

being taught and they instantly understand what is being taught. In their study, Hurtubise *et al.* (2013:14) stated that research shows that the incorporation of images into the educational process increases learning retention.

Nurse educators expressed that learners made extensive use of Google to clarify and understand learning content. Nurse educators also feared that learners were not empowered to use reliable internet sources for information and thus required education on how to research for reliable information.

6.6.1.3 Theme 3: Nurse educator preparedness

Infrastructure is a sub-theme that plays an important part in the success of a blended learning approach. College A and B did not have access to computers for learners to use. While College A had a computer laboratory, the computers were not accessible to learners for anything other than typing assignments. According to the nurse educators at the college, the computers were also used at other locations of the college and private hospital which meant that the computer laboratory was not a functional one. A computer, however, was utilised mainly for assignments by learners and teaching and attendance of online meetings by nurse educators. Nurse educators voiced that the exposure to computers and technology at the tertiary level is a bit too late to adequately ensure that learners can be confident in the use of blended learning, and should thus be introduced earlier to adequately prepare learners for the future. Cloete (2017:6) concluded in her study that technology is more than gadgets that can be utilised, but also implies an attitude towards life. The study illustrated that the impact of technology in education is not linear, but as much as it presents various opportunities, it also poses several challenges.

Nurse educators at both sites agreed that there were systems in place to provide a blended learning approach, but they certainly required the support of

management to make use of such an approach to teaching and learning, which at this point was resistant due to financial reasons. Most nurse educators were above the 40 year age bracket and were forced to gain computer skills through their private UNISA studies, and found that they were computer literate enough to engage in a blended learning approach. While some nurse educators have had exposure to blended learning, they all expressed the need for technological training to feel confident in the use of blended learning as a teaching platform.

The study findings indicated that all nurse educators and learners had a positive response to using blended learning as a teaching and learning strategy. Since many of the nurse educators were exposed to a blended learning strategy in private tertiary education recently, they stated that they had to learn quickly, but found that this strategy worked well and prepared them for the technological future. Nurse educators voiced their concerns that this generation enjoys the use of technology, and they feel comfortable with it and that they do not want to learn in a face-to-face environment

One nurse educator indicated that she had surveyed her learners the previous day, on the use of online learning. The result was that many of the learners preferred an online learning platform. Nurse educators also revealed that blended learning can expand and reach the different types of learners. A study conducted by Ayandiran (2016:42) found that people learn differently and that there is no unified way of acquiring knowledge. The author added that students can also learn through a variety of activities that apply to their individual and different learning styles.

Nurse educators found that learners are beginning to request online platforms for learning, instead of sitting in a classroom. Nurse educators revealed that learners showed improvement in understanding learning content when learners were exposed to video-related content. While they are still utilising textbooks as their

main form of research for teaching, nurse educators are making more use of reliable websites and online content to formulate their lessons. This is a clear indication that nurse educators themselves are moving away from the traditional classroom strategy of teaching.

6.6.2 Phase 2: Learner themes and sub-themes discussion:

6.6.2.1 Theme 1: Contextualising blended learning

Learners from both study sites were not exposed to a blended learning approach. They also perceived it to be a mix of theory, practical work, as well as utilising different types of study material.

Some participants indicated that the ability to concentrate in a home environment would be less than that of being in an actual classroom, while others felt that being able to access the lesson from their own homes would allow them to save travelling time and money. From a cultural perspective, many learners share their homes with large families, and some learners felt that they did not have the personal space to engage in an online learning approach. They also identified that it would be difficult to concentrate on their studies while the distraction from their children was a strong negative factor. Vyas and Butakhieo (2021:61) found that home working requires a quiet and dedicated space to perform work duties, which can be a real challenge for those living in tiny homes.

6.6.2.2 Theme 2: Supplementing learning

Learner participants of this study did not have blended learning exposure at their respective nursing colleges but engaged in online research on their own. After defining and explaining what blended learning entailed, learners voiced a keenness to participate in a blended approach to learning. It was found that

learners at College A made little use of online video content to supplement learning and understanding of their prescribed work. Learners at College B revealed that they frequently utilised videos for understanding their course content. Learners confirmed this observation by admitting that they were able to search the internet for required content, however, due to the vast amount of information on the internet. They only utilised certain websites like Khan's Academy and Google Scholar.

Learners revealed that nurse educators from their respective colleges sent study material, references and worksheets on WhatsApp during the COVID - 19 lockdown restriction period, but there were no other forms of teaching done on the WhatsApp groups. They voiced that the information received was insufficient and they had to research all the study material. They communicated with nurse educators via WhatsApp to clarify whether or not their answers to questions were correct. Learners felt that the WhatsApp groups formed during the COVID - 19 lockdown did not meet their learning needs.

