An evaluation of the use of an e-learning platform in complementing Xhosa language teaching and learning as an additional language

by

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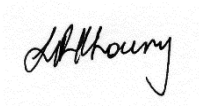
DECLARATION

I, Leandra Ruth Khoury, declare herewith that the dissertation ‘An evaluation of the use of an e-learning platform in complementing Xhosa language teaching and learning as an additional language’ is my own work and all sources that I have used or quoted have been indicated and acknowledged by means of complete references.



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Dr LR Khoury DATE

DEDICATION

I would like to thank my husband Gregory Khoury for all his love and support. You are always there to encourage me to do the best I can and more. I also want to thank my parents for all their support and encouragement in whatever I do.

To those special people who are no longer with us, I wish you were here to see this one.

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Thank you to my supervisor, Dr Elikanah Lumadi, for all his advice and guidance during the writing of my thesis.

ABSTRACT

Within medical facilities in South Africa, including the Western Cape, language barriers often exist between healthcare professionals and their patients. This can cause a barrier to efficient patient treatment. In order to address this problem, educational institutions in the Western Cape have started to introduce Xhosa language facilitation for healthcare professionals. In order to facilitate the learning of this additional language, the use of e-learning as a complement to traditional classroom lectures was investigated. The students who participated in this Xhosa language facilitation were specifically identified. This study was quantitative in nature and questionnaires were used. It was concluded that the combination of lectures and the complementary e-learning component helps to improve the student's ability to learn an additional language, in this case Xhosa. Recommendations were made that would possibly alleviate the problem of language barriers in healthcare settings in the Western Cape.

Key terms: Healthcare professionals, Occupational Therapy students, Patients, Language barriers, English, Afrikaans, Xhosa, Interpreters, Communication, Translators, Technology, Online learning, E-learning.

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INTRODUCTION TO THE STUDY

1.1 INTRODUCTION

South Africa is a unique country in that we have 11 official languages and in the Western Cape, it has been identified that there are three main languages spoken (namely English, Afrikaans and Xhosa). According to the language policy of the Western Cape Government, any of these three languages may be used in a person's communication with any institution of the provincial or local government (which includes any government clinic or healthcare institution). Many of the healthcare professionals working in government institutions can only speak English and/or Afrikaans, leading to communication problems between themelves and their patients (Western Cape Government, 2004).

Not only does South Africa have a variety of languages, but each of these languages comes with its own unique cultural traditions and nuances. Therefore, healthcare professionals who cannot speak any of the indigenous African languages have to interact with their patients across language as well as cultural barriers (Pfaff & Couper, 2009: 520).

Language barriers in South Africa are a well-documented fact and when a language barrier exists between healthcare professionals and their patients, it can lead to problems within the healthcare sector (Levin, 2006: 1076). Communication between the patient and their healthcare professional is of paramount importance (Li, Pearson & Escott, 2010: 386).

When patients go to a healthcare institution, studies have shown that their levels of satisfaction with the treatment received are higher when the healthcare professional who is attending to them addresses them in their home language (Pfaff & Couper, 2009: 520). Healthcare professionals unable to speak the same language as their patient, feel that this impacts negatively on their work performance and eventually on the quality of care they provide to their patient. The importance of good

communication between healthcare professionals and their patients can therefore not be over-emphasised (Levin, 2006: 1076).

Stellenbosch University, Faculty of Medicine and Health Sciences (SUFMHS), has embarked on an innovative initiative to include Xhosa communication skills in the professional development of its healthcare students. The aim of these Xhosa communication courses is to develop students' Xhosa communication skills and to ensure that students are able to communicate with their patients in a meaningful and intelligible manner. The lectures that the students receive at Stellenbosch University will be in communicative-based classrooms, which will further increase their communicative competence (Maseko & Kaschula, 2009: 131; Brown, 2001: 43). To assist in the learning of Xhosa, there will be a novel complementary electronic learning (e-learning) course which the students will complete in conjunction with the lectures. The aim of the e-learning course is to supplement and reinforce the content that is covered during classroom teaching and learning and also to assist the students in preparing for their simulated Objective Structured Clinical Examination (OSCE).

According to Masters and Ellaway (2008), e-learning is the "use of networked information technologies in education". This e-learning technology includes different aspects, such as assessments and communication, that can be used when teaching as well as learning an additional language. Masters and Ellaway (2008) also say that e-learning encompasses a teaching and learning approach that typically aspires to be flexible, engaging and learner-centred and encourages student interaction with the target language (Masters & Ellaway, 2008: 474).

In the last few years, the use of e-learning has successfully become a large part of the mainstream education of healthcare professionals (Ellaway & Masters, 2008: 452). As a result of the success of e-learning in teaching in the medical profession, the World Federation for Medical Education (WFME) has advocated that online education be used in medical teaching. The Health Professions Council of South Africa has also advocated that computers and online learning be integrated into the medical curriculum and computer literacy has become one of the many general skills required when facilitating healthcare professionals (McLean & Murrell, 2002: 8). When the content contained in e-learning programmes is complementary to the content that is

learnt in the classroom, then the two together become an integral part of learning and therefore have the potential to support a higher quality of learning (Wambui & Black, 2009: 1).

A study conducted by Wambui and Black (2009), showed that many lecturers want to include e-learning as part of the facilitation within their classrooms, but often they are unable to do this due to a lack of resources at their academic institution. It was also found that the lecturers should be given the opportunity to have time during working hours to explore different e-learning techniques and to collaborate with peers on e-learning development and their use within the classroom (Wambui & Black, 2009: 5). Unfortunately, many higher educational institutions do not utilise e-learning to its full extent and e-learning still remains a teaching and learning medium which is under-utilised for a wide variety of reasons (Carabaneanu, Trandafir & Mierlus-Mazilu, 2006: 107; Farren, 2008: 1).

The focus of e-learning largely remains on the posting of PDFs or PowerPoint presentations on the Learning Management System, which are merely replicas of the lectures given in the classroom, rather than on innovative, rich e-learning tasks that encourage the transfer of knowledge and skills to the learner. It would therefore appear that the limited application of e-learning by the overwhelming majority of programmes at higher educational institutions, even despite the availability and presence of technical expertise, suggests that the potential of transforming the teaching and learning environment is still far from being adequately realised (Ellaway & Masters, 2008: 458).

This combination of communicative-based lectures and complementary e-learning courses in the learning of an additional language is a novel initiative that has been started at Stellenbosch University, Faculty of Medicine and Health Sciences (SUFMHS). By embarking on this research project, the researcher was able to determine if the combination of formal lectures and the complementary e-learning course or only the lectures alone, are more beneficial in supporting the students in learning an additional language. Depending on the results of this research study, this could have the potential to influence the way students are taught an additional language in the future at the faculty.

The idea for the complementary e-learning component resulted from the need to reinforce what the students are doing in their formal lectures. The e-learning component consists of various activities, such as text-to-speech, illustrations to complement what is being said as well as quizzes that cover the material in the activities. With the quizzes, the students are not allowed to progress to the next quiz until they have correctly answered the current question.

1.2 THE PROBLEM STATEMENT

There is a noted language barrier in South Africa which has to be addressed. In the Western Cape, the main language spoken by patients at government healthcare facilities is Xhosa. However, the majority of healthcare professionals working in these government healthcare facilities can usually only speak English and/or Afrikaans.

This noted language barrier in the healthcare sector must be corrected as soon as possible and this is what Stellenbosch University, Faculty of Medicine and Health Sciences (SUFMHS) is attempting to do. This is being done through the use of communicative-based lectures and complementary e-learning courses to learn an additional language.

This study will also try to investigate whether the complementary e-learning component and the formal lectures together assist students in learning an additional language.

The study will also attempt to determine if the formal lectures alone assist students in learning the additional language.

1.3.2 Hypothesis

The combination of lectures and the complementary e-learning component will help improve a student's ability to learn an additional language in healthcare settings in the Western Cape.

1.3 THE RESEARCH QUESTIONS

The research questions covered in this study pertain to a complementary e-learning course complementing the lectures received by the students. The following questions will be addressed in the research to try to answer this question.

1. What are the effects of a language barrier in healthcare settings in the Western Cape?
2. What is the impact of the combination of a complementary e-learning course and formal lectures on the teaching and learning of Xhosa as an additional language in healthcare settings in the Western Cape?
3. What are the perceptions of the students in healthcare settings in the Western Cape regarding the use of formal lectures only to assist students to learn Xhosa as an additional language?
4. What are the perceptions of the students in healthcare settings of the Western Cape regarding the use of e-learning in the teaching and learning of Xhosa as an additional language?

1.4 AIMS AND OBJECTIVES OF THE STUDY

The research aim is:
To evaluate the effectiveness of the use of an e-learning course to complement formal lectures in the teaching and learning of Xhosa as an additional language in healthcare settings in the Western Cape.

The objectives are:

1. To identify the effects of language barriers in healthcare settings in the Western Cape.
2. To determine the impact of the combination of a complementary e-learning course and formal lectures on the teaching and learning of Xhosa as an additional language in healthcare settings in the Western Cape.
3. To establish the students' perceptions in healthcare settings in the Western Cape regarding the use of formal lectures only in assisting students to learn Xhosa as an additional language.

4. To establish the students' perceptions in healthcare settings in the Western Cape regarding the use of e-learning in the teaching and learning of Xhosa as an additional language.

1.5 RESEARCH METHODOLOGY

Research methods are the practices and techniques used to collect, process and analyse the data. Research methods also include the sample size, methods of sampling, method of data collection, the choice of measurement instruments and data analysis techniques (Bowling, 2009: 158).

This research project is a quantitative descriptive survey. A quantitative approach is useful for describing trends and explaining the relationship between variables found in the literature. The researcher will then analyse the data using prior predictions and research studies. The final report displays the researcher's objectivity and lack of bias (Creswell, 2002: 58).

According to McMillan and Schumacher (2001), descriptive research is concerned with the current or past status of something. It reports things as they are or as they were. It describes achievement, attitudes, behaviours or other characteristics of a group of subjects (McMillan & Schumacher, 2001: 283).

1.5.1 Study population

A population is the entire aggregation of cases in which a researcher is interested, or the group that the researcher is interested in generalising about (Babbie, 2010: 199). The population chosen for this research study comprised first-year Occupational Therapy students at Stellenbosch University, Faculty of Medicine and Health Sciences.

1.5.2 Sampling

Sampling is the process of selecting a portion of the population to represent the entire population so that inferences about the entire population can be made without the expense of conducting a census (Bowling, 2009: 468).

1.5.2.1 Purposive sampling

Babbie (2010) indicates that purposive sampling is often used when researchers want a sample of experts as study participants. The purposive sampling technique is based on the researcher‘s knowledge of the population, having in-depth knowledge and experience of the phenomenon being studied (Babbie, 2010: 193). In this study, first-year Occupational Therapy students from Stellenbosch University’s Faculty of Medicine and Health Sciences were used; there were 47 participants in the study.

1.5.3 Data collection method – Questionnaire

A questionnaire was used to determine how the students perceived the use of a combination of formal lectures and the complementary e-learning course in the teaching and learning of Xhosa as an additional language.

The students attended a brainstorming session prior to the start of the study to familiarise themselves with the objectives of the study. After completion of the e-learning course, they were given a questionnaire to determine their perceptions of the e-learning course. The questionnaire that the participants received was based on a five-point Likert scale.

1.5.4 Data analysis

The numeric scores of the data collected were captured accordingly. Then the responses to all the questions were statistically analysed using a statistical analysis software package. The services of a statistician were used to ensure that no errors

were committed in this process. The findings of the data analysis are described and presented as tables and graphs where applicable.

1.6 ISSUES OF RELIABILITY AND VALIDITY FOR QUANTITATIVE RESEARCH

Reliability relates to the consistency of the research. For the researcher, it means that if someone else posed the same questions to the same group of participants, they would draw similar conclusions. Synonyms for reliability include dependability, stability, consistency and generalisability (Camilli & Wolfe, 2004: 60).

Validity is a key concept relevant to research methodology. Validity allows for ways to demonstrate the trustworthiness of the quantitative research that is being conducted. Validity is what we believe we are measuring to be close to what we intended to measure and it represents the extent to which a concept claims to measure what it is measuring (Roberts *et al.,* 2006: 41-42). Validity also refers to the truthfulness of the findings and the conclusions (McMillan & Schumacher, 2010: 104). There are four types of validity that can be discussed in relation to research and statistics: Statistical conclusion validity, Internal validity, Construct validity and External validity (McMillan & Schumacher, 2010: 105).

These four types of design validity can be expressed as questions when considering the overall quality of the findings and conclusions:

- Is there a relationship between the variables? (Statistical conclusion validity)
- Is there a causal relationship between the intervention and the dependent variable? (Internal validity)
- What is the nature of the constructs? (Construct validity)
- What is the generalisability of the results? (External validity)

(McMillan & Schumacher, 2010: 105).

1.6.1 Statistical conclusion validity

In quantitative research, statistics are used to determine whether a relationship exists between two or more variables and it is the extent to which the calculated statistics

accurately portray the actual relationship between the two variables. Statistics guide the findings because they are the first step in determining the results, interpretations and conclusions. When interpreting the results, it is important to detect relationships and differences and whether these are statistically significant or not (McMillan & Schumacher, 2010: 107-108).

Statistical conclusion validity also occurs when the conclusions of the research study are founded on adequate analysis of the data. This therefore means that adequate statistical methods are used and are capable of logically providing an answer to the research question. This is the extent to which data from a research study can reasonably be regarded as revealing a link or lack of a link between the independent and the dependent variables (García-Pérez, 2012: 1).

1.6.2 Internal validity

Internal validity is sought by ensuring that extraneous variables have been controlled and threats to the internal validity have been eliminated (García-Pérez, 2012: 1). Uncontrolled events can occur between the time of intervention and the measurement of the dependent variable. Events could occur during this time that could affect the dependent variable and you therefore don't know if the results are due to the intervention, to the unplanned, uncontrollable event or to a combination of the two. Therefore, the event is an extraneous factor with the independent variable and the two cannot be separated (McMillan & Schumacher, 2010: 109).

1.6.3 Construct validity

This refers to inferences that are made from the nature of the measurement and the interventions used. Construct validity is closely related to generalisability, because a weak conceptualisation or a single method of measurement will limit inferences about the details of the conceptualisation and the method (McMillan & Schumacher, 2010: 115-116). Construct validity is sought by using well-established definitions and measurement procedures of the variables (García-Pérez, 2012: 1).

1.6.4 External validity

External validity consists of observing and measuring the dependent variables under natural conditions or under an appropriate representation of them (García-Pérez, 2012: 1). It also refers to the generalisability of the results and there are two categories used: population external validity and ecological external validity (McMillan & Schumacher, 2010: 116).

In population external validity, the subjects have certain characteristics such as age, race and sex. The results of the study can only be generalised to those people who have the same or similar characteristics as those used in the experiment. Ecological external validity refers to the nature of the independent and the dependent variables, the physical surroundings, time of day or year, pre-test or post-test sensitisation and the effects caused by the presence of an experimenter or treatment (McMillan & Schumacher, 2010: 116).

1.7 ETHICAL CONSIDERATIONS

With regard to the questionnaire, anonymity was assured as each student was given a number and this number appeared on their answered questionnaires.

The students had the opportunity to refuse to participate in the research study without there being any negative effects on their studies or results.

Each participant was given written information regarding the study, and they had the right to withdraw from the study at any time, without any repercussions.

1.8 STRUCTURE OF THE STUDY

Chapter One: Introduction to the study

This chapter covers the introduction, the problem statement, the research questions and the aims and objectives of the study. The researcher also describes the research

design and methodology. The researcher briefly describes the research design and methodology and elaborates on it in Chapter Three.

Chapter Two: Literature review

This chapter discusses the information that the researcher gathered regarding the language barriers that are prevalent between healthcare professionals and patients worldwide and in the Western Cape. There is also literature on the importance of understanding the language and the culture of the patient and the changes in the ways language is taught and learnt. The researcher also explored the use of translators to help overcome the communication barriers as well as the use of e-learning in the teaching of an additional language.

Chapter Three: Research design and methodology

Chapter Three discusses the research design and methodology employed in more detail in the study. The motivation for conducting the study is also explained in more detail. The researcher explains that a quantitative descriptive survey was used. A questionnaire was used to gather the data.

Chapter Four: Results and analysis of the findings

This chapter focusses on the presentation, analysis and interpretation of the findings. The findings are presented in the form of tables and graphs where applicable.

Chapter Five: Summary, recommendations and conclusions

In the final chapter of the study, the main findings are summarised. The conclusions are given and the researcher discusses the limitations followed by recommendations for further research and practice.

CHAPTER TWO
LITERATURE REVIEW

2.1 INTRODUCTION

In South Africa, we have 11 official languages and in the Western Cape, there are three main languages spoken: English, Afrikaans and Xhosa (Levin, 2006: 1076; Levin, 2011: 11). In the Western Cape, most of the patients seen in government healthcare institutions speak Xhosa, while most of the healthcare professionals speak either English and/or Afrikaans (Levin, 2006: 1076; Levin, 2011: 11; Schlemmer & Mash, 2006: 1084).

The right of all South Africans to be able to communicate in their chosen language is entrenched in the Constitution of South Africa (Chapter 1, Section 6, Constitution of the Republic of South Africa, 1996: 89). However, the practicalities and realities of the world in which we live do not always allow for this. Many healthcare professionals are not able to speak an additional language (for example, Xhosa in the Western Cape) and can only speak English and/or Afrikaans (Kaschula, Mostert & Ralarala, 2008: 89).

The prevalence of language and cultural barriers between healthcare professionals and their patients in the Western Cape is a well-known problem (Pfaff & Couper, 2009: 520). The problem of language-discordant healthcare professionals and patients is not unique to South Africa and is also prevalent in the rest of the world (for example, the United States, the United Kingdom and Australia, to name a few countries) (Flores, 2006: 229).

In the Western Cape, it has been found by Levin (2006) that when healthcare professionals do not speak the same language as their patients, the patients feel less satisfied with the level of care they receive. When the healthcare professional cannot speak the same language as the patient, this can often lead to the patient feeling they are not important to the healthcare professional. Patients are also less likely to follow the treatment regimens set by the healthcare professionals and are often lost in terms

of future visits and follow-ups and patients often do not take their medication as they do not understand what it is for and how it should be taken (Levin, 2006: 1076).

It has also been found that language barriers in healthcare facilities can have adverse effects, such as longer hospital stays and misdiagnosis of patients, and sometimes there can be fatal consequences.

This chapter focusses on a literature review that addresses the communication problems that occur when healthcare professionals and their patients do not speak the same language. It also addresses some of the consequences of discordant healthcare professionals and patients, such as lower standards of healthcare, dissatisfied patients, hospital admissions that are longer than necessary and possible misdiagnosis.

There is also a discussion on the use of interpreters in healthcare facilities (both ad hoc and professional interpreters). When ad hoc (non-professional) interpreters are used (usually family members or other patients) in healthcare facilities, this does not help with the language barriers between healthcare professional and patient. The ad hoc interpreters can miss words in the translation, sometimes they do not translate everything the healthcare professional and the patient says and there is the issue of patient privacy.

The literature review will also discuss the use of technology, such as e-learning courses that can be used in healthcare teaching institutions to facilitate the learning of an additional language by healthcare professionals. There is also a discussion on the different types of e-learning methods available for teaching and learning.

2.2 HEALTHCARE PROFESSIONALS

There appears to be a worldwide trend, where people are emigrating from their country of birth and moving to another country. The reasons for this are varied (for example, work opportunities in other countries, and political problems in their own countries). When these emigrants enter the new country, they are often not able to speak or can understand very little of the language of their new country. In the United States, there

has been an increase in the number of people entering the country who do not speak English at all, while some can occasionally speak and understand very little English. People are entering the United States from countries such as Latin America, Asia and Europe, resulting in an increase in ethnic, cultural and linguistic diversity within the United States. This has therefore led to an increase in the language and cultural barriers in healthcare settings in the United States (Smith & Pietrzyk, 2014: 1).

