

DURBAN UNIVERSITY OF TECHNOLOGY

**THE PEDAGOGICAL APPLICATIONS OF ONLINE
TEACHING AND LEARNING OF CONSUMER
STUDIES DURING COVID-19 PANDEMIC:
AMATHOLE DISTRICT, SA**

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**THE PEDAGOGICAL APPLICATIONS OF ONLINE
TEACHING AND LEARNING OF CONSUMER STUDIES
DURING COVID-19 PANDEMIC: AMATHOLE DISTRICT, SA**

Submitted in fulfilment of the requirements of the degree of Doctor
Philosophy in Management Sciences specialising in Hospitality and
Tourism in the Faculty of Management Sciences at the Durban
University of Technology

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DECLARATION

I, the undersigned, **ADELAIDE RETHABILE MOTSHABI PITSO-MBILI**, do hereby declare that unless otherwise indicated, this thesis submitted to Durban University of Technology for Doctor of Philosophy in Management Sciences specialising in Hospitality and Tourism is solely the result of my own work. This work has not been submitted to any other university for a degree award or other purposes and all the authors whose work contributed to this study have been accordingly referenced.

I hereby give consent for this work to be made available for inter-library loan, photocopying, and made available to interested organisations and students.

...06 AUGUST 2024...

Adelaide Rethabile Motshabi Pitso-Mbili

Date

DEDICATION

I dedicate this work to Almighty God, who made it possible for me to successfully complete this study. This project is also dedicated to my family who has been with me, believed in me, and supported me since birth.

Enzokuhle Bohlalebohle Blessing Qiniso Mbili!

This is for you Tsotso wa mama!

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ABSTRACT

The COVID-19 pandemic disrupted many industries in the world and education was one of the industries that suffered considerably. On the 26th of March 2020 South Africa was placed in a national lockdown and everything in the education system changed and the traditional face-to-face teaching and learning process had to be changed. Teachers had to find new teaching strategies that could be conducted away from their classes. Hence, the Department of Education encouraged online teaching and learning. However, this pedagogy is not favourable for all contexts within the education sphere, such as school location, school category, or the type of subject. While much of the online teaching pedagogies have been theoretically and practically explored, little is known about its effectiveness for practical subjects. In this regard, this study aimed to explore the efficacy of online teaching and learning tools in the practical component of Consumer Studies at a few schools in the Amathole East area of the Eastern Cape.

This study employed a mixed methods approach and collected data through semi-structured interviews (secondary school principals, circuit managers and Consumer Studies subject advisors) and questionnaires (Consumer Studies teachers). In addition, empirical data was supported by outcomes based on secondary datasets. Due to diversity in population, non-probability through purposive sampling and census sampling were used to recruit participants. Then, the researcher conducted a descriptive analysis for quantitative data with the use of SPSS which allowed the researcher to find patterns in data and use raw data to create tables, charts and summary statistics. To add, a one-way ANOVA test to explore relationships between different variables. Furthermore, deductive approach was used to analyse qualitative data which allowed data to be processed through thematic analysis. Thematic analysis ensured that raw data is well interpreted to identify relevant patterns and identify links between different parts of data.

The findings revealed that Online Teaching and Learning (OTL) offers many advantages such as quick access to learning material, learning from any location at any time, and allows direct interaction between the learner and teacher. However, rural

schools were hit the most as they lacked resources, there was no training for teachers and learners, and they lacked the facilities to support teaching and learning. Furthermore, it was discovered that OTL was not supported by practical subject teachers because they believed that it was not suitable for practical subjects. Hence, the researcher developed an OTL tool that is suitable for practical subjects.

The researcher recommended that the Department of Education should ensure that schools are fully equipped with relevant infrastructure, OTL resources. Furthermore, the Department of Education policy makers should consider developing e-education policies that are subject-focused as objectives and goals of subjects are different. In addition, the Department of Education should consider extensive training of teachers and learners as the world has evolved and technologically skilled learners are needed in the country. This study will assist the Department of Basic Education policy makers to enhance the teaching and learning policies together with draft e-learning policies, so that they can meet the teachers' and learners' needs. Furthermore, school management will be able to identify the skills gap for teachers such as basic computer skills, digital skills and information communication technology skills.

The study was limited to the Eastern Cape Province within the Amathole East district and limited to schools offering Consumer Studies subject. In addition, time was one of the limitations of the study as the researcher did not get enough time to incorporate a larger sample or included other districts. For future research, it is recommended that researchers to use different provinces or geographic regions and other districts. Furthermore, this study can also be conducted using other practical subjects in secondary schools. Lastly, the researchers can also examine the efficacy of the department of education white paper e-education for rural area schools.

Keywords: Connectivism Theory, Consumer Studies, COVID-19, Mixed Methods Approach, Online Teaching and Learning, Quintile System

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LIST OF ACRONYMS

OTL	- Online Teaching and Learning
4IR	- Fourth Industrial Revolution
COVID-19	- Corona virus 2019
IoT	- Internet of Things
AI	- Artificial Intelligence
DBE	- Department of Basic Education
SPSS	- Statistical Package for Social Sciences
DUT	- Durban University of Technology
ICT	- Information Communication Technology
ECDC	- Eastern Cape Department of Technology
EC	- Eastern Cape

CHAPTER 1: ORIENTATION OF THE STUDY

1.1 INTRODUCTION

Chapter 1 serves as a gateway to the research journey embarked upon in this thesis. This chapter firstly discuss the background and context of the study to give a comprehensive overview of what the study is about and understanding the research idea. Furthermore, the problem statement is discussed as it identifies, articulates and addresses a gap in knowledge within the Consumer Studies field and delineates the main objectives. An introduction of the conceptual framework and theoretical framework is provided in this chapter to serve as a basis for interpreting and understanding the phenomena of interest.

This chapter also introduces the research design of this study including the sample, sample size, and data collection process. In addition, trustworthiness is discussed as it ensures that the study is valid, credible, reliable and transparent. Moreover, ethical considerations are also discussed to give a clearer picture of how the participants were protected and how integrity was maintained in this study. This chapter also found it necessary to highlight the significance of the study to declare the importance of this study, the relevance and potential contributions to the field of research and practice. Finally, this chapter sets the stage for subsequent chapters by presenting a clear roadmap of the structure and organisation of the thesis.

1.2 BACKGROUND OF THE STUDY

Education is one of the fields where the fourth industrial revolution (4IR) with components such as the internet of things (IoT), artificial intelligence (AI) and digitalisation has had a huge impact (Penprase 2018: 217). On 11 March 2020, the World Health Organisation (WHO) declared a world pandemic and the South African government had to place the country under lockdown to reduce the spread of the virus (Mahaye 2020: 3).

Coronavirus is a zoonotic virus, an RNA virus in the family *Coronaviridae* of the order *Nidovirales* and because of its crown-like spikes surrounding the outer surface of the virus it was named coronavirus. The coronavirus attacks the respiratory system and causes infections (Shereen *et al.* 2020: 91). There are different types of coronaviruses namely, alpha coronaviruses HCoV-229E and HCoV-NL63, beta coronaviruses HCoV-OC43 and HCoV-HKU1, SARS-CoV which causes severe acute respiratory syndrome (SARS), MERS-CoV which causes middle east respiratory syndrome (MERS) and SARS-CoV-2, a new coronavirus described in late 2019 after cases were reported in China (Wiersinga *et al.* 2020: 783). In 2002 and 2012 SARS and MERS were reported to have been caused by viruses similar to SARS-CoV-2 (Mahaye 2020: 3).

On the 31st of December 2019 the city of Wuhan (one of the business hubs of China) reported to the World Health Organisation (WHO) the existence of a cluster of patients with pneumonia of unknown cause (Shereen *et al.* 2020: 92), later identified as acute respiratory syndrome coronavirus 2 (SARS CoV-2) (Armoed 2021: 1). The International Committee on Taxonomy of Viruses (ICTV) named the disease caused by SARS-CoV-2 as coronavirus disease of 2019 (COVID-19) (Lai *et al.* 2020: 1). COVID-19 was found to be highly contagious and as time went on the cases reported increased rapidly with a terrible effect on humans with over six million deaths worldwide (Casella *et al.* 2022: 1). On 11th April 2020 WHO declared COVID-19 as a world pandemic due to the fact that the virus was transmitted easily via droplets from an infected person. COVID-19 virus symptoms included fever, muscle soreness, vomiting, dry cough, diarrhoea, exhaustion, arrhythmias, shock, and respiratory failure (Romero *et al.* 2022: 113). These symptoms could be fatal. COVID-19 was a terrible and highly contagious illness and claimed the lives of millions of people.

The education sector was badly impacted by the pandemic. Tadesse and Muluye (2020: 161) studied the impact of COVID-19 pandemic on education systems in developing countries, noting that to stop the spread of COVID-19 resulted in countries closing all levels of education or schools temporarily. According to UNESCO (2020: 1), about 1.5 billion learners in 195 countries did not have access to teaching and learning activities. Pujari (2020: 1) stated that the effects of COVID-19 in India

extended the school year and had an impact on many aspects of the educational system, including exams and evaluations, and the beginning of new terms or semesters. Furthermore, teachers, schools, learners and parents were all impacted by the COVID-19 pandemic.

In developing countries, learners, families, and teachers suffered hardships due to the closure of schools and learners from poor families with lower educational levels as well as learners with poor learning motivation suffered the most (Tadesse and Muluye 2020: 161; OECD 2020: 4). COVID-19 pandemic exposed a number of deficiencies and inequalities in South African educational institutions, ranging from lack of favourable conditions for learners to learn, lack of electricity, lack of necessary resources and lack of bandwidth (OECD 2020: 4). It is quite clear that the education system was not immune to COVID-19 pandemic effects which made things worse for rural or disadvantaged schools as they felt left out and ignored. South Africa was one of the nations that suffered from the COVID-19 pandemic's harmful impacts.

COVID-19 disrupted the 2020 academic calendar, prompting the use of technology for OTL to keep educational systems running. OTL was employed to lessen the degree of disruption to teaching, learning, and assessment activities (Duraku and Hoxha 2020: 21). However, only 20% of educational institutions in South Africa managed to shift their teaching and learning activities to OTL (Newlin and Grasia 2021: 2250). Moreover, 1.53 billion students/learners were prevented from attending school because of the COVID-19 pandemic, and 87.6% of all enrolled students/learners within 184 countries experienced negative effects from schools being shut down due to lockdown (Sengai, Mokhele and Makumane 2022: 36).

According to the Department of Education Minister Angie Motshega, in 2020 54% of learning time was lost and about 400 000 to 500 000 learners dropped out, especially in rural and informal urban settings (Boucher 2021: 1). COVID-19 forced schools to introduce Online Teaching and Learning (OTL) platforms to try and reduce the severity of disruptions in academic programmes (Mhlanga and Moloi 2020: 3). Though OTL is not a new concept, the COVID-19 pandemic fast-tracked its use worldwide, especially in primary and secondary schools in countries such as China,

France, Italy, Poland, United States of America and South Africa because of lockdown (Mahaya 2020: 12). However, in South Africa, 80% of educational institutions did not get to experience the benefits of OTL (Newlin and Grasia 2021: 2250).

COVID-19 exposed teachers' lack of technological skills and resources to deliver quality distance learning (Wu 2021: 2). Mukute *et al.* (2020: 2) investigated the challenges experienced by non-formal and formal education in Botswana, Malawi, Namibia, South Africa, Zambia and Zimbabwe. These authors discovered that digital learning problems were more severe in rural populations with few material resources. As a democratic country, equality in terms of the quality of education is important. Hence, this study explored the efficacy of an OTL in the practical component of Consumer Studies subject in selected schools in the Amathole East district which is located in the rural area of the Eastern Cape province.

Sadiku, Adebo and Musa (2018: 73) stated that OTL is a term used to describe teaching and learning method that takes place on an online space using internet and computers. OTL was created to connect modern teachers and learners, enabling them to interact from anywhere and at any time. In 2020, due to COVID-19 regulations, schools had to adapt to the use of OTL (Dube 2020: 137). However, Ujianti (2021: 344) found that when it comes to the utilisation of online resources, both teachers and learners seemed to be helpless. According to Rundel and Salemink (2021: 3) and Wang, Tigelaar and Admiraal (2019: 69), rural schools in Germany, China and South Africa also struggled to move to OTL due to a lack of skilled teachers, material, tools and relevant resources. Ziegler (2021: 8) noted that moving to OTL in Latin America and Caribbean rural schools also required attention. Furthermore, Ziegler opined that the use of online educational resources would improve the quality of teaching and learning in rural schools.

Aldon *et al.* (2021: 18) reported that during the COVID-19 pandemic, school teachers had to expend tremendous effort to prepare themselves to deliver teaching activities using modern technology due to the lockdown. Furthermore, schools lacked the necessary resources or preparation to manage the use of online learning (Tabatadze and Chachkhiani 2021: 82). Giovannella and Passarelli (2020: 135) recommended the

incorporation of teacher training programmes to help teachers learn or create new teaching strategies which would encourage remote learning. During the lockdown, teachers too had to adjust to a lot of change such as teaching from home and assessing learners from home. Therefore, the effects of stress and potential burnout needs to be considered to formulate effective policies while adopting these online pedagogical tools (Vijayan 2021: 10).

The impact of COVID-19 on education in different rural locations has been researched extensively around the world. For example, Shafi *et al.* (2021: 1) investigated the effects of COVID-19 on rural socioeconomic and psychological conditions in China's Sichuan Province and discovered that significant psychological effects of Covid-19 made the local population socioeconomically vulnerable. In addition, Syed, Baloch and Awan (2021: 30), in their study on COVID-19 and rural education, found that many learners in poor and low asset settings were negatively affected by the pandemic and dropped out due to financial issues. For example, many people lost their jobs and there were no any other means of making money as people were required to stay indoors and some students found it necessary to never go back to school (Anakpo, Nkungwana and Mishi 2024: 2). Marongwe and Garidzirai (2021: 217) investigated the challenges faced by university students in rural communities to achieve their educational goals during the COVID-19 pandemic. They identified the challenges facing students as limited skills and limited access to technology and other tools of the trade. Hence, the current researcher found it necessary to investigate the state of education and the impact that COVID-19 had on education in the Amathole East district, which was hitherto unresearched.

Research has been conducted on OTL in different contexts such as English language classes, where Widayanti and Suarnajaya (2021: 77) analysed the challenges experienced during the teaching and learning of English. They found that learners' environments, study habits and lack of financial resources negatively affected teachers and learners in terms of conducting lessons online (Widayanti and Suarnajaya 2021: 81). Suputra (2021: 65) conducted a literature review of teaching English through online learning aimed at investigating and found that English could be taught through games, videoconferencing and instant messaging platforms. While much research has

been conducted on OTL in English classes, a gap remains for Consumer Studies classes. Consumer Studies subject in South Africa covers topics such as nutrition and food preparation, personal finance, consumer behaviour and family and interpersonal relationships (Du Toit 2021: 2). In addition, Consumer Studies subject aims to equip learners with practical skills and knowledge to lead to healthy and sustainable lifestyle and these practical experiences help students develop essential life skills (Department of Basic Education 2016: 6). Consumer Studies subject is relevant in the current era as it supports sustainability goals and allows learners to contribute to their communities (Department of Basic Education 2018: 1). Hence, this study aimed to investigate how Consumer Studies can be taught via OTL. Furthermore, there is no evidence of studies on the implementation strategies of OTL in Consumer Studies classes. Therefore, the researcher aimed to develop a teaching tool using OTL that will be suitable for Consumer Studies.

Kusuma (2022: 203) conducted a study to explore the experience of English teachers, teaching English as a Foreign Language in rural areas of Indonesia regarding their level of preparedness for conducting OTL, the implementation process, and the difficulties they encountered because of the COVID-19 pandemic. The findings indicated that these teachers managed to conduct lessons successfully online as they had adequate knowledge with technology-assisted teaching of English subject (Kusuma 2022: 217). However, very limited studies have been done in South African rural areas, specifically on Consumer Studies teachers. Hence, this study aimed to investigate the needs of Consumer Studies teachers to successfully implement OTL in their curriculum. Based on the analysis of previous studies, the researcher believed it necessary to explore whether OTL could be sufficiently utilised if teachers were supplied with the necessary resources (Chadwick and McLoughlin 2021: 204). Mbhenyane (2019: 145) investigated the sustainability of teaching Consumer Studies as a school subject and recommended that Consumer Studies teachers keep up with 21st century' technological trends such as OTL. Hence, this study aimed to develop an OTL tool that will be suitable for the subject of Consumer Studies.

1.3 RESEARCH PROBLEM

COVID-19 had negative impacts on disadvantaged schools in subjects such as Mathematics and Physical Sciences, considering that even before the pandemic disadvantaged learners were lagging in these subjects (Maree 2022: 250). Ngwenya and Shange (2019: 3) explored the views of Consumer Studies learners regarding the challenges they face during practical work in Consumer Studies in a secondary school in KwaZulu-Natal. Ngwenya and Shange concurred that problems in Consumer Studies practical lessons did not only begin with the advent of COVID-19 but that lack of resources, lack of improvisation and utilisation of teaching aids by teachers, as well as inadequate laboratory facilities, have always been a challenge. Hence, the practical component of Consumer Studies suffered the most during the lockdown as in many cases no lessons were conducted due to the unpreparedness of the schools and teachers (Maree 2022: 250). However, schooling could have done better if there were OTL plans in place. Popenici and Kerr (2017: 1) argued that the future of education is inextricably linked to the advancement of new technologies and computing capabilities because of information and communication technologies. Hence, according to Du Toit (2021: 2), it is vital to incorporate the use of OTL in the Consumer Studies curriculum so as to improve the technological abilities of teachers and students.

The effects of OTL have been researched throughout all levels of education but not much research has been conducted on OTL of practical subjects at the high school level. For example, Elhaty *et al.* (2020: 2867) investigated the impact of the COVID-19 pandemic lockdown on students' practical and technical skills because students no longer attended lessons and consequently did not participate in their practical work in laboratories. The main focus of Elhaty *et al.* (2020) was on universities. Svatos *et al.* (2022: 1) investigated online teaching of practical classes under the COVID-19 restrictions but only considered lectures and laboratory classes in universities during the time of the pandemic. The use and implementation of OTL in secondary school subjects with practical components has not been explored enough.

Practical subjects such as Consumer Studies were not taught during the COVID-19 pandemic which resulted in a loss of teaching and learning time because of the non-adoption of OTL due to a lack of preparation (Chadwick and McLoughlin 2021: 203; Elhaty *et al.* 2020: 2866; Svatos *et al.* 2022: 2). Some learning outcomes were not covered as they were cut out to trim the subject content. The resulting inequality in learning, inadequate skills acquired and reduced future productivity impacted the potential lifetime earnings of learners (Ariesta *et al.* 2021: 140). Van der Berg *et al.* (2022: 5) concur that loss of teaching and learning time had a huge impact, especially on quintile 1 to 3 schools, as they experienced poor academic performance. Ngwenya and Shange (2019: 3) argue that the practical component of Consumer Studies faced many challenges, such as lack of resources, even before COVID-19. Reddy and Ramesh (2020: 8) investigated the pros and cons of e-learning in rural areas and noted that not only South African schools were affected. Rural schools in countries such as India, Germany and Latin America also experienced the negative effects of COVID-19 on education.

Izhar, Na and Na (2021: 1296) report that for the effective adoption of OTL it is vital to plan, design and prepare lessons for OTL, so that loss of teaching and learning time, if there is another pandemic, can be avoided. Equipping teachers and learners with resources will eliminate the inequalities within the education space. In addition, teachers and learners will gain the technological skills required by the generation of the digital age (Sodhar *et al.* 2020: 37). Furthermore, Ferri, Grifoni and Guzzo (2020: 14) believe it is beneficial to train teachers before putting them in the spotlight of delivering educational activities. Training helps teachers to sharpen their OTL skills and deepen and improve their knowledge in helping learners to be able to use and understand how OTL works (Rapanta *et al.* 2020: 938). It is very important that the Department of Basic Education (DBE) invests in gadgets for rural schools. Furthermore, the DBE should have tools and models that will guide and facilitate the proper adoption of OTL.

The effects and challenges of OTL have been investigated in urban and semi-urban schools (Rundel and Salemink 2021: 3). However, the investigation of effects and challenges of COVID-19 in rural schools in terms of OTL is limited. The issue of OTL

in rural areas remains relevant as rural schools and rural teachers and learners tend to feel helpless on how to approach OTL (Kusuma 2022: 204). Therefore, Consumer Studies teachers struggle to conduct the practical components online without any background or training.

1.4 AIM AND OBJECTIVES

The aim of the study was to explore the efficacy of an OTL in the practical component of Consumer Studies subject in selected schools in the Amathole East district.

Objectives

1. To analyse the impact of COVID-19 on teaching and learning of Consumer Studies in quintile 1 to 3 secondary schools in the Amathole East district.
2. To examine how the quintile 1 to 3 secondary schools in the Amathole East district apply the policies and guidelines of the DBE on online teaching and learning.
3. To assess how online teaching and learning are used in Consumer Studies.
4. To analyse the needs of teachers in the Amathole East district in terms of teacher training to conduct practical lessons for Consumer Studies online.
5. To develop an OTL tool that supports the practical component of Consumer Studies in quintile 1 to 3 schools.

1.5 RESEARCH QUESTIONS

1. What impact did COVID-19 have on teaching and learning of Consumer Studies in quintile 1 to 3 schools in the Amathole East district?
2. How do quintile 1 to 3 secondary schools in the Amathole East district apply the policies and guidelines of the OTL on online teaching and learning?
3. How are online teaching and learning used in Consumer Studies?
4. What are the needs of teachers in the Amathole East district in terms of teacher training to conduct practical lessons for Consumer Studies online?
5. What will be the most suitable OTL tool for the practical components of Consumer Studies in quintile 1 to 3 schools?

1.6 RESEARCH DESIGN

Thakur (2021: 53) stated that the term ‘research design’ refers to the overall approach one decides on to integrate various study components in a coherent and logical manner to effectively address the research problem. In addition, it is a blueprint for data measurement, collection and analysis. This study employed a mixed methods design, meaning both qualitative and quantitative approaches were used, and convergent parallel design was applied. According to Dawadi, Shrestha and Giri (2021: 29), a convergent parallel design is the process of collecting qualitative and quantitative data simultaneously but analysing the results independently. A mixed methods design when approaching complex research issues offers a number of benefits as it incorporates post-positivist and interpretivist philosophical frameworks, combining quantitative and qualitative data in a way that effectively explains research issues (Dawadi, Shrestha and Giri 2021: 26).

The researcher collected the quantitative data through questionnaires and qualitative data by conducting interviews simultaneously and then tried to establish patterns from the collected data. Questionnaires were completed by Consumer Studies teachers. Furthermore, interviews were conducted with principals, circuit managers and Consumer Studies subject advisors. Due to the small population, the researcher deemed it necessary to use two methods to gain more insight into the subject at hand. Furthermore, a mixed methods approach encourages the validity of the research findings by providing stronger inferences. The researcher was able to gain a deeper understanding of complex phenomena than when using one method only.

1.6.1 Sample

Sampling, according to the definition, is the process of choosing a sample from a person or a big population for a specific type of research purpose. In addition, sampling is divided into probability and non-probability sampling (Bhardwaj 2019: 158). This study employed samples from different populations. The researcher deemed non-probability through purposive sampling as the most appropriate for this study. Purposive sampling is sampling that is done with a purpose and is useful when a researcher needs to target a population within a brief length of time (Oribhabor and

Anyanwu 2019: 10). In this study, this method assisted the researcher to target the population quickly as there were time constraints for conducting the study. The population selected was considered the most suitable to respond to questions on OTL, the subject of Consumer Studies, Department of Education policies, and teaching and learning.

The benefits of purposive sampling allowed the researcher to gather data from experts in the subject matter. Thomas (2022: 5) states that this technique requires less effort and less time. In addition, the purposive technique is less costly (Wisniowski et al. 2020: 21). However, purposive sampling comes with the problems of systematic errors and sampling biases, and inferences drawn are not generalisable to the population (Oribhabor and Anyanwu 2019: 10). According to Wisniowski *et al.* (2020: 21), non-probability sampling is defined as the process of selecting study participants at random. The selection method used in this sample approach is not predetermined or fixed. Census sampling was used for circuit managers and subject advisers. Census sampling applies if the researcher aims to collect data from all units in a population.

1.6.2 Sample size

The sample size is a group of subjects that are selected from the general population and considered representative of the real population. Furthermore, sample size is influenced by the research population size, desired level of precision, research objectives, available resources for data collection and statistical power (Oribhabor and Anyanwu 2019: 2). Du Plooy-Cilliers, Davis and Bezuidenhout (2021: 201) mentioned that sample size in quantitative research guarantees validity and reliability. However, in qualitative research, sample size considerations may vary based on the research methodology and objectives. Basically, sample size is a vital aspect of the research methodology that influences validity, reliability and generalisability of research findings. Moreover, sample size assists the researcher to make meaningful conclusions and valid inferences about population of interest.

For the quantitative component, a questionnaire survey was conducted amongst Consumer Studies teachers in the Amathole East district. This district has 38 Consumer Studies teachers. With 95% confidence level and 5% of margin of error, 35

was deemed to be an ideal sample size for this study (Calculator.net, sample size calculator). However, one teacher did not complete a questionnaire due to emergency maternity leave, resulting in a sample size of 34 teachers. According to Sekaran and Bougie (2016: 241), a sample size between 30 and 500 is appropriate for most research studies. For the qualitative data collection, 11 principals, 4 circuit managers and 2 Consumer Studies subject advisors were interviewed as saturation was reached. Hennink and Kaiser (2022: 6) state that empirical data reaches saturation within a narrow range of interviews between 9 and 17. Hence, a total of 17 interviews were conducted. In total, sample size for the study was 52.

1.6.3 Data collection

Data collection is a main stage in research, in order to answer specific research questions, test hypotheses, and evaluate results, data collection is the act of acquiring and analysing information on relevant variables in a systematic and defined manner (Mohajan 2018: 33). Data collection can overshadow the quality of outcomes by reducing the possibility of errors during the project. Thus, in addition to having a sound study design, a lot of quality effort should be invested in data collecting in order to obtain relevant conclusions since incomplete and erroneous data make it impossible to guarantee the accuracy of findings (Taherdoost 2021:11). This means that, data collection is crucial for producing knowledge and allows researcher to address complex challenges, improve outcomes and deep understanding in various fields.

Data was collected through the use of questionnaires (Linkert scale design) and interviews (semi-structured). The questionnaire and interview questions were designed based on the objectives of the study. Questionnaires were conducted with Consumer Studies teachers and interviews were conducted with school principals, circuit managers and subject advisors. Since the study employed mixed methods. Convergent parallel design allowed the researcher to collect data concurrently and helped the researcher obtain a thorough insight of quantitative and qualitative results independently. The Eastern Cape Department of Education gave permission, and the researcher personally collected data.

1.6.4 Data analysis

According to Taherdoost (2022: 1), analysing research data entails the reduction of data that the researcher collected at the time of the research process. When conducting data analysis, it is essential for the researcher to be able to code, sort, identify themes and relationships from the collected data (Tomaszewski, Zarestky and Gonzalez 2020: 6). Data analysis offers several advantages such as an opportunity to make informed decisions, identifying trends and allows for continuous improvement. However, data analysis may be complicated, there might be quality issues, issues of biasness and ethical concerns (Rahman 2017: 106). Hence, it is very important for researchers to address these issues proactively.

To make sense of a set of raw data, a deductive approach was used. The deductive means of qualitative data is a process that features a specific framework. This research applied the thematic framework as a guide to the interview process. Thematic analysis focuses on examining themes or patterns of meaning within data. The data gathered underwent a thematic analysis process, which was used to assess words and statements. This was done through the use of NVivo software. For the quantitative data analysis, a descriptive analysis approach was utilised. In descriptive analysis, raw data are transformed into charts, tables, and summary statistics (Samuels 2020: 4). In order to analyse quantitative data, the Statistical Package for Social Sciences (SPSS) version 28 was used to summarise, analyse and interpret the responses. In addition, a one-way ANOVA test was conducted to find relationships between different variables. The researcher analysed and reported the results.

1.6.5 Trustworthiness

In simple terms, trustworthiness relates to the quality of a study (Stahl and King 2020: 26). The findings of this study were regarded as trustworthy since they were supported by a solid research design, relevant participants, and an appropriate setting. Participants' permission, taped interviews, and notes made during the interviews are all open to inspection. Credibility, confirmability, dependability, and confirmability were the four trustworthiness constructs that the researcher took into consideration in order to verify the study's rigor and validity.

With regards to credibility, given that this study employed two data collection techniques, namely questionnaires and semi-structured interviews, the researcher used triangulation to ensure credibility. The use of different data collection methods was to obtain comprehensive perspective on how principals, subject advisers, circuit managers, and teachers view or think of online teaching and learning in their contexts. In addition, reporting on the methodology used to complete the investigation was a part of the confirmability for this study. There is an audit trail that details the steps taken to collect the data, and the supervisors have reviewed it. Similar to confirmability, the researcher maintained consistency in the analytic techniques and supplied a record on how data was collected for dependability. Regarding transferability, the researcher does not assert that the findings are transferable but instead leaves it up to the reader to interpret the information that was created and make any necessary adjustments when applying the findings.

1.6.6 Scope of the study

The goal of scope in a study is to make research findings more optimum, manageable, and accessible (Akanle, Ademuson and Shittu 2020: 107). This implies that, the researcher needs to decide on the scope of the study early in research to have a clear and focused study. The scope of the study is influenced by the research finance and time limit. Moreover, researcher's ability, knowledge, and integrity are established by their research scope (Akanle, Ademuson and Shittu 2020: 107). The scope of the research set boundaries and limitations within which the study will operate, and the scope takes into account the sample size, inclusion and exclusion criteria, methodology, duration, monetary and geographical constraints. Therefore, the scope ensures that the study remains focused, feasible, and meaningful in addressing the research question or problem at hand.

This study focused on 11 schools offering Consumer Studies as a subject in the Amathole East district in the Eastern Cape province. The population was limited to the school principals, Consumer Studies teachers, circuit managers and subject advisors. Qualitative data were collected from principals, circuit managers and Consumer Studies subject advisors, whereafter quantitative data were collected from

Consumer Studies teachers. In addition, the study was limited to 4 years as per the institutions policy and the study was also limited to the Amathole East District as the researcher resides there. It was easier and less costly for the researcher to reach the schools.