The study also revealed that most learners, being part of a younger generation, are computer literate and had more exposure to its use via smartphones. They further identified that, like the nurse educators, they required training and exposure to the blended learning approach. It was also found that all learners make use of smartphones, for social media, internet surfing, emails and basic phone functionality. A study conducted by Van Wyk (2018:68) on the use of mobile devices in a blended learning environment revealed that South African learners are already intuitively using mobile devices in their educational environment.

Learners from College A could not always access learning material sent via Whatsapp and therefore had to go to internet cafes or get the information from colleagues at a later stage. There was one learner from College A who

acknowledged that she had Wi-Fi access at home, which made accessing study material much easier for her. Online access was highlighted as a problem with many learners from College A disclosing that data is expensive and learners surprisingly purchased up to R500 data a month. Learners did not provide explanations for purchasing large amounts of data for their cellphones instead of obtaining an uncapped Wi-Fi bundle contract for home use. College B learners stated that they all had access to Wi-Fi at home, and this made communication via the WhatsApp media platform during the COVID - 19 lockdown restrictions easier.

Learners also admitted that they supplemented their learning using mostly Khan's Academy and Google Scholar, among other internet sites. They appreciated the colourful and visual aspects of learning that the internet provided. This affirmed that learners were equipped to use an online strategy for learning. They also divulged that they felt that textbooks were just theory and a bunch of words, and they needed something with colourful content and videos to help them remember learning content.

A surprising revelation in this study was the amount of money that learners spent on purchasing data to use the internet. They did state that data was expensive and they were required to use their own data at college to research information. Learners revealed that they purchased data for the cellphones from daily to every three days, and shockingly spent up to R500 a month on data alone. What was apparent in this study was the lack of knowledge that a contract for Wi-Fi at home could be less expensive and used for online access.

Most learners voiced that the typical classroom teaching strategy does not appeal to them as nurse educators sometimes read from the textbook throughout the lesson, and they are only able to grasp the first 15 minutes of the lesson before they are bored and distracted.

6.6.2.3 Theme 3: College infrastructure and support

The study revealed that College A learners did not have exposure to a blended learning or online learning approach, but College B learners were exposed to e-learning at the private hospital where they were employed. They had the opportunity to use e-learning during their hospital's monthly training programme for the entire hospital. College B learners stated that there were no computers at the off-site college that they attended for theory. They had access to computer facilities at the hospital at which they were employed, as well as Wi-Fi access at home, which allowed them to access study material and to surf the internet at their convenience. The college did provide Wi-Fi but it hardly worked and the learners here felt that it was easier to use their own data at the college. They would make use of the computers on Fridays during their contact sessions at the hospital.

Most learners from both sites showed enthusiasm for a blended learning approach after being educated on what blended learning entailed, while some learners at College A were concerned about online access, specifically the cost of data. College B learners stated that they enjoyed the blended learning approach of one nurse educator at the private hospital in which they worked because it is more exciting and interesting. Another learner stated that blended learning offered variety and an increased guarantee of understanding. Learner participants felt that they are not yet equipped to use a blended learning approach because most of them have not had exposure to it, but they are comfortable using a smartphone, which these days is like having a computer in the pocket.

Learners also responded that the current face-to-face teaching strategies do not encourage learners to become critical thinkers, and they do not feel like it adequately prepares them for the clinical setting. A learner revealed that for

instance, when assessing an intravenous site, the observations of redness at the site may be viewed as possible inflammation and may differ from what others perceive as redness or inflammation. If they watched relevant videos, they would know exactly when an intravenous site is no longer healthy because the video provides a visual medium for learning.

Learner participants also felt that the classroom setting did not impact all learners due to their different learning styles. While learners expressed their concern with online access, they also voiced that a blended learning approach would better suit this more technologically-minded generation. The advantage of becoming better prepared for their Registered nurse roles in the clinical environment is a positive attribute to the use of blended learning.

6.7 SUMMARY OF THE CHAPTER

This study explored the practices regarding the use of blended learning as a teaching and learning strategy, in selected private nursing colleges in KwaZulu-Natal, South Africa. It drew on the theoretical framework of Khan's Octagonal framework adapted by Singh (2003:51-54) with regards to nurse educator, learner, and institutional readiness and perceptions of nurse educator and learner on a blended learning approach. The study revealed that nurse educators and learners have minimal knowledge of blended learning, and while some nurse educators have experienced online learning through their private studies, nurse educators and learners alike have not made use of a well constructed blended learning approach to teaching and learning. Both nurse educator and learner participants have expressed the lack of infrastructure, college and management support regarding the use of blended learning.

While the COVID - 19 pandemic lockdown restrictions created an opportunity to explore and utilise this mode of education delivery, the full benefit of the only available online tool, WhatsApp, as a communication and teaching technique, was not used to enhance teaching and learning. This emphasises the extent to which nursing colleges in the private sector still need to grow in the use of technology in education. Nurse educators and learners are already utilising smartphones and the internet on a daily basis, which highlights that they have experience utilising online means of education, which needs to be refined to use a blended learning approach to education in the nursing field. COVID -19 has compelled tertiary education institutions to utilise online learning, and there has been a boom in this mode of teaching and learning. Nurse educators and learners at the private nursing colleges in this study have revealed that they too desire the need for an online and blended learning approach, while admitting that they still require training on its use.