Many healthcare professionals in Canada are experiencing language and cultural barriers when treating patients. This has become more prevalent in recent years. The language and cultural barriers are made worse by the increase in people from different parts of the world immigrating to Canada. These immigrants all have different languages and cultural backgrounds and overcoming these language barriers is a major problem in Canada. Language barriers are not the only problems being faced, there are also cultural and religious barriers, and attitudes towards medical care that are different (De Buda, 1976: 866).

A healthcare professional must be culturally aware of their patient; this means that they must be sensitive to the patient's beliefs, values and behaviour regarding medical treatment and the taking of medication (Euromed Info: A model of care for cultural competence, 2014: 1). Healthcare professionals should not try to impose their own beliefs, values and culture on their patient. It is advisable that healthcare professionals do not make jokes (often to try to lighten the atmosphere) that may be funny in English, but when translated into another language, may be offensive (Euromed Info: Non-English-speaking patients, 2014: 1).

In a blog written by an English-speaking doctor working for Médecins Sans Frontières (MSF), he describes working in Rutshuru in the Democratic Republic of Congo (DRC). The residents mainly spoke French and Swahili and very little English, which led to language barriers between himself, his patients and colleagues. In his blog, he states that the medical aspect of staying in the DRC was relatively easy but the difficult part was the language barrier that existed between himself and his patients. He found that the other medical staff mainly spoke French, with very little English, and this language

barrier tended to separate him from his colleagues (Médecins Sans Frontières (MSF), 2013: 1).

A statement from Stewart (1995) regarding healthcare professionals and patient communication, states the following: “effective communication between doctor and patient is a central clinical function that cannot be delegated”. Stewart (1995) has done a systematic review on 25 years of research on healthcare and patient communication. Communication problems between the healthcare professional and their patient can occur at any time, but most often it occurs during the history-taking and the discussion on how to manage their health (Stewart, 1995: 1424). There can also be misunderstanding on the patient’s part on how to take their medication and how important it is to take the medication (Stewart, 1995: 1424; Levin, 2006: 1076).

Language barriers result in reduced patient understanding of the diagnosis as well as reduced understanding of the importance of follow-up visits (Levin, 2006: 1076). Problems with history-taking can then lead to improper diagnosis, lack of patient involvement in their own care and treatment or the inadequate provision of information to the patient regarding their condition (Stewart, 1995: 1424).

The teaching of an additional language, for example Xhosa in the Western Cape, to healthcare professionals, will make a tremendous difference in the standard and quality of care provided to Xhosa-speaking patients, where Xhosa is the main language spoken in the province (Schlemmer & Mash, 2006: 1084).

A study done by Schlemmer and Mash (2006) showed that many of the healthcare professionals wanted to learn to speak Xhosa in order to be able to communicate with their patients. This same study also found that some of the Xhosa-speaking patients felt that the healthcare professionals who could only speak English and/or Afrikaans didn’t care about their needs, which can lead to negative attitudes of the patients towards the healthcare professionals and in turn there is less communication between the healthcare professional and their patient (Schlemmer & Mash, 2006: 1086).

When the patient and the healthcare professional do not speak the same language, this can lead to misunderstandings because of a difference in culture. This happens

because the cultures associated with the different languages differ significantly in some aspects, especially when it comes to medical treatment. If the healthcare professional was able to speak the language of the patient and to understand their culture, they would understand why patients do certain things as it is part of their culture (for example, a mother still giving her child a sangoma's medicine in the hospital despite the mother being told how dangerous it is to do so) (Schlemmer & Mash, 2006: 1087).

In the Western Cape, when a non-Xhosa-speaking healthcare professional has learnt Xhosa, and when they treat Xhosa-speaking patients and they speak Xhosa, there was found to be an increase in communication and understanding between the healthcare professional and the patient (Pfaff & Couper, 2009: 520). There is also an increase in patient satisfaction following the consultation as the patient feels that the healthcare professional cares enough to learn their language. The healthcare professional who has learnt to speak Xhosa also has a greater cultural awareness of the patient, which facilitates the communication between the patient and the healthcare professional (Pfaff & Couper, 2009: 520).

When healthcare professionals speak to non-English-speaking patients or when talking through an interpreter, they should use standard everyday language that is easy to translate and avoid using slang words or medical terminology. The reason for this, is to avoid any miscommunication or misunderstanding during the interpretation process as there may not be a similar word in the language of the patient. Certain topics such as death, childbirth and women's health issues are dealt with differently in different cultures. Therefore, when these topics are discussed with a patient from another cultural group, they should be handled carefully if the healthcare professional is not familiar with the patient's culture (Euromed Info: Non-English-speaking patients, 2014: 1).

2.3 COMMUNICATION PROBLEMS BETWEEN HEALTHCARE PROFESSIONALS AND PATIENTS

The ability of healthcare professionals to communicate effectively with their patients, as well as between themselves, is increasingly being recognised as an important

factor in the success of the healthcare system worldwide (Schwartz, Lowe & Sinclair, 2010: 1).

Communication between the patient (and sometimes the patient's family) and the healthcare professional is very important, because it allows for the accurate collection of data regarding the patient's symptoms and medical history. Communication also allows for the involvement of the patient in their treatment planning by providing explanations to the patient regarding their care and educating the patient on their care as well as sometimes educating the patient's family on how to care for the patient (Schyve, 2007: 360).

It has been found that those patients who have immigrated to the United States and are either unable to speak English or speak very little English, and who seek medical help often receive inadequate medical treatment due to the language barrier (Smith & Pietrzyk, 2014: 1). Healthcare facilities have medical personnel who can usually only speak English and they therefore use untrained interpreters which sometimes results in inadequate medical treatment. Language barriers between healthcare professionals and patients can result in longer hospital stays, failure of treatment, lack of follow-up and patients not taking their medication (Smith & Pietrzyk, 2014: 1).

It has been found in many areas of the United States that despite awareness of the importance of effective communication between healthcare professionals and their patients, this aspect of the importance of effective communication and cultural barriers is rarely addressed during the education of the healthcare professionals while they are at University (Schwartz, Lowe & Sinclair, 2010: 4).

Effective communication between patient and healthcare professional is crucial to patient safety and the quality of care received by the patient. Barriers to communication include language differences, cultural differences as well as low health literacy. Practices to reduce these barriers must be integrated into healthcare processes and educational institutions (Schyve, 2007: 360).

Gumperz and Hymes (1986) discuss the interaction of language and social life. They believe that to ignore the social and cultural aspects of language would be detrimental

as they are important in understanding the language as well as the people who speak that language (Kaschula, Mostert & Ralarala, 2008: 89-90).

In South Africa, there are not only language differences but also differences in culture between the various language groups. Therefore, healthcare professionals have to contend with language and cultural differences when attending to patients of another ethnic race (Pfaff & Couper, 2009: 520).

When there is a language barrier between the healthcare professional and the patient, the quality of care received by the patient is lower and there is less education received by the patient regarding their condition and treatment (Ngo-Metzger, *et al*., 2007: 327).

There have been numerous studies investigating the communication difficulties between healthcare professionals and patients where they do not speak the same language (Levin, 2011: 11). Patient satisfaction, adherence to treatment and repeat visits are significantly lower when there are healthcare professionals and non-language-concordant patients (Levin, 2011: 11; Schlemmer & Mash, 2006: 1084).

According to Schlemmer and Mash (2006), when the healthcare professional and the patient do not speak the same language, “Clinical decision-making tends to be more cautious and expensive” (Schlemmer & Mash, 2006: 1084).

Many studies have been done on patient satisfaction with care when there is a language barrier and the studies have all shown that there is patient dissatisfaction when the healthcare professional doesn’t speak their language (Levin, 2006: 1076).

In a study conducted by Levin (2006), when the healthcare professional didn’t speak the same language as the patient and there were subsequent communication barriers, the patients tended to blame themselves for not being able to understand the healthcare professionals rather than blaming the healthcare professionals for not being able to communicate in their language (Levin, 2006: 1078).

According to a study by Brugge, *et al*., (2009), there are many factors that prevent communication between healthcare providers and their patients. Some of these,

besides what has been mentioned previously (such as language and culture), are the level of education and the degree of literacy of the patient (Brugge, *et al*., 2009: 354).

Studies have shown that patients prefer to be addressed in their own language and their satisfaction levels are higher when they have been treated in their own language. In a study done in medical facilities in Cape Town, it was found that when doctors cannot speak the language of their patients, it can lead to ethical dilemmas, negative attitudes between the healthcare professional and the patient, as well as lower quality of care of the patient (Pfaff & Couper, 2009: 520).

Research has shown that the quality of doctor-patient communication has a direct impact on the quality of care a patient receives and affects the outcome of patient care (Van de Poel & Fourie, 2013: 334).

There is growing evidence that links communication with a patient to the outcome of a visit to a healthcare professional, with regards to satisfaction of treatment, repeat visits and adherence to medication. When there is greater patient satisfaction, there is more information provided by the patient and a greater sense of partnership between the patient and the healthcare professional. Greater communication also leads to greater adherence and compliance with medical advice (Roter, 2010: 30-33).

Worldwide, there are many challenges regarding communication between patients and healthcare professionals, including low health literacy, cultural diversity and a lack of communication skills of healthcare providers in conversing with people from other cultures (Schwartz, Lowe & Sinclair, 2010: 2).

Cultural diversity is a worldwide problem and creates barriers in accessing information, especially in minority groups. This results in less participation in health promotion and underutilisation of the healthcare system. Educational resources often fall short in terms of reaching these people from cultural minority groups (Schwartz, Lowe & Sinclair, 2010: 3).

Communication problems between healthcare providers and their patients are often the root cause of inadequate treatment, errors in treatment, excess pain and

sometimes even death. The problem is that too little is done to understand and solve this language barrier, because people are not sure what the cause of the problem is or what tools are available to deal with it (Smith & Pietrzyk, 2014: 1).

In the Western Cape, it has been found that there is a shortage of educators who are able to speak Xhosa. The challenges faced by educators who do not speak Xhosa are mainly differences in language and culture. Those learners who have home languages other than English or Afrikaans and who attend these institutions, are being taught in a language that is not their first language. As a result of this, learners do not do well at academically and are often referred for speech-language therapy because educators see these children as being deficient in some part of their education, not realising that they cannot understand what is being relayed to them and there is nothing actually wrong with them. Educators need to be taught awareness of the differences in language, in terms of differences in culture, home life, etc (O'Connor & Geiger, 2009: 254).

2.3.1 Learning a new language

According to Pfaff and Couper (2009), there has been a change in the theory of second-language learning from the traditional grammar and translation methods to a more communicative approach (Pfaff & Couper, 2009: 520).

Krashen's 'natural approach' suggests that a new language is acquired by hearing the language being spoken and not only by learning and reading the grammar rules of the language. The grammar rules of the language can be used to correct any errors that occur once the language has been learnt (Pfaff & Couper, 2009: 521).

When learning another language, it is important that the language as well as the culture associated with that language be learnt and understood. The reason for learning the language and the culture is so that the healthcare professional can understand why the patient does the things that they do (for example, taking a sangoma's medicine in a hospital while receiving Western medication) (Van de Poel & Fourie, 2013: 333).

Some linguists claim that hearing the language being learnt repeatedly is the best way to learn a new language, and even suggest periods where the person only listens to the new language without actually trying to pronounce any of the words themselves (Pfaff & Couper, 2009: 522).

A study by Levin (2007) shows that there is a difference in the use of medical terminology between Xhosa- and English-speaking people. It was found that some Xhosa words were not part of the healthcare professional's vocabulary and some common English words were not part of the Xhosa patient's vocabulary. Even when there is a medical word that is commonly used by both Xhosa- and English-speaking people, sometimes the definition of that specific medical word differs (Levin, 2007: 74).

Communication facilitation for healthcare professionals has been implemented in various institutions, but often they have neglected to include the cultural aspects behind the language that is being studied (Van de Poel & Fourie, 2013: 334).

2.3.2 How to overcome language barriers?

In some hospitals in the United States, different methods of communication are used when there are language barriers. An example of one method is the use of communication picture boards to ensure that every patient receives effective medical care (Smith & Pietrzyk, 2014: 1).

The problems surrounding language barriers and cultural diversity have been recognised for decades around the world by healthcare professionals. Advocacy for greater attention to these language and cultural barriers has become more prevalent, and has given rise to programmes and curricula in healthcare training institutions to address these issues (Saha, Beach & Cooper, 2008: 1278).

In order to address these cultural and language barriers, healthcare professionals should be given information that is centred on facilitating the way in which different cultures treat various ailments; they must not just assume that everyone uses the Western method of treatment. Using open-ended questions as opposed to close-ended questions to patients can also facilitate communication between the healthcare

professional and the patient, as it will allow the patient to discuss their ailments more openly (Schwartz, Lowe & Sinclair, 2010: 6).

Effective communication, no matter what language or country, is communication that is comprehended by both the patient and the healthcare professional, and allows both parties to comprehend what is happening. Without comprehension, effective communication doesn't occur, there is poor quality of care, errors can occur and there are potential risks to patient safety (Schyve, 2007: 360).

Effective communication is also inhibited by cultural differences worldwide between the patient and healthcare professional (Schyve, 2007: 360). A person's culture determines their understanding of a word as well as their perception of the world. Even if the healthcare professional knows the patient's language, this does not always mean that they understand the culture of that language. Understanding the culture and the language is important to understand why patients use certain treatments and why they could be opposed to other forms of treatment (Schyve, 2007: 360).

2.3.3 Advantages of effective communication

By addressing the language and cultural barriers between healthcare professionals and their patients, patients are able to receive safe and high-quality care (Schyve, 2007: 361).

Many people are realising the importance of facilitating healthcare professionals in effective communication is imperative to improving patient-provider interaction. There is also the realisation that there is a link between how well the healthcare provider understands the patient and patient satisfaction to the overall outcome of the interaction (Smith & Pietrzyk, 2014: 1).

A study was conducted in the United Kingdom where communication difficulties between healthcare professionals and South Asian patients were studied (Gerrish, 2008: 566). Most of the South Asian patients treated had little or no understanding of English and relied on family members to translate for them. The study raised concerns

regarding the level of care provided to patients who do not speak English in the United Kingdom (Gerrish, 2008: 566).

2.4 USE OF INTERPRETERS

Numerous studies have been conducted in the United States and Australia on the benefits of using interpreters when dealing with foreign-language-speaking patients. There have also been studies conducted that show that errors occur when untrained, ad hoc interpreters are used which affects the quality of care received by the patients as well as the outcomes regarding patient care (Hudelson & Vilpert, 2009: 188).

A study conducted in Geneva, found that the use of interpreters that were made available by the hospital were often suboptimal, despite the evidence that trained interpreters contribute to patients' quality of care. This study investigated the communication between French-speaking patients and healthcare providers with limited French proficiency and the use of interpreters. They found that healthcare professionals used ad hoc interpreters and bilingual staff members (Hudelson & Vilpert, 2009: 187). The results of the study showed that healthcare professionals preferred working with professionally trained interpreters. Due to time constraints and professional interpreter availability, there was a challenge in getting the healthcare professionals to make use of the professional interpreters. As a result, the healthcare professionals often made do with their limited language skills or used bilingual staff (Hudelson & Vilpert, 2009: 193).

A study conducted in Australia by Berner (2010), showed that many migrant Australians do not comprehend English well enough to communicate effectively in the language. It was shown that by using interpreters, it is possible to shorten the time that patients spend in hospitals, it reduces follow-up visits and helps to ensure patient compliance with treatment regimens. It was also found that patients were more satisfied with the treatment they received when an interpreter was used (Berner, 2010: 7).

In many cases where the healthcare professional cannot speak the language of the patient, an ad hoc interpreter is often used. These interpreters are commonly family

members or colleagues who can speak the patient's language within the same facility, which in itself poses many problems. When the interpreter is a family member or friend, they are themselves sometimes not proficient enough in English and therefore may not translate properly. The person translating may describe something slightly different to what is actually wrong with the patient, often leading to a misdiagnosis which can potentially have fatal consequences (Kilian, Swartz & Joska, 2010: 309-311; Schlemmer & Mash, 2006: 1084; Pfaff & Couper, 2009: 520).

When staff within the facility are used as interpreters, this often leads to tensions between staff members, as they have their own duties to attend to and therefore don't always have the time to interpret and often do not finish their own work (Kilian, Swartz & Joska, 2010: 309-311; Schlemmer & Mash, 2006: 1084; Pfaff & Couper, 2009: 520). The use of trained interpreters is not common in many government hospitals due to the high cost involved in hiring a professional translator; therefore, ad hoc translators are used (Schlemmer & Mash, 2006: 1084).

When a translator is used, patients tend to rate their interaction with the healthcare professional as fair to poor, and there is usually a decrease in the interpersonal relationship between the healthcare professional and the patient. Even though the patient is not always happy about the presence of an interpreter, the level of care and the education regarding their condition does increase (Ngo-Metzger, *et al*., 2007: 327).

Often when non-medical Xhosa-speaking staff at a hospital are asked to translate, because they are not medically trained and therefore do not understand the medical terms asked by the doctor, they often cannot ask the patient the correct questions and this in turn causes the patients to become understandably cross and uncooperative. It can also lead to the wrong symptoms being relayed to the healthcare professional (Schlemmer & Mash, 2006: 1085).

There have been many studies conducted regarding the importance of trained interpreters (Bischoff & Hudelson, 2009: 15), but in many real-life situations, healthcare professionals rely on ad hoc interpreters (for example, fellow employees who speak the patient's language and the patient's relatives). According to a study by Bischoff and Hudelson (2009), this is a worrying trend as research has shown that this

can be associated with poor quality of health. Ad hoc interpreters are often used because of the costs involved in having a professional interpreter and therefore, it is easier to use a fellow staff member or one of the patient's family members (Bischoff & Hudelson, 2009: 15).

Incorrect pronunciation of patients' names in the waiting room leads to delays and patient anxiety and sometimes a patient being given the wrong medication as a result of this type of error (Levin, 2006: 1076).

The lack of communication between patient and healthcare professional can also have consequences when it comes to explaining and getting consent for an operation. If the healthcare professional cannot speak the language of the patient, they are not able to explain the nature of the operation as well as the consequences of the surgery, post-surgery care, etc (Schlemmer & Mash, 2006: 1085).

It has been found that many healthcare professionals do not know how to work with an interpreter and do not receive training on how to work with them. Training in this regard is essential to improve health outcomes for patients (Berner, 2010: 8).

In a study conducted by Zimbudzi, Thompson and Terrill (2010), they found that about half of the healthcare professionals at Monash Medical Centre had not used an interpreter in the previous six months. The reasons for them not using interpreters were the costs involved, difficulty in obtaining interpreters for emerging languages and privacy concerns when interpreters were drawn from the same small ethnic community as the patient. In this study, some of the patients suffered adverse medical conditions because of their inability to communicate effectively with the staff (Zimbudzi, Thompson & Terrill, 2010: 208).

A study was conducted in a South African psychiatric hospital, where the interpreting skills of interpreters were tested using key psychiatric terms. The reason for this research is that many studies involving interpreters are done in the broader healthcare sectors. In this field, many of the specialists speak English and/or Afrikaans and so ad hoc interpreters are used (Kilan, Swartz & Joska, 2010: 309-312). This study showed that although a person may be able to speak Xhosa, they do not necessarily

provide accurate translations. Therefore, interpreters must be trained specifically to interpret in psychiatric hospitals (Kilan, Swartz & Joska, 2010: 312).

When an interpreter is interpreting what the healthcare professional has just said or if they are gathering information from the patient, the healthcare professional must not look bored, or look through the patient's chart; instead, they should look at the patient or interpreter and look interested in what is happening (Euromed Info: Non-English-speaking patients, 2014: 1).