1.7 ETHICAL CONSIDERATIONS

Ethical standards were observed in this study. Bhandari (2022: 1) defines ethical considerations as a set of principles that directs the practices and designs of research, including a code of conduct when collecting data from people. This study was guided by Durban University of Technology's ethics policy. No one was forced to participate if they were not willing to do so. The right to privacy and anonymity was ensured by not identifying participants by their names. Participants were informed that they could withdraw from the study at any time for whatever reason without suffering any prejudice. Anonymity was ensured in the study and all respondent responses remained confidential. Du Plooy-Cilliers, Davis and Bezuidenhout (2021: 305) explain that anonymity is the omission of any information that could identify the participant in an interview or survey. Then, the term confidential refers to a situation where the research is aware of the information that may identify the research participant but takes precautions to ensure that the information does not reach the public or known by the public (Bos 2020: 153).

Participants were assured that they have a right to privacy and that the POPI Act was adhered to. The POPI Act was adhered as it regulates the collection, use, storage, deletion and handling of personal data. The researcher assured the participants that all information obtained was for the purpose of this study only. In addition, the data collected was protected in encrypted files in Google Drive. The tape recorder was kept in a locked safe at the researcher's home. After five years, the file will be destroyed by being permanently deleted and any records in the tape recorder of data collected for this study will be permanently erased. The researcher received ethical clearance from the Ethics Committee of the Durban University of Technology to proceed with the study (Appendix A).

1.8 SIGNIFICANCE OF THE STUDY

Academics and the general public have recently become interested in OTL. The educational landscape has evolved and reflects the new digital era. To adapt to shifting demands, new emphasis must be placed on specific abilities across disciplines, and new information must be offered (Azmi *et al.* 2018: 351). This study explored the efficacy of an OTL in the practical component of Consumer Studies. Developing an OTL tool for Consumer Studies under management offers several benefits such as relevance to the hospitality industry because Consumer Studies is central to the hospitality industry. Another benefit is financial management skills, Consumer Studies often consists of concepts such as financial decision making, personal finance and budgeting. These skills are valuable for hospitality personnel within managerial positions. To add on the benefits, innovation and technology aligns with the development of OTL tool for Consumer Studies as it supports the growing trend of technology integration in the hospitality industry. Staying abreast with technological changes and creative technologies is imperative for hospitality professionals to provide effective and customised services to customers (Kansakar, Munir and Shabani, 2019: 61)

Consumer Studies is an elective subject in grades 10 to 12, which prepares learners for the career of their choice, helps them to master the subject and builds their confidence (Department of Basic Education 2017: 8). Consumer Studies has three focus areas: food and nutrition, clothing, and housing and furnishing. All schools offering Consumer Studies in the Amathole East district chose to focus on the food and nutrition area and it is a suitable subject that allows entry into Hospitality programmes at university. Matriculants with Consumer Studies subject stands a good chance and are prioritised in Hospitality and Tourism departments in colleges, universities and training centers (Van der Merwe, Kleynhans and Roberson 2019: 2). Furthermore, Consumer Studies being the only the subject in the South Africa curriculum which offers learner entrepreneurship skills, and it fits very well in the management studies (Du Toit and Kempen 2018: 2). Normally, universities accept the combination of Consumer Studies and Business Studies secondary subjects for the

entry in Diploma in Hospitality Management programmes (Central University of Technology 2023:1, Vaal University of Technology 2023:1).

During the lockdown, lessons had to continue but teachers did not know how to conduct the practical component of Consumer Studies remotely (Ngwenya and Shange 2019: 3). The significance of this study will also have an impact on both practice and theory. In practice, the study will be addressing the practical challenges in Consumer Studies education such as providing teachers and learners with resources that are not available in traditional classrooms. In addition, teachers and learners will be able to respond to the demand of modern education and technology advancements, and the development of an OTL tool will help teachers in delivery high-quality teaching in Consumer Studies within the quantile 1 to 3 schools. With regards to theory, this study may contribute to the body of knowledge regarding the success of technology integration in Consumer Studies education to improve teaching and learning outcomes. To add, the study will also contribute to the theoretical framework of curriculum design and educational policy making as well as discussions on the pedagogy.

The significance of the study will also be achieved through the guidance of connectivism theory. According to Chukwuere (2021: 2680), a theoretical framework aids in the creation of the researcher's conceptual framework and directs the formulation of the study objectives or research questions to enable organised data collection. This study was guided by connectivism theory which is about networked learning and responding to changes in the environment (Siemens 2005: 4). Since the learning environment is evolving quickly due to technology integration, teaching strategies must likewise change to better support student learning (Sirghea 2020: 154). Hence, this theory is the most suitable to guide this study because it supports OTL.

1.9 OUTLINE OF CHAPTERS

Chapter 1: Introduction

This chapter introduces the study and provides a detailed background of it. The problem statement is stated, and significant theories are presented. The primary research questions, the study's aim and objectives, and an explanation of its

importance are all included in Chapter 1. The study's research design and methodology are briefly described, and this chapter is concluded with a summary.

Chapter 2: Overview of online teaching and learning

This chapter discusses the concept of OTL in-depth by highlighting the benefits and pitfalls of OTL. Moreover, experiences with and perceptions of OTL are analysed.

Chapter 3: Theoretical framework

Chapter 3 presents the theoretical framework of the study. This study's framework, the connectivism theory, is thoroughly explained, and connections and ties are formed based on the topic at hand. The chapter briefly discusses OTL, which is the main component of the study. Furthermore, prior theories that gave rise to the connectivism theory are presented to provide an understanding of the theory of connectivism.

Chapter 4: Research methodology

Chapter 4 presents the research design and the methodology protocol required to achieve the empirical findings. The mixed methods (qualitative and quantitative) design approach is discussed. Included in this chapter are descriptions of different data analysis methods and the reporting procedures followed in the study. The research findings are based on both qualitative and quantitative designs.

Chapter 5: Presentation, analysis and discussion of findings (Quantitative)

The analysis and interpretation of data gathered through questionnaires are presented in this chapter. The study made use of SPSS software.

Chapter 6: Presentation, analysis and discussion of findings (Qualitative)

In chapter 6, the researcher presents the results of the semi-structured interviews. The researcher used thematic analysis to identify key subthemes that emerged versus the predetermined themes.

Chapter 7: Conclusions and recommendations

Chapter 7 concludes the study and highlights the key issues revealed by the results. This chapter also provides an overview of the research results and the conclusions drawn. Furthermore, a developed OTL tool that supports the practical component of Consumer Studies subjects in quintile 1 to 3 schools is presented. In addition, this

chapter presents the recommendations suggested by the researcher on how practical subjects can be taught online.

1.10 CHAPTER SUMMARY

Chapter 1 introduced this study by outlining the context of the study which explained how the secondary schools in the Amathole East district got affected by the COVID-19 pandemic which fast tracked the adoption of OTL in different schools. This chapter laid out the aim and objectives that drove this study. Furthermore, the problem that led to the interest of this study was explained. Methodology of this study was briefly discussed including the sample, data analysis, the scope of the study etc. The author also highlighted on the ethical considerations that were deemed important and lastly, the chapter laid out the structure of the whole thesis. The following chapter will discuss OTL by looking back at the beginning of OTL. Moreover, the following chapter will present different views of various authors with regards to the definition of OTL and the types of OTL will be discussed such as asynchronous and synchronous. To add, chapter 2 will also discuss factors that influence the successful adoption of OTL and it will also discuss how the department of education policies supports Consumer Studies subject.

CHAPTER 2: OVERVIEW OF ONLINE TEACHING AND LEARNING IN COSUMER STUDIES SUBJECT

2.1 INTRODUCTION

The previous chapter introduced the study by discussing the context and background of the study. It also clearly stated the aim, objectives and research statement of the study. The research methods and methodology were briefly discussed to understand how the study was conducted. In this chapter, the researcher reviews the literature related to the study topic. A literature review enables the researcher to make use of an essay form to present findings of reviewed literature to highlight key problems pertinent to the explored study. Cram, Templier and Pare (2020: 1103) explain the literature review as a key aspect of academic research by virtue of explaining, describing, understanding and testing the constructs and theories within a particular topic area. A literature review enables a researcher to analyse current information on the issue under study objectively (Gasa, Mafora and Maphalala 2017: 133).

This chapter focuses on reviewing the literature on OTL in Consumer Studies subject. In this chapter, definitions of OTL are discussed and different views from authors in fields are also discussed. In addition, this chapter also discusses the evolution of OTL and outlines the opportunities and challenges of OTL. Different authors have also developed different OTL frameworks that supports the implementation of OTL. Moreover, this chapter engages the relevant department of education policies that supports teaching and learning, rural education and OTL. Lastly, Consumer Studies subject as the point of interest is also discussed and explained in detail.

2.2 DEFINITION OF ONLINE TEACHING AND LEARNING

Web-based learning, e-learning, m-learning, distance learning, open learning, blended learning, e-education and computer mediated learning have been used interchangeably by different authors in referring to OTL (Sadiku, Adebo and Musa 2018: 73; Singh and Thurman 2019: 289; Dube 2020: 137; Kim 2020: 147; Dhawan 2020: 7, Basar *et*

al. 2021: 121). Different researchers define OTL according to their own understandings, contexts, so the concept of OTL has no single explanation or definition. Sadiku, Adebo and Musa (2018: 73) define OTL as teaching and learning activities that take place over the internet. Basar *et al.* (2021: 121) refer to OTL as any form of teaching and learning activities delivered through the use of digital technology such as videos, audios, texts, visuals graphics and animations. Coman *et al.* (2020: 3) specifically mention the internet and electronic media (digital technologies) in their definition, as they describe OTL as an educational concept that delivers teaching and learning activities through the use of electronic media which is represented by the internet, mobile phones, television and CDs. Kim (2020: 147) argued that OTL is a type of education offered to learners at a distance. What these definitions mean is that OTL educational activities are activities offered to learners away from the school premises, where the teacher and the learner are in different locations.

Looking at the importance of e-learning in higher education, Babu and Sridevi (2018: 85) view OTL as a formal teaching method or a network that transports information using electronic (computers and internet) to a large number of people at the same time. It is important to note that OTL is a formal method of teaching that can reach many people at the same time. Mthethwa and Luthuli (2021: 92) define OTL as a teaching and learning process that happens in synchronous or asynchronous environments using digital technology that has internet access to assist learners to interact with teachers anywhere and anytime. In support of this, Basar *et al.* (2021: 121) explain that OTL is a teaching and learning process between learners and teachers using digital platforms by giving examples such as Zoom, Whatsapp and Google Classroom. These definitions show that OTL is not only about technology tools, internet and distance, but it is also about teacher and learner interactions which is a crucial concept in education. Hence, the proposed definition of this study is that OTL is a form of administering teaching and learning activities through technological tools such as digital tools with internet to connect learners and teachers for the purpose of learning experiences at any location and at any time.

2.3 A BRIEF HISTORY OF ONLINE TEACHING AND LEARNING

It is important to note that OTL is not a new concept, it has been growing continuously for the last two decades and has been around from even before the launch of the internet. Kentnor (2015: 23) states that distance education (OTL) was applied by Caleb Phillips in 1728. The author mentioned that Phillips placed an advertisement in the Boston Gazette offering shorthand lessons (Kentnor 2015: 23). However, based on lack of evidence of two-way communication, Phillips shorthand method was not recognised formally as distance education. Isaac Pitman (Figure 2.1) was recognised as the father of distance education. In the 1840s during the first industrial revolution Isaac Pitman educated his learners through mail and shorthand method via correspondence in England (Coman *et al.* 2020: 3). Pitman was a qualified teacher who used to send his learners teaching material via mail and learners also sent their assignment to Pitman via mail (Qandil and Abdel-Halim 2020: 301). Partly for this reason, Pitman's shorthand method become popular and was commercially successful. The shorthand method was introduced in the United States in 1852 and further translated into many other different languages such as Arabic, Dutch, French, German, Hebrew, Hindi, Persian and Spanish (Kentnor 2015: 24).



Figure 2.1: Isaac Pitman, the father of distance education

Source: Setterfield (2020: 1)

In 1924 Sidney Pressey came up with the concept of teaching machines to allow learners to test themselves which became popular in 1954 as invented by B. E Skinner (Bezhovski and Poorani 2016: 51). Skinner, a Harvard Professor gave schools an allowance to administer programmed instructions to their learners until the first computer-based training programme was introduced in 1960 (Smyrnova-Trybulska 2019: 156). The computer-based training program known as PLATO (programmed logic for automated teaching operation) was created for the University of Illinois learners but was adopted in schools around the United States of America. According to Bezhovski and Poorani (2016: 51), the 1980s was the era of personal computers which influenced the beginning of e-learning. Smyrnova-Trybulska (2019: 156) pointed out that CD-based training came into play in the 1990s and became the new training technology where about 95% of the content consisted of information technology lessons. Websites were created around 1998 which then took over from the CD-based training, renaming this type of training as 'mentoring'. Qandil and Abdel-Halim (2020: 301) stated that it took some time before distance learning transformed into e-learning. However, towards the end of the 20th century e-learning became phenomenal, flourished, gained exposure and wider implementation as technology concept and devices complemented each other well.

In the 21st century with the onset of the fourth industrial revolution, e-learning became a reality and the demand for OTL has increased as it is considered to reach a large number of individuals so has had an impact on diversification and globalisation (Alsayed and Althaqafi 2022: 123). OTL has become the new normal in the educational space (Erasmus 2020: 4). Famularsih (2021: 1130) concluded that OTL in the 21st century helps learners to develop technological skills and social skills by using ICT tools. Ayu (2020: 47) agreed that the ICT tools such as the internet, networks, electronics, digital tools, etc., are able to meet and satisfy the learning needs of 21st century learners as well as to break down barriers to injustice. The author stated that the internet has become a necessity as it gives learners access to information and allows learners to take initiative towards their own studies (Ayu 2020: 48). However, OTL is limited, especially for learners from disadvantaged backgrounds.

In this century, OTL has changed the face of education and training because it promotes the use of technology on different levels of everyday life (Erasmus 2020: 4). Jain and Malik (2020: 45) state that the OTL field has emerged rapidly but the infatuation with technology and its potential applications in OTL has given way to a more sophisticated analysis of its effects and the evaluation of pedagogical successes and failures. OTL demand increased further as the world was attacked by COVID-19 in December 2019 (Shepherd and Mohohlwane 2021: 22). Because of COVID-19 various countries in the world employed the lockdown system trying to contain the spread of virus. This resulted in closure of schools, organisation, companies, etc. which left individuals with no choice but to go online or virtual. Many schools opted for OTL to be able to continue with teaching and learning activities. It is worth noting that not all schools shifted to OTL; some schools did not get the experience of OTL due to limited resources and location issues. Today some educational institutions have adopted OTL permanently with others offering some of their courses online (Jain and Malik 2020: 45).

2.4 OVERVIEW OF ONLINE TEACHING AND LEARNING

Distance education as represented by OTL in this study, is not a new concept in the field of education (Martin, Sun and Westine 2020: 1). In 1728 distance education was applied by Caleb Phillips and referred to as a shorthand method (Kentnor 2015: 23). OTL was designed to cater for traditional adult learners who did not have access to higher institutions. Recently, OTL has been successful because of the internet and virtual realities, and it has resulted in the development of high-performance computing and communication (Butnaru et al. 2021: 3). Coman et al. (2020: 3-4) conducted a study on OTL in higher education during the COVID-19 pandemic and used words such as web-based training, computer-mediated learning, e-learning systems and learning management systems to refer to OTL. Authors such as Basar et al. (2021: 121) and Mishra, Gupta and Shree (2020: 2) also highlighted that there are different notions used in research to describe OTL. This means that authors have used different terms to describe OTL based on their different conceptual focus, for example distance learning, virtual learning, remote learning and e-education. Regardless of the

mentioned notions, Bali and Liu (2018: 1) stated that all notions include internet and digital technologies which permit registration and learning material.

OTL is described as a teaching and learning experience employing various technical tools, such as tablets, mobile phones, and computers with internet connection, in synchronous or asynchronous environments (Mairing et al. 2021: 193; Singh and Thurman 2019: 290). Synchronous is when the teacher and learner are attending to teaching and learning activities at the same time and they are able to interact (Kayalar 2021: 3). Rigo and Mikuš (2021: 92) explain an asynchronous environment as one in which learning takes place during the learners preferred time. It does not take place during the exact time – the teacher provides learners with videos, recordings, texts and texts that need to be completed at their own time. Thus, OTL as a teaching method allows learners to be innovative and allows for flexibility as learners may be able to learn at the own time and pace. In addition, OTL supports the learner centred approach as learners are able to facilitate their own learning (Dhawan 2020: 6).

In simple words, Rapanta et al. (2020: 924) explained OTL as a teaching and learning method taking place over the internet. Furthermore, OTL is much bigger than just developing and maintaining human connections, it includes a number of technological or digital tools. Law (2021: 1) explained OTL as a process of teaching learners through the use of virtual classes via Zoom, Microsoft Teams, webinars and group chats. In the study of Makafane and Masopha (2021: 128) with the intention of establishing the online learning challenges that were experienced by learners during COVID-19 pandemic, state that OTL is a teaching and learning strategy that allows learning and assessment activities to take place via an online space with no physical contact. Bali and Liu (2018: 1) point out, though, that as much as OTL is able to reach people in different locations, it has a negative impact on social presence as learners are not able to engage with their peers and learners are not able to engage with their teachers satisfactorily. Dhawan (2020: 6) observes that OTL is considered to be less costly and brings more opportunities as it allows learners to continue and further their studies from wherever they are as it is easily accessible. Considering the recent pandemic (COVID-19), Rahayu and Wirza (2020: 393) simplified the definition of OTL by saying that OTL is a method of teaching and learning where teachers and learners

conduct educational activities at their homes, using laptops, smart phones and tablets. These explanations all imply that OTL is a form of teaching and learning that takes place over the internet through the use of technology tools at any time or any place.

Singh and Thurman (2019: 291) listed the following platforms as being influential regarding the effectiveness of OTL: Microsoft Teams, Google Classroom, Zoom, and WhatsApp. In 2020 the whole world was attacked by COVID-19 and schools were closed. Teachers and learners in different locations had to rely on these tools to continue with educational activities. Consumer Studies had to be carried out online to ensure the covering of the curriculum. Hence, OTL relates to this study, as this study aims to develop a model that may assist both teacher and learner to carry out practical components of Consumer Studies outside the classroom because unforeseen factors may affect contact teaching and learning in the future too.

2.4.1 Online teaching and learning in South Africa

OTL was first introduced in South Africa around the 1990s and was used as a tool to assist learners and lecturers to interact and access information. The idea was to promote equal access to education for learners in different locations following the democratic elections in 1994, because everyone was now considered equal (Chidi, Khoza and Matlala 2021: 21). Even though South Africa is a democratic country, issues such as inequalities in class, demographics including age, race, level of education, occupation and scales of income are still common (Maphalala, Mncube and Mkhasibe 2022: 20). OTL was introduced in a form of LMS around the mid-1990s to reach distant learners (Chidi, Khoza and Matlala 2021: 21). The University of South Africa, University of Pretoria and University of Cape Town were the first universities in South Africa to introduce LMS as a platform for lecturers to upload course notes and post announcements such as test dates, upload lecture notes etc. (Chidi, Khoza and Matlala 2021: 22). However, the authors failed to mention that LMS was also used to conduct assessments as well.

Since the beginning of the fourth industrial revolution the use of technology tools penetrated the higher educational institutions in South Africa, and these institutions started incorporating the use of technological tools via blended teaching methods

(Chidi, Khoza and Matlala 2021: 20). The introduction of OTL in South Africa has been very slow due to the background conditions of the learners including their financial backgrounds. In 2020, COVID-19 pandemic hit the world which forced many countries to adhere to lockdown and social distancing guidelines. This compelled the educational institutions to adopt other methods of teaching and learning such as OTL (Mmakola and Maphalala 2023: 1). Meaning, the COVID-19 pandemic fast-tracked the adoption of OTL in south African secondary schools. However, Dube (2020: 138) mentioned that teachers and learners in quintile 1-3 schools were not able to transition to OTL because of lack of necessary OTL resources. Thus, it is important to understand the idea behind OTL.

2.5 CHARACTERISTICS ONLINE TEACHING AND LEARNING

Basar *et al.* (2021: 121) describe OTL is a pedagogy that employs digital technology to communicate content such as visual graphics, audio, text, video and animation. Haron *et al.* (2021: 1286) explain that OTL is a teaching method where teacher and learner are in different locations and the learner uses technology to access learning material and interact with the teacher. This definition shows that the basic elements of OTL are technology, connection or network, and distance between. Analysing the likes and dislikes of remote learning, Raheim (2020: 3) noted that teachers and learners need to adjust to online learning as they are now in the era of technological progress and communication. Learners need to be able to compete in the digital environment.

According to Samat *et al.* (2020: 221), OTL cannot be described without mentioning three building blocks which are ICT, modern information and the internet. Authors such as Raheim (2020: 3) highlight the three building blocks when explaining the online learning process, that the online learning is a process where learners gain knowledge through studying, personal experiences and direction using computer technologies with internet access to take instruction and communicate with teachers. Ratheeswari (2018: 45) argued that the building blocks of OTL are not only limited to ICT and internet, but include the components of ICT, infrastructure, teacher and learner engagement as well as a clear teaching and learning guidelines. Mansor *et al.* (2021: 5) stated that the usage of ICT allows students to develop and apply the skills

required for the twenty-first century. Hence, Raheim (2020: 3) suggested that teachers and learners need to adopt OTL.

OTL does not refer to direct learning alone, but to indirect learning too (Sadiku, Adebo and Musa, 2018;74). In the Consumer Studies classroom, therefore, learners are able to engage and voice out their views and opinions. In contrast to face-to-face classrooms, where learners are frequently required to answer to topics without much reflection and investigation, online lessons allow learner to reflect and investigate answers prior to answering questions in class (Ariffin, Halim and Darus 2020: 262). Basar *et al.* (2020: 121) advocate the use of OTL because it motivates learners to study and eliminate any inconsistencies between their online and face-to-face learning experiences. Furthermore, according to the authors, OTL is important because it allows for more effective self-study, explaining that OTL encourages interactive learning where learners can discover new information through the use of digital libraries and websites. In addition, Mansor *et al.* (2021: 10) encourage the use of OTL at a time when the globe is experiencing globalisation and technological improvement. It is clear that many authors are in support of OTL, as they believe it brings positive changes in the education field and will be able to produce learners that are ready to compete globally in terms of technology advancements.

Harrison and McTavish (2018: 165) point out that OTL learners can decide how much time they spend learning what they learn and in what direction. Learners have the chance to go over difficult topics many times until they are sure they understand them. They can learn online in a secure setting without worrying about feeling embarrassed to ask questions. This is worth noting as it implies that OTL offers learners flexibility and comfortability in learning. Learners can review their lessons by watching teacher-created videos, and they can deepen their knowledge by reading books or using the Internet (Basar *et al.* 2021: 121). Asynchronous and synchronous settings differ in terms of time and place of teaching and learning activities (Fabriz, Mendzheritskaya and Stehle 2021: 2; Rigo and Mikuš 2021: 92; Mairing *et al.* 2021: 193; Bezhovski and Poorani 2016: 52). It is crucial to understand the different settings of OTL so that during adoption it is easy to choose the type of setting that best suites the school, the teachers and learners, and their environments.

2.5.1 Asynchronous learning

Syafrizal, Gailea and Savira (2021: 4950) explained that the word asynchronous learning means “not connect at the same time closely, which refers to learners in accessing knowledge, demonstrating, and communicating what they have received with their friends and teacher on their own time zone”. This implies that asynchronous learning takes place during the learners’ preferred time. It does not take place during the exact time the teacher provides learners with videos, recordings, and texts – they can be completed at their own time (Rigo and Mikuš 2021: 92). Fabriz, Mendzheritskaya and Stehle (2021: 2) state that asynchronous learning is temporary and depends on the geographical settings of learners and teachers. They are individually based and self-paced and there is limited interaction with the teacher. However, this approach fails to take in to account the social aspect of learning. Kayalar (2021: 2) regards asynchronous learning as a platform that allows students to learn whenever they wish and does not place a high value on teachers. Basically, all the explanations mean that the asynchronous method is where learning material is provided to learners to be able to access it at whatever time they are comfortable and at any location, with or without the teacher’s presence.

Asynchronous learning is designed to satisfy the demands of learners who are unable to access to the internet at will or have a bad internet connection due to their location (Shohel 2022: 4). This learning system allows teachers to prepare pre-recorded videos or audio content, self-guided lesson modules, lesson notes and virtual libraries and supply learners with links to be able to access the material then refer questions to online discussion boards (Rigo and Mikuš 2021: 92). Thus, asynchronous learning is learner centred as learners approach the learning material at their own convenience and work on the material at their own time and pace. They then contact teachers via email or social media platforms if they have any questions or need clarity on something (Kayalar 2021: 2; Fabriz, Mendzheritskaya and Stehle 2021: 2).

Asynchronous teaching changes a teacher’s duties as they no longer teach face-to-face followed by immediate interaction with learners to respond to their immediate concerns or questions. Furthermore, infrastructure is not required (Kayalar 2021: 2),

although this statement depends on the definition of infrastructure, whether the author refers to general infrastructure or OTL infrastructure. Fernandez, Ramesh and Manivannan (2022: 3) conducted a study in India which highlighted that asynchronous learning offers learners the ability to be flexible by being able to attend to their learning activities at their own time, pace and place of comfort. In addition, this learning system is less expensive and daily attention from teachers is not really required (Lawless 2020: 1). Another benefit of asynchronous learning is that teachers can use the same material over and over again in different classes (Rigo and Mikuš 2021: 92). In short, asynchronous learning is advantageous in the sense that it offers learners the ability to learn in their own time and at their own pace, and teachers also respond to learners in their own time. Moreover, it is cost effective, and the same material can be used for different groups at different times.

Rigo and Mikuš (2021: 92) investigated asynchronous and synchronous methods and noticed that the asynchronous method does not allow personal interactions between teachers and learners as well as learners with their peers. This may result in loneliness in learners. Furthermore, learners may fall behind schedule as they may forget deadline dates or submissions since they are not supervised and are working on their own (Fernandez, Ramesh and Manivannan 2022: 3). Fabriz, Mendzheritskaya and Stehle (2021: 2) highlighted motivation being one of the important attributes' learners should have to be discipline when working alone. In agreement, Rigo and Mikuš (2021: 92) mentioned that learners may need to be motivated in order to learn important things on their own and recognise that feedback may be delayed. However, the benefits of asynchronous outweighs the pitfalls of asynchronous learning; this system is suitable specially for learners in unfavourable locations due to lack of network, electricity, connection, etc. but, it is still important to take social aspects and feedback strategies into consideration as they might affect learners' performance.

2.5.2 Synchronous learning

The synchronous method is learning that takes place in real time, i.e., teachers and students both participate in teaching and learning activities and can interact with one another (Fernandez, Ramesh and Manivannan 2022: 3). Synchronous learning brings

together teachers and learners from their different locations at the same time. Teacher may invite learners for teleconferencing, live stream lessons, video conferencing and live chatting lessons that takes place in real time (Kayalar 2021: 3; Rigo and Mikuš 2021: 92). Jinadu and Balogun (2020: 9) investigated the availability and adoption of synchronous and asynchronous online learning platforms in public and private schools during covid-19 lockdown in Nigeria and concluded that asynchronous and synchronous methods can be used concurrently and may also be used separately to achieve planned objectives. Thus, is it crucial to consider the subject's objectives before deciding between asynchronous and synchronous methods.

Fabriz, Mendzheritskaya and Stehle (2021: 2) mentioned that the use of natural language, quick feedback, and real-time interpersonal communication are the major benefits of synchronous online learning and learners can also gain from learning at home without having to travel. This approach might lessen the disparity between online and face-to-face learning and foster a feeling of personalisation. Ogbonna, Ibezim and Obi (2019: 3) investigated the effects of synchronous and asynchronous e-learning on students' cognitive academic achievement and practical skills acquisition in word processing and found individuals learn practical skills more effectively in a synchronous environment. Synchronous distance learning provides regular face-to-face conversations, accessible in-depth training, individual advice, support, and mentorship (Jinadu and Balogun 2020: 9). This type of education may be particularly helpful for learners who value engaging in conversation, quick feedback, and close relationships with peers and teachers during the learning process. This method of learning, which allows for a more dynamic study of concepts, themes, and ideas, may be an improvement over traditional classroom instruction for quick learners (Ghilay 2022: 4). However, synchronous communication has been found to be less effective when discussing complex concepts or doing work that requires in-depth thought processes (Fabriz, Mendzheritskaya and Stehle 2021: 2).

Jinadu and Balogun (2020: 9) highlighted some of the drawbacks of synchronous learning as being irregular work schedules and technical issues like erratic internet connections, failing hard drives, depleted batteries, and a lack of necessary technology. Without the necessary resources learners might not be able to learner

efficiently. In a synchronous learning approach network and internet connection is very important; before adopting this approach, schools or teachers need to ensure that learners will be able to connect wherever they are. Another disadvantage of synchronous learning is that it can be stressful due to the strict timetable and learners may have to spend a lot of time in front of computers (Fernandez, Ramesh and Manivannan 2022: 3). Furthermore, the teacher determines the learning path for the learners to take in order for them to acquire knowledge at their (the teacher's) own pace and time, which occasionally may not meet the learners' expectations (Shukri *et al.* 2020: 794).

2.6 BENEFITS AND CHALLENGES OF ONLINE TEACHING AND LEARNING IN CONSUMER STUDIES CLASS

2.6.1 Benefits

The ability to search the internet using ICT components gives learners access to a vast amount of knowledge, which is perhaps the most evident benefit of using OTL (Kaimara *et al.* 2018: 1). According to Mbongo, Hako and Munangatire (2021: 55), OTL provides teachers with more options for how learners submit their work and provides more opportunities to address any misunderstandings in a forum open to all learners. Group chats, virtual classes and discussion forums include all learners in the same class where one learner's questions might be the whole class's question and the teacher will be answering everyone at the same time. Mukhtar *et al.* (2020: 3) found that OTL promotes learner-centred learning, and it is undeniable that involvement and ownership by learners makes learning considerably more effective. Furthermore, benefits of online learning include access to online content, the ability to work from home, the ability to record meetings and sessions, the ability to retrieve information, and the ability to do so in a comfortable environment (Alsayed and Althaqafi 2022: 128). According to Basar *et al.* (2020: 121), online learning is efficient, accessible, and offers flexible scheduling for classes, but learners must have access to the internet and technology tools to communicate with their teachers. Alsayed and Althaqafi (2022: 128) further stated that the OTL capability to record meetings allows learners to review lessons or classes in case of technical difficulties or problems with time

management or networks. Thus, OTL offers many benefits to teachers and learners however, the question remains as to how learners from disadvantaged backgrounds and environments may be accommodated or get the opportunity to enjoy these benefits.