CHAPTER 7: SUMMARY, LIMITATIONS, RECOMMENDATIONS AND CONCLUSION

7.1 INTRODUCTION

In Chapter 6, the researcher discussed the results from the findings of the interviews conducted with nurse educators and learners that emerged from the analysis of the data collected. In this chapter, the researcher will discuss the findings and the conclusions drawn from the findings of the interviews conducted. The recommendations and limitations of the study are also discussed.

7.2 OVERVIEW OF THE STUDY FINDINGS

The 21st century, referred to as the fourth industrial revolution, accompanied by challenges and opportunities, has proven that technology is an integral part of living. The overall aim of the study was to explore the practices regarding the use of blended learning as a teaching and learning strategy, in selected private nursing colleges in KwaZulu-Natal, South Africa. Blended learning could be considered a valuable strategic educational tool. It is noted that when utilised properly, it can improve the modernisation of education. Nurse educators and learners in the current study have reported greater satisfaction of learners with the use of videos and media to supplement learning. Learners found themselves to be constantly supplementing understanding of learning content by accessing the information on the internet. They rationalised that finding colours, graphics and media-related education on the internet to be more appealing, stimulating and simpler to understand. The findings of this study noted that learners are digitally minded, and are highly sociable beings. The findings also alluded to the face-to-face method of teaching to be boring, as learners felt that they could not concentrate for long periods. Participants concluded that having an online aspect of education delivery was appealing and stimulated overall engagement.

7.3 LIMITATIONS

While this study offers useful information regarding undergraduate nurse educators' and learners' perceptions on the use of blended learning, it has limited generalisability because of the size of the sample and the type of statistical analysis performed. Limitations in this study include the following: methodological intervention was at two private nursing colleges in the KwaZulu-Natal region. College A was a nursing college that was part of a private hospital. College B learners attended an external private nursing college, but were employed at a private nursing hospital. Therefore the findings of this study cannot be generalised to the perceptions of other nursing students in different contexts or in government nursing colleges.

7.4 RECOMMENDATIONS

The COVID - 19 lockdown restrictions have taught us that learning cannot stop when such unpredictable situations arise and we need to be ready to face challenges. While the pandemic restrictions have halted adequate learning, nurse educators and learners have faced similar challenges in teaching and learning respectively. Recommendations for the study are found below.

7.4.1 Nursing practice

The nursing field requires a mode of education delivery that can reach learners of different learning styles; but more importantly, a mode that continues to impart adequate knowledge without the restrictions of time, place and person. While blended learning can assist in education delivery at any time, the skills required for its use by nurse educators and learners need attention if the nursing education sector is to move with the era of the fourth industrial revolution.

7.4.2 Nursing education

The blended learning approach to nursing education can offer the advantages of two important teaching methods. Online learning offers learners the flexibility to learn where and when it is most convenient despite the inability to attend a classroom setting, while traditional face-to-face teaching remains critical to some aspects of nursing education. The introduction of a blended learning approach in the study has been perceived by learners as an approach that could improve their critical thinking skills.

7.4.3 Institution management and policymaking

Educational institutions must strive to embrace online learning technology before nurses are left behind in using technology that is so integrated into the health care system at present. Private nursing college management structures need to implement a blended learning approach, which will require proper infrastructure and training of nurse educators to meet the growing demand for this approach to teaching and learning. A mindset change has to occur for blended learning to be viewed as a positive approach to teaching by private nursing colleges.

7.4.4 Further research

To improve the perception and integration of blended learning for nursing education, it is vital to conduct more research on blended learning to evaluate its effectiveness in nursing education. In addition, there is a need to gain a clear understanding of the challenges associated with the use of blended learning in public and private nursing colleges to explore the experiences of both nurse educators and or learners on its use. More studies aimed at studying the effectiveness of blended learning in all public and private education institutions are also recommended.

7.5 ADDITIONAL RECOMMENDATIONS

While the literature reviewed during the study revealed studies conducted for blended learning in nursing education, the literature review also identified limited studies conducted about the use of blended learning in non-nursing colleges. Further studies on the use of blended learning in non-nursing colleges will add value to its use in the education sector.