Bischoff and Hudelson (2009) have reiterated the problems of using non-professional interpreters. When family members, friends or bilingual staff are used, it can lead to decreased quality of care as well as disrespecting the patient's right to privacy (Bischoff & Hudelson, 2009: 15). It seems that the choice to use ad hoc interpreters is often an economic choice, as professional interpreters are costly. Ad hoc interpreters are also used when the healthcare professional finds it easier to use them instead of making an appointment with a professional interpreter (Bischoff & Hudelson, 2009: 18).

In a study conducted by Smith and Pietrzyk (2014), they found that at most institutions, the interpreters provided are inadequate to the needs of the staff and patients. Therefore, healthcare professionals use ad hoc interpreters and this has been shown to have negative clinical consequences. Some of these consequences are longer stays in hospital than are necessary, misdiagnosis and wrong treatment leading to the patient becoming sicker, lack of follow-up and non-adherence to treatment. They also found that there is low patient satisfaction with the treatment and when the patient cannot understand the healthcare professional, they are sometimes fearful of the treatment they are receiving (Smith & Pietrzyk, 2014: 1).

2.4.1 Benefits of an interpreter

When interpreters are used, there are advantages as well as various limitations and disadvantages. The interpreter can sometimes impose their own views on the consultation and in some instances translate what the patient or doctor says incorrectly

(Pfaff & Couper, 2009: 520). Interpreter errors are a common occurrence and sometimes result in severe consequences (Levin, 2006: 1076).

An interpreter helps to ensure the healthcare provider and the patient both understand what is being said by each party; they provide a clear interpretation of what is being said, are able to convey questions from both sides and assist the communication between the patient and the healthcare provider without leading each party in the conversation. The interpreter must be in the background and must not be in charge of the consultation (Caring for kids new to Canada, 2014: 1).

The interpreter must understand the culture of the language they are interpreting, and advise the healthcare professional if they saying or doing something that goes against the culture of the patient. They are able to help prevent and clarify any misunderstandings from either side (Caring for kids new to Canada, 2014: 1).

2.4.2 Advantages of using interpreters

Most of the people living in the United States do not speak English as their home language and many don't speak and understand English well at all. Most healthcare organisations in the United States either do not provide adequate interpreter services or provide no interpreter services at all because of the financial implications of doing so. Due to this fact, many patients who do not speak English or speak limited English, do not receive the required quality healthcare that they require or deserve. Many times, fellow staff members, family or friends are asked to act as interpreters, which has been shown to have negative clinical consequences. An understanding of the impact of proper interpreter services is required in healthcare institutions so that the advantages of a qualified interpreter can be ascertained (Jacobs, Shepard, Suaya & Stone, 2004: 866).

The study conducted by Jacobs *et al.,* (2004) at a healthcare facility in Massachusetts in the United States, showed that the provision of professional interpreter services increased the delivery of healthcare to patients, and there was an increase in preventative care and return visits (Jacobs, Shepard, Suaya & Stone, 2004: 867).

When an interpreter is not available, nurses who know a few words of the patient's language try to get as much information from the patient as they can, such as where the pain is and how severe the pain is, until an interpreter can be found. The advantage of this is that in an emergency, the nurse can gather enough information to treat the patient, but the disadvantage is that there is limited information that can be gathered this way and there is the risk of miscommunication and missing a vital part of what the patient says (Euromed Info: Non-English-speaking patients, 2014: 1).

Using an ad hoc translator (this is someone who is a family member or friend of the patient, or even another patient) has some advantages in that the person is readily available to translate and shares the same cultural background as the patient. It is also a cost-effective way to translate what the patient is saying (Euromed Info: Non-English-speaking patients, 2014: 1).

The use of volunteer interpreters who devote their time to the healthcare facility is more beneficial than ad hoc interpreters who are friends or relatives, in that they allow for more privacy for the patient and they are a cost-effective way of having an interpreter around (Euromed Info: Non-English-speaking patients, 2014: 1).

Professional interpreters are bound by a code of conduct. When using interpreters for patients, it is best to get a professional interpreter as they know how to relay information to the healthcare professional and the patient; they do not substitute words and do not omit things (Euromed Info: Non-English-speaking patients, 2014: 1).

By using a professional interpreter, you are hoping to increase the effectiveness of the treatment that is prescribed. The reason for this is that the patient will be able to understand what is wrong with them and also be able to understand how to take the medicine that is prescribed and why it is important to take the medication (Doherty, 2011: 3).

When professional interpreters are used, patients feel that they are understood, they feel more compatible with their healthcare professional and they are more likely to return for follow-up visits (Doherty, 2011: 6). It has been found that healthcare

professionals appreciate the cultural information that the interpreters relay to them regarding their patients (Doherty, 2011: 11).

2.4.3 Disadvantages of using interpreters

Using an ad hoc interpreter has disadvantages in that it takes away the right of privacy for the patient, especially if it is an intimate problem. Ad hoc interpreters may also leave out important words, leave out words that they feel too embarrassed to translate themselves, add words or change words when speaking to either the healthcare professional or the patient, which can lead to serious consequences, even if the word or sentence is changed slightly (Euromed Info: Non-English-speaking patients, 2014: 1).

It has been shown through various research papers, that using ad hoc or volunteer interpreters leads to patient dissatisfaction with the level of treatment and care that they receive (Euromed Info: Non-English-speaking patients, 2014: 1).

Volunteer interpreters come with their own disadvantages, in that they are not medically trained and therefore sometimes don't understand the ethical code of patient confidentiality. The volunteers may talk about a patient and their condition outside the healthcare facility and in a small community, this may have disastrous consequences. The healthcare facility is reliant on when the volunteers are available as they cannot dictate when they should be around, and they may not work on holidays and weekends; therefore, they are not always available to translate when needed (Euromed Info: Non-English-speaking patients, 2014: 1).

Professional interpreters are expensive so not all government healthcare institutions are able to afford their services. Unless they are employed full-time by the hospital, professional interpreters are not always available at short notice and they may sometimes not work on weekends or holidays (Euromed Info: Non-English-speaking patients, 2014: 1).

2.4.4 Technology used to facilitate translation

Kaschula, Mostert and Ralarala (2008) discuss the sociolinguistic theory of intercultural communication (Kaschula, Mostert & Ralarala, 2008: 89-90). The sociolinguistic theory is "the study of the relationship between language and society" (All about Linguistics, 2012: 1). The sociolinguistic theory is extremely relevant to the nature of this research as it is centred on not only the learning of an additional language but also understanding the cultural aspects of the language being learnt.

With the advancement of technology, it is essential that ways of encouraging and helping to overcome these language barriers are found through the use of the technology that is available. There are a number of ways to approach the language divide and to encourage people to learn additional languages (Kaschula, Mostert & Ralarala, 2008: 89-90).

In community-based clinical situations, interpreters are not always readily available; therefore, new ways to communicate with patients have needed to be found. Healthcare professionals have started to rely on technology for translations to facilitate the treatment of their patients (Randhawa *et al*., 2013: 382).

The technological translators are usually free, web-based applications (for example, Google Translate or Bing Translator). Most of the technological translators are text-based, but some of them have an audio output option as well. Smartphone applications that link to online translators are also being developed. The technological translator can assist the healthcare professional while they are busy with a patient where they do not speak the same language. The technological translator can assist the healthcare professional with history-taking, to clarify what is wrong with the patient as well as then being able to explain to the patient what is wrong and how to take their medication correctly (Randhawa *et al*., 2013: 382).

Even though there are benefits of using technology to translate, it has been found that the technological translator may not always be accurate, and therefore the healthcare professional must always be aware of this possibility when dealing with patients using this method (Randhawa *et al*., 2013: 382).

2.5 PRONUNCIATION

When learning an additional language, it is important that the person learns the pronunciation (or phonology) of that language as well as the grammar, vocabulary and culture. There have been a number of studies that have investigated the use of technology in order to assist students with their pronunciation. The use of technology in teaching additional languages allows the learner to review the material at their own pace and as many times as they desire, and they are not limited to the lecture room sessions (Hismanoglu & Hismanoglu, 2011: 23-24).

The increasing need for healthcare professionals to learn additional languages has led to developments in linguistics and second language learning. There is an increase in interest in the use of computers to assist in the learning of an additional language as there are now programmes that assist in pronunciation (Godwin-Jones, 2009: 4).

Many lecturers involved in the teaching of pronunciation are resorting to technology and e-learning as a means of teaching the pronunciation of words instead of the traditional printed materials (Hismanoglu & Hismanoglu, 2011: 24).

By using e-learning as a means of teaching an additional language and pronunciation, there is the ability to use a larger range and more types of voices (male, female, young and old) as models, which benefits the learner as they are exposed to a variety of voices and inflections than just their lecturer's voice and their way of pronunciation (Godwin-Jones, 2009: 5).

2.6 STRATEGIES IN LEARNING A NEW LANGUAGE

The various strategies employed in learning an additional language play a significant role in helping people to learn the additional language and gain competence in that language. One of the main effects is the learning style, as this determines how successfully the additional language is learnt (Pei-Shi, 2012: 230).

Appropriate language learning strategies assist in learning an additional language whereas poor language learning strategies lead to poor learning of the target language

as well as the possibility of misunderstanding the new language. We also need to consider individual learning styles when considering the learning of an additional language (Pei-Shi, 2012: 230-231).

Therefore, according to Pei-Shi (2012), learning strategies and styles are the more important aspects when learning an additional language and determining how successfully the additional language is learnt. Learning styles determine the learning strategies used when learning an additional language (Pei-Shi, 2012: 230-231).

Learning styles are an internal trait of the individual learner, while learning strategies are an external skill. The research done by Pei-Shi (2012) showed that the learning style doesn't have much influence on the learning strategy used. Visual learners prefer to have the information presented to them in the form of illustrations, while auditory learners prefer to hear and speak as a means of learning. They found that there is no single method in which all people will be able to learn an additional language; therefore, it is dependent on the individual learner how they learn best (Pei-Shi, 2012: 233).

When learning an additional language, there is a fair amount of anxiety attached to the process which can have a negative effect on the learning of the additional language and can hamper the process. This anxiety often stems from prior experiences of learning an additional language where the focus of the new language learning was a grammar-translation approach (Wu, 2010: 174).

Therefore, a learner-centred approach to teaching an additional language has been a welcome change from the traditional grammar style of teaching. Results from the study by Wu (2010) have shown that most of the learners enjoy a communicative-based approach to teaching an additional language (Wu, 2010: 174).

2.7 THEORIES OF LEARNING AN ADDITIONAL LANGUAGE

For many years, the popular method for learning an additional language was to focus on the grammar and then the construction of sentences followed by the vocabulary. There has been a shift towards first learning the vocabulary and then concentrating on

the grammar. The thinking behind this new way of teaching is that if you have knowledge of the vocabulary, then learning the grammar and sentence structure will be easier (Byki, 2014: 1).

There is no one theory that best explains the learning of an additional language, but what is known is that an additional language is learned best through the communicative approach. Therefore, the language is learnt through meaningful dialogue with others in the target language (Lowi, 2014: 1).

One of the ways of teaching an additional language is through scaffolding. Scaffolding is when an additional language is learnt and the person is provided with the contextual support for meaning through the use of simplified language, teacher modelling, visuals and graphics and hands-on learning. The teacher has to support this way of learning and as the learner becomes proficient in the language, this scaffold is gradually removed and the learner has to develop the language skills further (Bradley & Bradley, 2005: 1). Scaffolding is a good way to promote individual motivation and can lead to learners being more engaged in the learning of the additional language (Bradley & Bradley, 2005: 1; Bassiri, 2012: 37).

A study by Bassiri (2012) has shown the positive impact of scaffolding as a technique of teaching an additional language. Reading has been found to be a good model for introducing new vocabulary and grammar when learning an additional language (Bassiri, 2012: 32-33).

Educators who teach a second language using the scaffold approach, enhance the learner's ability to acquire that additional language. Findings have also shown that when learning an additional language, it is important to integrate the culture of the language into the teaching and the teaching needs to be continuous in order to be an effective tool (Rivera, 2010: 2).

2.8 E-LEARNING

According to Ellaway and Masters (2008), "In the broadest sense of the word, e-learning is the use of the Internet for education" (Ellaway & Masters, 2008: 456).

When developing an online course, it is important to ensure that there is effective teaching and learning through the online course and that the maximum educational benefit will be gained from the online course (Achtemeier, Morris & Finnegan, 2003: 1).

E-learning has many unique features and is a term used to describe learning that is done on a computer and allows the user to learn anytime and anywhere. E-learning, like traditional classroom learning, can lead to the acquisition of new knowledge. As a result of the increasing popularity of e-learning, it is being used by universities and businesses around the world (Concord Language School, 2011: 1).

When planning and implementing e-learning programmes, it is important to understand the impact they will have on current teaching and learning practices. The Internet is rapidly becoming an everyday tool, and the Internet as an educational tool offers a platform on which to display text, graphics, audio and videos for synchronous and asynchronous teaching and learning (Engelbrecht, 2003: 38).

E-learning may be used to supplement either traditional contact sessions or print-based distance education or it may be a complete replacement of the traditional method of teaching. A distinction must be made between e-learning as a means of transmission and delivery of information and e-learning that is interactive and an effective means of learning (Engelbrecht, 2003: 41).

The notion of e-learning in higher educational institutions has become more popular in recent years. Many higher educational institutions have had to spend vast amounts of money to develop their infrastructure for the development of creative software solutions, networked and online libraries and course evaluations online, as well as tracking student progress online. Therefore, information and communication technologies (ICTs) are a way in which higher educational institutions can transform their curriculum (Ravjee, 2007: 27).

Educators are responsible for delivering high-quality education to the learners in order to facilitate learning and to ensure their competency (Parker, Burrows, Nash & Rosenblum, 2011: 1389).

Language barriers and cultural diversity are fairly prominent in South Africa, and there is an increase in the use of e-learning techniques. E-learning can be used to teach languages and showcase the cultural identity of the people (Meier, 2007: 655).

A study was undertaken between SchoolNet South Africa, the University of Jyväskylä (Finland) and UNISA School of Education, whereby an e-learning initiative was developed entitled "Intercultural understanding – e-learning application in education". The aim of this project between the three organisations, was to develop an e-learning programme that will enhance intercultural understanding and awareness (Meier, 2007: 655-656). The authors found that intercultural understanding is important in terms of functioning in the world around us and e-learning can be used as a medium of delivering intercultural understanding, provided that the e-learning environment is supportive of the aims trying to be achieved. The use of a blended approach (i.e. e-learning and traditional classroom education) is the best way to create a supportive learning environment when learning an additional language (Meier, 2007: 669; Rossett & Chan, 2008: 8).

E-learning provides the ability to deliver learning and information at will, dynamically and immediately. E-learning achieves its potential when used repeatedly over time by engaged participants (Rossett & Chan, 2008: 1).

In a survey by the Rosetta Stone Online Learning Organisation, it has been found that in the United Kingdom, computer-based language-learning programmes can be integrated into classroom teaching when teaching an additional language. The researchers found a positive impact in computer-based learning tools on students' engagement in the language learning process when learning an additional language. It was found that the technology allowed the students to learn at their own pace and it also encouraged them to learn independently (Rosetta Stone Ltd, 2009: 1).

Jon Gilbert, who is the Training Manager at Rosetta Stone, had the following to say about computer-based learning tools: "Student engagement in the language-learning journey is an increasingly relevant issue for schools and colleges, and computer-based tools that allow pupils to interact with the target language and compare their

pronunciation against native speakers form a valuable part of the blended learning solution" (Rosetta Stone Ltd, 2009: 1).

A study conducted at King Khalid University on blended learning, showed that there is an advantage gained from a combination of face-to-face lectures and online language learning support when trying to learn an additional language. The study showed a clear advantage regarding the students' experience in learning the additional language (Al Zumor, Al Refaai, Bader Eddin & Aziz Al-Rahman, 2013: 95).

E-learning has become entrenched in medical education over the past few years. The use of technology has affected the way teaching in medical schools occurs. Also, the way in which students learn has changed with the advent of technology in teaching. For some, the use of e-learning is merely a way for them to do the same things faster, while for others, it is a way to revolutionise and change the way they teach. The use of technology in education requires creativity and adaptability depending on the context in which it is used (Ellaway & Masters, 2008: 455).

It is important to note that e-learning should not be merely the transfer of documents in an electronic format to students via the Internet. E-learning is a whole new pedagogical approach that aims to be engaging and learner-centred. E-learning can be a stand-alone course where there is no classroom interaction or it can accompany or complement classroom activities (called blended learning) (Ellaway & Masters, 2008: 456).

E-learning provides the opportunity to present learning material in a way that cannot be done using traditional paper-based approaches (for example, voice-overs and graphics). It should be an essential part of the learning process and not merely a 'nice to have' (Ellaway & Masters, 2008: 483).

Traditionally, medical education used various physical models to relay knowledge to medical students. Changes in the views of education suggest that changes in the way education occurs need to be considered. With the advancement of technology, we need to maximise its use in teaching so as to take advantage of the technology

available and to give students the best possible education. By doing this, we will enhance their patient care (Pedowitz, Esch & Snyder, 2002: 1,4).

A study by Tanveer (2011) investigated the perceptions of students regarding the use of e-learning as a method of learning another language. This study also looked at the challenges faced and some strategies used to enhance the learning of an additional language via e-learning. It was found that the use of e-learning in language learning had the following limitations: technological illiteracy, lack of time and digital resources, slow Internet connections, and a lack of confidence in using digital equipment. In order for e-learning to be successful, there needs to be support in terms of facilitating, equipment and time resources (Tanveer, 2011: 6).

E-learning is becoming increasingly popular in various fields of study, but the use of e-learning for languages is not as popular or as advanced. This could be because e-learning courses for an additional language differ considerably from other e-learning courses where the student interacts and communicates with the computer in their own language (Geary, 2012: 1).

There is a gap between passive and active learning in an online environment. The success of online learning is that students must understand that it requires active learning on the part of the student and they must be committed to the learning of the additional language (Geary, 2012: 1).

Geary (2012) recommends that e-learning courses for language learning should be made into smaller sections, have mini-assessments and have assignments that cover all aspects of language learning. This all requires a large amount of time and planning by the facilitator. The correct technology must be available to create the lecture material and it must be working properly (Geary, 2012: 1).

Successful integration of technology and learning requires dedication from the instructor in that the e-learning courses need to be carefully designed, which is a very time-consuming activity; the instructor must be familiar with the software and must be able to maintain the courses (Yang & Chen, 2007: 877).

When developing an online course, it is important to use a model around which the course is based. One of the more popular models is the ADDIE model. The ADDIE model is broken up into the following: Analyse learners (who are the students, and what do they know), Design instruction (what are the learning objectives), Develop learning materials and activities (what interactive material is required), Implement instruction (run the course with learners) and Evaluate (evaluate if the learning goals were achieved) (DePaul, 2014: 1)

Students who are learning an additional language online, may need additional tutorage in order to assist them in learning the additional language and to allow them the practice they require (Geary, 2012: 1). Therefore, this study supports that the e-learning developed for language learning complements teacher-led classrooms.

Some features of using e-learning to learn an additional language are the following: learning is self-paced, the learner is able to choose the course difficulty level that suits them and their skill level, it accommodates various learning modes and may be more suited to some learners and less suited to other learners, there is access to the material all the time and it is not dependent on the class schedule and the availability of the lecturer (Concord Language School, 2011: 1).

The American Council on the Teaching of Foreign Languages (ACTFL) advocates that language and culture are interdependent and you cannot learn the one without the other. When you understand the culture of the target language, it facilitates the learning of the additional language (Yang & Chen, 2007: 861).

A study by Biçer and Parmaksız (2013) found that it is important when developing e-learning courses, that there be clear instructions on how to use the material and the instructions must be easy to understand as students will usually be at home and will not have anyone to ask how to use the programme. They also found that there should be a feedback section for students in order for them to voice any concerns or trouble they experience with the e-learning courses (Biçer & Parmaksız, 2013: 8).