Xhaferi and Xhaferi (2020: 87) investigated students' perspectives on the online learning benefits and associated challenges during the COVID 19 and found that that in an OTL integrated class learners have greater control over their learning, they get to experience high levels of interactivity with other learners and are able to construct new information. If learners and teachers are able to successfully integrate technology into their teaching and learning process and activities, OTL can result in beneficial collaborations and performances in learning (Coman *et al.* 2020: 5). This is significant because without proper strategies and implementation plans, teachers might lose touch with the objectives of the subject. Hence this study aims to develop an OTL tool that will guide Consumer Studies teachers on to how to incorporate OTL into their lessons.

The advantages of OTL include increased convenience and flexibility, increased chances for inclusion and education for learners who cannot or do not wish to attend traditional classes, and the encouragement of learner's independence and self-control (Lucas and Vicente 2022: 4). In addition, OTL saves money on facilities and travel expenses while also providing the opportunity to increase digital skills (Eberle and Hobrecht 2021: 8). In areas such as Amathole East, learners travel long distances to get to school and sometimes weather conditions do not even allow them to make it to school, so OTL can assist them in this regard. However, many studies fail to take into account the costs of ICT tools, training of teachers and learners, and infrastructure.

OTL does not only benefit learners but is beneficial for teachers as well. For teachers, OTL helps by improving teaching pedagogy, instruction methods, curriculum design and language learning (Bailey and Lee 2020: 179; Halim and Hashim 2019: 21). Halim and Hashim (2019: 21) found that OTL improves learners' self-confidence and increases learners' motivation. Learners can be more comfortable when they are not in front of their peers; they can ask teachers questions freely without other learners interfering. Furthermore, it is easier for a teacher to announce information to all

learners at once (Thaheem *et al.* 2022: 314). OTL tools enable teachers' freedom because they can automatically grade assessments and record marks, giving them time to prepare and ensure accuracy and fairness in marking (Todd 2020: 13

OTL is possible because of ICT tools and most learners are digital natives. Wu (2019: 15) polled 235 Chinese students about their preferred online resources and tools and discovered that students practised writing, speaking, reading and listening using social media, language learning applications, video clips, video chatting, songs, online TV, audio news, websites, e-books, text messaging, automatic writing evaluation software and voice message. In order for effective use of the above-mentioned resources, implementation plans are important as well as strong network connections (Bailey and Lee 2020: 17). As the current study will be designing a suitable OTL tool specifically for Consumer Studies subject, the relevant resources will be determined to ensure that the aims and objectives for the subject are met.

2.6.2 Challenges

Although there are many advantages of OTL, there are problems that must be taken into account when establishing online classes or learning activities. Dhawan (2020: 8) noted that when learning is done remotely, the major goal is to make sure all learners receive education of the same quality as traditional learning sessions. There are many technologies currently accessible for OTL processes, however they might occasionally provide problems, difficulties, or even limitations. Some examples of technical issues are issues with the installations process, logging process, and problems with downloading of videos and audios. Sadeghi (2019: 84) investigated the advantages and disadvantages of distance learning and found that disruptions or other system failures may occur during lessons because OTL depend on ICTs like the internet and computers, which learners and teachers might not have access to. Hence, it is vital to ensure strong network connections and the right ICT tools. According to Selvanathan, Hussin and Azazi (2020: 9), accessibility can be a big problem because learners who do not have reliable technological resources to participate in digital learning. Furthermore, rural students struggle with inadequate electricity and internet connectivity for their studies, which might cause delays for submission of

assessments. The Amathole East district, for example, is mostly rural and often people complain about network issues and some rural areas do not have network connection at all.

Occasionally a learner's capacity to manage their time and amount of study can lead to a decline in motivation, and the absence of peers and physical interaction might cause them to feel alone (Coman *et al.* 2020: 6). Dhawan (2020: 8) shared the same sentiments by stating that learners in an online class struggle to keep their motivation levels high. Learners who are generally less independent and self-motivated succeed less than their peers. Kim (2020: 148) agreed that OTL does not offer exactly the same social experiences as face-to-face interactions. For example, some learners may prefer the teacher to show them physically how to debone a chicken in a Consumer Studies practical lesson, and they may want to take part physically so that they can be properly directed in order to be confident that they know how to do this. In support, Gurung (2021: 17) concluded that motivation influences interest and changes learner behaviour. The author stated that OTL requires more self-discipline than face-to-face learning and it is important for learners to be active and interested during online lessons to understand the syllabus or course content. Dhawan (2020: 8) points out that sometimes, due to the fact that learners are lonely and isolated during their study, they tend to view OTL to be boring and uninteresting.

In OTL facilitated classes learners can easily become sidetracked, lose attention, or forget deadlines (Bailey and Lee 2020: 179; Coman *et al.* 2020: 6). In a typical classroom, the teacher ensures that order is maintained, regulations are followed, and learners are in a safe learning environment. Teachers, on the other hand, are unable to physically control learners in online classes. Therefore, the teacher may spend a lot of time trying to regulate the students and may also struggle since they are not at the same place, environment, or setting (Gurung, 2021: 17). Another interesting challenge is that teachers and learners spend a lot of time sitting down in front of a screen, which might cause eye or back problems and limit their outdoor exercise. Perhaps teachers need to design timetables to give themselves a break between classes, but also to give them an opportunity to encourage learners to stand up and take a walk or stretch (Coman *et al.* 2020: 6). Dhawan (2020: 8) found that in an online learning

environment, learners were not well prepared to juggle their study lives with their career, family, and social lives. It is evident that, while OTL offers numerous advantages, it also has a number of obstacles that must be solved in order for OTL to be effective. Figure 2.2 summarises the benefits and challenges related to OTL.

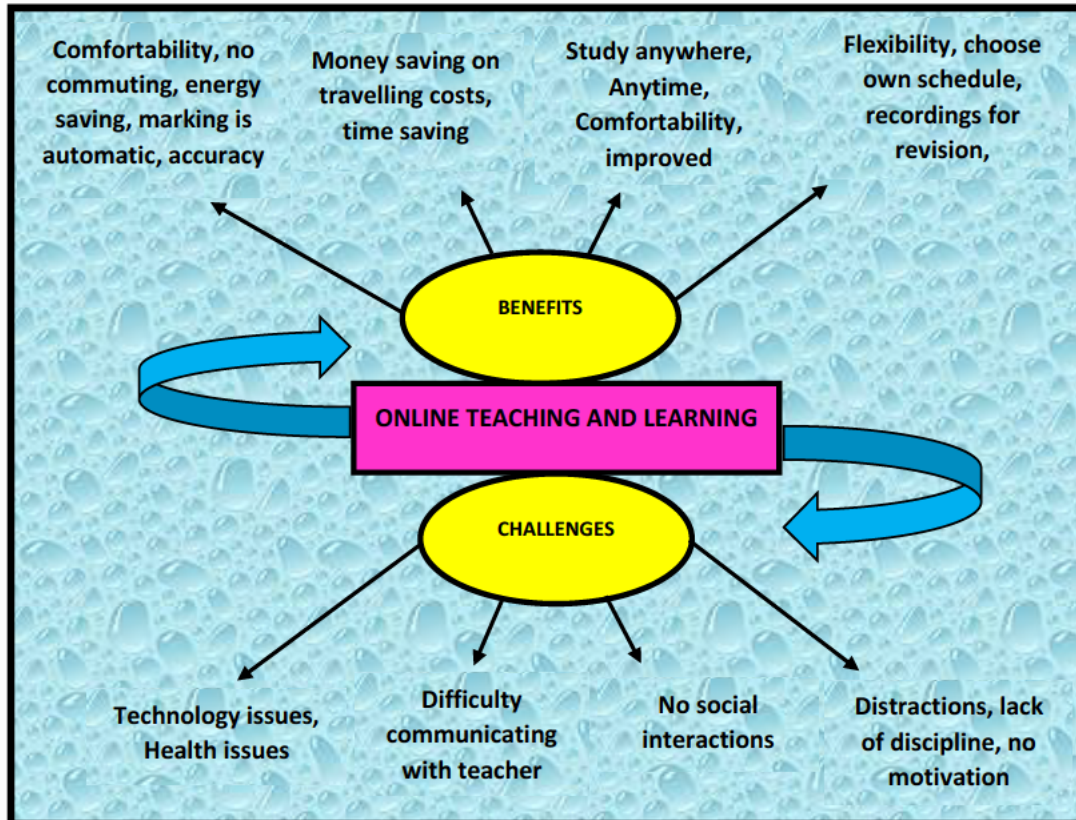


Figure 2.2: Benefits and challenges of OTL related to the study
Source: Researcher's own contribution

2.6.3 Potential solutions to the challenges of online teaching and learning

Dhawan (2020: 9) stated that if there are network issues lessons can be recorded and learners can get the material even without network connections, which is a version of asynchronous teaching. With regards to distraction and OTL lessons being boring, teachers may consider making an online lesson interesting by being interactive and dynamic. This will encourage learners to be awake and focused, and teachers can give them time limitations and reminders (Dhawan 2020: 9). This may be done by including exercises in the form of games. It is also revealed that, learners in an online class struggle to keep their motivation levels high. Teachers can consider giving learners

exercises or challenges may keep learners motivated because they will be able to recap and reflect on previous lessons.

Regarding the difficulty of learners communicating with teachers, here teachers can consider the use of social media such as WhatsApp because it is cheap and learners can send texts, make calls and send voice notes to communicate with teachers – people always have their mobile phones with them. In addition, social media networks allow for the creation of a group with immediate communication to the whole group at the same time. With regards to the health issues, teachers can give learners breaks between lesson so that they can stand up, go to the toilet, get something to drink or eat. One can get prescription spectacles for the computer (Gurung 2021: 17). In general, clear guidance is essential, hence it is crucial to have OTL policies in place that guide the teaching and learning in secondary schools. In order to have an effective OTL lesson proper implementation of policies is required.

2.7 FACTORS INFLUENCING THE SUCCESSFUL IMPLEMENTATION OF ONLINE TEACHING AND LEARNING

2.7.1 RESOURCES REQUIRED

The term resource is defined as psychological, organisational, social and nondirectional physical characteristics to achieve goals (Lee, Rocco and Shuck 2020: 7). Ferri, Grifoni and Guzzo (2020: 3) recommends that when implementing OTL, procedures such as setting up the necessary infrastructure, providing guidance to teachers and learners, training them in the use of modern technology, providing interactive multimedia materials that are consistent with the current curriculum, and establishing an assessment system with a question bank be followed. Basar *et al.* (2021: 121) concurred, saying the successful implementation of OTL requires the guidelines of digital learning to be followed. Apart from the competence of the teacher and their capacity to impart knowledge, the quality of education in OTL systems rest on the quality of electronic knowledge sources and other didactic resources. The section below discusses the most important resources needed to ensure smooth implementation of OTL.

2.7.1.1 Infrastructure

ICT infrastructure describes the school's access to technology, software, the internet, and other resources of a similar nature (Kundu, Bej and Dey 2020: 218). In addition, ICT infrastructure is the availability and usefulness of a school's ICT resources, such as its hardware, software, and peripheral equipment. This implies that OTL infrastructure is the collection of tools and technologies that serve as the backbone of the school's information technology and operations. Moreover, Basar *et al.* (2021: 120) stated that the infrastructure of a school is crucial to the efficient operation of online learning. If a school lacks the right infrastructure teachers and learners will be restricted in their access to the internet or being able to successfully adopt OTL in their subject curriculum. Often the infrastructure is overlooked when schools are trying to adopt OTL, so it is important to consider the right technological tools and the learning environment (Harrell and Bynum 2018: 13; Khlaif, Salha and Kouraichi 2021: 7051) stated that infrastructure tools, appropriate material, the internet, and technical assistance, are significant pillars of education as a support for the storage of resources, delivery of online instruction, sharing of content, and other actions.

Infrastructure needs to be flexible enough to adapt to changing curricula, technology, and learners' needs. When deciding on the right infrastructure tools, it is wise to consider the range of the devices and their intended purpose (Khlaif, Salha and Kouraichi 2021: 7051). For example, collaborative classrooms not only require the right furniture arrangement for the group of students, but also a strong internet or Wi-Fi connection to ensure learners can access a wide range of devices from anywhere and at any time (Harrell and Bynum 2018: 13). Engaging teachers and learners in online situations become unlikely without a strong, varied, and correctly distributed technical layer. To enable the target groups to concentrate on the content while using a particular instrument as a means, infrastructure must function well and promptly (Khlaif, Salha and Kouraichi 2021: 7051). The quality of infrastructure affects the engagement of learners in online learning, as they might lose interest or focus while struggling with weak internet connection and might feel as if OTL is not efficient and is not helping. Thus, the inadequacy of technological resources calls into question the

usefulness of online learning (Kundu Bej and Dey 2020: 218; Adnan and Anwa 2020: 46).

Schools in rural areas are having the most trouble implementing OTL due to lack of infrastructure, as learners in these communities are mostly disadvantaged and cannot afford tools such as laptops, tablets and smart phones to access OTL (Nimavat *et al.* 2021: 240). Rural teachers and learners face major issues in the implementation of OTL because of electricity, network problems, OTL infrastructure, internet, and geographical situation, so these schools need to be assisted with intervention programmes designed for rural schools (Kulal and Nayak 2020: 292). Sharna (2023: 1) stated that the internet is the most convenient technology available today, helping both individuals and businesses. Since the internet is often used for knowledge-related educational and research purposes, it is the most important tool in the implementation of OTL (Madida, Rugbeer and Naidoo 2019: 141003).

2.7.1.2 Information communication and technology tools

For the purposes of the study, it is crucial to define the role of ICT in education. According to Makgati and Awolusi (2019: 49), ICT is a collection of technological tools used for communication. ICT uses a variety of channels, including internet, social media, television, radio, computers, social media, and other computer tools, to manage information. ICT is a cutting-edge approach to teaching and learning in remote locations. Adarkwah (2021: 1666) states that ICT includes all forms of learning that are carried out using ICT tools such as computers. In addition, with the advancement of ICT, OTL has become a practical and cost-effective method of providing access to high-quality education. Furthermore, a high-quality twenty-first century educational system largely relies on ICT to transform teaching, learning, and evaluation methods for learners and teachers. ICT is becoming more and more predominant in society, and it is altering how people go about their daily lives (Bariu 2020: 1). According to Aljaraideh and Bataineh (2019: 99), ICT is helpful for both teachers and learners since it makes it easier for learners to access their lessons and helps teachers prepare, present, and easily evaluate lessons. However, to give teachers and learners the ability

to exchange and disseminate data and information, ICT must be linked via computer networks and internet access (Bariu, 2020: 1).

The process of designing instructions, the choice of materials and tools to design and implement a design, evaluations of designs, the effectiveness of teamwork, and the use of technology in support of the development and delivery of instructions are just a few of the aspects of ICT that can be applied in instruction (Bariu 2020: 1). ICT integration involves many interrelated factors such as curriculum, teacher characteristics, training and development, infrastructure, organisational factors like school leadership, school culture and supportive framework (Adarkwah 2021: 1670). ICT in education can give learners the 21st-century skills they need to adapt and succeed in this knowledge-based world. Furthermore, ICT in education improves student learning, gives education to children who would otherwise not have access to it or have limited access, helps with teacher training, increases the skilled workforce, and fosters social mobility (Adarkwah 2021: 1670). Thus, ICT is a crucial resource for high-quality education. ICT has the power to improve learning, make a subject interesting, and enable communication, problem-solving, research skills, and decision-making (Sinha and Bagarukayo, 2019: 8). Waluyo (2019: 76) adds that ICT also makes OTL easier, which eventually benefits research, learning, and teaching activities. ICT aims to make things easy for teachers and learners by allowing them to connect even if they are in different locations.

Makgati and Awolusi (2019: 50) state that if ICT is used properly, it enhances teaching and learning in a variety of ways, including by enabling access to education at any time and from any location, motivating learners, and connecting classroom instruction to real-world situations. Furthermore, ICT has the potential to support transformation in teaching and learning practices in schools and can connect educational policy with economic and social development. Learners need more open-ended learning experiences that develop their higher-order thinking, creativity, independence, and ownership of learning (Bariu 2020: 1). The author added that the usage of ICT in the classroom can increase learners' openness to the digital world. Early exposure to ICT can help learners adjust more easily to new technologies and change (Makgati and Awolusi 2019: 50). According to Bariu (2020: 1), all these can be achieved by

deploying OTL infrastructure at least as early as secondary school. This suggests that ICT can be introduced to learners at early ages so that by the time they reach secondary schools and university they are confident enough to operate the OTL tools which will make them feel relevant in a digital space.

Based on the above opportunities offered by ICT to OTL, it is advisable that secondary schools engage with technology-based learning by shifting from conventional teaching methods to online teaching methods. However, the Department of Education still faces major challenges that hinder the progress of implementing OTL (Makgati and Awolusi 2019: 50), including access to ICT resources because online learning thrives on the availability of ICT facilities (Arthur-Nyarko and Kariuki, 2019: 3). Limited funding can affect institutions from hosting online learning (Bean, *et al.* 2019: 14). Sinha and Bagarukayo (2019: 8) concluded from their study that the adoption of OTL is affected by the high cost of ICT tools. This issue of costs and funding reveals that some schools are not getting enough funding since they are unable to purchase ICT tools. Adarkwah (2021: 1669) stated that the development of OTL costs more than face-to-face teaching and learning, because technology and gadgets are expensive. Absence of ICT tools is a significant barrier to using ICT in secondary school teaching and learning, since without them schools cannot integrate ICT to the desired or required levels (Bariu, 2020: 1).

ICT tools refers to the hardware such as computers, scanners, photocopiers, mobile phones, printers, projectors, and broadcasting technologies (Bariu 2020: 1). Examples includes multimedia, use of online courses, social networks, assessment tools, software/simulation tools and graphics programme packages (Margaret *et al.* 2018: 117). All these require electricity and network connection to function. Many schools, particularly those in rural areas, are ineligible for ICT tools donations because they cannot maintain infrastructure like power. Security, access to electricity, and the presence of teachers who are proficient in ICT are typically requirements for deploying computers and other ICT equipment at educational institutions (Bariu, 2020: 1). Lembani *et al.* (2019: 5) discovered that there is an uneven spread of access to ICT among different populations, households, and spaces because network connection is not the same everywhere.

2.7.1.3 Skilled teachers

The teacher is the other crucial element of online education. Their aptitude for managing online lessons and interest in doing so are crucial factors (Kulal and Nayak 2020: 292). However, teachers often misinterpret the concept of integrating ICT in school as having access to information from the internet and using it to prepare school task. Integrating ICT tools in education is not only about having a computer in the class or teaching learners about the basic use of information technology, but also exploiting the valuable of services that ICT can offer to improve pedagogy in education (Makgati and Awolusi 2019: 50). Adarkwah (2021: 1669) states that if teachers are not familiar with or have experience with ICT tools then that is an obstacle to organising OTL. In their case study, Aljaraideh and Bataineh (2019: 101) investigated barriers to utilising online learning and confirmed that teachers lack computer skills and lack of training courses are essential barriers preventing the application of OTL in schools. Teachers cannot be motivated and apply the pedagogies appropriately without being skilled. Hence it is vital that teachers be supplied with all needed skills.

Although network, internet, and ICT are required for the successful implementation of OTL, having certified and skilled teachers who can use technology is as important. Online teachers need to focus on what they need to develop, manage, and connect with their learners when there is not a physical presence or face-to-face interaction (Albrahim 2020: 12). To be able to establish and maintain a teaching, social, and cognitive presence when teaching online, teachers must be dedicated to the principles of online learning. Throughout the whole online lesson, effective teachers must encourage and support active learner discussion, interaction, cooperation, and participation. The best online teachers implement and facilitate online classes using their awareness of the nature of both face-to-face and online learning as well as the contrast between the two (Albrahim 2020: 12). To use ICT tools effectively, teachers need to possess pedagogical skills, content skills, designing skills, technological skills, social skills and communication skills (Albrahim 2020: 15). The success of OTL lies with teachers who are adequately skilled and trained to use relevant digital technologies to ensure that learners are not overloaded with study materials and

assignments (Aristovnik *et al.* 2020: 2). Training of teachers is crucial for their own self efficacy and motivation to accept the adoption of OTL.

2.7.1.4 Teacher training

Bawani and Mphahlele (2021: 1) view teacher training as fundamental to effective teaching and learning of children. Teacher training programmes involve a process of continuous and personal learning and growth. In order to strengthen their practice and be better prepared to meet the learning obstacles of their learners, this growth approach gradually builds their confidence and autonomy (Bautista and Oretga-Ruiz 2017: 243). Professional training of teachers is of increasing interest as a critical way to support the complex skills learners need to learn in order to succeed in the 21st century (Darling-Hammond *et al.* 2017: 1). Teacher training programmes focus on teaching strategies associated with specific curriculum content. Thus, a Consumer Studies teacher should be trained on strategies that will help them in their Consumer Studies classroom or during Consumer Studies lessons. These programmes provide teachers with opportunities to get hands on experience designing and practising new teaching strategies (Darling-Hammond *et al.* 2017: 1). Education, curriculum theories and models of instruction provide teachers with a clear vision of what best practices look like. Teachers should be able to view theories and models that include lesson plans, unit plans, sample learner work, observations of peer teachers, and video or written cases of accomplished teaching (Gallagher, Woodworth and Arshan 2017: 580).

Training programmes improves the effectiveness and efficiency of the individual as well as their institutions. Furthermore, training programmes do not only benefit an individual and their institution, but they are beneficial to colleagues as well (Modiba and Sefotho, 2019: 2). For example, Consumer Studies teachers may engage and share ideas during the training which other teachers may find helpful to apply in their environment or school setting. Krutka, Carpenter and Trust (2017: 248), in their framework for identification, reflection and intention of learning, state that training is designed according to the needs of the teacher or an individual and should be ongoing. This means that a Consumer Studies teacher should be trained on how to teach the Consumer Studies subject, how to assess learners, etc. Training programmes boost

teachers' confidence and motivates them, as they will be going to class knowing exactly what they should be doing and how they should do it (Ramos-Rodriguez, Fernandez-Ahumada and Morales-Soto 2022: 2).

Bautista and Oretga-Ruiz (2017: 244) state that knowledge and competency are some of the features teacher training programmes should have. For effective teaching, teachers must have sound knowledge and professional skills. Consumer Studies teachers should have knowledge and understanding of the subject and should be trained in such a way that they will gain skills to teach the subject accordingly as the subject is practical. As stated above by Modiba and Sefotho (2019: 2), teacher training programmes are necessary for the reformation and the performance of schools. It is worth noting that if the teacher is trained, motivated and confident about their teaching in classrooms, learners will also be confident with their learning activities which will enhance their performance and their performance will boost the school's image. Desimone and Pak (2017: 4) concur that teacher training programmes are a continuous process that empowers the individual teacher. In addition, these programmes enable teachers to detect classroom problems and ways to solve them. During their training teachers will have been made aware of such problems and how they should handle them.

Training programmes should be well planned, ongoing and long term. Continuous training programmes help teachers to implement new teaching strategies in classrooms (Ramos-Rodriguez, Fernandez-Ahumada and Morales-Soto 2022: 2), including the use of new technology. Teacher training programmes should be well planned and evaluated based on teachers' subject knowledge, teaching skills, self-efficacy and ultimately, learners' attainment of outcomes (Krutka, Carpenter and Trust 2017: 248). During these programmes, teachers learn to organise effective and comfortable environments for the learners. In the midst of the pandemic teachers had to come up with new ways of helping learners learn in a space where they would feel safe and comfortable. The aim of teachers training programmes is to ensure improve the standard of the learning, teaching, and evaluation process (Saleem, Gul and Dogar 2021: 54). Quality is assured through mastery of the subject by teachers, their

appropriate teaching skills, their positive attitude in the classroom, and ability to apply technology in their classrooms (Darling-Hammond *et al.*, 2017: 2).

Teaching Consumer Studies in secondary schools can be difficult due to the demand to teach wide intellectual content alongside multifaceted practical skills, with the aim to support entrepreneurship and small-scale productions (Du Toit, 2018: 24). Teacher training programmes must be in line with three principles which are: life relevant learning, transferability of learning to new contexts, and the intentional development of the 21st century skills. These principles encourage the preparedness of Consumer Studies teachers, teachers need to be equipped with a set of abilities and skills required to teach Consumer Studies subject effectively to support the learning and development of subject knowledge (Bautista and Oretga-Ruiz 2017: 242).

2.7.2 Perceptions towards Online Teaching Learning

Basar *et al.* (2021: 122) suggest that every distinct factor that is significant in the acceptance of e-learning must be taken into consideration. For example, the acceptance of technology in the teaching and learning process may depend on how teachers and learners feel about online learning. Nimavat *et al.* (2021: 241) discovered in their study that some learners and teachers had a negative attitude towards new technologies. Basar *et al.* (2021: 122) found that learners that are positive and motivated do not see OTL as a barrier to their learning success. However, Curelaru, Curelaru and Cristeatony (2022: 14) found in their study of students' perceptions of online learning during the COVID-19 pandemic that learners found it difficult to communicate with teachers and their peers and develop into independent learners. On the contrary, Asgharzadehbonab, Akkele and Ozder (2022: 11) found that learners were more comfortable with OTL than the normal face-to-face learning and intended continuing with OTL. This indicates that OTL readiness of learners improves the level of satisfaction. Soliman, Salman and GamalEldin (2022: 9) investigated students' perceptions of online learning in higher education during COVID-19 in Egypt and found that experienced learners in online learning were more satisfied as they were engaging more in self-directed learning and creating different moods of mutual learner

support among themselves. It is clear that interactions among peers are another factor that may affect learner satisfaction regarding OTL.

Curelaru, Curelaru and Cristeatony (2022: 14) found that learners experienced boredom, difficulties in understanding the courses, and lacked the proper space to connect from home while learning online. Furthermore, emotional and physical exhaustion, headaches, backpains, and eye problems were among the most frequent psychological and physical problems mentioned by learners. Another issue raised in Soliman, Salman and GamalEldin's (2022: 9) study was that practical subjects suffered as students were unable to learn online, other than theory elements. But, OTL has positive aspects such as comfort, commodity, avoiding traffic, higher accessibility, time saving, money saving, psychological safety and opportunities for personal training and development (Curelaru, Curelaru and Cristeatony 2022: 15). Kulal and Nayak (2020: 294) found that learners in rural area schools had negative perceptions of OTL as they stated that they did not have the proper technology to carry out their learning activities online and had never been trained on OTL.

Priyadarshani and Jesuiya (2021: 138) found that teachers' perceptions were that traditional teaching methodology was a more secure strategy for effective instruction. Similarly, Nimavat *et al.* (2021: 241) stated that teachers found the new technique of teaching challenging and made them feel inadequate. Hung (2021: 420) pointed out that there are many challenges with OTL, including learner retention, time commitment, teacher's technological proficiency, and the stress of the sudden shift to OTL. Furthermore, teachers are unable to conduct online practical sessions, and some subjects are challenging to teach online (Priyadarshani and Jesuiya 2021: 138). These challenges can lead to teachers and learners losing faith in OTL as they may find it to be problematic and time-wasting compared to face-to-face teaching and learning. Hung (2021: 420) mentioned that many teachers are concerned about the social aspect in learning as learners may feel lonely, and Kulal and Nayak (2020: 294) state that many teachers believe that OTL cannot replace the emotional connection that existed between learners and teachers in traditional classrooms and would increase teacher unemployment.

In addition, some teachers feel that it is not conducive to work from home as they can be interrupted by family members (Priyadarshani and Jesuiya 2021: 138). Another issue raised by rural school teachers in India was that it is hard for them to incorporate OTL in their curriculum as they do not have smartphones or computers and they do not have network around their rural areas (Kulal and Nayak 2020: 294; Curelaru, Curelaru and Cristeatony 2022: 15). However, Rahayu and Wirza (2020: 404) in their study in Indonesia concluded that teachers had a positive attitude towards OTL as they believe OTL is easy to use and useful in creating engaging content, describing and giving feedback. Furthermore, Sareen and Nangia (2020: 294) mentioned that some teachers showed a positive reaction towards OTL but required adequate training.

2.7.3 The effectiveness of Online Teaching and Learning

The effectiveness of OTL depends on teachers' and learners' technological skills, infrastructure and the perceptions of both teachers and learners towards OTL (Aljaraideh and Bataineh 2019: 101). If teachers and learners feel that OTL is not helping them in any way academically or personally they will certainly have a negative attitude towards OTL. Hence, Solangi, Shahrani, and Pandhiani (2018: 227) stated that the best way of ensuring OTL effectiveness is to improve teacher and learner self-confidence. Flavell *et al.* (2019: 11) suggested that teachers and learners may be motivated to use technology in their class by engaging them in recreational activities such as reading on technological devices for pleasure, playing games and using social media. This will make teachers and learners become comfortable with technology and self-confidence and digital literacy will increase. Aljaraideh and Bataineh (2019: 101) add to this by saying that the effectiveness of OTL is related to enjoyment, meaning that if learners are enjoying the OTL experience then their performance improve, and they will also accept the concept of OTL.

The effectiveness of classrooms activities can be judged on a few key elements related to course content, pedagogical techniques, interactivity, and assessment, whether they are held face-to-face or online (Darkwa and Antwi 2021: 14). Furthermore, Adarkwah (2021: 1676) stated that to help with adoption of OTL, teachers need to be given a clear pedagogical justification for online teaching that is based on their own particular

teaching and learning philosophies. In order for learners to understand the course content, teachers need to be able to present it clearly using relevant pedagogical techniques and assessment strategies, and with passion arising from their personal philosophies. That is the reason why OTL methodologies need to be introduced to encourage teachers and learners to embrace OTL (Adarkwah 2021: 1676). In summary, OTL's success or failure depends on the quality of the technological infrastructure, teachers' and learners' technical proficiency, internet connectivity, and the availability of technological tools (ICT) and other necessary devices (Sahu *et al.* 2021: 279). Figure 2.3 is a summary of the effectiveness of OTL.