7.6 SUMMARY OF THE CHAPTER

The objective of this study was to determine nurse educator and learner perspectives on the use of blended learning in private nursing colleges in the KZN region. The findings of this study are significant in contributing to the related literature on blended learning, but more so for nurse learners in private nursing colleges. The results advance our understanding of the blended learning approach to teaching and learning and offer useful insights on nurse educator and learner perspectives related to blended learning. Findings also revealed an advantage of blended learning is that it provides an avenue to increase learner engagement in their learning. The success of a blended learning programme is highly dependent on nurse educator preparation and competency to successfully result in increased learner engagement. Another important aspect of a successful blended learning programme is the support and guidance of the management of the institution, who provide the infrastructure for nurse educators and learners alike. Nurse educators and learners in the study have revealed that a blended learning approach to nursing studies would benefit the future of nursing, by integrating technology into the nursing programme in the now fourth industrial revolution in teaching and learning. A blended learning approach has also been viewed by participants as a means to promote independent learners in the nursing field, which will eventually increase critical thinking skills. A face-to-face approach to teaching has proven to be insufficient for learners in this study, especially considering that learners

are highly technologically minded and frequently utilise their handheld devices to access emails, social media or simply to surf the internet.

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APPENDICES

Appendix A1: Permission letter to Gandhi Mandela Nursing Academy

15 Allanford Close
Lincoln Meade
Pietermaritzburg
3201

The Principal
Gandhi Mandela Nursing Academy
52 Ismail C Meer Street
Durban Central
Durban
4001

Dear Sir/Madam

Re: REQUEST FOR PERMISSION TO CONDUCT A STUDY

I am registered for a Masters Degree at the Durban University of Technology in the Department of Nursing. The topic of my research study is: Exploring the pedagogical benefits of a blended learning strategy in selected Private Nursing Colleges in KwaZulu-Natal, South Africa

The aim of this study is to explore the practices regarding the use of blended learning as a teaching and learning strategy, in selected Private Nursing Colleges in KwaZulu-Natal, South Africa. The study

will be conducted onsite in a quiet classroom, at the Nursing College, using a qualitative research design.

Data collection:

This study will use a qualitative, exploratory, descriptive research design to collect data. The target population for this study will include nurse educators teaching the second year R.683 nursing students and undergraduate nursing learners studying in their second academic year 2021 who are enrolled for the R683 course. Participants will be selected using purposive sampling. The desired minimum number of participants selected from each site will be approximately 15-20 learner participants, and 10 nurse educator participants to ensure that data saturation is reached. An additional two to three participants from each sample population, will be included in data collection after data saturation has been reached, to ensure that no new data will emerge.

Once participants have signed consent to participate in the study, they will be given a short demographic questionnaire to complete before the interviews are conducted. This data will be collected from learners using focus groups interviews and from nurse educators by means of semi-structured interviews. Interviews will be conducted by the researcher in a private classroom using COVID - 19 social distancing protocol, telephonically or via an online medium such as TEAMS, Skype, WhatsApp or Zoom interview method. The interviews and focus group sessions should take approximately 30 to 45 minutes per session.

I hereby request your permission to conduct a research study at your institute.

My research proposal has been attached for your perusal.

Your permission to conduct the study will be highly appreciated.

Regards

Mrs. C Lachman
Student
lachman.cherie@gmail.com

Dr. TSP Ngxongo
Supervisor
thembelihlen@dut.ac.za

Dr. V Naidoo
Co-supervisor
vasanthrien@dut.ac.za

Mrs. M Coopasami
Co-supervisor
marilynnc@dut.ac.za

Appendix B1: Gatekeeper permission from Gandhi Mandela School of Nursing



JOINT MEDICAL HOLDINGS PROPRIETARY LIMITED
Registration No. 201101044807

83 Ismail Meer Street
Durban, 4001
P O Box 48143
Qualbert, 4078
Fax : (031) 309 1401 (Management)
Tel : (031) 314 3010 (Management)

Subsidiaries:

City Hospital	(031) 3143000
Durdoc Hospital	(031) 3275100
Isipingo Hospital	(031) 9137000
Maxwell Clinic	(031) 3143000
Ascot Park Hospital	(031) 3748000
Richards Bay Medical Institute	(035) 7800240
Gandhi Mandela Nursing Academy	(031) 3093094
CIS-Med Ambulance	(031) 3091524
Toll Free	0800 333 911

Mrs C Lachman
15 AllanFord Close
Lincoln Meade
Pietermaritzburg

15th February 2021

Dear Mrs Lachman

A Masters Study at Durban University of Technology: Exploring the Pedagogical Benefits of a Blended Learning Strategy in Selected Nursing Private Colleges in KwaZulu Natal, South Africa.

Thank you for sending your research protocol, questionnaires and IREC approval from DUT to the Manager of the JM/H Group. Your protocol is very good and will achieve a number of benefits.

I would like to ask you if your questionnaires will give you the answer to whether the tutors will encourage independent learning and the students will become independent learners. This is an issue which needs addressing in the training of all students.

Thank you for considering the Gandhi Mandela Nursing Academy as one of the sites for your study.

Please give a follow-up report on the progress of your study in six months time to the Principal of the Academy.

Kind regards and best wishes for a promising study.