A study by Tymczyńska (2009) explored the practical ways in which instructors can use course management systems (often called Learning Management Systems

(LMS)) at teaching institutions. The courses for teaching healthcare interpreting that complement in-class teaching are placed on the Learning Management System called Moodle (Modular Object-Orientated Dynamic Learning Environment). It was found that there is limited time for in-class instruction so it is important to develop complementary online resources for self-paced learning so that in-class time can be spent practising interpretation (Tymczyńska, 2009: 148-150).

The use of online resources can include multimedia (which is the combination of text, images, sound and video into an integrative application). This method allows for a real-world connection that can enhance learner motivation. It is important to note that just because technology is used, it doesn't mean that it will be an effective and productive method of learning; the importance lies in how well the medium is used and integrated (Tymczyńska, 2009: 149-150).

It is important to understand how students perceive and react to e-learning as well as understand how to effectively apply an e-learning approach to enhance learning. Administrators need to understand the factors that affect students' attitudes and beliefs regarding e-learning in order to create mechanisms that make e-learning more attractive to students so that they want to use the e-learning courses (Park, 2009: 150).

2.8.1 Advantages of using e-learning

Young (2003) studied the effects of the integration of the Internet when teaching an additional language. The study found that overall, the students had a positive attitude towards the use of the Internet in helping to learn an additional language and turned the learning of the additional language from a passive experience to an active one. The study showed that the use of the Internet can lower the stress associated with the learning of an additional language. This occurred because the students were able to practise the language in private without their peers hearing them, thus removing the psychological barriers to learning the additional language (Young, 2003: 447-448).

Another study by Yang and Chen (2007) looked at the integration of various Internet tools in the learning of an additional language. Traditional language learning has

focussed on learning grammar. These classes are usually large so there is no time for individual attention, and it's difficult for students to practise what they have learnt due to the large class size. Therefore, the method of teaching is through recitation and memorisation (Yang & Chen, 2007: 861).

The use of the Internet in learning an additional language can provide a turning point for the way in which languages are taught and learnt in the future (Yang & Chen, 2007: 861). It is important that learners realise that learning using technology (i.e. e-learning) requires different learning styles and differs from the traditional classroom lectures (Yang & Chen, 2007: 876-877).

By using e-learning as a means of teaching, learners are able to learn at their own pace and when it is convenient for them to do so. With the advanced Learning Management Systems (LMS) available that can host the e-learning courses, instructors are able to monitor student progress and through the use of online quizzes, pick up problem areas with individual students or the class as a whole. These areas can then be addressed with the student or the class (Biçer & Parmaksız, 2013: 1).

The advantages of online learning are flexibility in time and location of learning, facilitation of novel methods of facilitating learning as well as individualisation, to personalise instruction to the different needs of the learners (Cook, *et al*., 2010: 909).

2.8.2 Disadvantages of using e-learning

Online learning of an additional language can have disadvantages. When using e-learning to learn an additional language, it requires time in order to go through all the courses. Online language courses make the learning of an additional language more challenging because there isn't immediate feedback. There are limitations in the form of a lack of communication and conversation partners (i.e. they cannot practise and repeat what they have learnt with others) (Geary, 2012: 1).

2.8.3 Benefits of e-learning

When developing an e-learning course, it is important to ensure the quality of the course. The course needs to be assessed in terms of instructional design, web development, editing, usability and accessibility, maintainability, copyright, infrastructure impact and content (Kidney, Cummings & Boehm, 2007: 17).

It has become increasingly popular to set up e-learning courses that students can access whenever they want. This trend has been driven by the changes in the students' expectations, the educational delivery, market conditions and the development of technology itself (Park, 2009: 150).

With the development of technology and online learning, instead of just offering formally organised courses, learners can be encouraged to develop self-organised learning which will empower them in the future and hopefully encourage future learning (Kalz, Koper & Hornung-Prähauser, 2009: 1).

2.8 Challenges of e-learning

There are many barriers to the integration of e-learning into higher education. Some of these barriers are an inadequate infrastructure, the faculty's lack of knowledge on how to develop e-learning courses, the faculty's inability to use the technology and students' lack of access to the Internet. There is also an initial high cost in obtaining the infrastructure and in the initial development of the e-learning courses. It was found that when an institution tried to replace class lectures with online courses, they were met with resistance from the students as they didn't meet their needs and requirements (Park, 2009: 150).

The rapid development of educational technology has encouraged some lecturers to move from traditional classroom-style lecturing towards online learning that contains media-rich, interactive learning resources. Some lecturers have not adopted this approach and therefore the adoption and integration of technology in educational facilities has been slow (Birch & Burnett, 2009: 117).

A study was conducted at an Australian university that focussed on the barriers or inhibitors amongst lecturers to adopting technology (Birch & Burnett, 2009: 117). It was found that the lecturers felt that there was no clear institutional direction concerning the design and delivery of online courses. There was also no clear plan for the e-learning formats so that the students had a consistent experience across all the courses. The educators also highlighted that what may work for one group of students and one course may not work for other students or other courses; therefore, there needs to be a tailored approach to the development of e-learning for courses as well as support for those lecturers who are unfamiliar with the technology (Birch & Burnett, 2009: 133).

2.9 E-LEARNING IN THE MEDICAL PROFESSION

Following the development of the Internet, there has been a rapid development in Internet-based medical education (Cook, *et al*., 2010: 909). Studies have shown that with e-learning, the interactivity, practical exercises, repetition and feedback all assist in improving learning outcomes (Cook *et al*., 2010: 909).

A study was conducted in Europe on medical postgraduates, who traditionally receive education via lectures and workshops. In this learner-centred study, a problem-based e-learning course was used instead of the traditional lectures and workshops. Each of the modules contained a self-directed section as well as a practical assignment, and the facilitators were available for discussion and consultation. The study found that both the traditional classroom lectures and the e-learning method were effective in improving knowledge. The e-learning course produced slightly better scores compared to the traditional classroom teaching. Therefore, there could be an argument made for the implementation of e-learning courses for this type of degree (Kulier *et al.,* 2009: 3-4).

Studies show that the role of web-based learning in medical education has grown significantly, with many medical schools in the United States and Canada using online learning. With the use of online learning, there is a need to know how to effectively design and implement the online courses to be effective teaching methods (Cook *et al*., 2010: 766).

With the advances in the medical profession, there is a need for life-long learning. It has been proposed that in order to facilitate this lifelong learning, we need to promote self-directed learning (Murad, *et al*., 2010: 1058). It is thought that the use of online learning helps to promote self-directed learning as the learner has to be disciplined about using the online resources (Murad *et al*., 2010: 1058).

2.10 SUMMARY

The literature revealed that worldwide, many people are leaving their country of birth and immigrating to other countries which is resulting in a rich cultural diversity that is increasing all the time. In South Africa, we already have a very diverse population, with 11 official languages being spoken. In the Western Cape, the predominant language spoken is Xhosa; therefore, healthcare facilities in the Western Cape deal mainly with Xhosa-speaking patients. Many of the healthcare professionals can only speak English and/or Afrikaans which leads to a language and cultural barrier. In the Western Cape, this language barrier is being addressed by the introduction of Xhosa courses for healthcare professionals during their facilitation.

The literature showed that the language barrier between healthcare professionals and their patients can have severe consequences. The literature also showed that the use of ad hoc interpreters is not ideal for many reasons. Some of these are that family members or friends are used, and if other patients are used to translate, they can often come from the same community and the patient is embarrassed to talk in front of the person, so the healthcare professional doesn't get all the facts which can be detrimental to treatment. It was found that the use of professional translators is better but they are seldom used due to the expenses incurred.

The literature showed that there are advancements in technology and the development of e-learning courses to facilitate the learning of an additional language. It was also revealed that the way additional languages are being taught is changing from the grammar focussed approach to a more conversational approach.

CHAPTER THREE
RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

In the previous chapter, the literature review covered how language barriers affect healthcare professionals and their patients in many countries around the world as well as in South Africa, especially focussing on the Western Cape. The chapter also covered the role of e-learning in complementing traditional lectures when healthcare professionals learn an additional language, in this case Xhosa.

This chapter will now explore the research methodology and design of this research. Research methods are the techniques used to collect, process and analyse the data that is gathered. The chapter also covers the sample size, methods of sampling, methods of data collection, the choice of measurement instruments and data analysing techniques used. Ethical considerations are also discussed in this chapter (Bowling, 2009: 158).

This research project is a quantitative descriptive survey. A quantitative approach is useful for describing trends and explaining the relationship between variables found in the literature. The gathered data is analysed using prior predictions and research studies. The final report displays the researcher's objectivity and lack of bias (Creswell, 2002: 58).

According to McMillan and Schumacher (2001), descriptive research reports things as they are and it also describes achievements, attitudes, behaviours or other characteristics of a group of subjects who are being studied (McMillan & Schumacher 2001: 283).

With quantitative research, a researcher makes observations regarding a particular problem and then investigates the current theory surrounding this problem. A hypothesis is developed around these observations and a plan to test this is then

formulated. Data is collected and analysed and the hypothesis is then proven to be true or false (Key Elements of a Research Proposal Quantitative Design, 2014: 1).

In voluntary participation, people cannot be compelled, coerced or required to participate; therefore, no one should be forced to participate in the research. It is essential that should people choose to participate, there is informed consent (McMillan & Schumacher, 2010: 118).

Informed consent is when the participants are given an explanation of the research, as well as the opportunity to terminate their participation in the research at any time with no penalty. With informed consent, there must also be full disclosure of any risks (if relevant) associated with the study (McMillan & Schumacher, 2010: 118).

3.2 RESEARCH DESIGN

The term “research design” refers to a plan for selecting subjects and data collection procedures to answer the research question/s. The research design shows which individuals will be studied, as well as when and where they will be studied (McMillan & Schumacher, 2010: 102).

The purpose of this research study was to gain a better understanding of the challenges faced by healthcare professionals and their patients when they do not speak the same language. Through the research, we also wanted to determine how an e-learning course that complements traditional classroom teaching of an additional language can assist students in learning that additional language; in this case, the additional language was Xhosa.

Through being able to speak the language of their patients (in this case, Xhosa), healthcare professionals will be able to treat their patients more efficiently and more effectively, and there should be increased patient satisfaction after treatment and patient adherence to treatment.

A quantitative research method using descriptive data was determined to be the best way to conduct this research through the use of questionnaires that were given to the participants.

3.3 SELECTION OF THE PARTICIPANTS

Sampling is a method of selecting some part of a group to represent the total. By using a small sample, we may judge part of the whole piece. In research studies, the total group targeted is called the 'population', while that part of the total that is selected is called the 'sample' (Gall, Gall & Borg, 2007: 230-240).

3.3.1 Population

Population is defined as the total set of objects or the entire group of persons from which the individuals or units of the study are chosen. It is the totality of persons, events, organisation units, case records or other sampling units with which the research problem is concerned (De Vos, Strydom, Fouche & Delport, 2005: 194).

For this research study, first-year Occupational Therapy students from Stellenbosch University, Faculty of Medicine and Health Sciences were used. These students were selected for the study as they had no prior exposure to Xhosa. The total number of participants in this study were 47.

3.3.2 Sample size

For this research project, convenience sampling was used, as a class of university students were the object of the research (McMillan & Schumacher, 2010: 137). These specific university students were chosen because the characteristics of the subjects matched the purpose of the research. The research required the participants to have no prior teaching exposure to or knowledge of Xhosa; therefore, these subjects were the ideal candidates as they had no prior teaching of Xhosa. The research study consisted of 47 participants. Therefore, a true reflection of the complementary e-learning course could be ascertained.

3.4 DATA COLLECTION

The students were made aware that participation was not compulsory, and if they decided not to participate in the study, this would not adversely affect them in any way.

Each student was allocated a number which was placed on the answer sheet, to ensure anonymity. The questionnaires were administered by a third party also to ensure anonymity, and to ensure that students did not feel pressured to answer the questionnaire.

3.5 LITERATURE STUDY

The literature that was reviewed for this research study revealed that language barriers between healthcare professionals and their patients occur in many countries around the world. This is also true for the Western Cape, as there is a definite language barrier between the patients seen in healthcare institutions and the healthcare professionals who work in these institutions. Usually, the healthcare professionals can only speak English and/or Afrikaans, while the majority of patients in government healthcare institutions speak Xhosa. These patients cannot speak or understand the language of the healthcare professional, leading to a lack of communication and possible misunderstandings when relating history and prescribing treatment regimens.

The literature also explored the use of translators, both ad hoc and professionally trained translators. It was found that ad hoc translators are not the most suitable option as they can often be family members, friends or staff members in the institution. Often, all the information is not relayed correctly to either the patient or the healthcare professional and this leads to miscommunication and possible misdiagnosis. Professionally trained translators are expensive; therefore, they are often not employed at institutions due to the cost implications.

With the development of technology, we have the opportunity to develop e-learning courses that will assist in the learning of an additional language. E-learning can be used as a complement to traditional lectures as it allows the student to learn at their own pace and to go through the lessons as many times as they wish.

3.6 INFORMATION SHEET

A consent form with all the information regarding the research project and its aims was given to the participants prior to the start of the research. It also stated that anonymity would be maintained, that participation in the research was not compulsory and that non-participation would in no way disadvantage them (Appendix B).

3.7 QUESTIONNAIRE

A brainstorming orientation session was held prior to the start of the research and on completion of the research study, a questionnaire was used. This questionnaire was developed by the researcher and was checked by a Xhosa language specialist. The questionnaire was then submitted to the ethics committee at Stellenbosch University who validated the questionnaire and ethics consent for the study was granted (Appendix A).

A questionnaire was used in this research study, as it was deemed the most appropriate means of gathering data from the research subjects. Questionnaires are used to evaluate a programme and are used to determine how participants felt there were changes in their knowledge, attitudes or behaviours regarding the content of the programme being studied. The measurement is done on completion of the research study to allow the researcher to gather information on how the participants felt about the programme being studied as part of the research study.

The questionnaire (Appendix A) was administered after the participants had completed the e-learning course and attended all the formal lectures. Questionnaires allow you as the researcher to get participants to rate the effectiveness of the intervention (in this case, the complementary e-learning course).

A questionnaire was administered to the participants after they had completed the Xhosa e-learning course. We could determine that all the participants had completed all the e-learning courses by monitoring their progress on the Learning Management System used by the University called Blackboard. The lecturer giving the formal

Xhosa lectures to these same students was able to say when they had attended all the Xhosa lectures.

The questionnaire covered the participant's age and previous qualifications and determined if they had had any previous teaching exposure to Xhosa. The next section of the questionnaire determined how the students felt about the use of a combination of formal lectures and the e-learning course in the teaching and learning of Xhosa. The questionnaire was in the form of a five-point Likert scale.

3.8 DATA ANALYSIS

A statistician was involved in the analysis of the data. The quantitative data was captured in Microsoft Excel and was then analysed. Responses to open-ended questions were extracted and summarised. The findings of the questionnaires are represented both graphically and in table form. The results will be represented in percentage form and the overall results will be shown in Chapter Four.

3.9 RELIABILITY AND VALIDITY IN QUANTITATIVE RESEARCH

Reliability can also be considered as consistency, because if the same test is repeated, then the results should be the same each time (Cortland, 2015: 1). Therefore, reliability produces stable and consistent results every time the test is run (Phelan & Wren, 2006: 1). Validity is the criterion in research that indicates the degree of accuracy from the conclusions drawn from a research study (E-Source, 2015: 6).

3.9.1 Reliability in quantitative research

Reliability can be defined as consistency of the measurements that the researcher takes and that there is consistency each time the subjects are measured. Therefore, it is the repeatability of the measurements that is important. A measure is reliable if the person's score on the same test is given twice and is similar both times (Student affairs assessment, 2014: 1).

Reliability relates to the consistency of the research. For the researcher, it means that if someone else posed the same questions to the same group of participants, they would draw similar conclusions. Synonyms for reliability include dependability, stability, consistency and generalisability (Camilli & Wolfe, 2004: 60).

3.9.1.1. Validity in quantitative research

Validity is a key concept relevant to research methodology. Validity allows for ways to demonstrate the trustworthiness of the quantitative research that is being undertaken. Validity is what we believe we are measuring to be close to what we intended to measure and it represents the extent to which a concept claims to measure what it is measuring (Roberts*et al.,* 2006: 41-42). Validity refers to the truthfulness of the findings and the conclusions (McMillan & Schumacher, 2010: 104).

Validity also refers to the extent to which a questionnaire or test measures what it is meant to measure (Muller, 2006: 6; Twycross & Shields, 2004: 28). Not only does it measure what it is supposed to measure but also, it performs as it was designed to perform (Research rundowns, 2014: 1).

There are two broad measures of validity: external validity and internal validity.

a) External validity

This pertains to the ability to apply the findings of the study to other people and other situations and ensures that the "conditions under which the study is carried out are representative of the situations and time to which the results apply". The participants used must be representative of the participants used at the time of the study (Roberts *et al.,* 2006: 43).

b) Internal validity

This pertains to the outcomes of the study and helps to reduce other, often unanticipated reasons for the outcomes of the study. This tests that the questionnaire actually assesses what you want to know (Roberts *et al.,* 2006: 43).

3.10 ETHICAL CONSIDERATIONS

Ethical considerations are mandatory in any research that is done. It is necessary and important to adhere to universal ethics such as honesty and respect for the rights of individuals (Welman, Kruger & Mitchell, 2010: 181). With regard to the questionnaire, anonymity was assured as each student was given a number and only this number appeared on their answered questionnaires.

The students had the opportunity to refuse to participate in the research study without there being any negative effects on their studies or results. Each participant was given a letter containing all the relevant information regarding the study, and they had the right to withdraw from the study at any time.

3.11 ETHICAL CLEARANCE

Ethical clearance was obtained from the Ethics Committee at the University of Stellenbosch, Faculty of Medicine and Health Sciences (ethical clearance number: N13/02/019).

Ethics in research is when there is full disclosure by the researcher about the purpose of the research (McMillan & Schumacher, 2010: 116).

3.12 CONCLUSIONS

The chapter explained the design and methodology used in the research study. There was a discussion on the questionnaire as well as the participants who took part in the study and how they were chosen to be part of the study. The ethical considerations of the study concluded the discussion. The following chapter will present the findings of the study.

CHAPTER FOUR
RESULTS AND ANALYSIS OF THE FINDINGS

4.1 INTRODUCTION

In Chapter Two, the nature of the research was described by the use of a literature review and in Chapter Three, the methods with which the research data was collected were described and an explanation was given of the questionnaire used and the ethical considerations of the research. In this chapter, the results of the questionnaire will be discussed.

The aim of the questionnaire was to determine the participants' perceptions of how effective the complementary e-learning course was to them in the learning of Xhosa. This chapter deals with the results of the data that was collected and the interpretation of this data, and will address the research questions.

The questionnaire focussed on the intended support that a complementary e-learning course would give to students in their learning of Xhosa as an additional language. The research questions included the following:

- The complementary e-learning course will provide extra support in learning Xhosa and preparing you for your WebCT tests and OSCEs.
- The complementary e-learning course will help you to speak more confidently to Xhosa-speaking patients in the Western Cape.
- The complementary e-learning course will improve your ability to speak to people in the Western Cape in Xhosa.
- The time spent on this e-learning course will be beneficial to you in the learning of an additional language, in this case Xhosa.
- The e-learning course will stimulate your interest in learning other additional languages as well.

The focus was on these factors in order to make sure that the effectiveness of the complementary e-learning course was properly evaluated on the basis of participants' perceptions.

4.2 SAMPLE DESCRIPTION

For the research study, first-year Occupational Therapy students from Stellenbosch University, Faculty of Medicine and Health Sciences were used. These students were selected for the study as they had no prior exposure to Xhosa. The number of participants who elected to participate in the study was 47. There was no age limitation or gender preference for participation in the research.