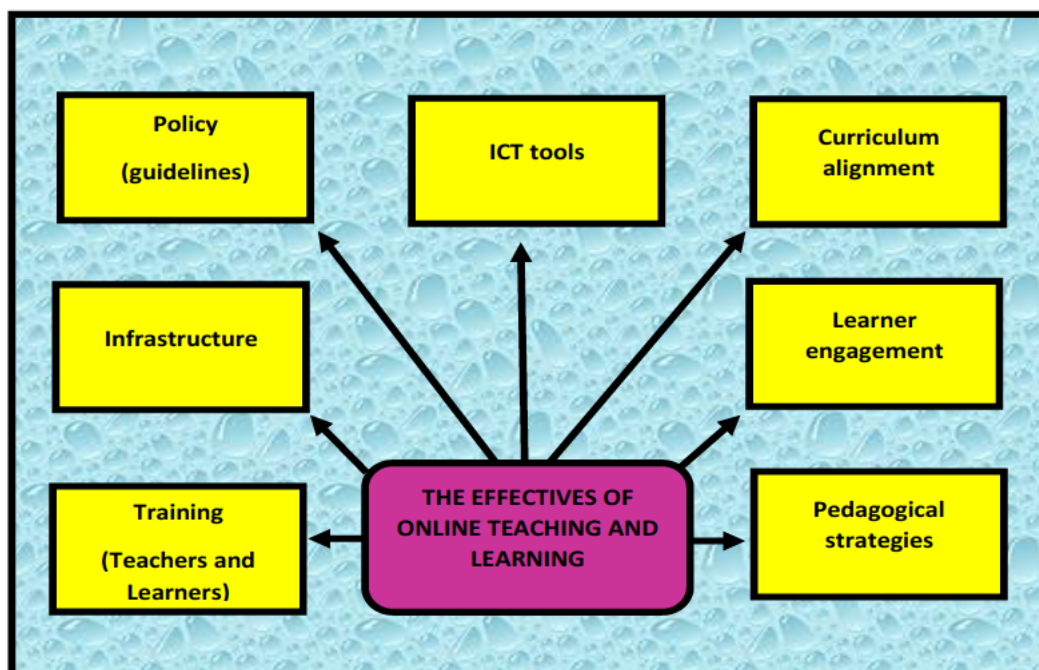


Figure 2.3: Summary of the effectiveness of online teaching and learning

2.7.4 Online Teaching and Learning frameworks

The development of technology has increased the need for e-learning because it has increased the needs for lifelong learning, non-formal education, and education in general (Patel 2018: 29). Emerging technologies have significantly altered learner behaviour, altered teaching methods, and put conventional learning systems to the test. This makes the introduction of more technology into classrooms unavoidable (Chikanyawu 2022: 195). The effective implementation of OTL requires a number of qualities such as cultural dynamics, technical expertise, management and social

dynamics (Al-Hunaiyyan *et al.* 2021: 56). According to Haw *et al.* (2017: 18), a framework is important to ensure that OTL implementation is successful. It is clear that well-designed implementation frameworks are necessary to get the desired results. Chikanyawu's (2022: 183) framework includes factors such as technological resources, teacher development, stakeholder cooperation, readiness, cultural issues, commitment and school system. However, Ishmael (2021: 65), who studied the critical challenges influencing online learning during the Covid-19 pandemic in public universities in the Kurdistan Region/Iraq, states that the implementation of OTL in schools is not an easy task as this is faced by many challenges that involve the schools, government and teachers. Hence, Daniels, Sarte and Cruz (2019: 6) designed the framework in Figure 2.4.

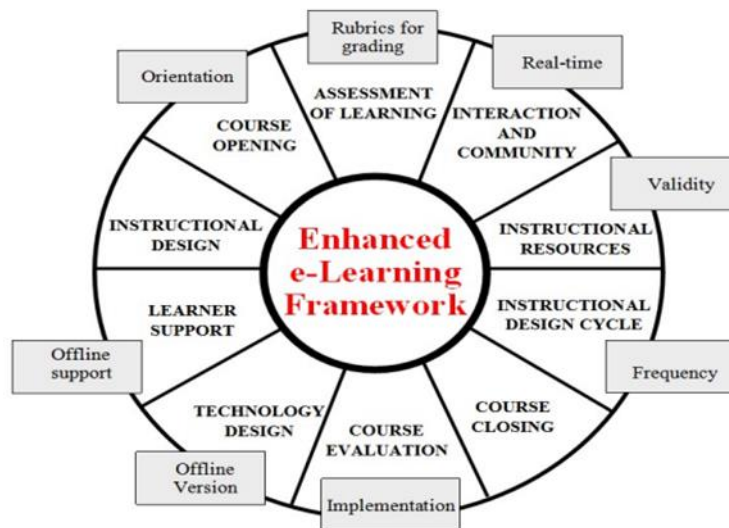


Figure 2.4: Conceptualise the e-learning framework for the secondary school curriculum
Source: Daniels, Sarte and Cruz (2019: 6)

Daniels, Sarte and Cruz (2019: 6) state that OTL differs according to the different school levels. They found that schools in quintile 1-3 have higher expectations of e-learning compared to schools in quintiles 4-5. Hence, a framework consists of factors such as course opening, interaction and community, instructional resources, instructional design cycle, course closing, course evaluation, technology design, learner support and instructional design. Haw *et al.* (2017: 20) reviewed one e-learning framework that considered factors such as pedagogy (methods of teaching and

learning), technology, interface design, evaluation (ensuring successful implementation or feedback), management (review and support), resource support (infrastructure, material and equipment), ethical and institutional. Both models support the importance of resources, technology needs, instructional design, preparation or teacher and learner readiness, and evaluation. Chikanyawu (2022: 183) assessed the implementation of e-Learning in primary schools in Harare Metropolitan province and found that readiness, resources, school systems and stakeholder involvement are some of the significant factors that might affect the successful implementation of e-learning. Teachers and learners need to be trained and be familiar with the use of OTL and be equipped with the necessary resources as without them OTL is not possible. However, none of the mentioned frameworks included specific subjects as a factor, because not all subjects are the same and not all are taught the same way.

OTL implementation and delivery requires factors such as pedagogical, technical and organisational issues to be taken into consideration before forward moving with OTL education. Nwabude, Ogwueleka and Irhebhude (2020: 6) propose a framework that considers the following: organisational readiness in order to meet needs for information liquidity in terms of existence infrastructure, willingness to invest in a knowledge editor, design of relevant content suitable for OTL, organisational culture in knowledge sharing, employee attitude, identified knowledge need, workers' computer usage and technology requirements. It is clear that this framework takes subject focus (subject objectives) and implementation strategies into consideration but does not mention anything about teacher and learner preparedness as mentioned by Daniels, Sarte and Cruz (2019: 6) and Haw *et al.* (2017: 20).

It was also important to discuss factors that are required to ensure successful implementation of OTL. Basak, Wotto and Bélanger (2016: 2409) reviewed 57 articles in the field of research and based on the findings, they presented a conceptual framework on the critical success factors of e-learning implementation in higher education. The framework consisted of 8 variables which are depicted through the Technology Acceptance Model, and they have an impact on utility, user adoption of technology and perceived ease of use. Thus, Patel (2018: 29) states that a framework is essential to create and strengthen the educational system, and success factors may

affect the acceptance of e-learning in higher education. Haw *et al.* (2017: 21) conducted a study to identify the factors that affect the successful implementation e-learning in a secondary school system and developed the LearnCube framework (Figure 2.5) which covers all the aspect of successful factors of OTL implementation in secondary school context. Hesham *et al.* (2022: 31) proposed an OTL framework which also considers ethical factors, evaluation factors and social factors.

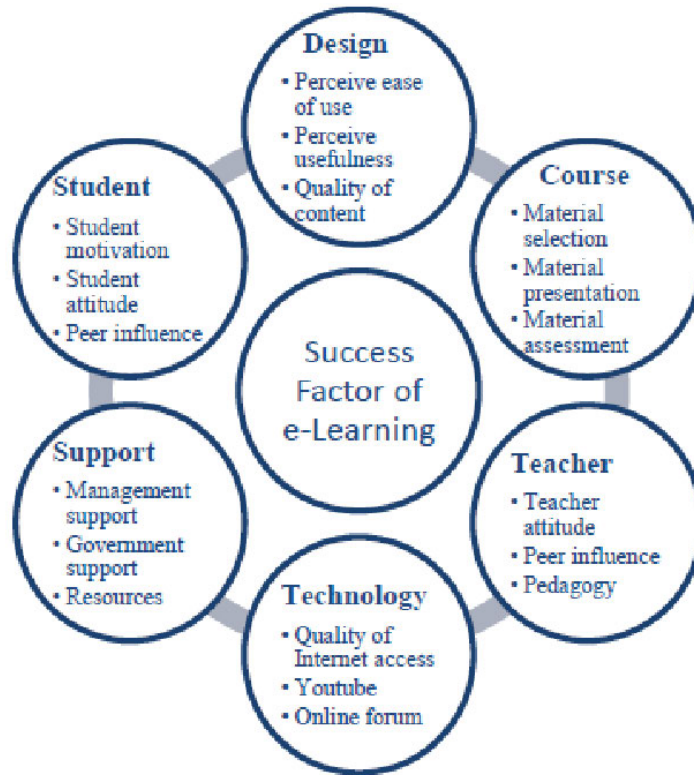


Figure 2.5: LearnCube framework
Source: Haw *et al.* (2017: 21)

Hesham *et al.* (2022: 31) proposed a framework for a higher education context for effective implementation of OTL. The following factors were identified as the most important: pedagogy, social interaction, self-efficacy and self-regulated approach, technology, institution’s involvement, and teachers’ and student’ commitment building up of OTL environment. Figure 2.6 illustrates a proposed framework for e-learning implementation in higher education institutions in Oman.

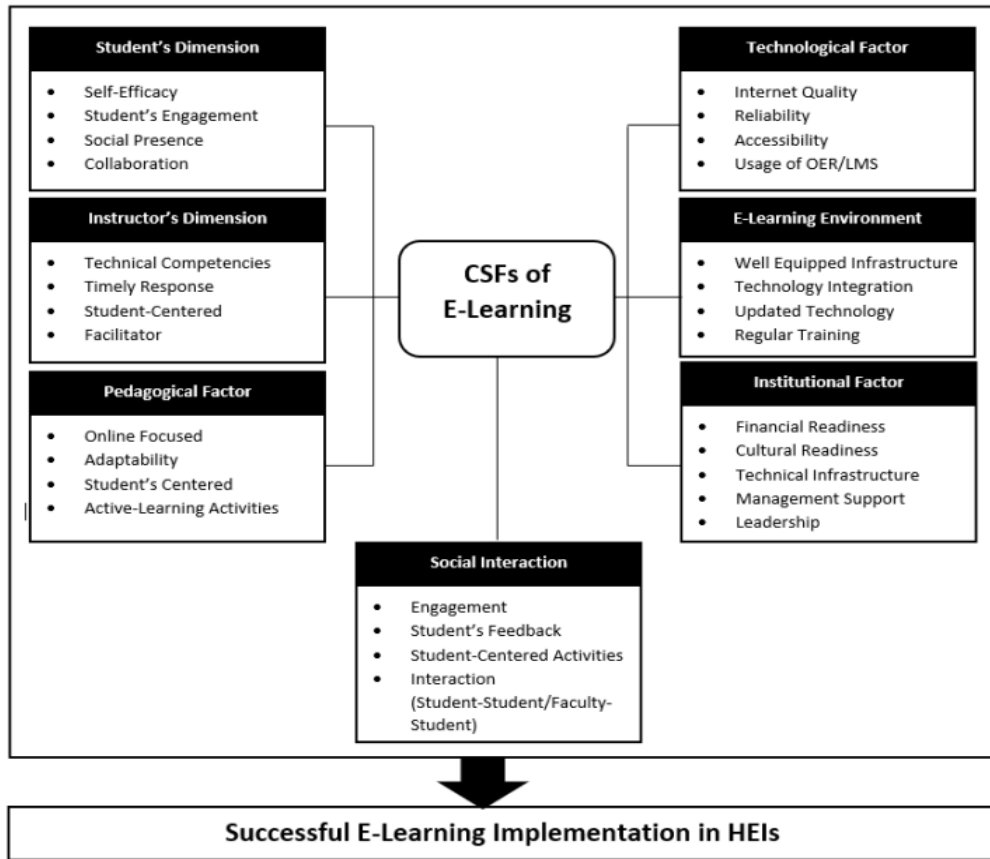


Figure 2.6: A proposed framework for e-learning implementation in higher education institutions in Oman

Source: Hesham *et al.* (2022: 31)

Hesham *et al.* (2022: 31) assert that students are the main audience in e-learning, so the implementation of e-learning should be designed in a way that students are engaged throughout the learning experience, with teachers becoming more of a facilitator. The implementation, maintenance and operation of OTL requires extensive funding (Ahmad *et al.* 2023: 9; Patel 2018: 32).

To summarise, various frameworks cover the essential factors but there is not one that incorporates all the factors. Furthermore, these frameworks hardly address the issue of location factors such as a rural context and none have been specifically designed for Eastern Cape province, or for Consumer Studies. Moreover, most of these frameworks have been proposed for higher education institutions and very little has been designed for secondary schools. Hence, the researcher found it necessary to

develop an OTL tool that will compliment successful implementation of OTL within the rural areas and Consumer Studies in a secondary school context.

2.8 DEPARTMENT OF BASIC EDUCATION POLICIES RELATED TO ONLINE TEACHING AND LEARNING

Legislative changes, policy creation, curriculum revision, and the adoption of innovative teaching strategies have all produced significant progress in the field of education. According to the Gauteng Department of Education (2018: 3), education policies are written principles and directives that affect the field of education through the application of laws and regulations that control how the educational system is run. Educational policies are written documents that formally describe the steps governments take in respect of educational practices and how governments approach the development of education and its delivery in a certain system. The Department of Basic Education (2021: 1) states that education policies cover various issues in education such as equity, quality of teaching and learning, schools funding, teaching and learning environments, curriculum and assessments mechanisms, school management, etc. These definitions in simple terms imply that educational policies are guidelines on how educational systems may be managed and directed. It is worth noting that the Constitution is South Africa's highest law, so educational policies are guided by the Constitution of the Republic of South Africa, 1996 (Act no. 108 of 1996). This implies that, educational policies need to be firmly founded in the imperatives and principles of the constitution. This also applies to the school leadership when creating the school's policies together with the School Governing Body (SGB).

The Department of Basic Education (2021: 1) stated that educational policies in South Africa are developed at different levels: nationally, the Minister of Education is responsible for the determination of legislation and policy; provincially, the MEC is responsible for determining that policy and legislation align with the Constitution and national policy and legislation; at school level the SGB is responsible for the school policy development. When developing the school policy, the SGB needs to ensure that the provisions are in line with the constitution and provincial regulations and policies

(Gauteng Department of Education 2018: 4 The following section will review the teaching and learning policy, e-education policy, and rural policy.

2.8.1 Teaching and learning policy

According to the Department of Basic Education (2021: 1), the National Curriculum Statement Grade R-12 (NCS) is a declaration of the learning and teaching philosophy in South African schools which encourages best practices and establishes uniformity in teaching and learning throughout the school. This policy strives to ensure that all learners receive high-quality educational opportunities which will result in a consistently high level of learner success and attitude. This shows that teaching and learning policy is crucial because proper implementation will result in good communication, support for learners and teachers, and raise the standards of education. Mulenga (2018: 4) states that a curriculum is an educational programme that embodies the purpose of education. A curriculum carries the values, skills, beliefs, knowledge, attitudes and everything that education is about. Chiu and Chai (2020: 3) state that curriculum is the term that refers to the experiences designed and facilitated by the schoolteacher and learned by a learner, individually or in a group inside or outside the classroom. In this regard, the curriculum is a guide used by teachers for learners to learn and carries the knowledge, values, skills, attitudes and everything that education is about.

The NCS has taken the place of the Subject and Learning Area Statements, Learning Programme Guidelines and Subject Assessment Guidelines for all the subjects listed in the National Curriculum Statement Grades R – 12 as a single, comprehensive, and compact policy statement. Furthermore, this policy outlines the desired ideas, aspirations, or standards as supported by the philosophy supporting the nation's educational framework, which encourages educational equality for all South Africans. The democratic values of inclusivity, equality, and the advancement of a healthy environment serve as the cornerstones of this curriculum policy. The successful implementation of NCS regardless of gender, race, or religion, should lead to the much-needed equality in education in South Africa (Department of Basic Education

2021: 1). NCS Grade R-12 as a teaching and learning policy consists of the following documents:

- Curriculum and Assessment Policy Statements for each approved school subject.
- The policy document, national policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12.
- The policy document, National Protocol for Assessment Grades R-12.

The National Curriculum Statement Grades R-12 (January 2012) replaces the two current national curricula statements, namely:

- Revised National Curriculum Statement Grades R-9, Government Gazette No. 23406 of 31 May 2002.
- National Curriculum Statement Grades 10-12 Government Gazettes, No. 25545 of 6 October 2003 and No. 27594 of 17 May 2005 (Department of Basic Education 2021: 1).

According to Department of Basic Education (2021: 1), the NCS Grades R-12 attempts to ensure that school learners learn and use skills and knowledge in meaningful ways in their own lives, giving voice to the knowledge, skills, and values worth learning in South African schools within local and global contexts. The NCS Grades R-12 serves the purpose of providing learners with values, knowledge and skills needed for meaningful participation and self-fulfilment in society as citizens of democracy, regardless of their socioeconomic background, physical ability, colour, intellectual ability, or gender, offering access to higher education, facilitating learner's transition from education institutions to the workplace and providing employers with a sufficient profile of a learners' competencies (Department of Basic Education 2021: 1).

The new government has succeeded in drafting many good policies such as NCS Grade R-12. However, the successful implementation of these new policies is the major obstacle. After the new regulations went into effect, many questions arose, including: Did teachers have adequate training and development to comprehend the new school curriculum correctly and effectively? Other questions are: Are the managers and leaders in education qualified to carry out their managerial and

administrative duties? Are public officials, both those in offices and those in schools, capable of properly interpreting and putting these education policies into practice? In order to convey the curriculum to learners as the intended beneficiaries in the realisation of a great education, are teachers applying the NCS as intended? These are a few of the questions that the present study seeks to address.

2.8.2 E-education policy

Information and communication technology is a major driver of this transition, according to the previous Minister of Education, Professor Kader Asmal. He stated that the information society has been revolutionised by digital media and that ICT developments have drastically altered the teaching and learning process, opening up new learning opportunities, and increasing access to educational resources beyond what was previously possible (Department of Education, 2003: 3). The minister went on to say that by integrating ICT into schools, teachers and learners will have new opportunities to gather, classify, and analyse information in novel ways. ICT has the ability to improve schools' administration and administrative capabilities. The Government created a draft White Paper on e-Education (2003) entitled "Transforming Learning and Teaching via ICT" in response to the new information and communications technology environment in education.

The idea of e-education in South Africa centres on using ICT to hasten the fulfilment of national educational objectives. e-Education can provide platforms for learning and connecting teachers to professional support services, and can link teachers and learners to greater knowledge, ideas, and one another (Department of Education 2003: 15). This policy's objective is to guarantee that all South African learners in the foundation phase, senior phase, and further education and training can use and confident in using ICT. Furthermore, by 2013 acquire the information and abilities necessary to accomplish individual goals and participate actively in society. However, did the policy reach its goal 10 years later? This is one of the questions worth addressing. However, Dube (2020: 146) stated that quintile 1 to 3 schools continue to struggle with problems such a lack of resources to implement OTL. This policy explained that ICT is a combination of software, hardware and networks as well as tools for

participation, collaboration, and communication (Department of Education 2003: 15). OTL is associated with ICT as it relates to the context of using the Internet, digital tools and associated web-based applications as the delivery medium for the learning experience.

This policy called for a revised approach to teaching and learning where teachers and learners will have access to:

- High quality, relevant and diverse resources, beyond what current school libraries are providing.
- Means of communicating and collaborating with other learners and teachers.
- Opportunities of creating and presenting new knowledge.

Since administering assessments is a labour-intensive process, the policy stipulates that the application of effective e-learning approaches can improve the quality and usefulness of assessments by simplifying the administration thereof. Therefore, it is vital that online assessments methods to be developed. However, many teachers have greater difficulty adjusting to using ICT than their learners since they were raised in environments with less access to electronic technology. Thus, it will be helpful to develop a programme that will address the competencies of teachers to use ICT in and outside classroom immediately through extensive support and development. Not only for the current teachers but also future teachers.

Implementation of the online teaching and learning policy

Chikuni, Makwambeni and Chigona (2021: 16) investigated the major discourses and assumptions that inform e-learning policies of three HEIs in South Africa and found that various ICT initiatives are being implemented. However, not all schools, particularly primary and secondary schools, have been able to implement the policy since they lack the necessary resources for the policys' success. In agreement, Msiza, Malatji and Mphahlele (2020: 309) stated that the Department of Basic Education's poor planning and implementation has created many challenges to do with the lack of internet connectivity, lack of technological devices and poor security in schools. Even though evidence demonstrates that personal access to ICT has a significant impact on

the effectiveness of ICT integration into teaching and learning, teacher access to ICT is still restricted.

e-Education policy implementation strategies

The policy identifies four strategies for implementation: Firstly, a system-wide approach meaning this policy should be apply to everyone regardless of their backgrounds, level of education, gender or social status. Secondly, co-ordination and collaboration where this policy offers a framework for the departments of the government and other stakeholders to engage in order to ensure that schools are supported in meeting the interests and needs of learners and their communities. Thirdly, monitoring and evaluation are also considered to be an implementation strategy as the implementation process needs to be informed by periodic reviews and evaluations, and the direction and attention will benefit from the knowledge obtained and lessons learnt from the reviews. In addition, achievements made in relation to nationally set metrics and targets will be recorded. Then, data collected will guide decisions and inform continuous improvement of the implementation of the e-Education policy. Fourthly, planning cycles which can allow the government to implement these policies in phases so that they can monitor progress closely (Department of Education 2003: 44). The question is, how far is the implementation process going since 2003? Chomunorwa and Mugobo(2023: 84) stated that OTL has not been adopted in most quintile 1-3 schools due to lack of resources, lack of devices and lack of interest among teachers. Nonetheless, the first phase is broken down into the following steps:

- Build an education and training system to support ICT integration in teaching and learning.
- Build teachers' and managers' confidence in the use of ICT.
- Build a framework for competencies for teacher development in the integration of ICT into the curriculum.
- Establish an ICT presence in schools.
- Schools are using education content of high quality.
- Schools are connected, access the internet and communicate electronically.

- Communities support ICT facilities.

The first phase of implementation stated clearly that teachers, school managers, learners and schools need resources such as ICT tools, internet connection, ICT support facilities and content of high quality. The second phase of implementation focuses more on system wide integration of ICT into teaching and learning such that:

- Teachers and managers integrate ICT into management and the curriculum.
- ICT widely present in schools
- Schools are using education content of high quality.
- Schools are connected, access the internet and communicate electronically.
- Communities support ICT facilities.

Phase two stresses the issue of resources which shows that resources are indeed important for the effective implementation of e-education in schools.

The third phase emphasises ICT integrated at all levels of the education system – management, teaching, learning and administration. In this phase ICT should be available to all relevant stakeholders (Department of Education 2003: 47).

2.8.3 Rural policy

The rural education policy by the Department of Education, aims to raise both the quality and accessibility of rural education. Furthermore, the policy offers a framework that is very specific towards the context, pertinent, and long-term approaches to address challenges in rural schools while leveraging rural communities' strengths, improve the quality of education in schools within rural areas. To add, the rural policy enables the development of suitable approaches and practical intervention to improve the quality of rural education (Department of Basic Education 2018: 1). Moreover, the rural education policy addresses the frequently acknowledged disadvantage of rural areas and schools in terms of insufficient funding, a lack of teachers, absenteeism, students who drop out of school, and subpar educational achievements. The policy encompasses the diverse assets found in rural communities such as indigenous knowledge systems which can be used to enhance learning and

teaching in rural schools. The policy recognises the role of the community and sense of belonging both to the community and the school and connectedness among stakeholders (Department of Basic Education 2018: 1). It is clear that the aim of this policy is to alleviate severe poverty in all of its forms, with a special focus on the quality of education, which should be inclusive and democratic.

Du Plessis and Mestry (2019: 1) state that rural areas include agricultural areas as well as tribal lands governed by traditional elders. Although the term rural typically conjures up images of areas where agriculture is the main source of income and sparsely populated. Dube (2020: 137) states that rurality can also apply to densely populated areas that are the result of colonial and apartheid-era land settlements. It is clear that rural areas are characterised by different factors compared to urban areas. Hence, the policy on rural education was developed. According to the Department of Basic Education (2018: 1), rurality is seen as an opportunity for educational reform rather than as merely a replication of metropolitan agendas and goals. Therefore, the three fundamental elements need to be infused in the curriculum during the implementation phase and should serve as a guide for curriculum development, provisioning, resourcing, and topic choice for rural schools:

- A curriculum that promotes a sense of place, pride and belonging in the school community but at the same time allows for individual mobility.
- A curriculum that recognises resource scarcity in rural areas but that acknowledges and harnesses the resources and knowledge that exists in rural communities. For example, environmental concerns and agriculture are core resources intrinsic to the lived experiences of rural communities.
- A curriculum that reflects the aspirations of the individual learner and the community while responding to the well-being and development needs of the community.

Setting rules, creating strategies, observing, and assessing the execution of the rural education policy are all responsibilities that fall under the purview of the Department of Basic Education. Due the different characteristics of each province in South Africa, each province is in charge of carrying out the policy, and they each set up national policies that are interpreted by a province rural education committee, creates implementation schedules, and organises provincial-wide initiatives supporting rural

education. Furthermore, policies at provincial level help secure the required financial, material and human resources to implement the policy. Each district's role in this policy is to establish a District Rural Education Committee to monitor and oversee the implementation process as well as supporting rural area the schools and come up with corrective measures were necessary (Department of Basic Education 2018: 1).

2.9 CONSUMER STUDIES

Consumer Studies, Tourism and Hospitality Studies are service subjects concerned with supplying several products and services to customers (Du Toit, Havenga and Van Der Walt 2016: 55). Consumer Studies and Hospitality Studies are related subjects as their content is similar, it contains topics such as food and nutrition, menu planning and costing, hygiene, safety and security (Department of Basic Education 2016: 6). South Africa's secondary education runs from 8th to 12th grades. The majority of secondary school students are between the ages of 14 and 18. Senior phase and FET phase are the two divisions used to describe secondary schools, where the senior phase is grades 7 through 9, and the FET phase is grades 10 through 12. Grade 12 is an equivalent exit to level 4 of the National Qualifications Framework (NQF) of South Africa (Department of Basic Education 2018: 1). Department of Basic Education (2017: 1) provides a list of 29 subjects that are recommended for inclusion in schools' subject offerings lists and are beneficial to the country. These subjects falls within separate classifications such as compulsory subjects (Life Orientation, Mathematics/ Mathematical literacy, First Additional Languages and Home Languages) and elective subjects (Consumer Studies/ Hospitality Studies, Physical Sciences, Tourism, Accounting and Life Sciences). However, vocational education subjects such as tourism and others are classified under optional subjects but not included in the list of designated subjects (Department of Education 2018: 1). The next section will discuss Consumer Studies as it is the subject of interest in this study.

Du Toit (2021: 7) stated that Home Economics began to be taught in South African schools in 1904. Over the years, it has gone by various names, including Domestic Science and Domestic Economy. The subject Home Economics was linked to entrepreneurship education in other countries, but not in South Africa (Department of

Basic Education 2018: 1). Later, Home Economics was replaced by Consumer Studies as one of the several educational reforms carried out following the 1994 nation's first democratic elections. Home Economics curriculum is included in Consumer Studies curriculum, but its emphasis is different from that of its predecessors. Du Toit and Kempen (2018: 189) state that Consumer Studies is one subject that has a potential of teaching learners about entrepreneurship in the current South Africa school curriculum. According to the Department of Education (2019: 1), Consumer Studies benefits South African society in a variety of ways, such as by fostering responsible consumer behaviour in learners and by providing them with numerous possibilities to improve their entrepreneurial skills. The present subject's name reflects this shift to a consumer-centered approach, 'Consumer Studies'. It also reveals that Consumer Studies has the potential to develop typical learners into entrepreneurs or consumers who are able to make informed decisions when entering a market.

2.9.1 Consumer Studies in other countries

Du Toit (2021: 8) in their study as they compared Consumer Studies with similar subjects in other neighbouring countries, revealed that Consumer Studies is not only a South African subject, but it is also part of the curriculum in neighbouring countries such as Botswana, Lesotho, Namibia, Swaziland and Zimbabwe. However, different names are used to refer to Consumer Studies in different countries and these subjects are also structured differently. Table 2.1 provides the range of names used in South Africa's neighbouring countries and how the subjects are structured.

Table 2.1: Comparison of South Africa’s Consumer Studies subject with similar subjects in neighbouring countries

NEIGHBOURING COUNTRIES	SUBJECTS SIMILAR TO CONSUMER STUDIES	DIFFERENCES IN SOUTH AFRICA’S CONSUMER STUDIES
Botswana	<ul style="list-style-type: none"> • Fashion and fabrics • Food and nutrition • Home management 	All combined into 1 subject
Eswatini	<ul style="list-style-type: none"> • Consumer science • Fashion and fabrics • Food and nutrition 	All combined into 1 subject
Lesotho	<ul style="list-style-type: none"> • Fashion and textiles • Food and nutrition 	All combined into 1 subject
Namibia	<ul style="list-style-type: none"> • Fashion and fabrics • Home economics 	All combined into 1 subject
Zimbabwe	<ul style="list-style-type: none"> • Food technology and design • Home management and design • Textile technology and design 	All combined into 1 subject, but Zimbabwe have incorporated technology into their curriculum

Source: Du Toit (2021: 6)

This demonstrates that the Consumer Studies curriculum in South Africa is current, which suggests that Consumer Studies is a crucial subject because nations would not include it in their curricula if it did not appear to be advantageous to the learner and the people of the nation. Home Economics is not just a subject taught in African nations; it is also taught in Slovenian secondary schools. Its main goal is to give learners the tools they need to deal with and overcome contemporary issues and everyday challenges, as well as to promote professional and personal growth and the development of fundamental life skills that learners cannot acquire at home (Erjavsek 2021: 36). However, in Dublin food literacy is the primary focus of Home Economics, and it is also an elective subject with the goal of developing learner’s understanding, values, attitudes and knowledge to achieve sustainable, healthy and optimal living for

each individual (Geraghty 2021: 11). It is worth noting that South Africa Consumer Studies curriculum covers a variety of themes including design aspects and concepts, fibres and fabrics, clothes, housing, and entrepreneurship. However, in Dublin home economics focus is on food and nutrition. Furthermore, this subject is optional in both Dublin and South Africa.

Home Economics in Australia aims to provide learners with the opportunity to learn and build skills to strengthen personal empowerment to act in everyday circumstances (Pendergast 2021: 16), which is comparable to Consumer Studies' goals in South Africa. Indonesia also offers Home Economics both in junior and senior secondary school as an optional subject and was designed to build morale and strengthen the character of learners through the study of normative behaviour (Kuswardinah, Setyaningsih and Nurmasitah 2020: 220). This is similar to South Africa since Consumer Studies examines consumer behaviour. These findings show that the goal of Consumer Studies or Home Economics is to produce learners who will be able to make wise decisions about their lives, whether they involve their eating habits, their buying habits, or their house management techniques. Around the world, the objective of Consumer Studies or Home Economics is the same.