PROFESSOR M. ADHIKARI
CHAIRPERSON ETHICS COMMITTEE



Directors: Dr R L Bhebe; Mr D Coole; Mr M Groedel; Dr M Kizana; Mr M Woodley; Dr J W Thabatha

Appendix A2: Permission letter to Mediclinic Pietermaritzburg

From: Lachman, Cherie

Sent: 08 February 2021 03:03 PM

To: Bredenkamp, Doreen

Subject: Masters Degree Student - Permission to conduct research with Mediclinic PMB learners and nurse educators

Good day Mrs. Bredenkamp

I am registered for a Masters Degree at the Durban University of Technology in the Department of Nursing.

The topic of my research study is: Exploring the pedagogical benefits of a blended learning strategy in selected Private Nursing Colleges in KwaZulu-Natal, South Africa

The aim of this study is to explore the practices regarding the use of blended learning as a teaching and learning strategy, in selected Private Nursing Colleges in KwaZulu-Natal, South Africa.

The study will be conducted using a qualitative research design.

Data collection: This study will use a qualitative, exploratory, descriptive research design to collect data. The target population for this study will include nurse educators teaching the second year R.683 nursing students and undergraduate nursing learners studying in their second academic year 2021 who are enrolled for the R683 course. Participants will be selected using purposive sampling. The desired minimum number of participants selected from each site will be approximately 15-20 learner participants, and up to 10 nurse educator participants to ensure that data saturation is reached. An additional two to three participants from each sample population, will be included in data collection after data saturation has been reached, to ensure that no new data will emerge.

Once participants have signed consent to participate in the study, they will be given a short demographic questionnaire to complete before the interviews are conducted. This data will be collected from learners using focus groups interviews and from Nurse educators by means of semi-structured interviews.

Interviews will be conducted by the researcher in a private room using COVID - 19 social distancing protocol, telephonically or via an online medium such as TEAMS,

Skype, WhatsApp or Zoom interview method. The interviews and focus group sessions should take approximately 30 to 45 minutes per session.

I hereby request your permission to conduct a research study at Mediclinic Pietermaritzburg.

My research proposal can be forwarded for your perusal.

Your permission to conduct the study will be highly appreciated.

Regards and God bless

Cherie Lachman

Acting Unit Manager

Day/High Care Unit

MEDICLINIC SOUTHERN AFRICA

90 Payn Street

Pietermaritzburg

3201

P.O.Box 3342

Pietermaritzburg

3201

T +27 338453700

M +27 338453922 (optional)

F +27 338845390

www.mediclinic.co.za

Appendix B2: Gatekeeper permission from Mediclinic Pietermaritzburg

From: Bredenkamp, Doreen
Sent: 10 February 2021 12:36 PM
To: Lachman, Cherie

Subject: RE: Masters Degree Student - Permission to conduct research with Mediclinic PMB learners and Nurse educators

Dear Cherie,

Thank you for supplying me with the information. You may use the Mediclinic students studying at Shekinah nursing school as participants for your data collection.

Good luck with your studies!!

Regards

Doreen Bredenkamp
Learning Centre Manager
MEDICLINIC SOUTHERN AFRICA

Mediclinic Ltd. Learning Center Central Region
Quantum Building 2nd Floor
3rd Avenue, Westdene,
Bloemfontein, 9301
Suite 152, Private Bag x01,
Brandhof, 9324
T +27 51 411 4101/03
M +27 82 821 9016
F +27 866811227
www.mediclinic.co.za

Appendix C: Institutional Research Ethics Committee Approval Letter



Institutional Research Ethics Committee
Research and Postgraduate Support Directorate
2nd Floor, Berwyn Court
Gate 1, Steve Biko Campus
Durban University of Technology

P O Box 1334, Durban, South Africa, 4001

Tel: 031 373 2375

Email: lvishadi@dut.ac.za

http://www.dut.ac.za/research/institutional_research_ethics

www.dut.ac.za

17 February 2021

Mrs C Lachman
15 Allanford Close
Lincoln Meade
Pietermaritzburg

Dear Mrs Lachman

Exploring the pedagogical benefits of a Blended Learning strategy in selected Private Nursing Colleges in KwaZulu-Natal, South Africa
Ethical Clearance number IREC 154/20

The Institutional Research Ethics Committee acknowledges receipt of your gatekeeper permission letter.

Please note that FULL APPROVAL is granted to your research proposal. You may proceed with data collection.

Any adverse events [serious or minor] which occur in connection with this study and/or which may alter its ethical consideration must be reported to the IREC according to the IREC Standard Operating Procedures (SOP's).

Please note that any deviations from the approved proposal require the approval of the IREC as outlined in the IREC SOP's.