These specific university students were chosen because the characteristics of the subjects matched the purpose of the research. The research required the participants to have no prior exposure to or knowledge of Xhosa; therefore, these subjects were the ideal candidates as they had no prior exposure to Xhosa.

4.2.1 Age range of the participants

There were no set age limitations for participation in the research study. The only criterion as stated above, was that the participants were first-year Occupational Therapy students at Stellenbosch University. The participants in the research study were aged between 18 and 23 years.

4.2.2.1 Age range in questionnaire

The table and figure overleaf reflect the age ranges of the participants in the research study.

Table 4.1: Age of participants in the research study

Age	Respondents	Percentage
18 years	10	21%
19 years	27	57%
20 years	5	11%
21 years	2	4%
22 years	2	4%
23 years	1	2%
Total	47	100%

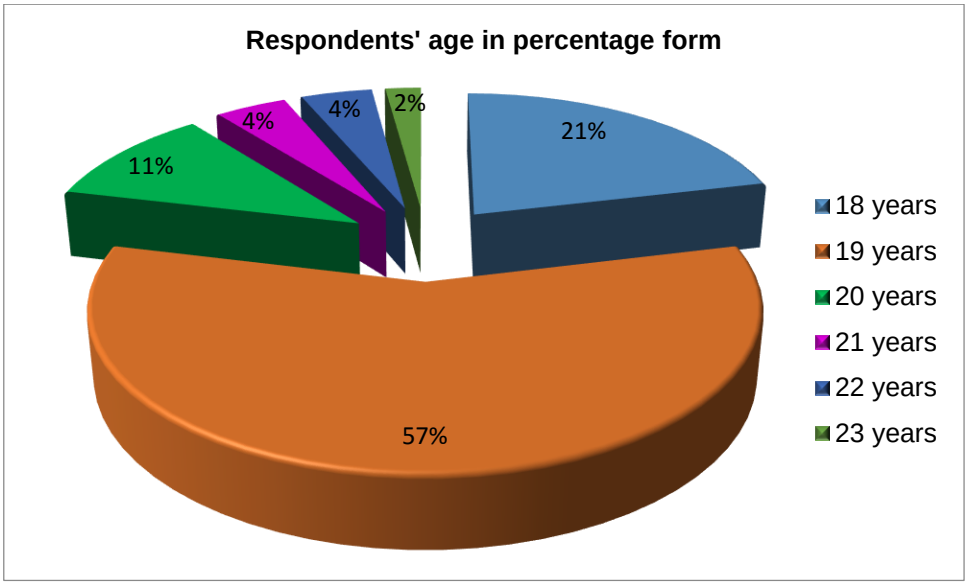

Figure 4.1: Chart showing age of participants in the research study

The results indicated in Table 4.1 and Figure 4.1 reflect that the participants' ages ranged between 18 and 23 years. It was observed that only 10 (21%) of the 47 participants were 18 years old, while 27 (57%) of the 47 participants were 19 years of age. It was found that 2% of the participants were 23 years of age. It can therefore be concluded that the majority of participants in the study were 19 years of age.

4.2.2 Gender composition

The table overleaf reflects the gender of the participants in the research study.

Table 4.2: Gender of participants who completed the questionnaire as percentages

Gender	Respondents	Percentage
Female	47	100%
Male	0	0%
Total	47	100%

The results indicated in Table 4.2 reflect that 47 (100%) of the participants were female. There was no predefined gender preference in the research; therefore, both females and males were eligible to participate in the research study. The students who enrolled in the Occupational Therapy first-year course at Stellenbosch University were all female; as a result, all the participants in the research study were female and there were no male respondents. Unfortunately, this situation could not have been avoided as it appears that females are more likely to enrol for Occupational Therapy than males are at this stage.

4.3 RESULTS OBTAINED FROM THE COMPLETED QUESTIONNAIRE

The main aim of this quantitative research project was to explore and determine the impact of a complementary e-learning course in the learning of an additional language. This chapter will present the findings that emerged from the questionnaire that was completed.

The analysis of the data that was gathered addressed three of the four main research questions that were posed in this study:

- What is the impact of the combination of a complementary e-learning course and formal lectures on the teaching and learning of Xhosa as an additional language in healthcare settings in the Western Cape?
- What are the perceptions of the students in healthcare settings in the Western Cape regarding the use of formal lectures only to assist students to learn Xhosa as an additional language?
- What are the perceptions of the students in healthcare settings of the Western Cape regarding the use of e-learning in the teaching and learning of Xhosa as an additional language?

The first question ‘What are the effects of a language barrier in healthcare settings in the Western Cape?’ was addressed by the information gathered and discussed in the literature study in Chapter Two.

4.4 THEMES ADDRESSED BY THE STUDY

The following information details the results that were gathered from the questionnaire that was administered on completion of the complementary e-learning course.

4.4.1 The impact of the combination of a complementary e-learning course and formal lectures on the teaching and learning of Xhosa as an additional language

The Rosetta Stone Online Learning Organisation found that computer-based language-learning programmes can be integrated into classroom teaching when learning an additional language. There was a positive impact on student learning as they could learn at their own pace (Rosetta Stone Ltd, 2009: 1).

King Khalid University conducted studies on blended learning. Their results indicate that traditional lectures and online learning support the learning of an additional language (Al Zumor *et al*., 2013: 95).

More educators are slowly realising the benefit of using technology and the Internet as a means of teaching and learning an additional language (Alshwiah, 2010: 37). However, some educators feel that with the use of e-learning, there is a lack of immediate feedback to the student; therefore, a blended learning approach (where there is face-to-face interaction as well as e-learning) is felt to be the best way to incorporate technology and traditional classroom learning when teaching an additional language (Alshwiah, 2010: 38).

The analysis of the findings on the impact of a combination of a complementary e-learning course and formal lectures is as follows:

4.4.1.1 *The combination of the e-learning course and lectures assisted in learning Xhosa*

The table and figure below reflect the perceptions of the participants with regard to the impact of the combination of an e-learning course and lectures in their learning of Xhosa.

Table 4.3: Results of the perceptions of the combination of e-learning and formal lectures in the learning of Xhosa

Method of Learning	Respondents	Percentage
E-learning	2	4%
Lectures	6	13%
Both (lectures and e-learning)	38	81%
None	1	2%
Total	47	100%

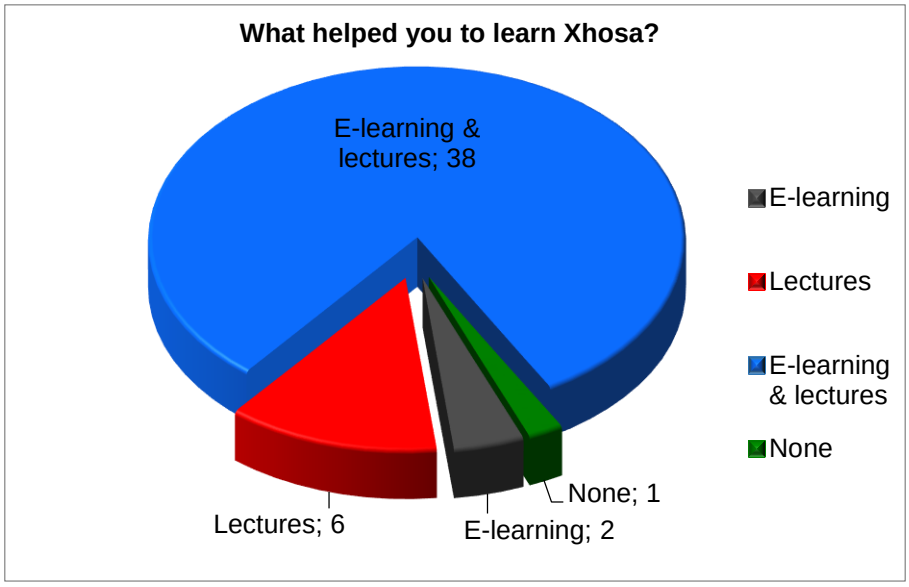

Figure 4.2: Chart showing perceptions of the combination of e-learning and formal lectures in the learning of Xhosa

The results indicated in Table 4.3 and Figure 4.2 reflect that 38 (81%) of the 47 respondents felt that both the complementary e-learning course and the lectures benefited them in the learning of Xhosa. This is a reflection of the positive perception of respondents regarding the combination of both methods in order to assist them in learning Xhosa. It may therefore be concluded that the combination of the

complementary e-learning course and the lectures benefited the students the most in learning an additional language.

4.4.1.2 The e-learning course complemented the lectures we attended

The table and figure below reflect the perceptions of the participants with regard to how the e-learning course complemented the lectures they attended.

Table 4.4: Table showing the participants' perceptions with regard to how the e-learning course complemented the lectures attended

	Participants	**Percentage**
Strongly disagree	0	0%
Disagree	0	0%
Neutral	7	15%
Agree	20	43%
Strongly agree	19	40%
None	1	2%
Total	47	100%

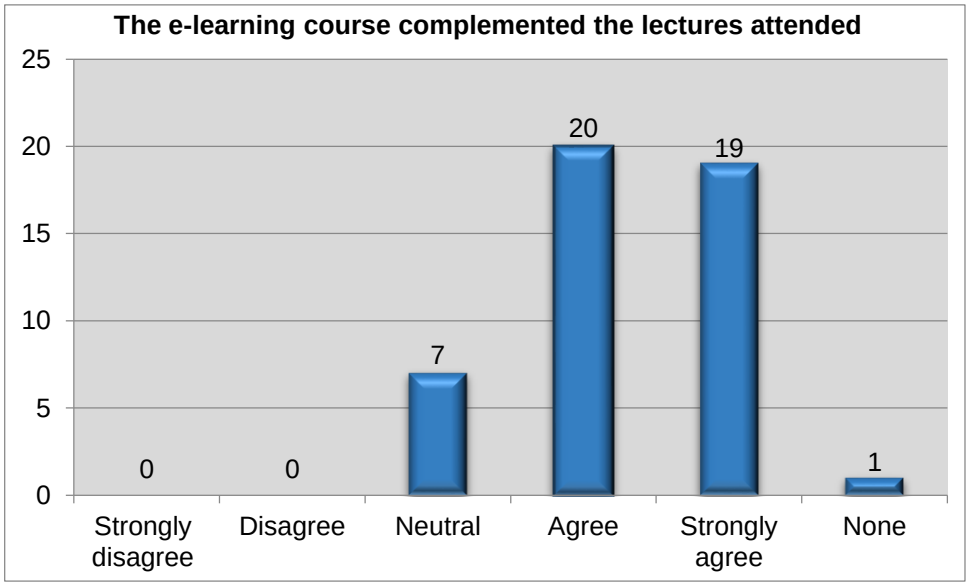

Figure 4.3: Graph showing students' perceptions of how the e-learning course complemented the lectures attended

The results in Table 4.4 and Figure 4.3 reflect that 20 (43%) of the 47 participants felt that the e-learning course complemented the lectures, while 19 (40%) of the 47

participants strongly felt that the e-learning course complemented the lectures. None of the participants felt that the e-learning course did not complement the lectures.

4.4.1.3 Attending the Xhosa lectures and doing the e-learning course improved my ability to learn Xhosa

The table and figure below and overleaf reflect the perceptions of the participants regarding the ability of the lectures they attended and the e-learning course to improve their learning of Xhosa.

Table 4.5: Table showing students' perceptions of the ability of the formal lectures as well as the e-learning course to improve their learning of Xhosa

	Participants	**Percentage**
Strongly disagree	0	0%
Disagree	0	0%
Neutral	2	4%
Agree	24	51%
Strongly agree	19	40%
None	2	4%
Total	47	100%

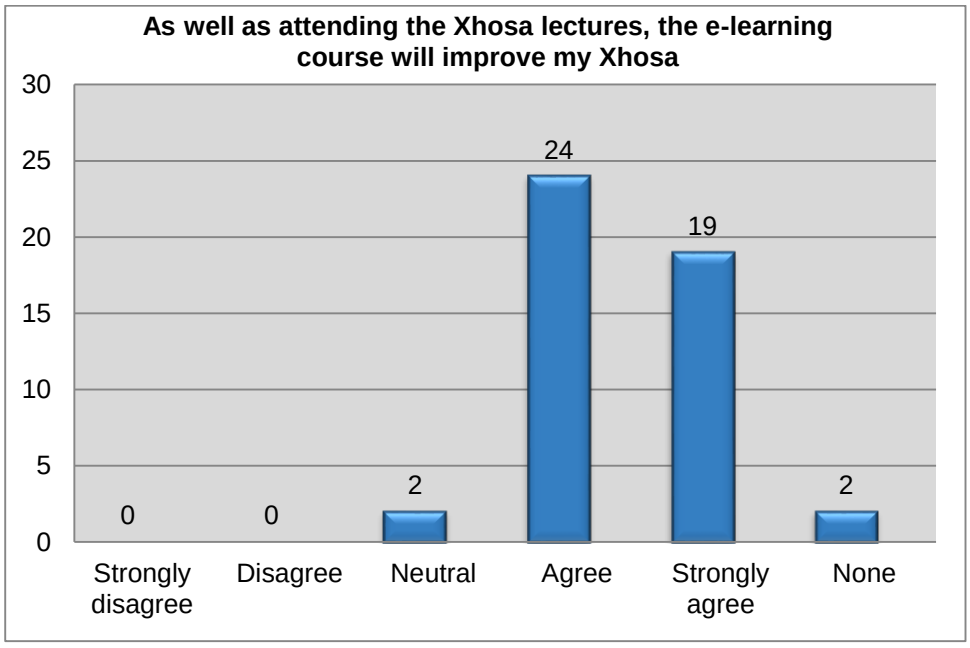

Figure 4.4: Graph showing students' perceptions of the ability of the formal lectures as well as the e-learning course to improve their learning of Xhosa

The results indicated in Table 4.5 and Figure 4.4 reflect that 24 (51%) of the 47 students felt that the complementary e-learning course assisted them in learning Xhosa and 19 (40%) of the 47 students strongly felt that the complementary e-learning course assisted them in learning Xhosa. It can therefore be concluded that the lectures as well as the e-learning course assisted the students in learning Xhosa.

4.4.2 The perceptions of the students regarding formal lectures only in learning Xhosa as an additional language

In a research study conducted earlier, it was found that using the traditional classroom setting (where the teacher stands in front of the class) in the learning of an additional language allows for more active and engaging teacher-student and student-student interactivity (Knutzen & Kennedy, 2012: 90).

Students' perceptions of traditional classroom interaction when learning an additional language in a traditional classroom setting, not only relate to the instructional aspect of the classroom environment but also the correction of grammar during the class by the lecturer (Pazaver & Wang, 2009: 27).

4.4.2.1 Analysis of the findings on the impact of Xhosa lectures in assisting students to learn Xhosa

The table and figure below reflect the impact of the Xhosa lectures only in assisting the students to learn Xhosa.

Table 4.6: Table showing the impact of the Xhosa lectures only in assisting the students to learn Xhosa

	Participants	**Percentage**
Strongly disagree	2	4%
Disagree	38	81%
Neutral	0	0%
Agree	6	13%
Strongly agree	0	0%
None	1	2%
Total	47	100%

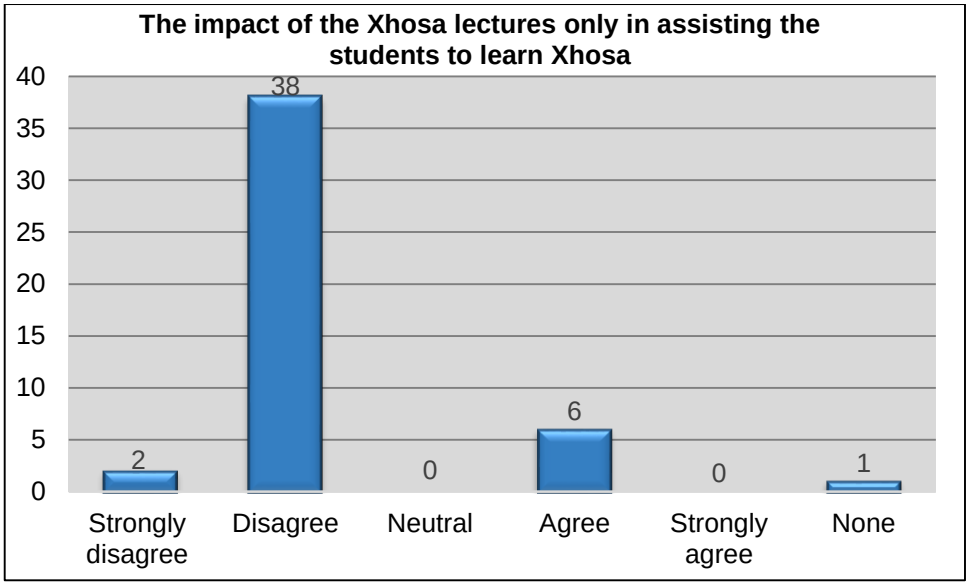

Figure 4.5: Graph showing the impact of the Xhosa lectures only in assisting the students to learn Xhosa

The results indicated in Table 4.6 and Figure 4.5 reflect that 6 (13%) of the 47 participants agreed that the lectures only assisted them in learning Xhosa. However, 38 (81%) of the 47 participants disagreed that the lectures only assisted them in learning Xhosa. It may therefore be concluded that the participants felt that the lectures alone were not sufficient in helping them to learn an additional language.

4.4.3 The perceptions of the students regarding a complementary e-learning course to learn Xhosa as an additional language

The following information details the results that were gathered from the questionnaire on the participants' perceptions with regard to taking the e-learning course.

4.4.3.1 Participants' perceptions with regard to taking the e-learning course

The table and figure below and overleaf reflect the perceptions of the participants with regard to taking the e-learning course to learn Xhosa.

Table 4.7: Table showing the percentages of participants' perceptions with regard to taking the e-learning course

	Participants	Percentage
Strongly disagree	18	38%
Disagree	24	51%
Neutral	3	6%
Agree	0	0%
Strongly agree	1	2%
None	1	2%
Total	47	100%

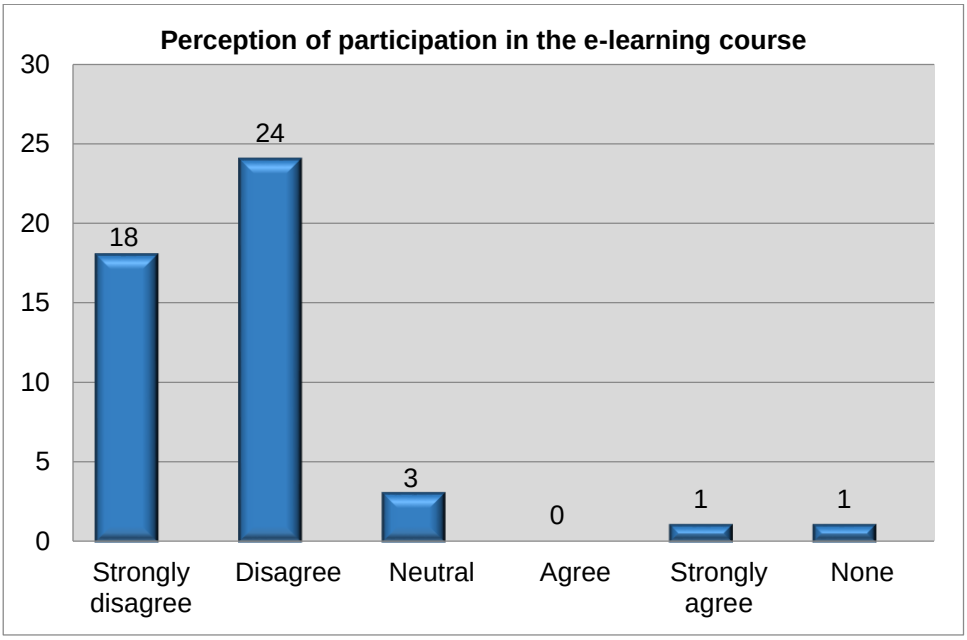

Figure 4.6: Graph showing participants' perceptions with regard to taking the e-learning course

The results indicated in Table 4.7 and Figure 4.6 reflect that 24 (51%) of the 47 respondents felt that the e-learning course did not waste their time and 18 (38%) of the 47 respondents strongly felt that the e-learning course did not waste their time. This therefore indicates that the participants felt that the complementary e-learning course was beneficial to them. Only 1 (2%) participant felt that the e-learning course wasted their time. It may therefore be concluded that the majority of participants felt that the e-learning course was beneficial to them in assisting them to learn an additional language.