The National Curriculum Statement (NCS) states that Consumer Studies educates secondary school learners about being knowledgeable and responsible consumers when it comes to housing, household equipment, food, furnishings and clothing. The aim of Consumer Studies is to encourage learners to make informed decisions and to make optimal use of their best resources in order to improve their well-being (Department of Basic Education 2011: 8). Figure 5.3 illustrates the structure of Consumer Studies.

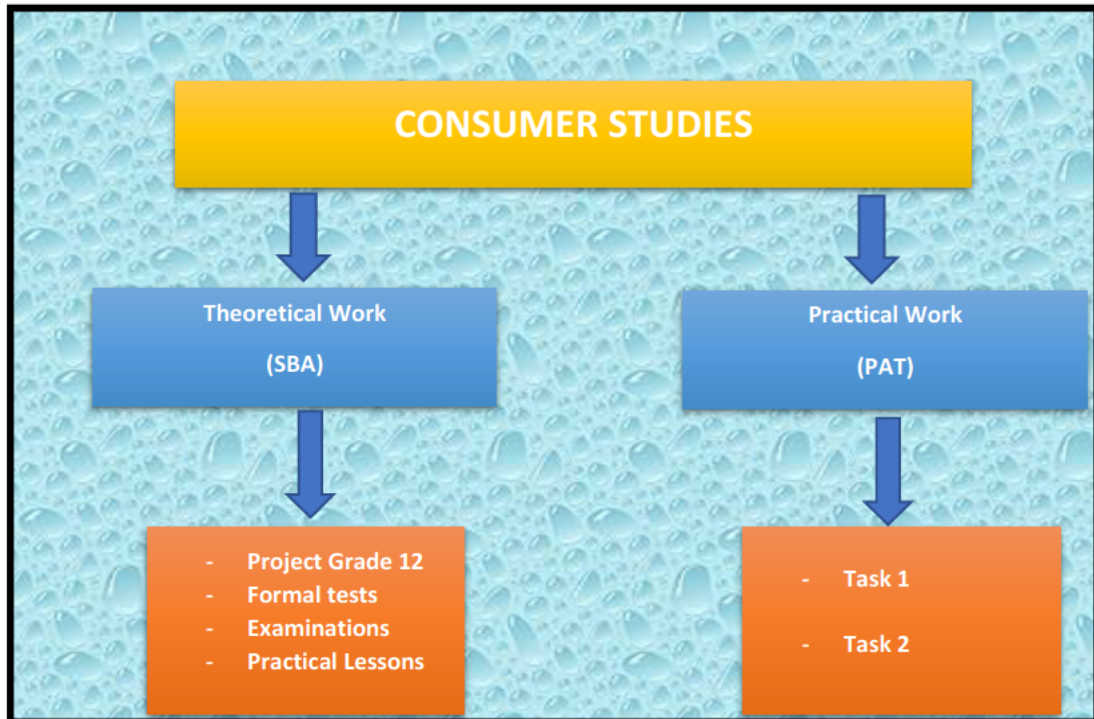


Figure 2.7: The structure of Consumer Studies
Source: Department of Basic Education (2017: 14)

According to the Department of Basic Education (2017: 1), the NCS Grade R–12 is a policy document that informs the National Education Policy. It is a policy that formulates curriculum frameworks, core syllabi and education programmes, learning standards, examinations and certification qualifications. Teachers are required to familiarise themselves with the three major documents for the successful teaching of Consumer Studies, namely:

- ***Curriculum and Assessment Policy Statement (CAPS) for Consumer Studies***
 - The CAPS document places focus on the goals and objectives of the subject, time allotments, resource management, lesson plans, assessment methods, practical assignments, reporting and recording, and assessment moderation (Department of Basic Education 2011: 4).
- ***NPA (National Protocol for Assessment Grade R-12)*** - The NPA document focuses on the different types of assessment, formal assessments' components, the final end-of-year exams, recording and reporting learner performance,

teacher files, management of school assessment records, management of school learner profiles, and assessment of students with special needs (Department of Basic Education 2011: 13).

- ***NPPPPR (National Policy Pertaining to the Programme and Promotion Requirements of the National Curriculum Statement Grade R-12)*** - The duration of the GET and concessions, approved subjects and their groupings and programmes, progression/ assessment/ recording and reporting, time allocation, study pathways, additional subjects/change of subjects, promotional requirements, scale of achievement, learners with barriers, and subjects not listed on NCS are all included in the NPPPPR (Department of Basic Education 2011: 13).

Resources are crucial for the effectiveness of Consumer Studies teaching, hence the Department of Education (2017: 19) stated that in order to follow the syllabus, teachers must develop lesson plans. Additionally, teachers need pacesetters for each grade level, work schedules, weekly plans, textbooks, recipe books, the internet, publications, and ICT materials. It is important to point out that without the right resources it may be difficult for teachers to successfully achieve the objective of the subject.

According to the Consumer Studies curriculum document, the school is responsible for providing the necessary facilities, resources, and funding for the subject, and the decision of which practical options are most feasible will be made by the school (Department of Basic Education 2017: 63). However, teachers of Consumer Studies in the field cite a number of obstacles that prevent them from implementing practical teaching successfully. Ngwenya and Shange (2019: 3) explored learners' views on the challenges encountered during practical work in Consumer Studies in a secondary school in KwaZulu-Nata. They found that learners faced numerous obstacles related to their practical lessons, including the lack of proper resources (such as financial resources, infrastructure, equipment and ingredients). Similarly, Mbhenyane (2019: 53) researched the sustainability of teaching Consumer Studies in Limpopo and noted challenges in rural schools such as inadequate resources, laboratories, textbooks,

facilities and skilled teachers. Du Toit (2018: 320) found that when there were no resources or supporting material for Consumer Studies practicals, such as ingredients for food production, the responsibility for creating a strategy to supply those resources fell on the teacher. These findings show that there is a big shortage of lack of resources for the hands-on component of Consumer Studies. If a school does not have fully equipped kitchen laboratory, for example, the objectives of Consumer Studies will not be met.

In addition to resources and material, the right pedagogies are also essential. Du Toit (2021: 5) mentioned that Consumer Studies teachers require clear, unambiguous, and comprehensive pedagogical direction because of how complicated the subject is and wide range of themes, as well as the practical skills necessary for the area of the subject that deals with production. Pedagogy is concerned with a subject's teaching and learning framework that should reflect how activities are meant to take place in the classroom (Shah 2021: 355). However, there is no general or subject-specific instructional guidance in the CAPS document for Consumer Studies. As a result, it is likely that teachers of Consumer Studies will lack knowledge of the best methods for teaching the subject as well as the skills necessary to use those methods (Ngwenya and Shange 2019: 3).

The Consumer Studies curriculum extends for 16 weeks, and the subject is clearly combined with the practical production component (Du Toit 2021: 2). According to Department of Basic Education (2011: 8), the Consumer Studies curriculum offers five distinct practical options from which schools can select one: knitting or crocheting, food production, patchwork quilting by hand, clothing production, and soft furnishings production. Du Toit (2021: 2) state that around 95% of schools in the country choose food production for Consumer Studies practical classes. Hence, the current study focused on the food production side of Consumer Studies as the Amathole East schools all chose food production.

2.9.2 Challenges encountered during the teaching and learning of Consumer Studies

Despite the fact that Consumer Studies is a practical subject that gives learners the chance to learn from real-world experiences, there are still numerous difficulties that both teachers and learners must overcome. Ngwenya and Shange (2019: 3) found that KwaZulu-Natal's schools face significant obstacles including a lack of resources for teachers and students, and inadequate school infrastructure, including poorly equipped kitchens. Additionally, they learnt that a lack of basic necessities like water and electricity and a lack of financing from the government make it impossible for schools to organise critical resources. Basically, practical activities cannot take place with lack of all the needed resources. Du Toit (2021: 5) mentioned that funding plays a huge role in proper teaching and learning of Consumer Studies, as ingredients, infrastructure and equipment are needed. Ngwenya and Shange (2019: 3) concurred that schools are facing funding issues as the department of education fails to fund the practical lessons of Consumer Studies. This clearly shows that finances are very important in ensuring the success of practical lessons.

Mbhenyane (2019: 53) raised the issue of a shortage of Consumer Studies teachers which may be due to a lack of marketing for the subject, which could lead to its abolition. It will be unfortunate if a lack of resources weakens Consumer Studies teaching and learning, discourages teachers, and reduces the possibility of achieving the desired success. It is recommended that the government begin doing its share to assist schools, and that schools and teachers develop fundraising concepts to fund this subject. Another challenge faced in the teaching and learning of Consumer Studies is ensuring that the curriculum is up to date, such as incorporating technology or OTL (Du Toit 2017: 172). This means that, it is very important to ensure that school curriculum keeps up with the current trends as they ensure that learners are able to meet the demands of the 21st century.

2.9.3 Career opportunities available for Consumer Studies learners

According to Du Toit (2021: 2), Consumer Studies is a wonderful subject because it gives learners the opportunity to develop their critical thinking skills as consumers and

their ability to make sound moral decisions. Faro (2021: 1) concurs, stating that the subject is highly distinctive since it emphasises the development of informed, ethical consumers rather than those who are only recipients of goods, so is based on the principle that the consumer's role is interactive and active rather than passive. Du Toit (2021: 3) further added that Consumer Studies fosters critical thinking about the worldwide supply and demand of commodities, which learners may utilise to make wise decisions. As much as Consumer Studies is a versatile subject it is important to note that this subject is not for people who want to pursue careers as marketer of products only. Consumer Studies subject can lead learners towards careers such as Consumer Studies teacher, dietician, human resources coordinator, stockbroker, insurance representative, financial planner, political lobbyist and social media manager (Faro 2021: 1).

The Department of basic education (2018: 5) highlighted the following careers opportunities, entrepreneurship, work in chain stores, consumer consultant, kitchen assistant, chef assistant, cook/prep cook/server/chef, cleaning supervisor, interior designer and decorator. In addition, Consumer Studies learners can also become occupational health and safety compliance officer as well as training officer. In agreement, Du Toit (2019: 32) mentioned that Consumer Studies subject offers a wide range of opportunities after secondary school education. This clearly shows that Consumer Studies subject is a versatile subject, and learners have many options to choose from after their school exit in terms of which field they might want to pursue.

2.10 CHAPTER SUMMARY

This chapter explained how OTL is a type of pedagogy that allows for the use of ICT, internet and networks. Furthermore, chapter 2 discussed the evolution of OTL, as the shorthand method started around 1728. This chapter also presented different definitions of OTL from various authors. Furthermore, the chapter explained the two types of OTL, namely, asynchronous and synchronous methods. The benefits and challenges of OTL were discussed, and suggestions were made for how to ensure the effectiveness of OTP. The department of education policies were discussed, and Consumer Studies subject is explained. In the next chapter, connectivism as the theory

driving the study will be discussed in detail and the discussion includes the learning theories that birthed connectivism theory. Moreover, the principles of connectivism theory in relation to education will also be discussed.

CHAPTER 3: THEORETICAL FRAMEWORK – CONNECTIVISM THEORY DRIVING ONLINE TEACHING AND LEARNING

3.1 INTRODUCTION

The previous chapter provided an overview of OTL which included the definition, evolutions, types, opportunities and challenges. To add, chapter 2 also touched on the relevant department of education policies. When starting a research project, it is very important for the research to provide a relevant theoretical framework that will guide the research study to connect research and education (Douglas 2019: 25). Furthermore, a theoretical framework guides the researcher into formulating the research objectives or research questions and assists the researcher to create their research conceptual framework to ensure an organised process of data collection (Chukwuere 2021: 2680). In the context of Consumer Studies subject, this subject has many different disciplines and applications which requires the teachers' understanding. Therefore, it is important for teachers to understand the theories related to the teaching of Consumer Studies online.

This chapter evaluates the connectivism theory, which served as the theoretical foundation for this study. Furthermore, to comprehend the development of the theory and the perspectives of other authors, the researcher reviewed available literature. This chapter further discusses prior theories as the connectivism theory was built on the foundation of previous learning theories. The chapter explores the principles of connectivism theory to build the understanding of the relevance of connectivism theory to this study and discusses the critique of connectivism theory. The chapter examines the teaching and learning requirements stipulated in curriculum documents guiding basic education. This literature survey has assisted the researcher in connecting the requirements of basic education curriculum and connectivism theory.

3.2 THE THREE MAJOR LEARNING THEORIES

The purpose of learning theory is to explain and facilitate our comprehension of how people learn and involves disciplines such as psychology, sociology, neuroscience, and education (Picciano 2017: 166). According to Corbett and Spinello (2020: 3), learning theories help teachers create effective learning environments and help learners of all ages get the most out of their educational experiences. Theories of learning strive to provide a basic approach for instructional design. Campbella, Craig and Collier-Reed (2020: 30) argue that learning theories offer insight into how learning occurs rather than the truth about how learning occurs. In the next section, the three major theories of learning are discussed, starting with a brief overview of these theories. This is crucial because learning theories help teachers understand how to apply their teaching strategies to accomplish the desired goals and ensure that they are sensitive to the requirements of their learners.

Table 3.1: An overview of the three major learning theories

	Behaviourism	Cognitivism	Constructivism
Focus	Learner behaviour during learning	Learner organisation of information	Learner interpretation of new information and application in real life
Process	Learning through reinforcement and punishment	Learning by rehearsing and recalling	Learning by constructing knowledge learnt from experiences
Application	During instruction, teachers employ tactics of reinforcement or punishment to hasten desired behaviour and deter bothersome behaviour in the learners.	Learners take control of the learning situation, to develop an understanding of the importance of the problem and realise the implications of the topic	The activities that learners engage in are relevant to their daily lives, and they connect the knowledge to their own experiences, beliefs, and attitudes to give it meaning.

3.2.1 Behaviourism theory

Ivan Pavlov (1849–1936), known for his studies on auditory cues like bells, dog conditioning and food has been recognised as being the father of behaviourism (Pashaliev 2022: 14). In his experiment, dogs learnt to identify the sound of the bell with the time for food or feeding time. In the twentieth century John Watson replicated

Pavlov experiment but argued that the role of the mind and consciousness in the learning process is minimal; he then emphasised that everything can be learned through the stimulus-response model (Picciano 2017: 167). B. F Skinner introduced operant conditioning which is based on the principle that positive responses that are reinforced are strengthened and are likely to re-occur (Maj 2022: 1).

Behaviourism theory is a well-respected strategy. For the majority of the twentieth century, behaviourism predominated in various methodological approaches (Gunnars 2021: 1). As its name implies, it focuses on learners' behaviour as it is observed when their activities result in action (Pashaliev 2022: 14) and is built on the idea of cause and effect (Picciano 2017: 166). Learning occurs when assessments are repeated until the learner achieves an understanding and outcome that is desirable (Sethosa 2021: 21). For example, a Consumer Studies teacher may show a learner how to measure flour for cupcakes, then the learner will get a chance to measure flour for cupcakes themselves and the learner will be able to measure flour for bread as well, so measuring of flour will be a repetition and the learner will be able to understand the fundamentals of measuring.

Sethosa (2021: 21) further explained that, based on behaviourism, when reward and punishment mechanisms are utilised as a vehicle to transfer knowledge and information to the brain of the learner, the learner is able to learn, and this results in learning. Salamah *et al.* (2020: 620) stated that behaviourism theory places a significant emphasis on learning outcomes, specifically the existence of behavioural changes that can be concretely observed, measured, and assessed. Going back to the example provided, the Consumer Studies teacher will then be able to assess the learner's understanding of measuring fundamentals in practical exams. Burhanuddin *et al.* (2021: 89) added that from a behaviourist standpoint, learners learn by being able to copy what was taught without contributing anything. Even if learners do not contribute it is still vital to reward them if they have done well.

Douglas (2019: 32) supported the statement by stating that rewarding learners for doing well with praise and commendations is an aspect of the behaviourist approach. Furthermore, using the operant conditioning strategies supported by Skinner, this

strategy encourages learners to act appropriately or strive for higher quality work. According to Sethosa (2021: 21), a behaviourist teacher assumes a more dominant and leadership role, transferring knowledge to the learner using methods that including distribution, explanation, communication, and mapping. Moreover, the teacher is also responsible for ensuring that the surrounding environment promotes learning. Hence, Ezenwa-Ohaeto and Ugochukwu (2021: 50) state that learning in behaviourism relates to the environment where learning takes place, and the environment has a significant impact on the level of learning of learners. This means that a positive learning environment plays a significant role in learning as it may increase learner's' motivation, engagement, and general learning ability.

Motivation, engagement and learning abilities are not the only outcomes of positive learning environment. Douglas (2019: 33) states that a conducive learning environment is also important and may influence discipline within the learning space. It is worth noting that the purpose of implementing discipline is to assist learners achieve their personal and learning goals by teaching them limits and boundaries as learning is impossible without discipline. The teaching and learning of Consumer Studies require a disciplined environment. Consumer Studies has a practical component which requires discipline in terms of time because time in the kitchen is limited as most schools start at 8:00am and end at 14:30pm. Discipline is of the essence to be able to achieve the outcomes of the day. In summary, Al-Shammari, Faulkner and Forlin (2019: 409) point to the following key principles of behaviourism that support education: behaviour is anything that is learned, the type of setting may influence behaviour, without learning, teaching cannot take place, behaviour may change due to learning, the consequences of actions determine behaviour, and the observable must be the main focus.

Sethosa (2021: 22) highlighted that some schoolteachers are comfortable with the use of behaviourism theory as it allows for a quick transfer of knowledge but does not allow learners to share their experiences. Behaviourism fosters passive learning in a teacher-centred setting (Alahmad 2020: 1587). Furthermore, behaviourism allows learners to learn about straightforward external or internal stimulus interactions. Behaviourism theory does not consider the fact that learners have different learning

styles (Ezenwa-Ohaeto and Ugochukwu 201: 50). Thus, behaviourism is a good theory for examining learner's outward behaviour and how their primary environmental inputs shape their behaviour, however, it is insufficient for understanding how a child thinks and feels, how they process their thoughts patterns, and how they acquire knowledge. Therefore, behaviourism theory does not support OTL as online learning requires learners to be independent and be able to learn away from the teacher.

3.2.2 Cognitivism theory

In simple terms, cognition is the process of thinking and information acquisition, i.e., is the process of gathering data through observation, reasoning, imagination, memory, judgement, problem-solving, and focused attention (Alahmad 2020: 1584). Cognitivism theory emphasises that the human cognition is the ability of individuals' being able to differentiate what is right or wrong and the core premise of cognitivism concerns how humans think and learn (Malik 2021: 57). According to Alahmad (2020: 1584), the first psychologist to do a thorough investigation of cognitive development was Piaget (1936). Chatterton (2020: 195) concurred that Piaget and Bloom had an influence on cognitivism, which focuses on the mental processes that occur when learning is taking place. The cognitivist approach differs greatly from behaviourism in that it focuses on mental processes and attempts to unlock the 'black box' of the mind in order to understand how people learn Van den Berg (2017: 77). Thus, behaviourism is more focused on the behaviour of learners while learning and cognitivism is more focussed on how the mind processes learning.

According to Piaget, learners use the components of knowledge called schemas and he defined schemas as the parts of the brain that react to sensory input that learners can use to construct, explain, and comprehend the environment they are in, which results in the development of their knowledge (Sethosa 2021: 22). Piaget stressed that it is crucial that a cognitivist teacher designs courses and tests taking into account how each learner develops uniquely, rather than basing them on the average of peers their own age. Hence, Consumer Studies teachers are required to have lesson plans for each lesson to be able to accommodate learners in different development phases. During the development of the theory, Piaget wanted to measure how well children can count,

spell and solve problem so that he could grade their I.Q., and he was more interested in how essential ideas like the concept of time, space, quantity, causality, justice, and other conceptions evolved (Alahmad 2020: 1584). Although the cognitivist theory differs from the behaviourist theory in its explanation of learning and knowledge, it does not wholly discard behaviourist ideas. Whereas cognitivists consider knowledge as images of the world that are not visible and stored in active networks in the mind, behaviourists exclusively describe knowledge as behaviours that may be seen from the outside (Sethosa 2021: 22). Alahmad (2020: 1585) stated that the goal of cognitivism theory is to elucidate the methods and processes by which a child develops into a person who can utilise hypotheses to reason and think as they progress from being a newborn to a toddler.

Cognitive development is a gradual restructuring of mental functions brought on by biological maturation and contextual experience and does not address learning of knowledge or particular behaviours because it is development-focused rather than focused on learning per se (Alahmad 2020: 1585). While the learner is free to participate in learning, cognitivist teachers promote learning by providing a variety of experiences (Sethosa 2021: 22). A cognitivist teacher in a Consumer Studies class will teach a concept to the learners and allow learners to engage by giving examples and allowing learners to share what they know. Furthermore, a cognitivist teacher shares experiences with learners to ensure that they understand concepts. Masethe, Masethe and Odunaiké (2017: 4) found cognitivism theory to be advantageous as it encourages learners to investigate course materials and actively create their own knowledge. From the cognitivist perspective, a teacher must make connections between what is known and what is being taught in order for learning to take place (Sethosa 2021: 23).

One of the criticisms of cognitivism theory is that it refers to cognitive functions that cannot be observed as individuals have different experiences and attitudes (Ahmad, Sultana and Jamil 2020: 22). Alahmad (2020: 1589) mentioned a few of the limitations of cognitivism theory, the first one being that the cognitivism theory has the flaw of ignoring other elements that have been demonstrated to have an impact on behaviour. The author provides an example based on Palmer and Hollin's study on moral reasoning and decision-making behaviours in criminals in which the authors assumed

that the difference between why the control group were not criminals and the experimental group was, was because of cognitive decision-making differences. Piaget did not consider educational, cultural and social effects on the cognitive development of children (Alahmad 2020: 1589). Masethe, Masethe and Odunaike (2017: 4) argued that when a task is completed, a learner gains knowledge, but cognitivists neglect to think that it might not have been the best method for them.

3.2.3 Constructivism theory

For the past 20 years, constructivism has had a significant impact on education across the globe (Oanh and Nhung 2022: 97). Constructivism is regarded as an educational theory as it provides a framework of how learners learn (Chibani and Hajal 2017: 371). The constructivist learning theory states that by developing meaningful interpretations of their real-world experiences, learners actively participate in the process of acquiring knowledge (Funa and Talaue 2021: 251). Mohammed and Kinyo (2020: 96) agreed that constructivism is a theory of knowledge and learning as well as of how learners construct knowledge. This implies that learners generate knowledge on their own and add newly found information rather than just absorbing information passively.

Learning is defined by the constructivist theory as a process of creation, and instruction is intended to assist that production rather than to try to convey knowledge (Sethosa 2021: 24). Constructivism theory depends on assimilation and accommodation (Sarbah 2020: 3; Hanfstingl *et al.* 2021: 1) and directly effects natural selection and evolution in an epigenetic sense. Sarbah (2020: 3) was of the view that assimilation is the process by which new experiences are integrated into one's past; accommodation, on the other hand, is the process by which new experiences are modified to meet one's preexisting mental capacity. The author stated that it does not matter how one is taught, how learners interact with the world and reflect on their interactions, or how they build their own models and incorporate new information into their existing knowledge. According to constructivism, understanding and experience of the learner serve as the foundation for all knowledge (Sarbah 2020: 3).

According to this theory, a learner's ability to create new knowledge can be influenced by both their prior knowledge and their social interactions with those around them

(Mohammed and Kinyo 2020: 92). Constructivism has a significant impact on how learning results are interpreted and how learning environments are created (Oanh and Nhung 2022: 97). This suggests that learners may learn a lot based on what is happening around them, as they are able to apply what they see or learn in their learning. Through the use of a constructivist methodology, learners are engaged in activities that are related to their daily life. Learners build knowledge and give it meaning as they connect the information to their own experiences, beliefs, and attitudes (Ahmad, Sultana and Jamil 2020: 22). Constructivists contend that people build meaning and acquire knowledge based on their experiences and interactions with the outside world (Sarbah 2021: 3; Ahmad, Sultana and Jamil 2020: 22). Meaning, the learner adapts the material by interpreting new information in light of his or her past beliefs, attitudes, and experiences. According to constructivist theory, learners actively engage in the learning process, which is different to behaviourism theory where learners' contributions and views are not considered (Chibani and Hajal 2017: 371).

Constructivism is a powerful theoretical framework that may be used to create classrooms that enhance learner learning (Oanh and Nhung 2022: 97). Regardless of a learner's race, cultural background, or language, the learning process is the same and the foundation is comparable (Chibani and Hajal 2017: 371). Constructivism encourages teachers to respect and promote learners' initiative and autonomy, pay attention to learner feedback and adapt their instruction, accordingly, encourage learners to ask questions, present new concepts they learned in class to their peers, and encourage learners to consider the unpredictability of their knowledge (Mohammed and Kinyo 2020: 96; Chibani and Hajal 2017: 371). This approach results in teachers being able to inspire higher levels of thinking where learners are able to summarise concepts by predicting, analysing and preserving their ideas and are then able to solve real-life problems.

According to Sarbah (2020: 3), the role of the constructivist teacher is to help learners develop into knowledge creators who can recognise, investigate, and reflect on their own and other learners' points of view. They should also be able to solve issues. Matriano (2020: 215) defines the constructivist teacher's role in practice as the ability

of teachers to guide learners towards constructive learning and to foster an environment in the classroom that encourages thought-provoking and stimulating enquiries. This is worth noting as it suggests that Consumer Studies teachers need to take into account the various learning styles of their learners and devise teaching strategies that will work for all types of learners. Learners can exchange, debate, and spread information through OTL. Owing to the abundance of knowledge on the internet, the teacher must ease access to material that is thought to be relevant. In light of the large number of learners who are proficient in technology and are fascinated by the prospects that it provides, according to constructivists, ICT can improve teachers' passion, assertiveness, and ability to keep learners' interest and attention by facilitating successful teaching and learning (Akpan *et al.* 2020: 50).

According to Funa and Talaue (2021: 251), there are three constructivism strands, namely: cognitive, radical, and social, all of which impact constructivist pedagogies. Lev Vygotsky introduced social constructivism and explained how learners interact socially with others to give the material they are learning meaning. Vygotsky (1978) explained the zone of proximal development (ZPD), stating that this is the area where a learner tries to develop the degree of meaning on their own but can produce even greater results when interacting with peers and teachers (Ahmad, Sultana and Jamil 2020: 22). Constructivist pedagogies and the three strands have similar fundamental concepts, although they may have different peripheral principles. The combination and justification for the inclusion of specific principles that have been put out by theorists over time define a constructivist education (Funa and Talaue 2021: 251). Oanh and Nhung (2022: 97) state that constructivism is not a key to all doors but is crucial for understanding learning results and creating environments that promote learning. The roles of knowledge creation and facilitation are shared by teachers and learners. In order for learners to take responsibility for their actions, instructors need to urge them to deepen their learning and articulate their own viewpoints. According to Shah (2019: 1), cooperative learning, project-based learning, inquiry-based learning, and other challenge-based learning methods all play to the shared character of learning and are theoretically grounded in modern constructivist theory.

One of the limitations stated by Boyraz and Ocak (2021: 1122) is that constructivism theory approaches learning from an individual perspective. Furthermore, the author states that this theory dismisses the possibility of learning outside of human beings and emphasises learning processes but downplays the importance of what is taught. Srivastava and Mishra (2021: 20) highlight that constructivism places more focus on knowledge. Sirghea (2020: 154) concurs, writing that the constructivist approach is more of a philosophy of knowledge as opposed to learning theory. Sethosa (2021: 25) states that constructivism views the concept of the social construction of learning but falls short of describing how the learning process may take place in an organisation setting.

Siemens (2005: 2) states that the rapid advancement of new technologies and the association of previous ideas have permanently transformed methods and expectations regarding the acquisition of knowledge and emphasises that traditional theories of learning have fallen short of meeting the needs of learners in the twenty-first century. The researcher believes that meeting the demands of learners in the twenty-first century by integrating OTL in the Consumer Studies subject is crucial.

3.3 CONNECTIVISM THEORY

Connectivism theory was founded by George Siemens in 2004 (Downes 2022: 58). Corbett and Spinello (2020: 2) stated that Siemens designed connectivism as an alternative form of learning that supports a changing environment and responds to the evolution of technology in the education context. OTL uses technology and digital tools, including networking, to receive and share information between learners and teachers at any location. Downes (2022: 59) believes that the idea behind connectivism is that learning is the process of creating and navigating networks of connections, which is how knowledge is distributed. The father of connectivism, Siemens (2005: 4), said: “connectivism is the integration of principles explored by chaos, network, and complexity and self-organisation theories”. Moreover, Siemens (2005: 4) emphasised that learning is a process that takes place in uncertain surroundings with changing elements and is not totally within an individual’s control. Sethosa (2021: 19) states that the term ‘learning community’ as used by Siemens refers to a node that develops

from connecting points in a network and could comprise websites, journals, libraries, businesses, or other information sources.

Siemens (2005: 4) mentions the exploration of chaos in his explanation of connectivism theory, that chaos is the collapse of predictability demonstrated by complex configurations that first defy order but then one recognises connections of everything to everything (Siemens 2005: 4). Siemens (2005: 4) defines a network as being the relationships between entities, such as the connections or relationship between learner, teacher and learning material, or learner, teacher and OTL system. Siemens further defines nodes as being anything that can connect to other objects such as webpages, people, books etc. (Downes 2022: 60). Thus, the theory of connectivism holds that learning occurs when connections, or links are made between different nodes of knowledge. According to Sethosa (2021: 20), the basic goal of connectivism theory is to comprehend how people learn most effectively through social interactions in technologically advanced environments. Boyraz and Ocak (2021: 1126) concur, stating that connectivism is designed to offer access to technologies using network at any location and connectivism learning theory can be used to manage corporate e-learning. In addition, connectivism recognises how technology has altered how humans live, communicate, learn and see the world (Hendricks 2019: 4). Hence, connectivism theory is the most relevant theory to guide this study as the intention is to develop a model that will be applied in practical components of the Consumer Studies subject with the integration of OTL to enhance teaching and learning since the world is now driven by technology.

Recently, technology has evolved into a crucial tool used in practically every sphere of business, providing learners and teachers with an effective tool to support and enhance learning and teaching. This is the reason why learners today are engaged in the realm of interactive technology such as smartphones, computers and television on a daily basis and are regarded as digital natives (Harrell and Bynum 2018: 13). Before technology, the three major theories of learning namely behaviourism, cognitivist and constructivism were considered viable for different environments of learning (Picciano 2017: 166). In the last century, behaviourism theory dominated in educational psychology where human behaviour was defined in terms of automatic

responses to stimuli. However, behaviourism was criticised for not including human cognition. Cognitive theory was designed to explain the importance of human cognition in thought processes and behavioural modifications (Waseem and Aslam 2020: 25). In addition, constructivism theory emphasised that individuals learn and derive meaning from their experiences (Funa and Talaue 2021: 251; Maj 2022: 1). Before analysing connectivism theory, it is crucial to gain a deeper grasp of the main learning theories because it was built on these theories.