Yours Sincerely

Prof J K Adam
Chairperson: IREC

Appendix D1



LETTER OF INFORMATION FOR NURSE EDUCATORS

Title of the Research Study:

Exploring the pedagogical benefits of a blended learning strategy in selected Private Nursing Colleges in KwaZulu-Natal, South Africa

Principal Investigator/researcher:

Cherie Lachman – Masters in Nursing Science student

Co-Investigator/s/supervisor/s:

Supervisor:

Prof. T Ngxongo

Durban University of Technology

Email: thembelihlen@dut.ac.za

Co-supervisor:

Dr. V Naidoo

Durban University of technology

Email: vasanthrien@dut.co.za

Co-supervisor

Mrs. M Coopasami

Durban University of Technology

Email: marilynnc@dut.co.za

Brief Introduction and Purpose of the Study:

Good day, I am a 2nd year student at DUT doing research for my Masters Degree in Nursing science.

I would like to invite you to participate in this study.

Aim of the study:

to explore the practices regarding the use of blended learning as a teaching and learning strategy, in selected Private Nursing Colleges in KwaZulu-Natal, South Africa.

What is research?

Research is a systematic search or enquiry for generalized new knowledge

Outline of the Procedures:

You have been invited to be a part of the data collection process for this study by having a one-one interview with the researcher of this study. You have been identified as a possible participant because you meet the criteria required for this study. You are a Nurse educator, teaching the second year R.683 nurse learners who are enrolled for the R.683 course at the private nursing colleges.

You will have to understand what the study is about before you sign consent and take part in the study. Once you have provided a written consent for the interview, a date and time convenient to you and the nursing college, which does not disrupt normal college activities, will be agreed upon for the data collection interview. Permission will be requested from you to use a voice recorder during the interview. I will also take written notes during the interview. The interview session will last approximately 30 to 45 minutes, but clarity on certain data may require a follow-up interview.

Risks or Discomforts to the Participant:

There are no foreseeable risks or discomforts involved in the participation of the study.

Benefits:

Benefits for the researcher include the potential for publication of the study and the opportunity to contribute to a study in the field of blended learning. The research will not offer personal benefits but

collectively it will make a contribution to knowledge development in this field of study. The results of the study could be applied to other private nursing colleges in the KZN region.

No clear benefit will be derived to you but the findings of this study can be made available to you on completion of the study.

Reason/s why the Participant May Be Withdrawn from the Study:

Your participation in this study is completely voluntary. You may withdraw from the study at any time without prejudice or providing any reason for your decision. Your withdrawal will by no means influence your relationships at your college.

Remuneration:

There will be no remuneration for participants of this study.

Costs of the Study:

No costs will be incurred by you for participating in this study.

Confidentiality:

The information that you provide will be kept strictly confidential. To ensure anonymity the researcher will assign codes for each campus, using the letters A and B. You and each of the participants will be coded as a number, with none of your personal information appearing in the data collection. The demographic questionnaires will also be coded with numbers.

Results:

If the results of the study are published, the data will be presented in group form and individual participants will not be identified. The findings of this study can be made available to you on completion of the study.

Research-related Injury:

No research-related injury is foreseen, and therefore there will be no compensation provided.

Storage of all electronic and hard copies including tape recordings:

The data will be stored for 5 years in a cupboard under lock and key at the researcher's residence – and will be known only to the researcher. All electronic data will be secured by using a protected password known only to the researcher. After the research is completed, the hard copies will be shredded and electronic data will be deleted.

Persons to Contact in the Event of Any Problems or Queries:

Please contact the researcher (0833378609), my supervisor Dr. TSP Ngxongo on 031 373 2606 or the Institutional Research Ethics Administrator on 031 3732375.

Complaints can be reported to the Director: Research and Postgraduate Support Dr L Linganiso on 031 373 2577 or researchdirector@dut.ac.za.

Appendix D2



LETTER OF INFORMATION FOR LEARNERS

Title of the Research Study:

Exploring the pedagogical benefits of a blended learning strategy in selected Private Nursing Colleges in KwaZulu-Natal, South Africa

Principal Investigator/researcher:

Cherie Lachman – Masters in Nursing Science student

Co-Investigator/s/supervisor/s:

Supervisor:

Prof. T Ngxongo

Durban University of Technology

Email: thembelihlen@dut.ac.za

Co-supervisor:

Dr. V Naidoo

Durban University of technology

Email: vasanthrien@dut.co.za

Co-supervisor

Mrs. M Coopasami

Durban University of Technology

Email: marilynnc@dut.co.za

Brief Introduction and Purpose of the Study:

Good day, I am a 2nd year student at DUT doing research for my Masters degree in Nursing science.

I would like to invite you to participate in this study.

Aim of the study:

to explore the practices regarding the use of blended learning as a teaching and learning strategy, in selected Private Nursing Colleges in KwaZulu-Natal, South Africa.

What is research?

Research is a systematic search or enquiry for generalized new knowledge

Outline of the Procedures:

You have been invited to be a part of the data collection process for this study by joining in a group-focus interview for this study. You have been identified as a possible participant because you meet the criteria required for this study. You are a learner, who is enrolled for the R.683 course at a private nursing college.