4.4.3.2 The e-learning course helped me to improve my ability to speak Xhosa

The table and figure overleaf reflect the perceptions of the participants with regard to the e-learning course's ability to help them to speak Xhosa.

Table 4.8: Table showing students' perceptions of the ability of the e-learning course to assist them in speaking Xhosa

	Respondents	Percentage
Strongly disagree	0	0%
Disagree	1	2%
Neutral	15	32%
Agree	21	45%
Strongly agree	10	21%
None	0	0%
Total	47	100%

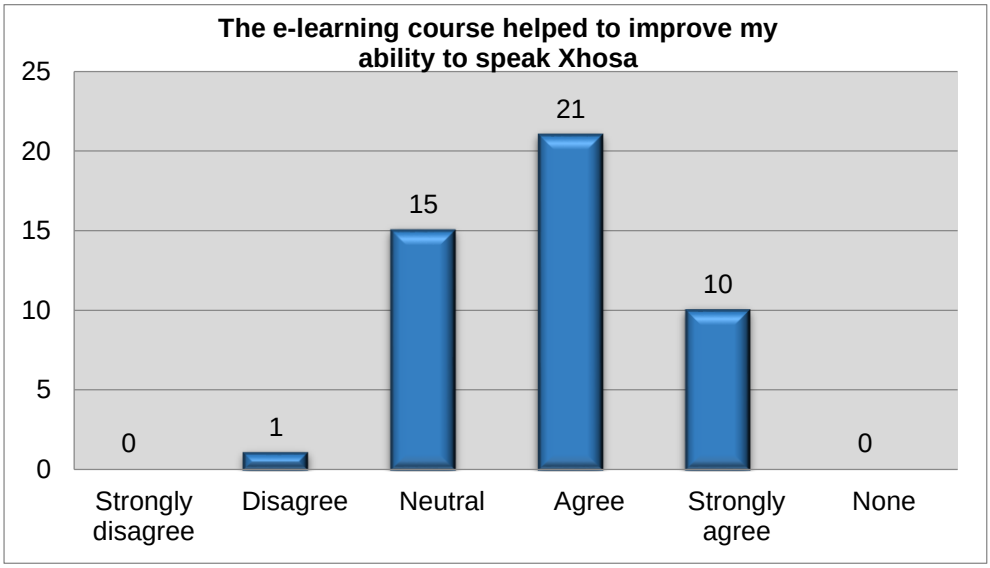

Figure 4.7: Graph showing students' perceptions of the ability of the e-learning course to assist them in speaking Xhosa

The results indicated in Table 4.8 and Figure 4.7 reflect that 21 (45%) of the 47 participants felt that the e-learning course assisted them in speaking Xhosa and 10 (21%) of the 47 participants strongly felt that the e-learning course assisted them in speaking Xhosa. None of the participants strongly disagreed that the e-learning course assisted them in speaking Xhosa. It may therefore be concluded that the majority of participants felt that the e-learning course helped improve their ability to speak Xhosa.

4.4.3.3 The e-learning course helped me to speak more confidently to Xhosa patients

The table and figure below reflect the perceptions of the participants with regard to the impact of the e-learning course in helping them to speak more confidently to Xhosa patients.

Table 4.9: Table showing students' perceptions of how the e-learning course will help them to speak more confidently to Xhosa patients

	Respondents	**Percentage**
Strongly disagree	0	0%
Disagree	1	2%
Neutral	15	32%
Agree	21	45%
Strongly agree	10	21%
None	0	0%
Total	47	100%

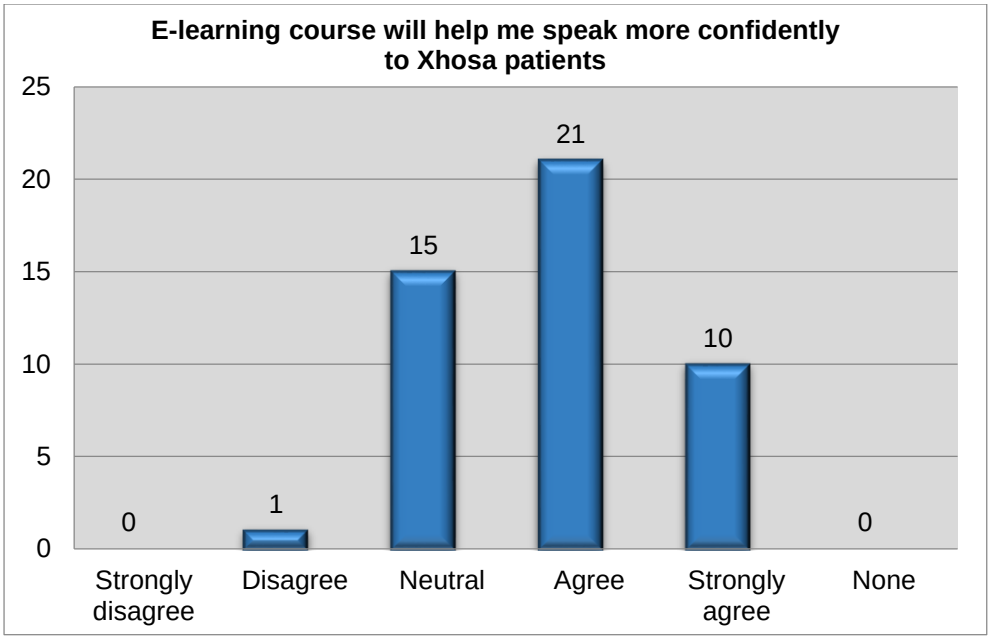

Figure 4.8: Graph showing students' perceptions of how the e-learning course will assist them in speaking more confidently to Xhosa patients

The results indicated in Table 4.9 and Figure 4.8 reflect that 21 (45%) of the 47 participants felt that the e-learning course assisted them in speaking more confidently to Xhosa patients and 10 (21%) of the 47 participants strongly felt that the e-learning course assisted them in speaking more confidently to Xhosa patients. None of the

participants strongly felt that the e-learning course didn't assist them in speaking more confidently to Xhosa patients. It may therefore be concluded that the majority of participants agreed that the e-learning course assisted them in speaking more confidently to Xhosa-speaking patients.

4.4.3.4 The e-learning activities encouraged me to practise my Xhosa

The table and figure below reflect the perceptions of the participants with regard to the impact of the e-learning course in encouraging them to practise their Xhosa.

Table 4.10: Table showing students' perceptions of how the e-learning course encouraged them to practise their Xhosa

	Respondents	**Percentage**
Strongly disagree	0	0%
Disagree	1	2%
Neutral	14	30%
Agree	21	45%
Strongly agree	11	23%
None	0	0%
Total	47	100%

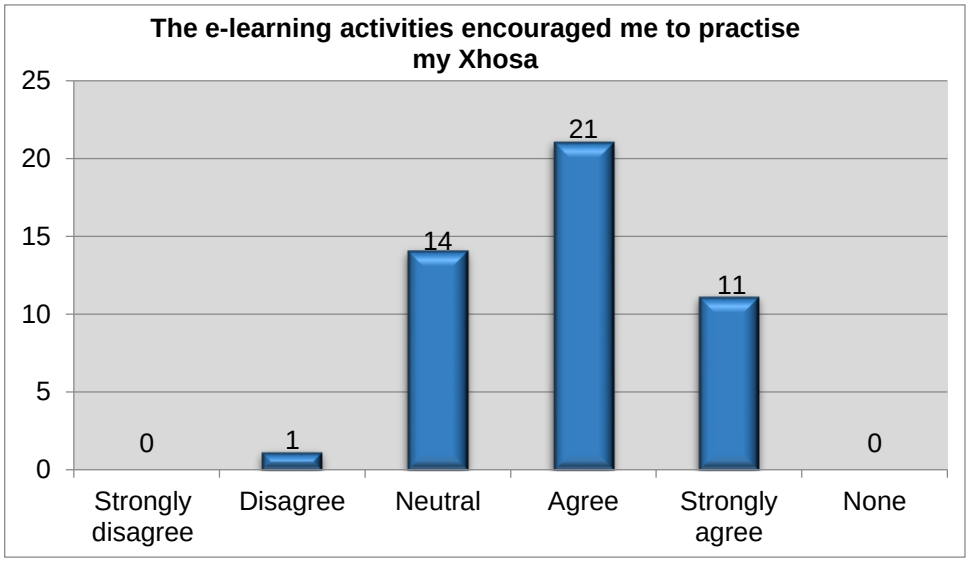

Figure 4.9: Graph showing students' perceptions of how the e-learning course encouraged them to practise their Xhosa

The results indicated in Table 4.10 and Figure 4.9 reflect that 21 (45%) of the 47 respondents felt that the e-learning course encouraged them to practise their Xhosa. This is a reflection of the positive perception of respondents regarding the use of the e-learning course in learning Xhosa. It may therefore be concluded that the e-learning course appears to have been a motivating factor for respondents in learning the Xhosa language.

4.4.3.5 The e-learning course will provide extra support to prepare for the WebCT tests and OSCEs

The table and figure below and overleaf reflect the perceptions of the participants with regard to the impact of the e-learning course in providing extra support in preparing for their WebCT tests and OSCEs.

Table 4.11: Table showing students' perceptions of the ability of the e-learning course to provide extra support for the WebCT tests and OSCEs

	Participants	**Percentage**
Strongly disagree	0	0%
Disagree	0	0%
Neutral	0	0%
Agree	16	34%
Strongly agree	31	66%
None	0	0%
Total	47	100%

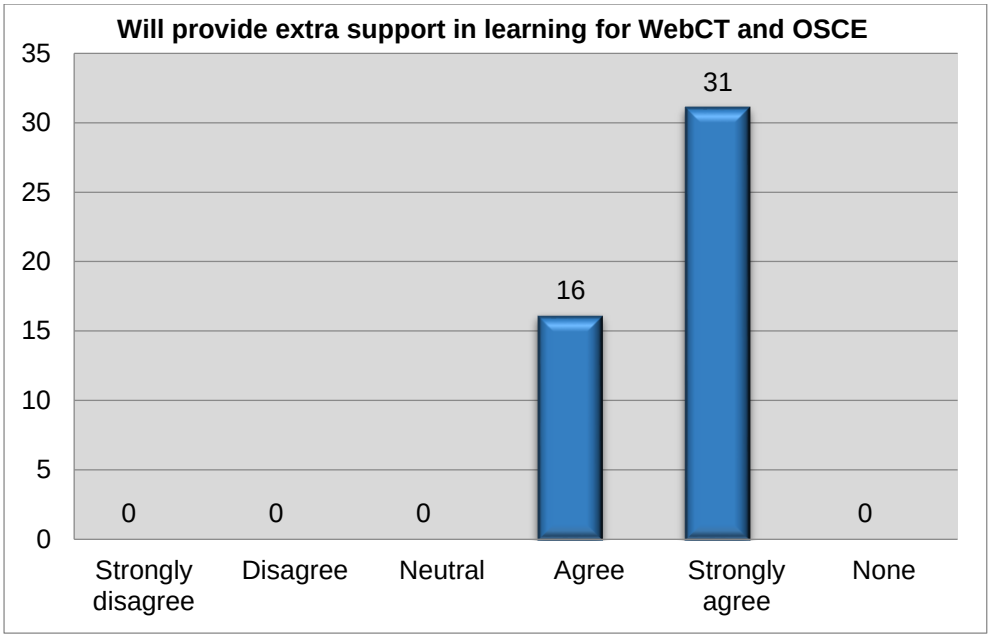

Figure 4.10: Graph showing participants' perceptions of how the e-learning course would provide extra support for the WebCT tests and OSCEs

The results indicated in Table 4.11 and Figure 4.10 reflect that 31 (66%) of the 47 participants strongly felt that the complementary e-learning course would assist them in preparing for their WebCT tests and OSCEs and 16 (34%) of the 47 participants felt that the complementary e-learning course would assist them in preparing for their WebCT tests and OSCEs. It may therefore be concluded that the e-learning course benefited the students in terms of providing extra support for their WebCT tests and OSCEs.

4.4.3.6 The e-learning course helped me to prepare for the WebCT tests and OSCEs

The table and figure overleaf reflect the perceptions of the participants with regard to the impact of the e-learning course in preparing them for their WebCT tests and OSCEs.

Table 4.12: Table showing students' perceptions of the ability of the e-learning course to help them prepare for the WebCT tests and OSCEs

	Participants	Percentage
Strongly disagree	0	0%
Disagree	1	2%
Neutral	3	6%
Agree	19	40%
Strongly agree	22	47%
None	2	4%
Total	47	100%

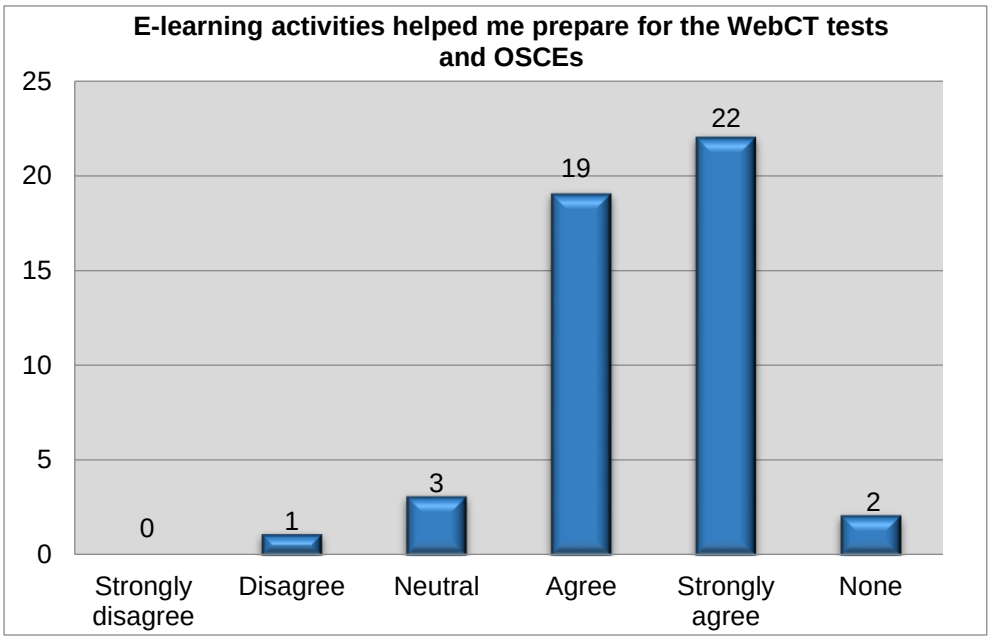

Figure 4.11: Graph showing participants' perceptions of how the e-learning course helped them to prepare for their WebCT tests and OSCEs

The results indicated in Table 4.12 and Figure 4.11 reflect that 22 (47%) of the 47 participants strongly felt that the e-learning course would help them to prepare for their WebCT tests and OSCEs, and 19 (40%) of the 47 participants felt that the e-learning course would help them to prepare for their WebCT tests and OSCEs. Only 1 (2%) of the 47 participants felt that the e-learning course would not help them to prepare for the WebCT tests and OSCEs. It may therefore be concluded that the e-learning course helped the participants to prepare for their WebCT tests and OSCEs.

4.4.3.7 Number of occasions on which the e-learning course was accessed

The table and figure below reflect the number of times that the e-learning course was accessed by the participants.

Table 4.13: Table showing number of times the students accessed the e-learning course

	Participants	Percentage
On 5 - 10 occasions	10	21%
On 11 - 15 occasions	19	40%
On 16 - 20 occasions	11	23%
More than 21 occasions	7	15%
Total	47	100%

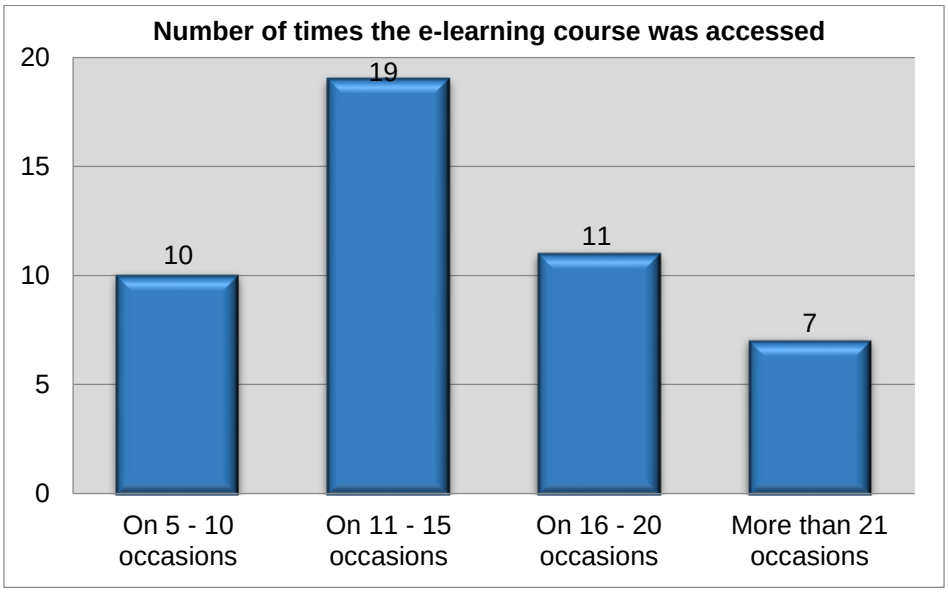

Figure 4.12: Graph showing the number of times the participants accessed the e-learning course

The results indicated in Table 4.13 and Figure 4.12 reflect that 19 (40%) of the 47 participants accessed the e-learning course on 11 to 15 occasions and 11 (23%) of the 47 participants accessed the e-learning course on 16 to 20 occasions, while 7 (15%) of the 47 participants accessed the e-learning course on more than 21 occasions. It may therefore be concluded that, judging by the number of times the course was accessed, the participants did find that the e-learning course was of assistance to them in learning an additional language.

Looking at the number of times the e-learning course was accessed by the participants, we can see that the majority of participants accessed the complementary e-learning course on 11 to 15 occasions. The usage pattern could be explained by the fact that the students used the e-learning course for revision to prepare for their WebCT tests as well as their classroom tests. As the e-learning course included voice-overs, it would have assisted them with pronunciation, thereby assisting them with classroom tests and the OSCE.

4.5 CONCLUSIONS

In this chapter, the findings and the analysis of the findings were presented. The impact of the combination of a complementary e-learning course and formal lectures, the perceptions of the students regarding the use of e-learning to complement their lectures as well as the perceptions of the students regarding the use of formal lectures in helping them learn Xhosa as an additional language were presented. The results showed that the participants felt that the e-learning course as well as the lectures assisted them in learning an additional language and that both the e-learning course and lectures are important and complement each other when learning an additional language.

CHAPTER FIVE
SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

5.1 INTRODUCTION

The first chapter explains that this research study is about the communication problems that exist between healthcare professionals and their patients when they do not speak the same language. It focusses particularly on Xhosa-speaking patients and healthcare professionals who mainly speak English and/or Afrikaans and how these communication problems affect patient care and after-treatment adherence and follow-up visits. The Xhosa e-learning course that will complement the Xhosa lectures is discussed, and how the e-learning course will assist in the learning of an additional language. The problem statement, the research questions and the aims and objectives of the study are also discussed in detail in this chapter, as well as the research design and methodology.