3.4 PRINCIPLES OF CONNECTIVISM THEORY

According to Cleary (2021: 13), connectivism theory is not intended to be a replacement for previous learning theories, but rather a means of describing the new ways in which learning can be managed online. Siemens` connectivism learning theory is built on eight principles that reflect societal seismic shifts and emphasise the learner`s ability to find information dynamically rather than focusing on fixed knowledge acquisition (Utecht and Keller 2019: 108; Cleary 2021: 13; Corbett and Spinello 2020: 3). The eight principles of connectivism are outlined and explained in Table 2.2.

Table 3.2: Connectivism principles and their relationship to education

PRINCIPLES OF CONNECTIVISM	MEANING
1. Learning and knowledge comes from a variety of ideas	<ul style="list-style-type: none"> • Learners come with different backgrounds. • Learners are already connected to different networks.
2. The capacity to know more is more important than what is known	<ul style="list-style-type: none"> • Learners should be familiar with the best tools and resources associated with the required knowledge.
3. Learning is a process of connecting specialised nodes or information sources	<ul style="list-style-type: none"> • The exercise should make use of a variety of information sources.
4. Learning can also come from non-human factors	<ul style="list-style-type: none"> • Learners should try to reach information from sources other than teachers in order to reveal student centredness. • Learners should understand their role as knowledge producers. • Learning occurs inside and outside classroom.
5. Establishing and maintaining connections is essential to stimulate learning. Knowledge is constantly increasing and changing. Therefore, learners should abandon old and unnecessary information and learn new and important information	<ul style="list-style-type: none"> • Learners need external networks and connections with the same interests.
6. Ability to see connections between fields, ideas, and concepts is a core skill	<ul style="list-style-type: none"> • The information sources may be people, books, articles, databases, social media and journals
7. Knowledge is constantly increasing and changing; therefore, you should abandon old unnecessary information and learn new and important information	<ul style="list-style-type: none"> • Conceptual knowledge constantly changes and differs according to time and place.
8. Any information in the database should be linked to the right people to the right extent	<ul style="list-style-type: none"> • Learners should determine learning with suitable resource. • Learners should have the skill to organise information according to its importance.

Source: Boyraz and Ocak (2021: 1125)

These connectivist principles imply new responsibilities for teachers, with teachers' task being to assist each learner in creating and connecting the right nodes in their learning networks. In addition, teachers should point learners towards relevant materials and other authorities while also developing situations that encourage ongoing learning (Kizito 2016: 20). According to Siemens (2005: 3), technology plays an important role in this learning process because it impacts cognitive activities that

learners have previously performed, such as retrieving, organising, and storing knowledge, through media forms and platforms. Thus, it will be beneficial for a Consumer Studies teacher to record practical procedures for learners and store these in a CD or upload them onto a learning management system (LMS) software so that learners can be able to access them at their most comfortable environment and times. In addition, learners will be able to keep going back to the material for reference and practice. Kizito (2016: 20) stated that a framework is needed to create connectivist learning environments that promote interaction and cognitive engagement. Hence, this study sought to develop an OTL tool that can assist Consumer Studies teachers and learners to incorporate OTL in their curriculum. Cleary (2021: 14) mentions that the aforementioned concepts must be thoroughly understood by teachers in order for them to be able to create learning activities and settings in an online program that are linked and relate to the academic socialisation activity. Thus, teachers can use connectivism to theorise about modern learning scenarios.

The implication of the principle “learning can also come from non-human factors”, is that knowledge can be contained in non-human technologies that can be handled and retained by people, which is why it is critical to cultivate and sustain ties between network members (Sethosa 2021: 30). Due to the changing world and new emerging information, it is advisable for Consumer Studies teachers to keep their material up to date. This statement is supported by Corbett and Spinello (2020: 4) who state that information changes over time and does not remain the same. Sethosa (2021: 30) emphasises that the purpose of connectivism learning theory is to ensure that nodes can get correct and up-to-date knowledge, with current information availability being the most important component. These principles are appropriate as peer interaction activities can be developed using these ideas in both online and face-to-face settings. Learners in a Consumer Studies class will benefit from such an approach as they will be able to learn in and outside the class.

3.4.1 Supporters of connectivism learning theory

The most compelling reasons for including connectivism as a learning theory are its utility, stated assumptions, and beliefs. The unique and novel set of notions regarding

how the knowledge cycle occurs within a network is extensive, fascinating, and internally consistent (Corbett and Spinello, 2020: 4). According to Kizito (2016: 21), connectivism has provided an explanation for how individuals build their own personal networks in order to learn. It is clear that, connectivism has clearly created a framework for action on how links between information sources enable continuous learning while promoting a new learning and thinking environment assisted by technology. Connectivism has added new vocabulary to the study of learning that was previously unrelated to the field of learning theory by appropriating important concepts from other theories like network theory (Korkmaz and Toraman 2020: 294). Furthermore, research supports the effectiveness of connectivism and technology-enhanced learning (Mattar 2018: 210; Downes 2020: 98).

Alam (2023: 13) in their literature review based on connectivism theory, suggested that connectivism theory supports new and innovative approach to learning with the use of networks and technology. This implies that, connectivism learning theory support the adoption and implementation of OTL. In addition, Hendricks (2019: 11) supports the connectivism learning theory as it has destroyed the erroneous ideological perceptions of education that are held by privileged people. But opens up new avenues of teaching and learning that takes place online to accommodate the previous excluded due to isolated or remote areas. This shows that, connectivism theory is the best theory for this digital era and it allows for different pedagogies to equip learners with skills to compete on global level.

3.4.2 Opposition to connectivism theory

Although connectivism has provided many useful explanations for learning as a phenomenon and approaches to promote change in human potential, it has combined principles from a wide range of previous learning theories, making it harder to pinpoint its distinctive contributions (Corbett and Spinello 2020: 5). Fuchs (2021: 117) argues that connectivism learning theory is not a learning theory because it remains at the educational program level rather than the educational institution level. The author continued to explain that in contrast to other learning theories, connectivism is a pedagogy. Boyraz and Ocak (2021: 1127) state that connectivism theory is still being developed. As technology evolves, the theory of connectivism will also evolve as it is driven by the digital world. According to connectivism theory, all learners have access to the technology required to link, communicate, and exchange information in a classroom atmosphere (Sethosa 2021: 31). However, in the South African context, this assumption is unrealistic as the majority of underprivileged schools have no access to the internet and technology. Hence this study aims to develop an OTL tool that will be suitable for schools in the Amathole East district as it is dominated by rural schools.

Voskoglou (2022: 260) acknowledges that learning theories created before these global shifts are less applicable because the world has changed and become more networked. He contends, however, that a model that incorporates the various theories is what is required to direct the creation of online learning resources rather than a brand-new, stand-alone theory for the digital age. The author further states that connectivism theory overlooks some ideas that are essential to learning, including reflection, failure-based learning, error identification and repair, and inquiry. Cabrero and Román (2018: 40) mentioned that connectivism learning theory should not be deemed as a new theory and should be taken as an expansion to prior learning theories. In addition, Zheng, Chen and Burgos (2018: 279) argued that after learning is constructed, connectivism is unable to explain how the data contained in the nodes is incorporated into the network's pre-existing knowledge structure. Meaning, connectivism theory does not adequately explain how learnt information is kept in the nodes is integrated into learners existing knowledge structure within the network after learning occurs.

3.5 APPLICATION OF CONNECTIVISM THEORY IN CONSUMER STUDIES

Connectivism is a model of learning that takes into consideration changes in learning. The social world of the learners is changing rapidly so the methods and approaches of teaching also need to be adjusted to help them learn (Sirghea 2020: 154). Connectivism in Consumer Studies may help students learn in a way that makes sense to them and makes it easier for them to access information as they acquire knowledge in ways that are relevant to their daily lives. (Douglas 2019: 33). Corbett and Spinello (2020: 3) stated that the connectivism hypothesis emphasises that knowing where to obtain knowledge is equally as important as the knowledge itself and is based on the premise that knowledge exists in the world rather than only in the brain.

According to Douglas (2019: 32), the digital age as the present global phenomenon, is the foundation of connectivism. It deals with sophisticated learning in a setting where things are always changing. Through pattern recognition and the concept of learning as a network, connectivism emphasises the role of cultural and social aspects in the learning setting. With the help of connectivism, people can learn more than we already know by linking specialised information sets (Siemens 2005: 6). In the opinion of the researcher, because it connects specialised information sources and gives students the ability to connect multiple subjects, ideas, and Consumer Studies concepts, connectivism is a crucial philosophy in education.

Connectivism is the same as constructivism, these two theories embrace the concepts of learner centred and the ability of learners to build knowledge on their own. Since connectivism offers previously unexpected new opportunities in the teaching and learning environment, it serves as an illustration of how things can change in time. George Siemens (2005: 6) and Stephen Downes (2010: 33) established connectivism theory for people to comprehend the idea of learning in the world driven by digitals. Connectivism was defined as a learning process that explores and integrates chaos, networks, and complexity and derives knowledge from various viewpoints connected in the networks (Siemens 2005: 6). Meaning, learning and knowledge are acquired

through networked social learning when a learner come in contact with information and shares this information with the learning community (Douglas 2019: 33). In light of the fact that connectivism is technology-driven and that the world is continually changing as a result of technological advancements and applications, this learning theory is suitable for secondary school learners.

Connectivism, according to Siemens, technology and socialisation can affect how people learn, and this means that social advancements should be taken into account in educational needs and theories (Siemens 2005: 6). In agreement, Douglas (2019: 33) states that connectivism is regarded as socially networked learning. Hence, Mahlambi (2021: 477) mentioned that socially networked learning encourages learner engagement in class and group effort to share knowledge. Because the connectivism theory's principles apply to the current study, the researcher believes that connectivism it is a suitable theory. Furthermore, since the use of technology and learner interactions enhance learning, it is crucial for teachers to take into account the diversity of learners in the classroom. In order to support learning, the Consumer Studies teacher should try to connect many information sources and determine how learners will participate and complete Consumer Studies assessment is essential for classroom learning activities. This means that, during the Consumer Studies lesson, the teacher should opt to encourage participation and engagement. Corbett and Spinello (2020: 3) propose that connectivism enables learners to learn by joining nodes on networks, arguing that knowledge can come from numerous domains rather than just one location. This is especially relevant when several people are looking for material connected to a shared interest and sharing their knowledge of the idea that enables learners to link or connect previously learned information to current information by utilising technology. However, it is crucial that it is used effectively and used to build on the learner's past knowledge rather than just introducing them to new knowledge. Technology may tremendously aid in this process and provide value to the teaching and learning of Consumer Studies.

Siemens (2004) is one of the massive open online courses (MOOC) pioneers and he has been an advocate of connectivism. Furthermore, MOOC differ from traditional face to face teaching and learning as they are open to anyone at any time in different

location (Froehlich, Wuhrl and Hobusch 2023: 98). This learning theory called connectivism acknowledges that there have been significant changes in the way that knowledge and information have flowed, expanded, and changed as a result of massive data communication networks (Utecht and Keller 2019: 108). This theory supports teaching and learning through changing environment and situations. This theory encourages the adaptability of teaching and learning activities to accommodate unforeseen or changing environments. For example, recently the world experienced the COVID-19 pandemic and the education sector had to continue with teaching and learning activities to achieve set objectives without physically being in school premises. Due to changes in internet technology, learning is now more frequently done in groups, communities, and in front of big crowds. Kizito (2016: 21) defined learning as information that can be put to use, further explaining that learning can exist outside of us, for example, in databases that connect particular information sets, and the relationships that help us learn more and are more significant than what we already know (Siemens 2004: 6). Siemens noted that the dynamics of information flow serve as the connectivism theory's driving force. Therefore, learners must be given the knowledge of how to navigate and recognise vast bodies of constantly evolving and changing information (Rapanta *et al.* 2020: 925).

Boyraz and Ocak (2021: 1122) see connectivism as a reflection of our dynamic society, which is multifaceted, interconnected, and influenced by technological growth. The learner will join to a network to share and find new information, change their beliefs in response to that new learning, and then reconnect to that same network to share their successes and find new information once more. As a result, the learning process is cyclical (Picciano 2017: 166). Siemens stated that learning is the process of creating knowledge rather than consuming knowledge. Furthermore, he mentioned that the ability to see the connections between fields, ideas and concepts is a basic skill. Basically, connectivism is guided by the reality that decisions are made in the context of a constantly changing foundation. Therefore, it becomes required to be able to pick and choose what is important, recognise when new knowledge will affect what is known, and be able to reorient information and reconstruct learning (Boyraz and Ocak, 2021: 1124). Connectivism theory supports the change in teaching and learning

due to changing environments and society. This study employed connectivism to analyse how well Consumer Studies teachers might incorporate technology and classroom socialisation into their lessons.

Studying Consumer Studies means grasping intricate market dynamics, comprehending consumer behaviour, and understanding economic principles. This entails combining information from various sources like market reports, academic research, and real-time data (Goldie 2016 :1065). Therefore, connectivism emphasises the importance of accessing and integrating varied opinions and data sources, which is crucial for comprehending the multifaceted nature of consumer behaviour. In addition, Consumer Studies benefits from a networked learning environment where students can interact with peers, experts, and various informational nodes through online platforms (Kop and Hill 2008:10). This means that connectivism supports the idea that learning happens through the formation of networks, allowing students to connect with industry professionals, participate in discussions, and access a wide range of online resources. Furthermore, Consumer Studies is a dynamic discipline, with quickly shifting trends and consumer habits. Keeping up with the newest market trends, technologies, and client preferences is critical.

In this study, the ability of Consumer Studies teachers to incorporate technology and socialisation into Consumer Studies curriculum activities has been studied using connectivism theory. As delimited above, connectivism can promote connections between teachers and learners in order to increase learner involvement and engagement (Corbett and Spinello 2020: 3). Learners and teachers will be able to use knowledge and information from different sources in Consumer Studies teaching and learning activities. Considering the circumstances that prevailed through the COVID-19 pandemic and possible future scenarios of a similar nature in the future, teachers must align learning assessment in Consumer Studies with the use of social and technological tools available to them. This theory is applicable in today's teaching and learning process all educational institutions worldwide adopt online and blended learning, a trend spurred by the COVID-19 pandemic. In order to prepare learners for relevance in the era of the Fourth Industrial Revolution, this theory must be thoroughly applied in teaching and learning at the secondary level.

3.6 CONNECTIVISIM SUPPORTING CONSUMER STUDIES CURRICULUM

Learners in Consumer Studies learn how to become an informed and responsible consumer of household goods, clothing, housing, furniture, and food. Consumer Studies teaches learners how to make well-versed decisions and make the greatest use of resources in order to improve human well-being. Learners have the ability to develop and promote various components of the course's practical component (National Curriculum Statement 2011: 8). Consumer Studies can significantly impact South African society in a variety of ways, including, but not limited to, providing learners with several chances for entrepreneurial learning (Du toit 2019: 29). Du Toit and Kempen (2018: 2) mentioned that the only subject in South Africa's current curriculum that offers educational opportunity through entrepreneurship is Consumer Studies.

The Consumer Studies curriculum's goal is to ensure that the knowledge, skills and abilities that learners acquire and develop to better their lives (National Curriculum Statement, 2011: 8). In this regard, the curriculum promotes knowledge in local contexts, while being sensitive to global imperatives. Connectivism theory suggests that it is important to ensure that learners acquire skills and knowledge according to where the world of teaching and learning is at, meaning the learners needs skills to work with technology and networks to be able to acquire the skills needed to survive the fourth industrial revolution (Picciano 2017: 166). Douglas (2019: 33) stated that connectivism theory is relevant to this study because it encourages collaboration and group discussion, for the use of different understandings and perspectives in problem solving and decision making, and helps learners understand new content. Therefore, connectivism theory is in line with the Consumer Studies curriculum as the curriculum aims to generate learners who use science and technology effectively and critically while taking environmental responsibility.

Du toit (2019: 29) states that one of the principles of Consumer Studies curriculum is social transformation, which emphasises the social factors in the learning context, encouraging learners to learn from others through networks. According to the National

Curriculum Statement (2011: 8), the Consumer Studies curriculum comprises of both practical and theoretical work that must be done concurrently. A difficult teaching situation is created when theoretical and practical knowledge is taught and learned at the same time. It is quite difficult to provide practical teaching outside of the classroom. However, connectivism theory incorporates technology, implying an combined, holistic method to teaching and learning in Consumer Studies education.

3.7 CHAPTER SUMMARY

In this chapter, connectivism theory was discussed in detail as it is the theory guiding this study. Connectivism theory drew its strength from the three learning theories, behaviourism, cognitivism and constructivism theories. This theory incorporates technology and the use of OTL. In addition, this theory encourages independence in learners and takes the social component seriously. The next chapter covers the methodology of the study.

CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY

4.1 INTRODUCTION

This chapter explains the research experience and methodological approach used to conduct research. Research methodology refers to the way research should be conducted, including philosophical and theoretical assumptions which research is based on and the implications of the adopted methodology (Mutsvene 2018: 108). Du Plooy-Cilliers, Davis and Bezuidenhout (2021: 12) added that research methodology is a navigation tool that guides the researcher before implementing the research activities, and it is the philosophy and principle that guides the entire research. Research methodology guided the research to the study's aim which was to explore the efficacy of an OTL in the practical component of Consumer Studies in selected schools in the Amathole East district. This process was guided by the objectives and research questions of the study which included the impact of COVID-19 on teaching and learning, examination on how the quintile 1 to 3 secondary schools in the Amathole East district apply the policies and guidelines, how is online teaching and learning used in Consumer Studies, teachers needs and the development of online teaching and learning tool for practical component of Consumer Studies.

The mixed methodological epistemology underpins the current study's research strategy using triangulation to support reliability and validity of the current study. This chapter discusses the research methodology, research philosophy, approach to theory development, methodological choices, research strategies, time horizon, techniques and procedures. In addition, this chapter discusses methods used to collect data and the research development is explained. The researcher further discussed how data was analysed together with the tools used. Steps taken to ensure that the study is authentic, reliable and valid were also discussed in this chapter.

4.2 RESEARCH METHODOLOGY AND DESIGN

It is important to understand what research is and to understand the research process. Scholars and researchers have defined research in many different ways according to their different fields over the years. Table 4.1 presents definitions of research by different authors.

Table 4.1: Definitions of research

Author	Definition
Kumar, 2008	“Research can also be defined as being a systematic process of discovery and advancement of human knowledge. It should solve a problem or make an innovative contribution to the existing body of knowledge”
Thomas, Nelson and Silverman, 2011	“Research is a careful and systematic way of solving problems and gaining new knowledge”
Kabir, 2016	“It may be defined as a scientific and systematic search for pertinent information on a specific topic/area”
Osuagwu, 2020	“Research entails systematic search for new knowledge via understanding and application of appropriate methods in order to provide answers and draw conclusions”

The definitions above mention systematic approach, advance of knowledge, problem solving, scientific, topic or area of interest. In a single definition, research may be defined as a deliberate project to establish new information and knowledge about a specific topic. Furthermore, it involves the identification of certain problems or areas of interest. According to Asenahabi (2019: 77), for an activity or project to be regarded as research, it has to be systematic and use methodological methods and processes to fulfil relevant standards and norms of reliability and validity.

Research methodology and research design are two different concepts but they are closely related and work hand in hand to guide the research process. Mutsvene (2018: 108) stated that research methodology refers to the way research should be conducted, including philosophical and theoretical assumptions which research is based on and the implications of the adopted methodology. Du Plooy-Cilliers, Davis and Bezuidenhout (2021: 12) highlighted that as research methodology is a navigation tool that guides the researcher before implementing the research activities, and it is the

philosophy and principle that guides the entire research. On the other hand, research design is a framework, plan or blueprint outline how research will be used to answer research questions and achieve the research objectives and provides a rationale for the selection of data collection methods, data sources and analysis methods (Mutsvene 2018: 109). This means that, research methodology acts as a foundation and motivation for the research design as this study is interpretive in nature the design involves qualitative data collection and inductive approach to data analysis.

Research methodology guides the researcher on how to solve research problems (Sileyew 2019: 1). Furthermore, the topic specifies which research methodology will be suitable and used as data gathering method to support the study and it is achieved through different processes (Osuagwu 2020: 47). However, Sileyew (2019: 2) mentioned that the goal of research design is to provide a suitable framework or structure for the study. According to Osuagwu (2020: 48), research design is a guide for the researcher on how to collect, analyse and interpret data to solve research problems. In agreement, Asenahabi (2019: 78) added that research design is a framework which outlines the processes of carrying out research activities in order to gain relevant scientific results needed to address the research problems. To summarise, research methodology provides theoretical framework and guiding principles, whereas research design interprets these principles into actual actions and methods for carrying out the study. Together, they serve as the cornerstone for systematic and rigorous research.

According to Rohr (2022: 2), mixed methods have three core designs, namely, convergent parallel design, explanatory sequential design and exploratory sequential design. These designs differ based on the sequence used to gather data. Firstly, convergent parallel design allows researchers to collect data simultaneously between quantitative and qualitative methods then analyse data independently to gain more understanding of the research results (Dawadi, Shrestha and Giri 2021: 29). Explanatory sequential design suggests that researchers gather quantitative data and analyse it then gather qualitative data based on the quantitative results (Love, Cook and Cook 2022: 319). Exploratory design allows the researcher to gather data by starting with a qualitative method then build a quantitative instrument based on the

qualitative analysis results (Ngulube and Ngulube 2022: 4). For the purpose of this study, a convergent parallel design was regarded as the best design to the approach of study results. Convergent parallel design helps researchers gain deeper understanding of both quantitative and qualitative results (Dawadi, Shrestha and Giri 2021: 29). This design allowed the researcher to compare results, validate data, develop broader products and build a case through a recommended research process.

According to Singh (2021: 3), the research process is a series of several scientific steps in conducting a research project. All the research steps are connected to each other, starting with the research problem and advances sequentially. Figure 4.1 represents the research onion diagram that illustrates the research process.

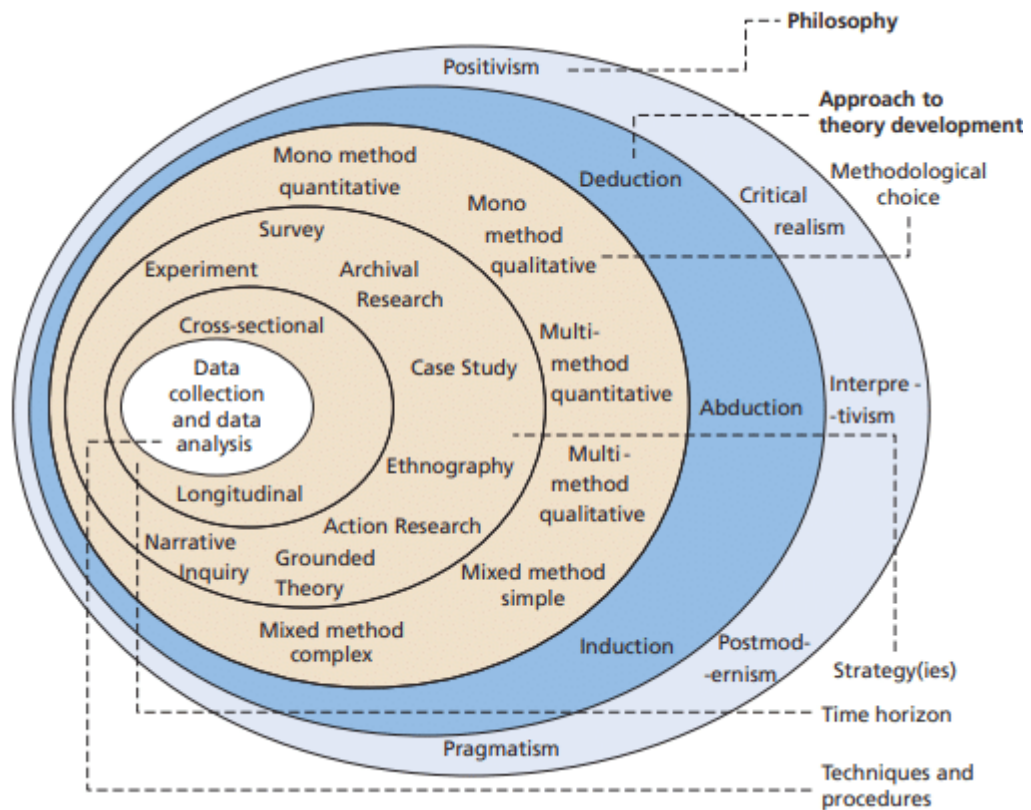


Figure 4.1: Research onion diagram
Source: Saunders, Lewis and Thornhill (2019: 130)

Saunders Lewis and Thornhill’s (2019: 128) research process uses an onion form to describe the considerations made by the researcher when developing research methodology whether for a thesis, dissertation or research project. Working from the outer layer of the onion to the inner layers, these are choices that progress from high

level and philosophical to tactical and practical in nature which mirrors the general structure of the methodology chapter. Saunder's research process is a useful tool for thinking holistically about methodology and further assists in the decision regarding the research design (Saunders, Lewis and Thornhill 2019: 128). Following the above figure 6.1, for this study the researcher explained why the study is pragmatic in nature and used induction as an approach. Additionally, the study employed mixed method simple which resulted in the study being a survey and case study research. As the process continued, the study was then identified as a cross-sectional. Lastly, data was collected and analysed using two different methods as it is a mixed method simple.

4.3 RESEARCH PHILOSOPHY

Paradigm is a term derived from two Greek words *para* and *deiknynai*. *Para* means 'besides' and *deiknynai* means 'display' or 'show'. Both words were put together to form *paradeiknynai* which meant to display side to side. The Latin term *paradigma* was used to describe a model or pattern (Turyahikayo 2021: 211). The fundamental presumptions and conceptual framework that underpin research and advancement in a field of inquiry are defined by Thomas Kuhn as paradigms, which he translated from Latin (Kuhn 1962: 43). Paradigms are adopted based on the convention of how research questions have been addressed in the field of interest. Kuhn's version of paradigm was specifically based on the evolving nature of paradigms (Anand, Larson and Mahoney 2020: 1652), which was later developed into another version by Lincoln and Guba (1985) using philosophical concepts such as ontology (the nature of reality), epistemology (the nature of knowledge) and methodology (the study of the methods required to produce knowledge) to describe the underlying assumptions of paradigms such as realism or constructivism (Ijabadeniyi 2018: 104).

Pragmatists depend on the type of research problem and questions in determining the relevant research approach. This study is pragmatic in nature as it focuses on utilising different methods such as qualitative and quantitative to understand how quintile 1 to 3 schools in the Amathole East district managed to use online teaching and learning in Consumer Studies and to analyse the training needs of Consumer Studies teachers.

The aim was to develop an OTL tool that supports the practical component of Consumer Studies subjects in quintile 1 to 3 schools.

4.4 APPROACH TO THEORY DEVELOPMENT

According to Varpio et al. (2020: 990) a theory is a collection of logically connected propositions that express the relations between several different structures and propositions. According to Abdelhakim and Badr (2021: 103) a theory is a systematic customary of statement about a common structure or performance. Based on Saunder's et al. (2019: 130) research onion, these three approaches to theory development and they are deductive, inductive and abductive. Deductive approach also referred to as top-down approach starts by developing a theory or hypothesis based on existing theories or established principles. This implies that, deductive approach begins with an idea and determines if it can be applied to a certain case (Abdelhakim and Badr 2021: 103). However, Woiceshyn and Daellenbach (2018: 3) mentioned that inductive approach known as bottom-up approach starts with empirical observations and data collection. As a result, theories may be developed from observations and collected data rather than being imposed onto it (Abdelhakim and Badr 2021: 104). In their study, Mahesh (2020: 13) highlighted that abductive approach combines deductive and inductive components as it starts with observations and data collections. Then, researchers can consider available theories to interpret and development new theoretical insights (Abdelhakim and Badr 2021: 104).

In this study, the researcher followed the inductive approach known as bottom-up approach by starting with observing the effects of COVID-19 on teaching and learning within the Amathole East District. Then, the researcher collected data by using interviews and questionnaires. The researcher analysed the data systematically looking for relationships, patterns and themes. This led to the researcher finding explanations about the phenomena under study. In addition, inductive approach allowed the researcher to interpret data and gain a deeper understanding of the research subject using mixed methods especially qualitative and generate new knowledge of teaching Consumer Studies Online. As a results, the researcher was able to develop an OTL for practical component of Consumer Studies based on the findings.

4.5 METHODOLOGICAL CHOICE

This study employed mixed methods. According to Dawadi, Shrestha and Giri (2021: 27), mixed methods research employs quantitative and qualitative approaches to achieve strong results, the researcher can use quantitative or qualitative research approach in different phases of the study. Fabregues *et al.* (2020: 16) argue that mixed methods research approach has been regarded as a legitimate option and is used in numerous fields, and it requires logical theories that guides the analysis and compilation of data. Furthermore, Kaur *et al.* (2019: 667) note that mixed methods enable the researcher to study complex relations and features of the social sphere and adds value to the study. In addition, Creswell and Clark (2017: 12) highlighted that the combination of quantitative and qualitative approaches provides a better understanding of research problem.

Mixed method approach was suitable for this study because of the multifaceted and complex nature of the research problem and the point that issues such as the incorporation of OTL in the Consumer Studies curriculum is vital not only for the teachers but for the involved stakeholders of the education. The researcher chose mixed methods approach because the researcher was able to conduct rigorous, comprehensive and nuanced research. Moreover, quantitative methods offer statistical rigor and generalisability while qualitative methods provides depth, context and rich insight into complex phenomena. Qualitative methods allowed the researcher to contextualise quantitative findings as it provided rich descriptions of social and organisational contexts. This ensure that quantitative findings are interpreted more effectively and ensured that research findings are applicable and relevant the real-world settings.

Lopez-Aymes *et al.* (2021: 3) argue that the combination of quantitative and qualitative methods implies that data is mixed, integrated or connected at some point. Additionally, authors suggest that the motivation behind mixing is that neither quantitative nor qualitative methods are enough in and of themselves to capture the trends and specifics of the situation, but that when used together, the data builds a more thorough analysis, and these two approaches work in harmony (Fabregues *et al.*

2020: 17). Kaur *et al.* (2019: 667) agree that the use of mixed method approach may also provide better understanding of research problem through triangulation and, triangulation enhances the validity of the study (Dawadi, Shrestha and Giri 2021: 27). This implies that, mixed methods enable researchers to triangulate their findings by corroborating results obtained from different data sources or methodologies. Bracio and Szarucki (2019: 4) state that mixed methods research is very demanding when it comes to time, finance and more work, it also requires the researcher to have the skills of conducting both quantitative and qualitative research.