You will have to understand what the study is about before you sign consent and take part in the study. Once you have provided a written consent for the interview, a date and time convenient to you and the nursing college, which does not disrupt normal college activities, will be agreed upon for the data collection interview. Permission will be requested from you to use a voice recorder during the interview. I will also take written notes during the interview. The interview session will last approximately 30 to 45 minutes, but clarity on certain data may require a follow-up interview.

Risks or Discomforts to the Participant:

There are no foreseeable risks or discomforts involved in the participation of the study.

Benefits:

Benefits for the researcher include the potential for publication of the study and the opportunity to contribute to a study in the field of blended learning. The research will not offer personal benefits but

collectively it will make a contribution to knowledge development in this field of study. The results of the study could be applied to other private nursing colleges in the KZN region.

Reason/s why the Participant May Be Withdrawn from the Study:

Your participation in this study is completely voluntary. You may withdraw from the study at any time without prejudice or providing any reason for your decision. Your withdrawal will by no means influence your relationships at your college.

Remuneration:

There will be no remuneration for participants of this study.

Costs of the Study:

No costs will be incurred by you for participating in this study.

Confidentiality:

The information that you provide will be kept strictly confidential. To ensure anonymity the researcher will assign codes for each campus, using the letters A and B. You and each of the participants will be coded as a number, with none of your personal information appearing in the data collection. The demographic questionnaires will also be coded with numbers.

Results: If the results of the study are published, the data will be presented in group form and individual participants will not be

identified. The findings of this study can be made available to you on completion of the study.

Research-related Injury:

No research-related injury is foreseen, and therefore there will be no compensation provided.

Storage of all electronic and hard copies including tape recordings:

The data will be stored for 5 years in a cupboard under lock and key at the researcher's residence – and will be known only to the researcher. All electronic data will be secured by using a protected password known only to the researcher. After the research is completed, the hard copies will be shredded and electronic data will be deleted.

Persons to Contact in the Event of Any Problems or Queries:

Please contact the researcher (0833378609), my supervisor Dr. TSP Ngxongo on 031 373 2606 or the Institutional Research Ethics Administrator on 031 3732375.

Complaints can be reported to the Director: Research and Postgraduate Support Dr L Linganiso on 031 373 2577 or researchdirector@dut.ac.za.

Appendix E



CONSENT

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, Cherie Lachman, about the nature, conduct, benefits and risks of this study- Research Ethical Clearance number **IREC 154/20**.
- I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerised system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

Full Name of Participant

Date Time

Signature / Right

Thumbprint

I, Cherie Lachman herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

Cherie Lachman

6/12/2020

Full Name of Researcher

Date

Signature

Full Name of Witness

(If applicable)

Date

Signature

Full Name of

Legal Guardian

(If applicable)

Date

Signature

Appendix F

PARTICIPANT DEMOGRAPHIC QUESTIONNAIRE

Topic: Exploring the pedagogical benefits of a blended learning strategy in selected Private Nursing Colleges in KwaZulu-Natal, South Africa

1. Gender

Male	Female

2. Current age in years

18-20	21-25	26-30	31-35	36-40

3. Race

Coloured	African	White	Indian	Other

4. Marital Status

Single	Married	Divorced	Widowed	Living with Partner

5. Level of education

Undergraduate	Diploma	Bachelors Degree	Master's Degree	Doctorate

6. Are you currently employed?

Permanent	Agency	Unemployed

7. Where do you live?

Permanent residence in the city	Permanent residence in the rural areas	Travelling long distance daily

Appendix G:

Semi-structured Interview Guide and Sample Questions for Nurse educator Interviews

[The following will be read out to participants to highlight the aims and objectives of the study]

The aim of this study is to explore the practices regarding the use of blended learning as a teaching and learning strategy, in selected Private Nursing Colleges in KwaZulu-Natal, South Africa.

The objectives of the study are to:

- Determine the current teaching and learning practices used at private nursing colleges in KZN.
- Explore the attitudes of nursing Nurse educators and learners at private colleges in KZN with regard to blended learning as a teaching and learning strategy.
- Identify and examine potential strategies to facilitate the use of blended learning as a teaching strategy at private nursing colleges in KZN.

The study aims at answering one broad research question, which is:

What are the practices and attitudes of Nurse educators and learners in selected Private Nursing Colleges in KwaZulu–Natal, South Africa, regarding the use of blended learning as a teaching and learning strategy?

The information you provide today will be kept confidential and secured in a safe place. This interview will last between 30 to 45 minutes and will be recorded with your permission.

Site Code _____
Interviewee's Code _____
Interview Date _____
Interview Start Time _____
Interview Finish Time _____
Years Currently Teaching _____

The following questions were used by the researcher to guide the interview process

1. What do you understand by the term blended learning?

Follow-up probe: What makes you feel this way?

2. How is blended teaching different from face-to-face teaching?

Follow-up probe: Think in terms of planning, delivery, assessment, and student communication.

3. Could you describe your last experience with blended learning?

Follow-up probe: Do you feel that it was a positive or negative experience?