In the second chapter, the literature review discusses and supports the information that was put forward in the first chapter. This chapter supplies information regarding the language barriers that are prevalent between healthcare professionals and patients worldwide, especially in the Western Cape. It also covers the importance of understanding the language and the culture of the patient, as well as the problems that arise when a healthcare professional and their patient do not speak the same language. The chapter also discusses the use of interpreters and the benefits and complications of using them.

There is also literature on the different ways that additional languages are taught and learnt and how technology is playing a role.

In the third chapter, the research design and methodology are discussed. In this research study, a quantitative descriptive survey was utilised. First-year Occupational Therapy students from Stellenbosch University were used for the research study as they met the criteria for the study. In total, there were 47 participants in the research study. This chapter also describes the ethical considerations of the research study.

In the fourth chapter, the brainstorming session that was conducted prior to the start of the study with the participants is discussed and explained. The aim of the questionnaire is discussed, which was to determine the participants' perceptions of how effective the complementary e-learning course was to them in the learning of Xhosa.

The findings and the analysis of the findings from the questionnaire are presented. The results of the data collected from the questionnaire are presented and interpreted. The results address the research questions that were discussed in previous chapters.

This chapter includes a summary of the findings of the research, the recommendations for future research, the limitations of this research project as well as the conclusions of the findings.

The main purpose of this research study was to determine the effectiveness of a complementary e-learning course with traditional classroom lectures in the learning of an additional language. This research study focussed on the learning of Xhosa as an additional language. The participants in the study were first-year Occupational Therapy students enrolled at Stellenbosch University.

5.2 SUMMARY OF THE RESEARCH FINDINGS

In this chapter, an overview of the study will determine if the main research question was addressed. The research question that was posed was the following: Will an e-learning course that is complementary to traditional classroom lectures facilitate the learning of an additional language, namely Xhosa? An extensive literature review was conducted based on this research question and this provided the framework for the research study.

The following themes that relate to the main research question were also explored in the analysis of the results:

5.2.1 The effects of a language barrier in healthcare settings in the Western Cape

It has been found in the literature study that in healthcare settings in the Western Cape, there are also effects of language barriers. These are as follows:

- When the healthcare professional in the Western Cape does not speak the same language as the patient, the patient is less satisfied with the level of care that they receive and they feel that they are less important. This can lead to negative perceptions of the healthcare professional in the Western Cape.
- Language barriers in healthcare facilities in the Western Cape can lead to longer hospital stays, misdiagnosis, and patients who do not follow treatment advice. The patients often do not come for follow-up visits and in some cases, this may even result in the death of the patient.
- When non-professional interpreters are used in healthcare facilities in the Western Cape, this does not help with the language barrier that exists between the healthcare professional and their patient. The interpreters can miss words in the translation, sometimes they do not translate everything the healthcare professional and the patient says and there are also privacy issues with using an interpreter.
- In the Western Cape, healthcare professionals want to learn to speak Xhosa in order to be able to communicate more effectively with their patients and to be able to treat their patients more effectively.
- As Xhosa is the language spoken by the majority of people in the Western Cape, the teaching of Xhosa to healthcare professionals in the Western Cape will make a tremendous difference to the level of care offered in healthcare facilities.
- When healthcare professionals don't understand the culture of their patients in the Western Cape, this can lead to much frustration for both parties. If the healthcare professional in the Western Cape understands the patient's culture, they can understand why patients will sometimes refuse certain treatments for example.

5.2.2 What is the impact of the combination of a complementary e-learning course and formal lectures on the teaching and learning of Xhosa as an additional language in the Western Cape?

- The results of the research show that the majority (81%) of respondents felt that the combination of formal lectures and e-learning assisted them in learning Xhosa in the Western Cape.
- The majority of participants (45% in the questionnaire) in the research felt that the complementary e-learning component would assist them in improving their ability to speak Xhosa in the Western Cape.
- After completion of the complementary e-learning course, 52% of the participants felt that it would assist them to speak Xhosa in clinical situations in the Western Cape.
- With the advancement in technology for developing e-learning courses, there has been an increase in the use of technology in the teaching and learning of additional languages, especially the learning of Xhosa in the Western Cape.

5.2.3 What are the perceptions of the students regarding the use of formal lectures only in helping students to learn Xhosa as an additional language in the Western Cape?

- A total of 91% (51% agreed and 40% strongly agreed) of the participants agreed that formal lectures together with the e-learning course assisted them in learning Xhosa; 4% of the respondents were neutral and 4% did not answer the question.
- Students still feel that face-to-face lectures are important as they give them an opportunity to practise with their peers as well as to get feedback from the lecturer on their pronunciation.

5.2.4 What are the perceptions of the students regarding the use of e-learning to complement their lectures in the teaching and learning of Xhosa as an additional language in the Western Cape?

- 78% of the participants responded positively when asked how they felt about the opportunity to participate in the research and to take the e-learning course, while 11% of the participants were neutral and there were no negative responses. Therefore, the students were positive in terms of the e-learning complementing the lectures they would receive.
- A total of 88% of participants had a positive perception (40% strongly agreed and 43% agreed) that the e-learning course complemented the lectures they attended. None of the participants felt that the e-learning course did not complement the lectures they attended, while 15% of participants were neutral and 2% of respondents did not answer the question.
- A total of 89% (51% disagreed and 38% strongly disagreed) of participants did not agree that the e-learning course was a waste of time; 6% of the participants were neutral, 2% of participants strongly agreed that the e-learning course was a waste of time and 2% of participants did not answer the question.
- Students have adopted the use of complementary e-learning courses to learn an additional language as they are able to access the programmes whenever they want to and are not restricted to only learning the language during classtime.

The use of e-learning to complement classroom lectures on Xhosa is a relatively new concept and therefore, there was not much research available and not much literature available specifically on the learning and teaching of Xhosa. There was more information regarding the use of e-learning to complement classroom lectures for non-African languages, mainly for American and European languages. There was some research available on the barriers between healthcare professionals who speak English and/or Afrikaans only and their Xhosa-speaking patients in healthcare facilities in the Western Cape.

The research method used in this study proved to be successful, as the objectives stated in the beginning were all achieved. The findings were in line with what was

expected from the outset. The findings suggested that the majority of participants had a positive experience of the complementary e-learning course. The participants found it to be beneficial in their learning experience and felt that it complemented the lectures they attended.

5.3 RECOMMENDATIONS

This research study provided some insights into the perceptions and attitudes of students with regard to learning Xhosa as an additional language, as well as the use of a complementary e-learning course with classroom lectures.

5.3.1 Language barriers

It is a well-known fact that there are language barriers prevalent between healthcare professionals and patients in healthcare facilities in the Western Cape. These language barriers need to be addressed in order for patients to be able to receive the best possible care they can. In order to assist in overcoming the language barriers between healthcare professionals and patients in healthcare institutions, learning facilities that are involved in the professional development of healthcare professionals need to introduce the learning of additional languages in their training curriculum. In the Western Cape, this needs to be the introduction of Xhosa. Stellenbosch University is teaching Xhosa to students, but this should be implemented in all training institutions in order for it to be effective and to be spread throughout the province.

5.3.2 Translators

In many healthcare institutions, ad hoc (i.e. family and friends, other patients or staff members) interpreters are used to assist those healthcare professionals who do not speak the same language as the patient. This is not conducive to quality patient care as there are privacy and ethical issues as well as the possibility that not everything will be translated for either the healthcare professional or the patient. Professional translators must be used in healthcare facilities, but the reality is that they are expensive and many government institutions do not have the funds to have this facility available.

5.3.3 Healthcare professionals in the Western Cape

Healthcare professionals must become more aware of the different languages and cultures of the patients that they treat on a daily basis. They also need to be willing to explore the language that is predominant in the area in which they are working and try to learn and understand the language and the culture.

The language barriers between healthcare professionals and their patients can lead to problems when taking a history; it can also lead to misdiagnosis as well as patients not understanding their treatment regimens and therefore either not taking their medication or taking it incorrectly.

A study showed that many healthcare professionals are very interested in learning the language of their patients. Therefore, this opportunity should be available to them while they are doing their studies so that they can speak the language competently once they qualify.

The study looked at the students' perceptions of being part of this study and it was found that their attitude towards taking the complementary e-learning course was mostly positive, with only a small percentage having a negative attitude towards taking the e-learning course.

5.3.4 Formal lectures

Over the years, there has been a change in thinking about how additional languages should be taught. Previously, the focus in terms of learning an additional language was on the grammar and sentences and then the vocabulary. The more modern approach is more communicative where the teaching occurs through the student hearing the language being spoken and also speaking the target language themselves as well as learning and reading the grammar rules.

When learning an additional language, it is not only about learning the language; the lecturer must also include the cultural aspects associated with the language in their lessons. These cultural aspects are as important as knowing how to speak the

language when dealing with patients as it will possible to understand why, for example, they will still take a sangoma or traditional healer's medicine while they are in the hospital.

5.3.5 E-learning

Technology has advanced to such a degree as to allow for the development of language e-learning courses. The use of e-learning to complement traditional lectures facilitates the teaching and learning of an additional language. Complementary e-learning courses must be used more in teaching institutions to assist in the learning of an additional language.

The use of e-learning to facilitate the teaching of an additional language allows for a range of voices to be used; for example, males, females, young children, teenagers and adults. This will allow the learner to get used to how the different age groups speak the target language.

Technology advancements have also seen the development of technological translators which can assist the healthcare professional while they are busy with a patient, when they do not speak the same language.

The use of formal lectures also allows the lecturer to correct pronunciation and to provide guidance on the phonetics of the target language. Technology can also be used to assist with pronunciation, as the learner can replay the words and repeat them as many times as they like.

E-learning may be used as a tool for synchronous and asynchronous teaching and learning. A study was conducted where e-learning was used to enhance cultural awareness and understanding of a target language to support the lectures being given. This study found that a blended approach (e-learning and traditional classroom lectures) is the best way to learn an additional language.

In this study, it was found that the participants felt that the e-learning course assisted them and complemented the lectures they attended. None of the participants felt that the e-learning course did not assist them.

The majority of participants in the study felt that the e-learning course assisted them to speak Xhosa. Some of the students were neutral in their answers and a small percentage felt that the e-learning course didn't assist them very much.

5.3.6 Combination of formal lectures and the e-learning course

The use of a combination of formal lectures and e-learning caters to the different learning styles of students. Some people learn better when they are taught in a classroom situation and do not learn well with e-learning; some students may not have the self-discipline to study on their own and therefore need the classroom environment. Other learners prefer to learn at their own pace and at their own time and benefit from being able to repeat the content as many times as they wish.

The results of this research study indicated that the majority of students felt that the combination of formal lectures and e-learning helped them to learn the additional language. Therefore, as long as the lectures and the e-learning complement each other, this can be an effective way to learn a new language.

The study showed that the majority of students felt that as well as the formal lectures that were offered, the complementary e-learning course assisted them in learning the additional language. None of the respondents felt that the lectures and the e-learning course did not assist them in learning the additional language.

5.3.7 Learning a language from people for whom the language is their mother tongue

One of the criteria for participation in the study was that the participants had not had any formal facilitation in Xhosa. Therefore, the prospective participants in the study were asked about their prior exposure to Xhosa. The majority of participants had no prior exposure to Xhosa so this would essentially be their first exposure to formal

teaching and learning of Xhosa. There was a small percentage of participants who had been exposed to Xhosa on an informal level and were only able to say a few words (for example, hello and goodbye) and that was mainly through exposure to a Xhosa-speaking worker in their home.

The participants who had been exposed to a Xhosa-speaking person in their home, were able to remember the words they learnt from the helper many years later. This highlights the importance of having conversations with people whose mother tongue is the target language; in that way, you can gain invaluable experience in learning that language.

5.4 RECOMMENDATIONS FOR FURTHER RESEARCH

For future studies, the researcher would recommend the following:

5.4.1 Larger study group

This study should be conducted on a much larger scale with more participants. The reason for this is to obtain a better idea of the perceptions and attitudes of students with regard to learning Xhosa as an additional language and the use of e-learning to complement lectures when learning an additional language. More widespread study participation will also help to determine the effectiveness of the complementary e-learning course in learning Xhosa as an additional language.

5.4.2 Study to include other disciplines

This study may include healthcare students who are studying other disciplines than Occupational Therapy (for example, Medicine, Physiotherapy, Speech, Language and Hearing Therapy etc).

The inclusion of other healthcare professions will help to determine if students in other areas of healthcare have the same perceptions and attitudes as the Occupational Therapy students, with regard to learning Xhosa.

5.4.3 Study to include males and females

A combination of both male and female participants may be used in future studies as there may be gender differences in perceptions of learning Xhosa and the use of e-learning to complement classroom lectures.

5.4.4 Questionnaires and interviews

With regard to the data collection, it is recommended that a triangulation of methods be used. This should include the literature study, questionnaires as well as interviews at the same time.

Conducting interviews with the participants will allow them to give more insight into how they felt about the e-learning course as a complement to the lectures as well as their perceptions in terms of learning Xhosa.

The interviews will also allow for more exploration of the participants' perceptions of the effect on the level of healthcare that the patient receives when there is a language barrier between the healthcare professional and their patient.

5.5 LIMITATIONS OF THE STUDY

The researcher identified the following limitations of the study:

- The study was limited to 47 participants. This was because only non-Xhosa-speaking students could participate in the study and there is also a limit to the number of students who can be enrolled for their first year in Occupational Therapy at Stellenbosch University.
- The study only comprised female subjects and this may have limited the views expressed by the participants.

The amount of research conducted on the learning of Xhosa as an additional language is limited. Research on the use of e-learning in the teaching of Xhosa and the use of

e-learning to complement Xhosa lectures is even more limited. Therefore, more research needs to be conducted in these areas. There is more research available regarding the use of e-learning to complement classroom lectures for non-African languages.

5.6 CONCLUSIONS

This research studied the perceptions of students with regard to the use of e-learning to complement classroom learning of Xhosa. The results of the research showed that the students were largely positive towards the opportunity to participate in the research project and felt that the e-learning course together with the classroom lectures assisted them in learning Xhosa. The students were also very positive about learning Xhosa and being able to communicate with their patients in their home language.

On the basis of the findings of this research, it can be concluded that the combination of lectures and e-learning improves the student's ability to learn an additional language. The blended learning approach enables the students to have confidence in their ability to learn Xhosa, to be able to practise the correct pronunciation of Xhosa words as many times as they like and to learn to construct correct short sentences.

The findings showed that students are very willing to learn an additional language and find the use of e-learning a very good way to do so.

Furthermore, students feel that the complementary e-learning course will help them to speak Xhosa to patients in a clinical situation.

The research also showed that the participants used the e-learning course more than expected, indicating that they did benefit from the course, in helping them to learn an additional language.

It can therefore be concluded that the combination of a complementary e-learning course and formal lectures has a positive impact in the teaching and learning of Xhosa as an additional language. This supports the hypothesis that was made in the first

chapter, that the combination of formal lectures and the complementary e-learning course will assist in the learning of an additional language.

REFERENCES

Achtemeier, S.D., Morris, L.V. & Finnegan, C.L. (2003) Considerations for developing evaluations of online courses, *Journal of Asynchronous Learning Networks*, vol. 7, no. 1, pp. 1-13.

Alshwiah, A.A. (2010) Effects of a Blended Learning Strategy in Teaching Vocabulary on Premedical Students' Achievement, *Asian Journal of Distance Education*, vol. 8, no. 1, pp. 37-52.

All about Linguistics. (2012) *The University of Sheffield* [Online], Available: https://sites.google.com/a/sheffield.ac.uk/all-about-linguistics/branches/sociolinguistics/what-is-sociolinguistics [12 April 2015].

Al Zumor, A.W.Q., Al Refaai, I.K., Bader Eddin, E.A. & Aziz Al-Rahman, F.H. (2013) EFL Students' Perceptions of a Blended Learning Environment: Advantages, Limitations and Suggestions for Improvement, *English Language Teaching*, vol. 6, no. 10, pp. 95-110.

Babbie, E. (2010) *The Practice of Social Research,* 12th edition. USA: Wadsworth.

Bassiri, M.A. (2012) The impact of scaffolding as a strategy for teaching reading on the motivation of Iranian L2 learners, *British Journal of Social Sciences*, vol. 1, no. 1, pp. 32-46.

Berner, S. (2010) Healthcare interpreters – vital partners in patient care, *Diversit-e, Australia's diversity health e-magazine,* October 2011, Issue 3, pp. 7-8.

Biçer, D. & Parmaksız, R.Ş. (2013) Comparison of Computer Assisted Language Learning Software before Investment, *The Online Journal of Distance Education and e-Learning,* vol. 1, no. 4, pp. 1-9.

Birch, D. & Burnett, B. (2009) Bringing academics on board: Encouraging institution-wide diffusion of e-learning environments, *Australasian Journal of Educational Technology*, vol. 25, no. 1, pp. 117-134.

Bischoff, A. & Hudelson, P. (2009) Communicating With Foreign Language-Speaking Patients: Is Access to Professional Interpreters Enough? *Journal of Travel Medicine*, vol. 17, no. 1, pp. 15-20.

Bowling, A. (2009) *Research Methods in Health: Investigating Health and Health Services,* 3rd edition. Berkshire: Open University Press.

Bradley, K.S. & Bradley. J.A. (2005) Scaffolding Academic Learning for Second Language Learners, *The Internet TESL Journal*, vol. 10, no. 5, pp. 1.

Brown, H.D. (2001) *Teaching by principles: An interactive approach to language pedagogy,* Pearson Longman

Brugge, D., Edgar, T., George, K., Heung, J. & Laws, M.B. (2009) Beyond literacy and numeracy in patient provider communication: Focus groups suggest roles for empowerment, provider attitude and language, *BMC Public Health,* vol. 9, pp. 354-365.

Byki. (2014) The Five Principles of Effective Second Language Acquisition. Transparent Language, [Online], Available: http://www.transparent.com/about/second-language.html. [7 September 2014].

Camilli, G. & Wolfe, P. (2004) Research on reading: A cautionary tale, *Association for Supervision and Curriculum Development*, vol. 61, no. 5, pp. 26-29.

Carabaneanu, L., Trandafir, R. & Mierlus-Mazilu, I. (2006) Trends in E-learning, [Online], Available: http://www.schoolguru.in/pdf/Trends_in_e-learning.pdf. [25 February 2014].

Caring for kids new to Canada. (2014) Using interpreters in Healthcare settings, [Online], Available: http://www.kidsnewtocanada.ca/care/interpreters# [7 September 2014].

Constitution of the Republic of South Africa, (1996) Chapter 1, Section 6.

Concord Language School, (2011) *What is E-Learning,* [Online], Available: http://www.concord.rs/e-learning/how.html [27 April 2014].

Cook, D.A., Garside, S., Levinson, A.J., Dupras, D.M. & Montori, V.M. (2010) What do we mean by web-based learning? A systematic review of the variability of interventions, *Medical Education,* vol. 44, pp. 765-774.

Cook, D.A., Levinson, A.J., Garside, S., Dupras, D.M., Erwin, P.J. & Montori, V.M. (2010) Instructional design variations in Internet-based learning for health professions education: A systematic review and meta-analysis, *Academic Medicine,* vol. 85, no. 5, pp. 909-922.

Cortland, (2015) [Online], Available: http://web.cortland.edu/andersmd/STATS/valid.html [10 June 2015].

Creswell, J.W. (2002) *Educational research: Planning, conducting, and evaluating qualitative and quantitative research*, London: Pearson Education Ltd.

De Buda, Y. (1976) Language and cultural barriers in family practice, *Canadian Family Physician,* vol. 22, pp. 866-870.

DePaul, (2014) Teaching Commons, [Online], Available: http://teachingcommons.depaul.edu/Course_Design/developing_a_course/design.html [7 April 2014].

De Vos, A.S., Strydom, H., Fouche, C.B. & Delport, C.S.L. (2005) Research at Grass roots: FOR THE SOCIAL SCIENCES AND HUMAN SERVICE PROFESSIONS, 3rd edition. Pretoria: Van Schaik.