4.5.1 The qualitative research design

Qualitative research may be referred to exploratory as it may be utilised to determine patterns in views and ideas while quantitative research is utilised to measure the topic by producing numerical data that can be explained through usable statistics (Abuhamda, Ismail and Bsharat, 2021: 72). Creswell and Poth (2018: 21) stated that draws from constructivism and interpretivist perspectives, with the goal of understanding research variables than predicting the findings as the positivism paradigm does. In addition, constructivism considers knowledge to be constructed when people try to make sense of their experiences. According to Tomaszewski, Zarestky and Gonzalez (2020: 1), interpretivism tries to acquire knowledge and understanding individuals' distinct viewpoints and the meaning associated to those points of view. Qualitative research is subjective, values people's lived experience and sensitive to the biases of both the participants and researchers. Mohajan (2018: 24) pointed out that qualitative research encompasses of the following methods open ended interviews, grounded theory, focus group, historical research, observation, case studies, etc.

Rahman (2017: 103) explains that in qualitative research the participants, experiences, feelings and opinions are described in detail. This research designs allows for the study and the understanding of events or individual cases and their voices (Queiros, Faria, and Almeida 2017: 370). Furthermore, qualitative research allows the researcher to learn and understand the experiences of the participants and how meanings are modelled by and within culture. Mohajan (2018: 31) explain that collecting data

through interviews, the researcher is able to communicate directly with the participants. Abuhamda, Ismail and Bsharat (2021: 74) mentioned that to a great extent, qualitative research is flexible and can be constructed and reconstructed.

Queiros, Faria, and Almeida (2017: 378) mentioned that qualitative research is time consuming as it features large amounts of data and strict requirements for data analysis. In qualitative research, the approach of generalising the research findings to a larger population is limited (Queiros, Faria, and Almeida 2017: 378). However, policymakers may give low credibility to results from a qualitative approach especially in cases where there is a small sample size. A smaller sample size may raise the issue of generalisability to the whole population of the research. In addition, this research design ignores the contextual sensitivity and focuses more on experiences and meanings, interpreting and analysing data in qualitative research design may be complex and difficult (Du Plooy-Cilliers, Davis and Bezuidenhout 2021: 201). Mohajan (2018: 32) claimed that in qualitative research it is difficult to refine undeveloped questions into a form that can be researchable, and the refining question may be continuous throughout the entire study.

4.5.2 The quantitative research design

Quantitative research investigates how and why events differ and often utilises statistics for research and statistical models to produce objective analytical data (Abuhamda, Ismail and Bsharat 2021: 72). Data can be measured as data is normally collected from large samples representing the population of interest. As a result, the research findings are interpreted as presenting adequate and broad image of the whole population (Queiros, Faria, and Almeida 2017: 370). The quantitative research is a structured investigation about a topic by collecting numerical data and execution of mathematical, statistical and computational practices (Hameed 2020: 10). This research design is based on positivism paradigm that supports methods submerged in statistical breakdown that includes other approaches such as testing hypotheses, experimental and quasi experimental, inferential statistics, questionnaires and mathematical exposition design with diverse predetermined answers (Mohajan 2018: 33).

According to Devault (2020: 1), quantitative research can be verified. Moreover, thorough experimental planning is required in quantitative research and the capacity for anyone to test and replicate the results which will result in reliable data and less room for arguments. Findings can be generalised to a whole population since the sample is a small representation of the population which is randomly selected (Rahman 2017: 103). Quantitative data analysis is less time consuming as it uses statistical software such as SPSS. Meaning, presenting and interpreting the results is less open to errors and is straightforward. Chakanyuka (2020: 85) pointed out that research that includes statistics and data analysis is regarded as effective and impressive.

Savela (2018: 41) stated that the pursuit of concrete and statistical relationships in qualitative studies can be constrained and cause researchers to overlook larger themes and relationships (Savela 2018: 41). Moreover, the quantitative method may fail to gather deeper underlying meaning and explanations (Du Plooy-Cilliers, Davis and Bezuidenhout 2021: 168). The distant relationship between the researcher and participants is another downside as this might be crucial to understanding the problem (Chakanyuka 2020: 86). When conducting quantitative research, a careful development of a hypothesis is needed and a suitable data collection and analysis model. Any mistakes or faults in development and execution may lead to biasness on the side of the researcher and the results may be invalid (Devault 2020). There is a common belief that quantitative study is more credible than observational or qualitative study because it is based on statistics. However, both quantitative and qualitative can be misleading and subjective. The researcher's biasness and opinions are likely to influence the gathering of information in quantitative approaches. Abuhamda, Ismail and Bsharat (2021: 79) added that the impact of bias may happen in the early stages of quantitative studies than in qualitative studies. Table 4.2 shows the differences between qualitative and quantitative research methods.

Table 4.2: Differences between qualitative and quantitative research methods

DIMENSION	QUALITATIVE RESEARCH	QUANTITATIVE RESEARCH
Focus on understanding the context of the problem	Bigger	Smaller
Dimension of group studies	Bigger	Smaller
Proximity of the researcher to the problem being studied	Bigger	Smaller
Scope of the study in time	Longer range	Immediate
Researcher's point of view	Internal	External
Theoretical framework and hypotheses	Less Structured	Less structured
Flexibility and exploratory analysis	Higher	Higher

Source: Adapted from Queiros, Faria, and Almeida (2017: 371)

4.5.3 Convergent parallel design

According to Rohr (2022: 2), mixed methods have three core designs, namely, convergent parallel design, explanatory sequential design and exploratory sequential design. These designs differ based on the sequence used to gather data. Firstly, convergent parallel design allows researchers to collect data simultaneously between quantitative and qualitative methods then analyse data independently to gain more understanding of the research results (Dawadi, Shrestha and Giri 2021: 29). Explanatory sequential design suggests that researchers gather quantitative data and analyse it then gather qualitative data based on the quantitative results (Love, Cook and Cook 2022: 319). Exploratory design allows the researcher to gather data by starting with a qualitative method then build a quantitative instrument based on the qualitative analysis results (Ngulube and Ngulube 2022: 4).

For the purpose of this study, a convergent parallel design was regarded as the best design to the approach of study results. Convergent parallel design helps researchers gain deeper understanding of both quantitative and qualitative results (Dawadi, Shrestha and Giri 2021: 29). Furthermore, convergent parallel design combines the strengths of both quantitative and qualitative approach which leads to deeper understanding. This design allows the researcher to compare results, validate data, develop broader products and build a case. In this study, the researcher collected data simultaneously. Meaning, the researcher was collecting qualitative data and

quantitative data at the same time. Then, the researcher analysed the collected data separately using different data analysis methods and tools. Convergent parallel design allowed the researcher to triangulate the findings which enhanced the study's validity.

4.5.4 Triangulation

One way to integrate research designs is to triangulate multiple types of research, sources of data, multiple methods, theoretical frameworks and even researchers. Triangulation refers to the combination of several techniques including both qualitative and quantitative approaches in research (Bans-Akutey and Tiimub 2021: 1). Noble and Heale (2019: 1) stated that triangulation is usually subject to the use of two or more methods, and this helps in building confidence in the research, especially when the findings obtained by the use of different methods are similar. Triangulation enhances validity and credibility of the study as it reduces biasness in sampling. In addition, when these conflicting findings the researcher can be confident and be able to give reasons for conflicting issues (Bans-Akutey and Tiimub 2021: 4). Researchers are expected to be versed in both quantitative and qualitative methods.

In this study, theoretical and methodological triangulations were achieved respectively through the use of different samples and mixed methods. The researcher triangulated primary and secondary data, this was to compare and find relationships between variables. Furthermore, the researcher used triangulation method to find patterns in data gathered from quantitative and qualitative analysis to confirm the study's findings. Triangulation helped the researcher to ensure that the research findings are valid.

4.6 RESEARCH STRATEGIES

This study followed a case study approach using the Amathole East district as the main case study. A case study is used to analyse and describe an object, individual, phenomenon, areas period or institution. For example, Individuals or groups of people, such as educational institutions, might be examined based on a variety of criteria, including history, needs, phenomena, or events (Sy Diop and Liu 2020: 9). The researcher used interviews and questionnaires to collect data. The interviews collected

extensive data from principals in selected schools in the Amathole East district, and from subject advisors and circuit managers from the Department of Education in the Amathole East district. The questionnaires collected data from teachers of Consumer Studies in the Amathole East district.

The Amathole East district was appropriate for the researcher as she resides in Butterworth town which is located in the Amathole East district, and it was easier for the researcher to spend extended periods of time interviewing principals, subject advisors and circuit managers. In addition, it gave the interviewer enough time to conduct questionnaires. According to Municipalities of South Africa (2021: 1), the Amathole East district is a category C municipality, meaning it has authority over several municipalities. Amathole means the calves of the Drakensberg in isiXhosa, the name referring to the rural way of life of Xhosa communities who still graze their colourful Nguni cattle on her foothills (Eastern Cape Socio Economic Consultative Council, 2017: 1). The municipality stretches along the Sunshine Coast from the Fish River Mouth along the eastern seaboard to south of Hole in the Wall along the Wild Coast. It is bordered to the North by the Amathole mountain range. Amathole district consist of six local municipalities: Ngqushwa, Mnquma, Mbhashe, Raymond Mhlaba, Great Kei, Ngqushwa and Amahlathi.

The strengths of case study research include its assistance in understanding the complexity of inter-relations that are rooted in lived experience, and they make it easier to explore the uncommon and unexpected by allowing research to focus on the importance of idiosyncratic and highlight the mechanisms behind causal relationships (Mutsvene 2018: 112). Thus, the researcher was able to understand the environments within the schools by connecting and understanding the contexts of the schools. The Amathole East district is designated as a category C municipality and is situated in the central part of the Eastern Cape. In addition, the district is predominantly rural and schools in this region falls within quintile 1 to 3 categories. Meaning, these schools are public schools and are categorised as no-fee schools (Naicker, Myende and Ncokwana 2020: 2). While case study research may have strengths, it may also have disadvantages, Sy Diop and Liu (2020: 10) warn that by facilitating rich

conceptual/theoretical development, a case study can swamp researchers in data as it requires too much data and is very expensive if attempted on a large scale.

4.7 TIME HORIZON

The fifth layer of the research onion, the time horizon level, describes the time frame that the researcher will conduct a study. The term time horizons in research refers to the consecutive horizons of varying length or the periods to be studied, the design of research time horizons is independent of research strategy or method (Abdelhakim and Badr 2021: 108). Research has two types of time horizons which are longitudinal and cross-sectional. Longitudinal refers to a long-term examination of a phenomenon or population. These types of studies identify causal relationships by looking at changes that happens over time together with the factors that influence the findings. To add, the researcher will also be able to observe the differences of the findings over time (Osborne et al. 2023: 426). Cross-section time horizon is known as a snap-shot study which studies a phenomenon or subset of population at a single instance (Mahesh 2020: 17; Bianchi 2021: 33). Cross-sectional type of studies are quick to complete and are also inexpensive (Setia 2016: 262).

For the purpose of this study, the researcher followed cross-sectional time horizon because this study is a PhD thesis and it needs to be completed within a specific time period. According to Durban University of Technology a PhD qualification have to be completed within 4 years. Thus, the researcher studied and explored the selected population only once. In addition, the researcher observed different groups of population, which was secondary school principals, Consumer Studies teachers, circuit managers and Consumer Studies subject advisors.

4.8 TECHNIQUES AND PROCEDURES

4.8.1 Sampling

This section describes the target population of the study. Furthermore, it explains the sample and methods used in choosing it.

4.8.1.1 Population

Population in research refers to a group of elements the researcher intends to draw conclusions about, which may be organisations, dyads, groups or individuals for the study's finding may be generalised or transferred. Population can be viewed as the theoretically specified aggregation of study elements from which the sample is selected (Casteel and Bridier 2021: 340). The population consisted of:

Consumer Studies teachers - Consumer Studies teachers are individuals that undertake duties such as delivery of an educational programmes and assessment of learner participation within a school (Jones and Kessler 2020: 7). All the Consumer Studies teachers in the Amathole East district were 38 in total.

School principals - Chalikias *et al.* (2020: 462) explained a principal as an individual who regulates the working environments of teachers and other school workers. All the principals of all the secondary schools in the Amathole East district that offer Consumer Studies, which was 11.

Department of Basic Education: Amathole East district circuit managers - District circuit managers are individuals within the district Department of Basic Education whose responsibility is to provide institutional management governance and support services (Eastern Cape Department of Basic Education 2019). All the circuit managers in the Amathole East district, were 4 in total.

Consumer Studies subject advisors - According to Department of Basic Education (2018), a subject advisor is a specialist office-based educator in a district office or circuit office. All the Consumer Studies subject advisors in the Amathole East district, were 2 in total.

4.8.1.2 Sampling

The large size of the target population of a quantitative study usually necessitates the need to select a sample from the larger population. The two techniques which researchers use to select a sample are the probability and non-probability sampling techniques (Bhardwaj 2019: 158). Probability sampling is a random process, so all

elements of the population have an equal chance of being selected. Some elements of human intervention may influence sample selection in non-probability sampling given that the chance of being included in the sample is unknown (Pace 2021: 7).

The need to determine the exact population size is crucial when using probability sampling, as opposed to non-probability sampling. However, the erratic nature of population size overrides the potency of probability sampling. The erratic nature of population size has no implications for non-probability sampling as population elements have an unknown chance of being selected (Bhardwaj 2019: 158). Non-probability sampling is considered pragmatic in hospitality education research as it is deemed appropriate in most instances. Non-probability sampling methods include convenience, purposive/judgemental, quota and snowball sampling. These methods vary in the degree to which the researcher's opinion influences sample selection. Convenience sampling entails including the most readily available population elements into a study. Purposive/judgemental sampling is a technique in which the researcher purposefully selects sample units based on their judgement of the ability of sample units to address the research problem (Wisniowski *et al.* 2020: 122).

This study employed samples from different populations. Non-probability through purposive sampling will be appropriate for the teachers and school principal. The ability of the researcher to recruit relevant sampling units in purposive sampling enhanced the credibility of responses obtained. This sampling method is not a fixed or predefined selection process. Census sampling was used for circuit managers and subject advisors; census sampling applies if the researcher aims to collect data from all units in the population (Jamieson-Gilmore, Bonciani and Vainieri 2022: 3).

4.8.1.3 Sampling size

Sample size refers to the number of elements that are chosen from the general population and are deemed presentative of the actual population (Mujere 2016: 110). Sample size determination is influenced by the heterogeneity and homogeneity of population units and the anticipated level of precision with which conclusions are to be drawn about the total population (Kaur 2017: 48366). The sample size determination and sample selection for the qualitative and quantitative studies are

discussed further. Table 4.3 presents the sample size based on each population category of this study.

Table 4.3: Sample size

Population	Population size	Sample size
Quantitative		
Teachers	38	35
Total Quantitative Sample Size = 35		
Qualitative		
Principals	11	11
Circuit managers	4	4
Subject advisor	2	2
Total Qualitative Sample Size = 17		
Total Sample Size	52	

Oribhabor and Anyanwu (2019: 2) stated that a sample are the participants chosen by the researcher to represent the general population. For the quantitative aspect of the study, the Amathole East district has 38 Consumer Studies teachers. However, with 95% confidence level and 5% of margin of error, 35 was an ideal sample size for this study (Calculator.net, sample size calculator). One teacher did not complete a questionnaire due to emergency maternity leave, resulting in a sample size of 34 Consumer Studies teachers. According to Sekaran and Bougie (2016: 241), a sample size between 30 and 500 is appropriate for most research studies. For the qualitative aspect of the study, the 11 principals, 4 circuit managers and 2 Consumer Studies were interviewed as saturation was reached. Hennink and Kaiser (2022: 6) state that empirical data reaches saturation within a narrow range of interviews between 9 and 17. Hence, a total of 17 interviews were conducted. In total, the sample size for the study was 52.

4.8.2 Data collection methods

Annum (2019: 2) defined research instruments or methods as fact finding strategies using tools for data collection. The process of acquiring and analysing collected data on subjects of interest, in a planned systematic fashion that enables the participants to respond to the specified research questions, test hypotheses and evaluate the findings

(Mohajan 2018: 33). Measuring instruments depend on the research design or approach adopted in the research. Quantitative research instruments include questionnaires, structured observation, structured interviews and qualitative research instruments include in-depth interviews, diary accounts, focus groups, document review and analysis and so on (Saunders, Lewis and Thornhill 2012: 163). Data collection for this study included primary and secondary data. For primary data, this study employed semi-structured interviews and questionnaires as the study was mixed method.

Semi-structured interviews are individual interviews with a small number of participants to explore their perspectives on an idea, programme or situation. Using these interviews, the researcher was able to explore the thoughts, feelings and beliefs of participants regarding OTL. Semi-structured interviews allow respondents to open up about sensitive issues, facilitating the collection of in-depth information. Questionnaires contain a list of questions that are completed by respondents or participants in research to provide their opinion (Einola and Alvesson 2021: 103). Questionnaires are less expensive and are an easy and quick method to obtain data from a large sample. In addition, respondents can be honest as they know that questionnaires are anonymous, and they can fill it in on their own (Young 2015: 167). For this study, a 5-point Likert scale was used to measure the assumptions and opinions. Teachers responded to the questionnaires, and principals, circuit managers and subject advisors responded to the interviews. In addition, secondary sources used included relevant literature from journal articles, books, internet, theses, conference proceedings, etc.

4.8.2.1 Development of questions

The questions were developed with five factors measured by multiple item scales. These were combined from various sources including Consumer Studies, COVID-19 and OTL which were amended and adapted for the current exercise. The pilot study validated the appropriateness of these adopted factors and ensured that they were applicable. Table 4.4 presents a summary of the derived constructs.

Table 4.4: Summary of derived constructs

Objective	Factor	Source
To analyse the impact of COVID-19 on teaching and learning of Consumer Studies in quintile 1 to 3 secondary schools in the Amathole East district.	<ul style="list-style-type: none"> Continuation of teaching activities during COVID-19 Continuation of learning activities during COVID-19 Continuation of assessment activities during COVID-19 Impact of COVID-19 on teacher Impact of COVID-19 on learner 	<ul style="list-style-type: none"> Reimers <i>et al</i> (2020) Dayagbil <i>et al.</i> (2021) McBurnie, Adam and Kaye (2020) Vincent-Lancrin, Romani, and Reimers (2022)
To assess how online teaching and learning used in Consumer Studies subject.	<ul style="list-style-type: none"> Prior experience of OTL Effectiveness of teaching online Effectiveness of learning online Effectiveness of online assessments Comfortability of teaching online 	<ul style="list-style-type: none"> Roumiana, Lyubka and Blagovesna (2018) Pashaliev (2022) Bailey and Lee (2020) Mahyoob (2020) Kumar <i>et al</i> (2021) Mthethwa and Luthuli (2021) Basar <i>et al</i> (2021) Ijaz, Rana and Ali (2020) Calderwood and Kvarfordt (2022)
To examine how the quintile 1 to 3 secondary schools in the Amathole East district apply the policies and guidelines of the department of basic education on online teaching and learning.	<ul style="list-style-type: none"> Familiarisation of department of education policies Purpose of department of education policies Workshops on department of education policies Application of department of education policies Amendments of department of education policies 	<ul style="list-style-type: none"> Young and Lewis (2015) Thajane (2019) Msiza, Malatji and Mphahlele (2020) Department of Education (2003) Goosen and van der Merwe (2015) Nguyen (2022)
To analyse the needs of teachers in the Amathole East district in terms of teacher training to conduct practical lessons for Consumer Studies online.	<ul style="list-style-type: none"> Training Training time frame Resources Support Satisfaction of training 	<ul style="list-style-type: none"> Nadeem <i>et al.</i> (2021) Hafeez (2021) Dange and Siddaraju (2020) Reimers <i>et al</i> (2020) Sharp <i>et al.</i> (2020)
To develop an OTL tool that supports the practical component of Consumer Studies subjects in quintile 1 to 3 schools.	<ul style="list-style-type: none"> Resources Strategy Training 	<ul style="list-style-type: none"> Abel (2020) Mielmann (2021) OECD (2016) Mpungose (2020) Elhaty <i>et al.</i> (2020) Svatos <i>et al.</i> (2022) Engeset <i>et al.</i> (2021)

4.8.2.2 Administration of questionnaires

A questionnaire is a research instrument that contains questions that is used to gather important information from the participants. A questionnaire may consist of oral or written questions in an interview style format. The questions in a questionnaire may include closed ended questions or open questions and may feature both. Closed ended questions includes predetermined questions and provide the respondents with possible responses to choose from. However, open questions allow the respondents to answer in their own words. In addition, questionnaires may be quantitative or qualitative and can be conducted face-to-face, by phone, online or on paper, and questionnaires do not necessarily require the presence of the researcher. Questionnaires are efficient, inexpensive and very fast to gather large data from a large sample size or population. This research instrument works particularly well to measure subject preferences, attitudes, intentions, opinions and behaviours. Through the use of questionnaires, researchers are able to collect both quantitative and qualitative data which may result in more comprehensive findings.

This study utilised questionnaires to collect data. This research instrument contained closed ended questions with predetermined responses to choose from. To measure the opinions and assumptions from the responses, a 5-point Likert scale design was used as follows: 1 = strongly disagree to 5 = strongly agree (Appendix B). A 5-point Likert scale is a response format in which the responses are recorded using numbers spaced at equal intervals (Mazurek *et al.* 2021: 5). Dolnicar (2021: 1) highlights that the Likert scale is used in a questionnaire to measure the strength of the attitudes of the respondents towards a phenomenon. The questionnaire was administered to Consumer Studies teachers in the Amathole East district.

The questionnaire was designed as follows:

- Introduction page
- Demographics
- Questionnaire questions

Questionnaires were themed as follows:

- **Theme 1:** Impact of COVID-19
- **Theme 2:** Recovery
- **Theme 3:** Department of education policies and guidelines
- **Theme 4:** Digitalisation in teaching and learning of practical subjects
- **Theme 5:** Teacher training

4.8.2.3 Advantages and disadvantages of questionnaires

With the help of questionnaires, researchers may collect large data on any subject while deliberately managing their questions, the format and target audience. Furthermore, questionnaires are cost effective as researchers do not need to hire a delivery person because they can be delivered by the researcher. Researchers can also gather data quickly through the use of mobile tools. In addition, to acquire useful insights and reduce translation errors, researchers might utilise the same questionnaire year after year and compare and contrast research results. Respondents can be completely honest on questionnaires because they are anonymous. The automated analysis tools that are frequently included into questionnaires make it quick and simple to evaluate the results.

Respondents may not read the questions clearly and will just tick to finish, and also if a question is not clear enough, respondents may struggle to interpret it accurately. In addition, respondents may decide to skip questions, particularly if questionnaires are too long. Respondents might not be honest due to ulterior motives and others might responding according to what they think the society will accept. Some respondents might attempt to impress the researcher with their responses.

4.8.2.4 Administration of semi-structured interviews

Semi-structured interviews consist of open-ended questions to get deeper or more in-depth information about the topic. Open-ended questions enable the interviewer to gather pertinent information from the respondents with less self-censorship and using personal sentiments, emotion, and ideas. Elhami and Khoshnevisan (2022: 1) argued

that qualitative interviews need to be planned carefully. As the name suggests, a semi-structured interview requires careful planning and preparation. A topic guide or broad questions regarding their research should be prepared by the interviewer. On the basis of the interviewees' responses, the interviewer may also come up with follow-up questions. A semi-structured interview is quite flexible and most of the questions are crafted during the interview.

In this study, the researcher adopted semi-structured interviews for the qualitative part of the study. The researcher explored the thoughts, knowledge, feelings and beliefs of participants regarding online teaching and learning. The questions were open-ended as the researcher wanted the participants to answer without limitations and have the opportunity to ask more questions on follow up (Appendix C and D).

The interview schedule was designed as follows:

- Introduction page
- Demographics
- Questionnaire questions

Interview schedule was themed as follows:

- **Theme 1:** Impact of COVID-19
- **Theme 2:** Recovery
- **Theme 3:** Department of education policies and guidelines
- **Theme 4:** Digitalisation in teaching and learning of practical subjects
- **Theme 5:** Teacher training

4.8.2.5 Advantages and disadvantages of semi-structured interviews

Semi-structured interviews are beneficial as they can direct the conversation and keep it within the topic, researchers can prepare interview questions in advance of the interview. Additionally, because the questions are open-ended and respondents are free to react as much as they wish, the researcher may obtain in-depth information and the researcher will be able to ask follow-up questions to facilitate two-way

communication. Moreover, semi-structured interviews foster relationships between the researcher and the respondents, which allows the respondents to feel at ease and be open about certain issues that may be delicate, and they provide first-hand information that can be compared to prior research.

Semi-structured interviews are time-consuming. They require extensive resources. It is challenging to find an interviewer with the right amount of training to conduct the interview properly. The right number of interviewees is required in order for the researcher to draw conclusions and make comparisons. There is a danger that the researcher will compile leading questions which can cause bias in the interview.

4.8.3 Research development

4.8.3.1 The recruitment process

The recruitment process is the process where the researcher identifies, target and list prospective participants then followed by approaching them with the research information they need to know to establish their interest in participating in the proposed research (Elhami and Khoshnevisan 2022: 2). According to Mazurek *et al.* (2021: 5), finding participants who accurately reflect the research's target population and satisfy its sample size and power requirements is crucial. Thus, finding the right environments is important as they provide the access to the prospective participants. Therefore, the recruitment process relies on the recruitment or referral pathway, the recruitment strategies, characteristics of the participants, the preferences of participants, the type of research and collaboration between researchers (Elhami and Khoshnevisan 2022: 2).

The researcher requested permission to conduct the study from the Eastern Cape Department of Education (ECDOE); the researcher followed all the requirements of the ECDOE of applying for the gatekeeper's letter (Appendix H). After permission was granted a letter of request was sent to the principals, circuit managers and subject advisors by the ECDOP as they communicated with the participants on behalf of the researcher ensuring that privacy was maintained. Principals were able to respond on behalf of the teachers. This afforded participants an opportunity to have time to

prepare on how they would respond with regards to their opinions and experiences. Furthermore, a request letter (Appendix E) and letter of information (Appendix F) was sent to the ECDOE. These documents explained the importance of the study as well as information regarding the benefits, confidentiality, what will happen to the results, etc. The researcher received permission from the ECDOE to conduct the research in the Amathole East district, then the researcher was able to obtain an ethical clearance. Later on, the researcher sent ECDOE a consent form (Appendix G) to be filled in by the participants as proof or agreement that they were committed to participate in this study.

4.8.3.2 Data collection specifications

Questionnaires administration and interviews took place simultaneously. The researcher was present and collected data themselves. Furthermore, questionnaires and interviews were administered in the schools. The schools that participated within the Amathole East district are located in Ezinqayi, Mqamakwe, Ndabakazi, Emzantsi, Vuli Valley, Centani and Mission. These schools are located between 12km to 35km away from each other. Questionnaires were administered in teachers staff rooms and interviews took place in principals offices. Questionnaires and Interviews took place from the 14th of September 2022 to the 9th of October 2022. In addition, all questionnaires and interviews were administered during school hours which is 7:30am to 15:00pm.

Questionnaire

The researcher communicated with the Eastern Cape Department of Education to set up appointments with the teachers as the researcher did not have access to the teachers' personal details. The researcher went through the questionnaire with each teacher to see if they had any questions and set a pick-up date to collect the questionnaires. The participants needed a pen to complete the questionnaire as a pencil was not permitted. A questionnaire took about 15 to 35 minutes to complete.

Interviews

The Eastern Cape Department of Education made appointments with participants on behalf of the researcher as the researcher did not have access to participants personal details. The participants confirmed the date and time that the interview would take place. The interviews with principals took place at the schools of each principal. A quiet and less busy place such as principal's office was used to avoid disturbances. Interviews with circuit managers and subject advisors also took place at their workplaces. The researcher needed a pen and note pad to be able to take down notes. The interviewer asked one question at a time. The interview was recorded throughout. The interview took one hour to be completed.

4.8.3.3 Pilot Study

A solid research study with an appropriate experimental strategy and precise execution is vital to generate results of good quality (In 2017: 601). A pilot study assists researchers to find misinterpretations, lack of continuity and respondent's reaction to the interview in general. A pilot study gives the researcher a chance to determine which questions are effective, which ones seem odd, which ones may be removed, and which ones need to include (Fraser *et al.* 2018: 272). In this study, the researcher went through the interview questions and questionnaire alone. In addition, the researcher also went through the questions with five participants to take notes of problematic words and questions. Thereafter, the interview questions and questionnaire were revised accordingly. The notes the researcher took paid attention to the respondent's reactions and interest.

4.8.3.4 Ethical Considerations

This study was guided by Durban University of Technology ethics policy. The research as an academic project avoided plagiarism in all its forms by the use of in-text references as well as a List of References. To this effect, the thesis was put on Turnitin, and the result met institutional requirements, proving its originality beyond any doubt (Appendix J). Quotations were used sparingly and where it was necessary to quote directly, inverted commas were employed. Apart from these instances, the researcher paraphrased the information. A letter to the respondents included what the participants could expect in the survey and described the requirements for

participation. Participants were repeatedly told that the research was voluntary, anonymous and they were informed that no one would be forced to participate. Du Plooy-Cilliers, Davis and Bezuidenhout (2021: 305) explain that anonymity is the omission of any information that could identify the participant in an interview or survey. The names of the participants were not mentioned. The information that the researcher gathered while conducting research that could possibly identify the respondents, was kept confidential and was not divulged to third parties without prior express consent of the respondents.

In addition, they were also assured that they have a right to privacy and that the POPI Act was adhered to. Confidential information was not disclosed, and care had been taken to keep information as a secret if compelled to do so. The term confidential refers to a situation where the research is aware of the information that may identify the research participant but takes precautions to ensure that the information does not reach the public or known by the public (Bos 2020: 153). The researcher did not record information in a way that linked participants responses with identifying information. Names are not the only identifiers, because there are other identifiers or combinations of information about participants that may identify them. Hence, the researcher reported aggregate findings not individual level data. Furthermore, the researcher issued a consent to guarantee the participants confidentiality and inform participants of their rights.

It was indicated that collected data would solely be for the research purposes. Data was protected in encrypted files in Google Drive and the tape recorder is kept at the researcher's home in a lockable safe. After 5 years the file will be destroyed by being permanently deleted and any tape recordings of data collected for this study will permanently be erased. The researcher used the data acquired during the research process solely for academic reasons without regard to any kind of personal gain or economic espionage. The researcher received ethical clearance (Appendix A) from the Ethics Committee of the DUT.