4. How do you feel about using blended learning as a teaching strategy?

Follow-up probe: Why do you feel this way?

5. How is blended learning different from the traditional classroom strategy?

Follow-up probe: Has it been incorporated into the teaching strategies used in your classroom?

6. How do you research the information that you use to teach your learners?

Follow-up probe: Do you think that learners use the internet to understand learning content?

7. How equipped are you in using blended learning?

Follow-up probe: Do you feel that you have onsite resources to incorporate blended learning into your teaching strategies?

8. Does the college support the use of blended learning or traditional face-to-face teaching strategies?

Follow-up-probe: Do you feel that this is sufficient to adequately prepare learners to successfully integrate into the clinical setting?

9. Are there computer facilities available onsite for learners to use?

Follow-up probe: Do you think that learners make adequate use of the resources available?

10. Would you recommend the use of blended learning strategies to Nurse educators?

Follow-up probe: Explain your reason for this.

Appendix H

Interview Guide and Sample Questions for Learner Focus Groups

[The following will be read out to participants to highlight the aims and objectives of the study]

The aim of this study is to explore the practices regarding the use of blended learning as a teaching and learning strategy, in selected Private Nursing Colleges in KwaZulu-Natal, South Africa.

The objectives of the study are to:

- Determine the current teaching and learning practices used at private nursing colleges in KZN.
- Explore the attitudes of nursing Nurse educators and learners at private colleges in KZN with regard to blended learning as a teaching and learning strategy.
- Identify and examine potential strategies to facilitate the use of blended learning as a teaching strategy at private nursing colleges in KZN.

The study aims at answering one broad research question which is:

What are the practices and attitudes of Nurse educators and learners in selected Private Nursing Colleges in KwaZulu–Natal, South Africa, regarding the use of blended learning as a teaching and learning strategy?

The information you provide today will be kept confidential and secured in a safe place. This interview will last between 30 to 45 minutes and will be recorded with your permission.

Site Code _____

Interviewee's Code _____

Interview Date _____

Interview Start Time _____

Interview Finish Time _____

The following questions will be used by the researcher to guide the interview process

1. What do you understand by the term blended learning?

Follow-up probe: Where have you heard of or had exposure to blended learning?

2. How is blended learning different from face-to-face learning?

Follow-up probe: Think in terms of planning, delivery, assessment, and learner communication.

3. Could you describe your last experience with blended learning?

Follow-up probe: Do you feel that it was a positive or negative experience?

4. How do you feel about using blended learning as a learning strategy?

Follow-up probe: Why do you feel this way?

5. How is blended learning different from the traditional classroom strategy?

Follow-up probe: How has it been incorporated into the teaching strategies used to teach you in your classroom?

6. How do you research the information that you use to study?

Follow-up probe: Do you use the internet to understand learning content?

If yes, how do you use the internet, what do you search for?

7. What device do you use for social media, and surfing the internet?

Follow-up probe: How often would you say you use the internet?

8. How important do you think it is to be computer literate in the nursing profession today?

Follow-up probe: Why do you feel this way?

9. How equipped are in using blended learning?

Follow up probe: Do you feel that you have onsite resources to incorporate blended learning into your learning strategies?

Follow-up probe: Do you feel that you have onsite resources to incorporate blended learning into your learning strategies?

10. Does the college support the use of blended learning or traditional face-to-face teaching strategies?

Follow-up-probe: Do you feel that this is sufficient to adequately prepare you to successfully integrate into the clinical setting?

11. Are there computer facilities available onsite for learners to use?

Follow-up probe: Do you think that you, as learners, make adequate use of the resources available?

12. Would you recommend that use of blended learning strategies to Nurse educators?

Follow-up probe: Explain your reason for this.

Appendix I: Letter from the editor

DR NELLIE NARANJEE

Doctorate Nursing, MBA, MCur (Health Sciences)

Freelance academic editor: Blackford Institute, UK

Contact details

Office: 031 3732036

After hours: 031 7643815

Mobile: 0825776126

Email: naranjeen@gmail.com / NellieN1@dut.ac.za

EDITING / PROOFREADING CERTIFICATE

Student: Ms Cherie Lachman

Student Number: 21950279

Masters thesis:

Exploring the pedagogical benefits of a Blended Learning strategy in selected Private Nursing Colleges in KwaZulu-Natal, South Africa

I confirm that I have edited this thesis for writing style, clarity, language, sentence structure and layout. The document is formatted according to the prescribed guidelines. I returned the document to the author with track changes. The author remains responsible for the correct application of the changes in the text and references.

I am a freelance editor specialising in proofreading and editing of academic documents. I have a Doctorate Degree in Nursing from Durban University of Technology. I have a Master's Degree in Business Administration(Public Health)and a Master's Degree in Health Sciences.I have a Diploma in Proofreading and Copy Editing with Distinction from the Blackford Institute, UK.

I wish the student all the best.

30 July 2021

DR NELLIE NARANJEE

DATE