Doherty, S. (2011) *Working with interpreters in healthcare settings*, Lecture given to the West of Scotland Pain Group, pp. 1-23.

Ellaway, R. & Masters, K. (2008) AMEE Guide 32: E-Learning in medical education. Part 1: Learning, teaching and assessment, *Medical Teacher*, vol. 30, pp. 455-473.

Engelbrecht, E. (2003) A look at e-learning models: Investigating their value for developing an e-learning strategy, Bureau for Learning Development, UNISA, vol. 25, no. 2, pp. 38-47.

E-Source Behavioural and Social Sciences Research, (2015) [Online], Available: http://www.esourceresearch.org [10 June 2015].

Euromed Info. (2014) Non-English-speaking patients, Euromed Info, [Online], Available: http://www.euromedinfo.eu/non-english-speaking-patients.html/ [6 September 2014].

Euromed Info. (2014) A model of care for cultural competence, Euromed Info, [Online], Available: http://www.euromedinfo.eu/a-model-of-care-for-cultural-competence.html/ [6 September 2014].

Farren, M. (2008) E-learning and Action Research as Transformative Practice, Innovate, [Online], Available: *http://www.innovateonline.info/index.php?view=article&id=543* [6 September 2014].

Flores, G. (2006) Language barriers to Healthcare in the United States, *New England Journal of Medicine*, July, pp. 229-231.

Gall, M.D., Gall, J.P. & Borg, W.R. (2007) Collecting research data with questionnaires and interviews. In *Educational Research an introduction*, 8th Ed, pp. 227-261, Boston: Allyn & Bacon.

García-Pérez, M.A. (2012) Statistical conclusion validity: some common threats and simple remedies, *Frontiers in Psychology*, vol. 3, pp. 1-11.

Geary, D. (2012) eLearning in a Foreign Language*, eLearn Magazine; Education and Technology in Perspective*, [Online], Available; https://elearnmag.acm.org/archive.cfm?aid=2254416 [26 April 2014].

Gerrish, K. (2008) The nature and effect of communication difficulties arising from interactions between district nurses and South Asian patients and their carers, *Journal of Advancing Nursing*, vol. 33, no. 5, pp. 566-574.

Godwin-Jones, R. (2009) Emerging technologies speech tools and technologies, *Language Learning and Technology*, vol. 13, no. 3, pp. 4-11.

Gumperz, J.J. & Hymes, D. (1986) *Directions in sociolinguistics. The ethnography of communication*, New York/ Oxford: Basil Blackwell Ltd.

Hismanoglu, M. & Hismanoglu, S. (2011) Internet-based pronunciation teaching: An innovative route towards rehabilitating Turkish EFL learners' articulation problems, *European Journal of Educational studies*, vol. 3, no. 1, pp. 23-36.

Hudelson, P. & Vilpert, S. (2009) Overcoming language barriers with foreign-language speaking patients: a survey to investigate intra-hospital variation in attitudes and practices, *Biomedcentral*, vol. 9, pp. 187-195.

Jacobs, E.A., Shepard, D.S., Suaya, J.A. & Stone, E.L. (2004) Overcoming language barriers in Healthcare: Costs and benefits of interpreter services, *American Journal of Public Health*, vol. 94, no. 5, pp. 866-869.

Kalz, M., Koper, R. & Hornung-Prähauser, V. (2009) Technology support for self-organised learners, *Educational Technology and Society*, vol. 12, no. 3, pp. 1-3.

Kaschula, R.H., Mostert, A. & Ralarala, M.K. (2008) Communicating across cultures in South African law courts: Towards an information technology solution. *Stellenbosch Papers in Linguistics Plus*, vol. 36, pp. 89-104.

Key Elements of a Research Proposal Quantitative Design, (2014), [Online] Available: https://www.bcps.org/offices/lis/researchcourse/develop_quantitative.html [2 February 2015].

Kidney, G., Cummings, L. & Boehm, A. (2007) Toward a quality assurance approach to e-learning courses, *International Journal on E-learning*. vol. 6, no. 1, pp. 17-30.

Kilian, S., Swartz, L. & Joska, J. (2010) Competence of Interpreters in a South African Psychiatric Hospital in Translating Key Psychiatric Terms, *Psychiatric Services*, ps.pschiatryonline.org, vol. 61, no. 3, pp. 309-312.

Knutzen, B. & Kennedy, D. (2012) The Global Classroom Project: Learning a Second Language in a Virtual Environment, *The Electronic Journal of e-Learning*, vol. 10, no. 1, pp. 90-106.

Kulier, R., Coppus, S., Zamora, J., *et al*. (2009) The effectiveness of a clinically integrated e-learning course in evidence-based medicine: A cluster randomised controlled trial, *BMC Medical Education*, vol. 9, no. 21, pp. 1-7.

Levin, M.E. (2006) Language as a barrier to care for Xhosa-speaking patients at a South African paediatric teaching hospital, *South African Medical Journal*, vol. 96, no. 10, pp. 1076-1079.

Levin, M.E. (2007) Use of Asthma terminology by Xhosa-speaking patients in South Africa – How it affects Asthma – Control questionnaires and questionnaire-based epidemiological studies, *Current Allergy and Clinical Immunology*, vol. 20, no. 2, pp. 74-78.

Levin, M.E. (2011) Effects on quality of care and Healthcare professional satisfaction of language training for Healthcare professionals in South Africa, *African Journal of Health Professions Education*, vol. 3, no. 1, pp. 11-14.

Li, S., Pearson, D. & Escott, S. (2010) Language barriers within primary care consultations: an increasing challenge needing new solutions, *Journal for Primary Care*, vol. 25, pp. 385-391.

Lowi, R. (2014) Basic principles of foreign language learning. UCLA Language Materials Project, [Online], Available: http://www.lmp.ucla.edu/k-12/tools_principles.aspx. [7 September 2014].

Maseko, P. & Kaschula, R. (2009) Vocational language learning and teaching at a South African university. Preparing professionals for multilingual contexts, *Stellenbosch Papers in Linguistics Plus*, vol. 38, pp. 130-142.

Masters, K. & Ellaway, R. (2008) AMEE Guide: E-Learning in medical education Guide 32 Part 2: Technology, management and design, *Medical Teacher*, vol. 30, pp. 474-489.

Médecins Sans Frontières (MSF), Field Blog: Language Barriers, (2013) [Online], Available: http://www.doctorswithoutborders.org/news-stories/field-blog-language-barriers [20 September 2014].

Meier, C. (2007) Enhancing intercultural understanding using e-learning strategies, *South African Journal of Education*, vol. 27, pp. 655-671.

McLean, M. & Murrell, K. (2002) WebCT: integrating computer-mediated communication and resource delivery into a new problem-based curriculum, *Journal of Audiovisual Media in Medicine*, vol. 25, no. 1, pp. 8-15.

McMillan, J.H. & Schumacher, S. (2010) Research in Education, Evidence-based Inquiry, 7th edition, Pearson.

Muller, H. (2014) Quantitative Research: Important issues pertaining to research methodology & analysis strategy, [Online], Available: http://osprey.unisa.ac.za/TechnicalReports/e4.pdf
[25 September 2014].

Murad, M.H., Coto-Yglesias, F., Varkey, P., Prokop, L.J. & Murad, A.L. (2010) The effectiveness of self-directed learning in health professions education: A systematic review, *Medical Education,* vol. 44, pp. 1057-1068.

Ngo-Metzger, Q., Sorkin, D.H., Philips, R.S., Greenfield, S., Massagli, M.P., Clarridge, B. & Kaplan, S.H. (2007) Providing high-quality care for limited English proficient patients: the importance of language concordance and interpreter use, *Journal of General Internal Medicine*, vol. 22, no. 2, pp. 324-330.

O'Connor, J. & Geiger, M. (2009) Challenges facing primary school educators of English Second (or Other) Language learners in the Western Cape, *South African Journal of Education*, vol. 29, pp. 253-269.

Park, S.Y. (2009) An analysis of the technology acceptance model in understanding university students' behavioural intention to use e-learning, *Educational Technology and Society*, vol. 12, no. 3, pp. 150-162.

Parker *et al*. (2011) Going beyond Kirkpatrick in evaluating a clinician scientist programme: It's not "If it works" but "How it works", *Academic medicine*, vol. 86, no. 11, pp. 1389-1396.

Pazaver, A. & Wang, H. (2009) Asian Students' Perceptions of Grammar Teaching in the ESL Classroom, *The International Journal of Language Society and Culture*, vol. 27, pp. 27-35.

Pedowitz, R.A., Esch, J. & Synder, S. (2002) Evaluation of a Virtual Reality Simulator for Arthroscopy Skills Development, *The Journal of Arthroscopic and Related Surgery*, vol. 18, no. 6, pp. 1-6.

Pei-Shi, W. (2012) The Effect of Learning Styles on Learning Strategy Use by EFL Learners, *The Journal of Social Sciences*, vol. 8, no. 2, pp. 230-234.

Pfaff, C. & Couper, I. (2009) How do doctors learn the spoken language of their patients? *South African Medical Journal*, vol. 99, pp. 520-522.

Phelan, C. & Wren, J. (2006) UNI Office of Academic Assessment [Online], Available: https://www.uni.edu/chfasoa/reliabilityandvalidity.htm [10 June 2015].

Randhawa *et al*. (2013) Using machine translation in clinical practice, *Canadian Family Physician*, vol. 59, April, pp. 382-383.

Ravjee, N. (2007) The politics of e-learning in South African higher education, *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, vol. 3, no. 4, pp. 27-41.

Research rundowns. Uncomplicated reviews of educational research methods. [Online], Available: http://researchrundowns.wordpress.com/quantitative-methods/instrument-validity-reliability/ [25 September 2014].

Rivera, A. (2010) *Scaffolding Support for Second Language Learners,* St John Fisher College, pp. 1-44.

Roberts, *et al*. (2006) Reliability and validity in research, *Nursing Standard,* vol. 20, no. 44, pp. 41-45.

Rossett, A. & Chan, A. (2008) *Engaging with the new eLearning*, White paper, pp. 1-14

Rosetta Stone Ltd. (2009) E-Learning Helps Pupils Engage With Language Lessons, Rosetta Stone, [Online], Available: https://secure.rosettastone.co.uk/global/press/releases/20090605-E-LEARNING-HELPS-PUPILS-ENGAGE-WITH-LANGUAGE-LESSONS [19 July 2014].

Roter, D. (2010) John Hopkins Bloomberg School of Public Health, pp. 1-51

Saha, S.S., Beach, M.C. & Cooper, L.A. (2008) Patient Centeredness, Cultural Competence and Healthcare Quality, *Journal of the National Medical Association*, vol. 100, no. 11, pp. 1275-1285.

Schlemmer, A. & Mash, B. (2006) The effects of a language barrier in a South African district hospital, *South African Medical Journal,* vol. 96, no. 10, pp. 1084-1087.

Schwartz, F., Lowe, M. & Sinclair, L. (2010) Communication in Healthcare: Considerations and strategies for successful consumer and team dialogue, *Hypothesis Journal*, vol. 8, no. 1, pp. 1-8.

Schyve, P.M. (2007) Language Differences as a Barrier to Quality and Safety in Healthcare: The Joint Commission Perspective, *Journal of General Internal Medicine* vol. 22, no. 2, pp. 360-361.

Smith, H. & Pietrzyk, A. (2014) Understanding Language and Culture Issues between Patients and Providers, Patient Provider Communication, [Online], Available: http://www.patientprovidercommunication.org/bibliography.htm [6 September 2014].

Smith, H. & Pietrzyk, A. (2014) Annotated Bibliography on Patient-Provider Communication, Patient Provider Communication, [Online], Available: http://www.patientprovidercommunication.org/bibliography.htm [6 September 2014].

Stewart, M. (1995) Effective physician-patient communication and health outcomes: a review, *Canadian Medical Association Journal*, vol. 152, pp. 1423-1433.

Student affairs assessment, (2014) Quantitative Research: Reliability and Validity, [Online], Available: https://www.pdx.edu/studentaffairs/sites/www.pdx.edu.studentaffairs/files/QuanRshRel%26Val.pdf [25 September 2014].

Tanveer, M. (2011) Integrating E-learning in Classroom-based Language Teaching: Perceptions, Challenges and Strategies, *International Conference "ICT for Language Learning",* 4th edition, pp. 1-6.

Twycross, A. and Shields, L. (2004) Validity and reliability – What's it all about? *Paediatric Nursing*, vol. 16, no. 9, pp. 28.

Tymczyńska, M. (2009) Integrating in-class and online learning activities in a healthcare interpreting course using Moodle, *The Journal of Specialised Translation,* vol. 12, pp. 148-164.

Van de Poel, K. & Fourie, C. (2013) A critical approach to the development of blended medical communication training materials, *Stellenbosch Papers in Linguistics Plus,* vol. 42, pp. 333-351.

Wambui, L. & Black, E. (2009) Factors that impede adoption of e-learning in developing countries: Advice for moving beyond challenges with integrating e-learning platforms at Polytechnic of Namibia,
[Online], Available: http://hdl.handle.net/10628/201 [15 January 2013]

Welman, C., Kruger, F. & Mitchell, B. (2010) *Research methodology*, Cape Town: Oxford University Press.

Western Cape Government. (2004) Western Cape language policy document, [Online], Available:
http://www.capegateway.gov.za/eng/publications/policies/W/99328
[2 February 2012].

Wu, K. (2010) The Relationship between Language Learners' Anxiety and Learning Strategy in the CLT Classrooms, *International Education Studies*, vol. 3, no. 1, pp. 174-191.

Yang, S.C. & Chen, Y. (2007) Technology-enhanced language learning: A case study, *Computers in Human Behaviour*, vol. 23, pp. 860-879.
Young, S.S.C. (2003) Integrating ICT into second language education in a vocational high school. *Journal of Computer Assisted Learning*, vol. 19, pp. 447-461.

Zimbudzi, E., Thompson, S. & Terrill, B. (2010) How accessible are interpreter services to dialysis patients of Non-English Speaking Background? *Australasian Medical Journal,* vol. 1, no. 3, pp. 205-212.

APPENDIX A: QUESTIONNAIRE

Questionnaire - Xhosa E-learning

Complementing Xhosa language teaching and learning with an e-Learning platform:
A study to examine Occupational Therapy I students' perceptions on its application and effectiveness.

Unique number: _____

This questionnaire consists of various questions.
Please make sure you complete all questions.

- Please Read the following statements and questions and then decide by clearly marking with X on the scale which response you believe reflects your feelings. Please mark only one option per statement/ question.
- Please note: There is no right or wrong response.

Gender	M	F

Age	

Do you have another qualification/s?	Y	N
If you answered yes, what qualification/s do you have?		

Have you had any previous exposure to speaking Xhosa?	Y	N
If you answered yes, how many words can you say in Xhosa?		

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	The e-learning course provided me with extra support in learning Xhosa for my WEBCT tests and OSCE.					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
2	The e-learning course helped me to speak more confidently to Xhosa speakers.					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
3	The e-learning course improved my ability to speak Xhosa when speaking to Xhosa patients.					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
4	The e-learning instructions were easy to understand and follow.					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
5	The e-learning activities were fun to do.					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
6	The e-learning activities encouraged me to continue practicing my Xhosa.					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
7	The e-learning activities and illustrations made it easier for me to continue learning Xhosa.					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
8	The voice over helped me to pronounce Xhosa words correctly.					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
9	Apart from attending the Xhosa lectures, the e-learning course has helped me to learn Xhosa.					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
10	The e-learning activities helped me to prepare for the WEBCT tests and OSCE.					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
11	The various activities on the e-learning programme were user friendly.					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
12	The interactive nature of learning helped me to learn Xhosa better.					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
13	The illustrations in the e-learning course helped me with effective learning of Xhosa.					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
14	The e-learning activities took too much time to complete.					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
15	A brief tutorial on how to use the e-learning course would be helpful.					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
16	The e-learning course complemented the lectures that we received.					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
17	This e-learning course was a waste of time.					

	Statement	on fewer than 5 occasions	on 5-10 occasions	on 11-15 occasions	on 16-20 occasions	on more than 21 occasions
18	I used the e-learning component frequently.					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
19	The lectures alone helped me to learn Xhosa better.					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
20	The e-learning course helped me to learn Xhosa better.					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
21	The combination of e-learning and lectures helped me to learn Xhosa better.					

	Statement	Lectures	E-learning	Both
19	What helped you to learn Xhosa the best?			
Comment why:				

APPENDIX B: CONSENT FORM

Dear Student

By now you are aware of an e-learning course which is presently being developed to complement and reinforce all relevant Xhosa language content covered during lectures to improve your language proficiency. It is also designed to assist you to prepare for your Xhosa WEBCT tests and OSCEs through interactive text-to-speech lessons and assessment procedures.

You are invited to participate in this research project. Your participation is **entirely voluntary** and therefore you are free to decline. Declining to participate will not impact on you negatively in any way, whatsoever.

If you indeed decide to participate, you will be requested to complete a pre- and post-questionnaire. In doing so, each student will each be assigned a unique number which will be made accessible to only one member of the research team. Your answers will not be disseminated to anyone else and will remain confidential. In addition, you will also be asked to make yourself available for a semi-structured group interview of not more than an hour.

By participating in this research project you are, apart from improving your own Xhosa language proficiency, also assisting in the development and improvement of the e-learning course. In this way future students will benefit from your contribution to this research project.

If you have any questions you can contact Dr Leandra Khoury on 082 788 7539.

APPENDIX C: ETHICS APPROVAL

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Approval Notice
New Application

08-Oct-2014
Khoury, Leandra LR

Ethics Reference #: N13/02/019

Title: **Complementing Xhosa language teaching and learning with an e-Learning platform:A study to examine Occupational Therapy I students' perceptions on its application and effectiveness**

Dear Doctor Leandra Khoury,

The **New Application** received on **20-Feb-2013**, was reviewed by members of **Health Research Ethics Committee 2** via Expedited review procedures on **22-Feb-2013** and was approved.
Please note the following information about your approved research protocol:

Protocol Approval Period: **25-Feb-2013 -25-Feb-2014**

Please remember to use your **protocol number** (**N13/02/019**) on any documents or correspondence with the HREC concerning your research protocol.

Please note that the HREC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

After Ethical Review:
Please note a template of the progress report is obtainable on www.sun.ac.za/rds and should be submitted to the Committee before the year has expired. The Committee will then consider the continuation of the project for a further year (if necessary). Annually a number of projects may be selected randomly for an external audit.
Translation of the consent document to the language applicable to the study participants should be submitted.

Federal Wide Assurance Number: 00001372
Institutional Review Board (IRB) Number: IRB0005239

The Health Research Ethics Committee complies with the SA National Health Act No.61 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 Part 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes 2004 (Department of Health).

Provincial and City of Cape Town Approval

Please note that for research at a primary or secondary healthcare facility permission must still be obtained from the relevant authorities (Western Cape Department of Health and/or City Health) to conduct the research as stated in the protocol. Contact persons are Ms Claudette Abrahams at Western Cape Department of Health (healthres@pgwc.gov.za Tel: +27 21 483 9907) and Dr Helene Visser at City Health (Helene.Visser@capetown.gov.za Tel: +27 21 400 3981). Research that will be conducted at any tertiary academic institution requires approval from the relevant hospital manager. Ethics approval is required BEFORE approval can be obtained from these health authorities.

We wish you the best as you conduct your research.
For standard HREC forms and documents please visit: www.sun.ac.za/rds

If you have any questions or need further assistance, please contact the HREC office at 0219389207.

Included Documents:
Checklist
Appendix C
Protocol

cv1
Appendix A
Appendix B
Letter NB//
Appendix C
Synopsis
Appendix B
Application Form
Investigators declaration

Sincerely,

Mertrude Davids
HREC Coordinator
Health Research Ethics Committee 2