4.8.3.5 Limitations and delimitations

Theofanidis and Fountouki (2018: 156) defined limitations as weaknesses that are beyond the control of the researcher. This means that, limitations are the unforeseen risks to the study's ability to be valid internally. Zvitambo (2017: 177) posits that mentioning or stating the limitations of the study may guide other researchers to determine whether or not the findings can be applied to different people and circumstances. The first limitation was time, as the researcher was limited and was required to complete this study in four years. In addition, the researcher could not verify results of qualitative data as the information gathered may be influenced by the participants. Furthermore, interviews were conducted in English only as it was not going to be feasible to translate questions into many other languages. The researcher had to travel around with documentation that proved that the researcher was a DUT student and not an investigator from the government. This helped because participants were able to be comfortable and honest.

Due to the study focusing on schools in the Amathole East district, the findings of the study may have limited generalisability to other contexts or populations. Reason being other contexts may have different characteristics from those of the Amathole East district. With regard to data collection methods, questionnaires may be subject to response bias and interviews may be subject to interviewer bias or respondent bias. In contrast, Theofanidis and Fountouki (2018: 157) mentioned delimitations are limits, parameters or boundaries the researcher sets to ensure that the aim and the objectives of the study are achieved. The study was limited to Eastern Cape province, Amathole East district, Department of Basic Education and secondary schools offering Consumer Studies.

4.8.4 Data Analysis Methods

Belotto (2018: 2623) stated that the data analysis process is when researchers generate patterns from obtained data by first summarising a large amount of data and then creating links and establish consistency in patterns. The research problem, research design and datasets influence the choice of the relevant analytical techniques. These analytical techniques vary based on the intensity of the research problem, and the

epistemological and ontological positions of the study (Maguire and Delahunt 2017: 3353).

Literature review formed part of secondary data in this study. Analysing literature review data involves systematically reviewing, synthesising and interpreting existing research studies, books, articles and other sources which are relevant to the research topic (Mohammed 2021: 4). The researcher conducted a comprehensive search of academic databases, online repositories, libraries and other sources to identify relevant literature on the current topic of OTL in Consumer Studies during COVID-19 pandemic. The researcher reviewed titles, abstracts and keywords of the retrieved literature to ensure relevance to the objectives of this study. Then, the researcher developed a data extraction form to systematically extract relevant information by including details of the authors, publication year and key findings. The researcher organised extracted data into thematic categories using techniques such as content and thematic analysis to identify commonalities, differences and trends. The next step, the researcher analysed they synthesised findings to identify overarching themes, theoretical frameworks and theoretical gaps in the literature. The author then explored relationships between different variables and highlighted the key insights, unresolved issues and areas of further research. Lastly, the researcher wrote a comprehensive literature review that summarise the key findings, debates and contributions of existing literature.

A descriptive analysis approach was utilised. According to Loeb *et al.* (2017: 2), descriptive analysis finds patterns in the data to respond to questions such as what, who, where, to what extent and when. Descriptive analysis allows the researcher to use raw data to create charts, tables and summary statistics (Samuels 2020: 3). After the researcher collected the questionnaire, questionnaires were visually scrutinised to ensure that they are accurately completed. Furthermore, the researcher noted down the number of people who responded and those who did not respond. All incomplete and spoiled questionnaires were set aside and excluded from analysis. Then, collected data was recorded on Excel spreadsheet document and applied to Statistical Package for Social Science software (SPSS) for analysis which involved summarising, analysing and interpreting the responses. SPSS as a statistical tool more accurate than Microsoft

Excel (Mutsvene 2018: 118). The researcher had the freedom to choose a graph that suitably represented the distribution of research data.

To make sense of a set of raw data, a deductive approach was used. The qualitative data was processed by means of a thematic framework (Gilgun 2020: 6; Jnanathapaswi 2021: 5). Thematic analysis is a method of ensuring that raw data is well interpreted so that the researcher may identify relevant patterns and be able to identify links between different parts of data and enhance data description (Kampira 2021: 5). In order to improve data interpretation, the constant comparative approach defines the practice of constantly comparing the data's constituent parts (Kiger and Varpio 2020: 8). This entails a careful examination of data, conversion of temporary constructs into second-order constructs (sub-themes), second-order constructs into themes and theme mapping (Jnanathapaswi 2021: 4). Qualitative data was analysed by the researcher using NVivo software. Table 4.5 represents a summary of the research methodology and methods of this study.

Table 4.5: Research methodology and methods

Exploratory research		
Mixed Methods		
	Quantitative	Qualitative
Sampling strategy	Purposive	Census
Sampling size	35	17
Research instrument	Questionnaire	In-depth semi-structured interviews
Data analysis	SPSS version	Nvivo version
Response rate	34	17
Percentage	97.14%.	100%

4.8.4.1 Thematic analysis

Throughout history, thematic analysis is viewed as the most appropriate analysis to interpret any form of scientific data (Varpio *et al.* 2019: 5). According to Braun and Clarke (2014: 1), thematic analysis is a scientific tool that identifies analyses and reports patterns across research data. It provides linkages of different concepts and respondents responses and opinions collected at various time during the course of

empirical study. In applying the thematic tool, the processes of induction and deduction are applied. This means the researcher moves back and forth looking for new data and concepts in order to create themes (induction) and looking for verification of themes (deduction). The process of thematic analysis is time consuming and very laborious. However, it allows the researcher to discover fresh definitions (Varpio *et al.* 2019: 6). The deductive technique provides the researcher with a systematic approach to assess respondents' ideas (Kiger and Varpio, 2020: 2). Figure 4.1 provides a graphic of the various steps of deductive data analysis framework regarding the thematic data analysis.

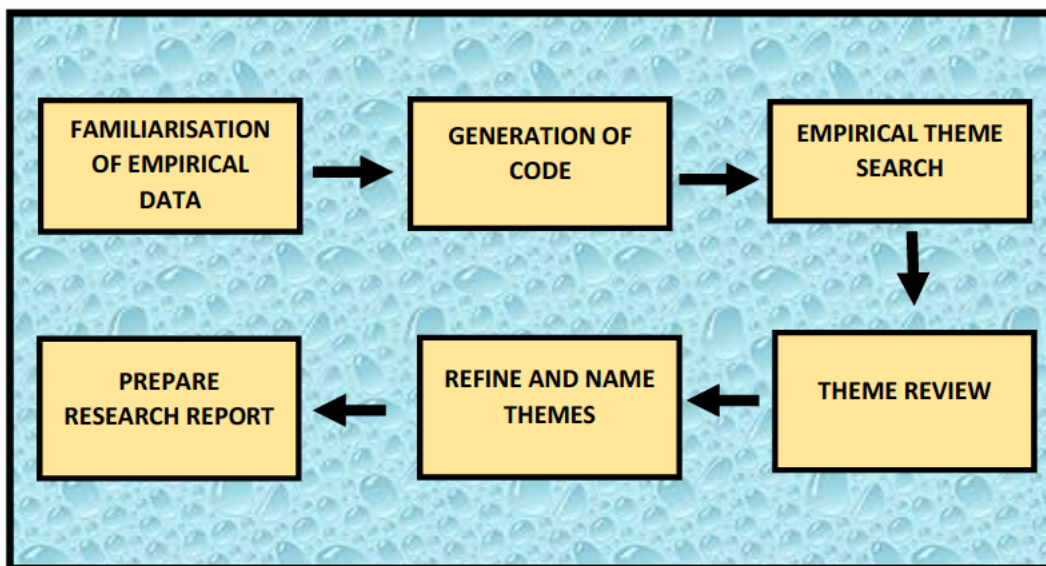


Figure: 4.2 Graphic review of the thematic analysis
 Source: Adapted from Braun and Clarke (2014)

4.8.5 Reliability and Validity of this study

Du Plooy-Cilliers, Davis and Bezuidenhout (2021: 289) explained reliability as the capacity of data collection techniques to yield reliable and accurate results, and for a similar study to obtain similar results. According to Coleman (2022: 2043) reliability is often referred to as dependability, confirmability or consistency. The researcher took precautions to enhance reliability by being objective and testing data collection instruments in a pilot study. The pilot study allowed the researcher to identify problematic questions, identify leading questions and wording to improve reliability of the research instrument. Furthermore, all the questions in the research instrument

were developed from the objectives of the study. During interviews, reliability may be enhanced by greater control of and uniformity within, the interview process. In this study, reliability was ensured by conducting interviews with the relevant sample which was principals of school offering Consumer Studies, Amathole East district circuit managers and Consumer Studies subject advisors within quintile 1-3 categories. Reliability was ensured by recording the interview in order for the researcher to keep going back to confirm statements of participants.

According to Msweli (2016: 32), validation is the process of ensuring that surveys are accurately conducted and are free of bias or fraud. Validity measures the accuracy of an instrument and the responses in a given study. In this study, interviews and questionnaires consisted of adequate and representative items to explore the topic under investigation and questions were constructed according to the objectives. The researcher asked the following question, does the questionnaire measure what it was supposed to measure, and to what extent? The researcher's supervisor as the expert verified the questionnaire and interview schedules as part of enhancing validity of the findings. In addition, a pilot study and a two-factor analysis were conducted to ensure validity.

4.8.5.1 Trustworthiness

The study or research may be considered trustworthy if credibility, confirmability, transferability and dependability issues are attended to throughout the process of data collection (Du Plooy-Cilliers, Davis and Bezuidenhout 2021: 289). Basically, trustworthiness signifies that the study has a solid foundation and that the correct approaches, procedures, and methodologies were used; in other words, trustworthiness is the study's quality. To ensure trustworthiness, the researcher considered four constructs of trustworthiness, namely, credibility, confirmability, dependability and confirmability to ensure rigour and validity in the study.

Credibility

Credibility in qualitative research refers to how well the researcher can convey the actual interpretations of data collected from participants. This can be achieved by

applying different strategies that such as prolonged engagement, member checks, data triangulation and observation (Moon *et al.* 2016: 6). In this study, the researcher applied data triangulation and prolonged engagement strategies. According to Creswell and Creswell (2018: 215), data triangulation is the use of different or multiple strategies, methods, theories and datasets to address a research question, objectives or aim of the study. Triangulation assists the researcher reduce bias and cross-examines the respondent's honesty in their answers.

This study utilised questionnaires and semi-structured interviews. In addition, primary data was collected from different populations such as teachers, principals, subject advisors and circuit managers so that the researcher may be able to obtain different views and extensive perspectives regarding online teaching and learning in the participants contexts. The supervisors, departmental research committee, faculty and institutional research committees validated the appropriateness of the instruments to ensure that they measure what they were designed to measure. Furthermore, previous studies were reviewed to compare the views of different authors regarding the topic at hand. Prolonged engagement was another strategy used to ensure credibility in the current study. Prolonged engagement allows researchers to see the world the same way the respondents see it (Anney 2018: 276). This strategy helped the researcher to gain respondents trust and to be able to trace the misrepresented data. To add, the researcher familiarised themselves with the participants and their environment by conducting the interviews herself, distributing the questionnaires and collecting them herself.

Confirmability

Confirmability is used to describe the level to which other researchers can validate research findings, the research findings should reflect the results of the investigation or the responses of the participants not the views, biasness and beliefs of the researcher (Anney 2018: 276). In addition, the researcher must demonstrate the participants' experiences and views by reporting the steps taken to conduct and collect data by proving an audit trail approved by supervisors (Kortjens and Moser 2018: 121). The

field notes, the original transcripts and the analysis of data records were included in the process.

Dependability

According to Moon *et al.* (2016: 3), dependability is characterised by reliability and consistency of the research results. Hence, the design of the research and the research methodology should be well written or recorded for the purpose of the audit trail that includes all the practices followed to conduct the study (Korstjens and Moser 2018: 121). This implies that, the researcher should provide the steps taken to conduct the research so that the research can be repeated. Hence, the researcher reported the research design, research methodology, sampling methods, data collection and analysis in detail to ensure reliability and consistency.

Transferability

Transferability enables researchers to decide whether the findings apply to their own or other situations, the researcher gives thorough contextual information. This means that transferability assesses how well the research findings may be applied to various contexts, situations, and settings (Enworo 2023: 378). However, with regards to generalisability research findings may be exclusively applicable to the context and settings they were conducted in, and they will not apply to other contexts. Even though generalisability may not be applied, the researcher still needs to document all the steps and processes followed to conduct the study in detail. Transferability may be assessed when participants' responses are given a detailed description. Naturalistic generalisation occurs when the results are consistent with the person reviewing the research's experiences and look transferable in that person's eyes (Kasurye 2021: 5). As a result, it was not verified that the findings were transferable; instead, the researcher allowed the reader to decide for themselves as they interpret the built-in knowledge and make necessary adjustments when applying the findings. As a result, the researcher ensured that the following fundamental principles and guidelines of research transparency suggested by Moon *et al.* (2016: 3) were applied:

- Information on the number of schools or institutions and their location

- Total number of the participants
- Information about data collection tools
- Time and frequency or length of data collection on-site.

4.9 CHAPTER SUMMARY

Presented in this chapter was the research methodology used for data collection. The study is of an exploratory design. As a result, mixed methods were used to conduct this study. Quantitative and qualitative methodologies were chosen for collecting information on the topic under study. The manner in which the different triangulations were achieved was also outlined. Validity and reliability were among aspects that required explanation. Matters of ethical consideration included the anonymity of participants, the confidentiality of information as well as the consent by respondents to participate in the study without fear or pressure. Last but not least, the research instruments were presented. The next chapter analyses the collected data and provides an interpretation of the findings.

CHAPTER 5: PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS (QUANTITATIVE)

5.1 INTRODUCTION

Chapter 6 presented a comprehensive report regarding the design of the research including research methods, sampling techniques, data collection processes and data analysis, confidentiality and ethical considerations. This chapter presents and analyses the empirical data gathered by means of semi-structured interviews and questionnaires. The participants were principals of schools offering Consumer Studies, Consumer Studies teachers, circuit managers and Consumer Studies subject advisors of the Amathole East district. This chapter analyses and interprets quantitative data and it will present descriptive and inferential analysis which includes tables, graphs, figures and charts.

5.2 QUANTITATIVE ANALYSIS

According to Ahire (2020: 67), analysing research data entails the reduction of data that the researcher collected at the time of the research process. A descriptive analysis approach was used. Descriptive analysis involves creating tables, charts and summary statistics from raw data (Samuels 2020: 1). Quantitative data was analysed using SPSS version 28 which summarised, analysed and interpreted the responses. Furthermore, a one-way ANOVA test was done to examine association between the respondent's demographic and their perceptions on impact of covid-19 on teaching and learning, impact of covid-19 on teaching and learning, department of education policies and guidelines on teaching and learning, online teaching of practical subjects, teacher training during the covid-19 pandemic (lockdown). The researcher analysed and reported the results themselves.

5.2.1 Demographic profile

Manohar *et al.* (2018: 3) mentioned that for the population of interest to be accurately presented, the right participants need to be chosen. The motivating factor to include participants demographics as part of the research instrument was to determine the

participants' level of competency in answering the contents of the research instrument. Furthermore, El Refae, Kaba, and Eletter (2021: 94) highlighted gender, age, marital status, level of education or ethnicity as the attribute's examples of the demographic characteristics. The Amathole East district has 11 schools that offer Consumer Studies, with 38 teachers of Consumer Studies. At a confidence level of 95%, margin of error of 5%, population proportion of 50% and a population size of 38, this allows for a sample size of 35. Hence, the total population of this study was 35 Consumer Studies teachers in the Amathole East District. The biographical section had six categories: job, gender, age, ethnicity, employment, and length of service.

5.2.2 Rate of response

The questionnaires were distributed to 35 Consumer Studies teachers. However, questionnaires were only complete by 34 teachers – one teacher was on maternity leave during the time the researcher was distributing the questionnaires, so the teacher could not participate. The final response rate was 97.14%. Regardless of its importance in assessing the quality of an empirical survey Bell, Bryman and Harley (2018: 210) indicated that there is no logically proven minimal acceptance response rate. Response rates less than 50% are believed to be unacceptable (Lavidas *et al.* 2022: 2). However, extant scientific studies have indicated that rates of response that are under 18% are equally credible (Bell and Bryman and Harley 2018: 210). According to Brooks *et al.* (2022: 2), a response rate that is very low does not compromise the exact representation of the research outcomes. Based on these scientific findings, the response rate for this study is considered very high. As such, the findings of this study are deemed credible.

5.3 DEMOGRAPHICS

The word 'demographics', which derives from the Greek words *demos* (people) and *graphy* (image), depicts traits of a person or population (Jones, St. Peter and Ruckle 2020: 1304). According to El Refae, Kaba and Eletter (2021: 94), age, gender, ethnicity, and income are examples of traits that describe the status of people or an individual. This section will discuss the demographics of participants of this study.

5.3.1 Job description

The data in Table 5.1 shows that all the respondents were teachers.

Table 5.1: Job description

		Frequency	Percent
Job description	Teacher	34	100.0

5.3.2 Gender

The data in Figure 5.1 shows that most (76.5%) of the respondents were females with 23.5% males.

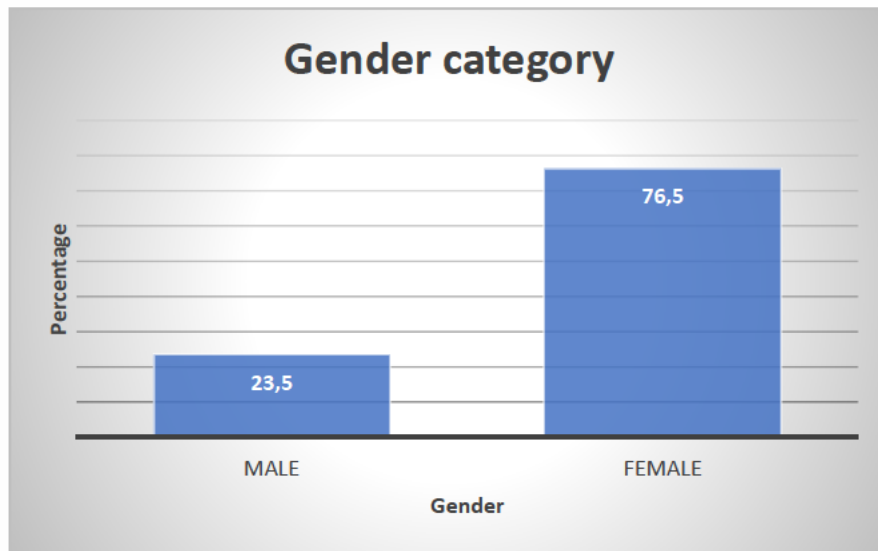


Figure 5.1: Gender

5.3.3 Age

The data in Figure 5.2 shows that most of the respondents were within 21-50 years of age with only 2.9% above 50 years. It was observed that respondents in the ranges 21-30 years, 31-40 years, and 41-50 years were each 32.4%.

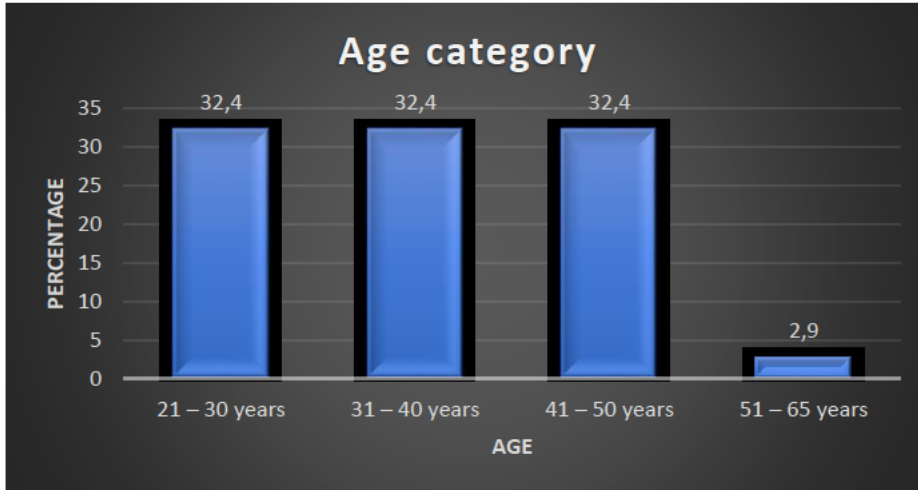


Figure 5.2: Age

5.3.4 Ethnicity

The data in Figure 5.3 shows that the overwhelming majority (97.1%) of the respondents were Black, while 2.9% were Coloured.

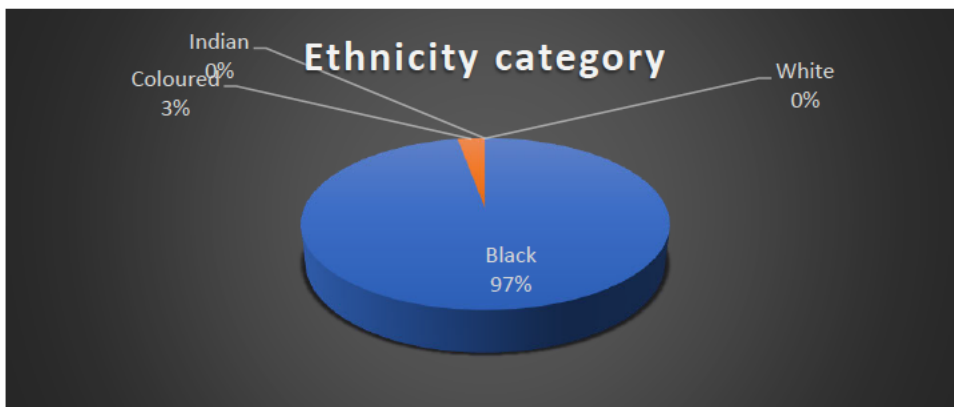


Figure 5.3: Race

5.3.5 Employment category

The data in Figure 5.4 shows that most (76.5%) of the respondents were permanently employed while 23.5% were contract staff.

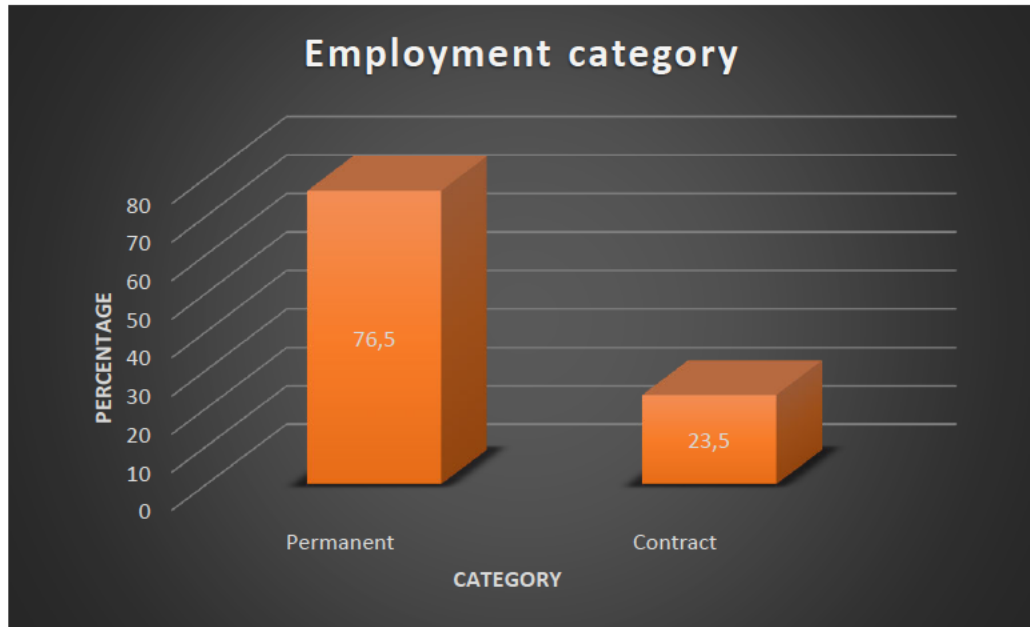


Figure 5.4: Employment category

5.3.6 Length of service

The data in Figure 5.5 shows that the length of service of most (76.4%) of the respondents was 0-15 years of service, while 8.8% had 26-35 years, 11.8% 16-20 years, and 2.9% 21-25 years.

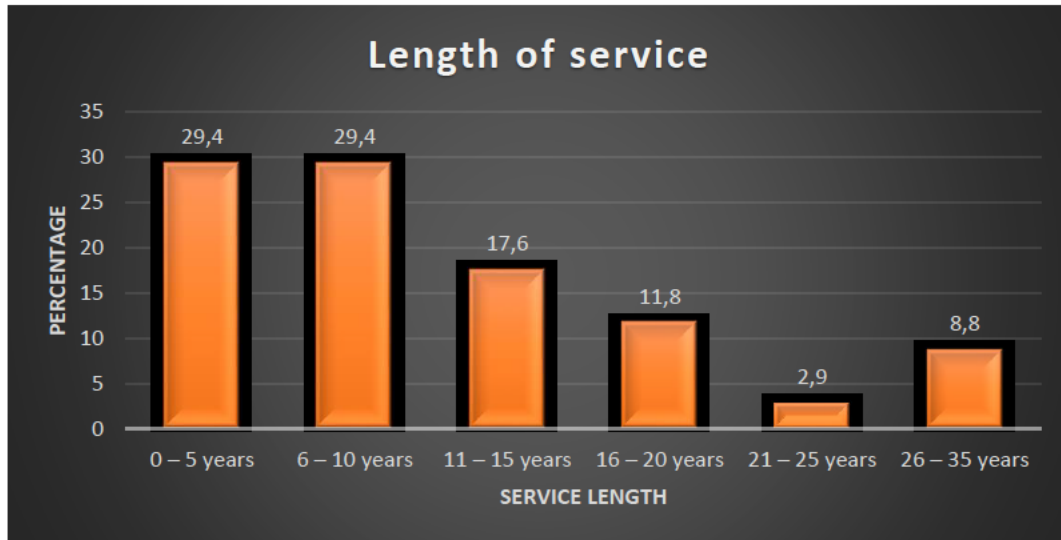


Figure 5.5: Length of service

5.3.7 Summary of demographic findings

100% of the participants were Consumer Studies subject teachers in the Amathole East district. The majority of the teachers were females (76.5%) and majority of the teachers were between the ages of 21-50 years. Furthermore, 97.1% were black, 76.5% were permanently employed. 29.4% had been employed for 0-5 years and another 29.4% had been employed for 6-10 years.

5.4 IMPACT OF COVID-19 ON TEACHING AND LEARNING

This section details the impact of Covid-19 on teaching and learning. The respondents were asked the following question: "Did you manage to continue your teaching activities during the lockdown?". All the respondents strongly disagreed that they continued with teaching activities during the lockdown. This implies that during the lockdown, there was no teaching activities. The respondents were asked the following question: "Did you manage to continue your learning activities during the lockdown?".

100% of the respondents strongly disagreed that they continued with learning activities during lockdown. This implies that during the lockdown, there were no learning activities.

The respondents were asked the following question: "Did you manage to continue your assessment activities during the lockdown?". 100% of the respondents strongly disagreed that they continued with assessment activities during lockdown. This implies that during the lockdown, there were no assessment activities during lockdown. When asked if Covid-19 affected them negatively, respondents all strongly agreed that it had. When asked if learners were affected negatively by Covid-19, all strongly agreed that Covid-19 did affect the learners negatively.

Table 5.1: Responses on the impact of Covid-19 on teaching and learning

	Likert scale (n=34)					Mean	Std	Df	T-test	P value
	SD	D	Neutral	A	SA					
Did you manage to continue your teaching activities during the lockdown?	100%	0%	0%	0%	0%	1.00	0.00	A	A	A
Did you manage to continue your learning activities during the lockdown?	100%	0%	0%	0%	0%	1.00	0.00	A	A	A
Did you manage to continue your assessment activities during the lockdown?	100%	0%	0%	0%	0%	1.00	0.00	A	a	A
Covid-19 affected you negatively	0%	0%	0%	0%	100%	5.00	0.00	A	A	A
Learners were affected negatively by Covid-19	0%	0%	0%	0%	100%	5.00	0.00	A	A	A

a. t cannot be computed because the standard deviation is

5.4.1 Summary and discussion on the impact of COVID-19

All teachers strongly disagreed that teaching and learning activities took place during the lockdown. Fowler *et al.* (2020: 2) explained lockdown as being the closing of business, suspension of jobs and closing of schools. Vijayan (2021: 497) stated that the COVID-19 pandemic caused significant disruption to teaching and learning activities. Moreover, all the teachers strongly agreed that COVID-19 had negative effects on teachers, learners and schools. Di Pietro *et al.* (2020: 4) stated that COVID-19 increased inequalities in schools. Furthermore, the closing of schools and the

adoption of online teaching and learning caused stress and lack of learning motivation for learners.

5.5 THE USE OF ONLINE TEACHING AND LEARNING

This section details the use of online teaching and learning. The respondents were asked the following question: "Do you have prior experience of teaching online before Covid-19?". Most (97.1%) of the respondents strongly disagreed that they had prior experience of teaching online before Covid-19, while 2.9% agreed. The calculated mean value revealed that significant disagreement existed among the respondents ($M = 1.09$; $SD = 0.514$; $t(33) = 12.333$, $p < 0.001$). Therefore, a significant number of the respondents did not have prior experience of teaching online before Covid-19.

The respondents were asked the following question: "Did you manage to conduct teaching activities online effectively?". Most (97.1%) of the respondents strongly disagreed about managing to conduct teaching activities online effectively, while 2.9% agreed with this statement (Table 5.3). According to the measured mean value, the respondents' disagreements were quite substantial ($M = 1.09$; $SD = 0.514$; $t(33) = 12.333$, $p < 0.001$). As a result, the majority of the respondents did not conduct teaching activities online effectively.

The respondents were asked the following question: "Did you manage to conduct learning activities online effectively?". Most (97.1%) of the respondents strongly disagreed about managing to conduct learning activities online effectively while 2.9% agreed to effectively doing it (Table 5.3). The measured mean value showed that the respondents' disagreements were quite substantial ($M = 1.09$; $SD = 0.514$; $t(33) = 12.333$, $p < 0.001$). Thus, a substantial majority of the respondents did not effectively conduct learning activities online.

The respondents were asked the following question: "Did you manage to conduct assessment activities online effectively?". Most (97.1%) of the respondents strongly disagreed about managing to conduct assessment activities online effectively while 2.9% were neutral about it (Table 5.3). According to measured mean value, the respondents disagreed significantly ($M = 1.03$; $SD = 0.343$; $t(33) = 12.333$, $p < 0.001$).

As a result, a sizable proportion of the respondents did not effectively conduct assessment activities online.

The respondents were asked the following question: "Are you comfortable with teaching online?". Most (97.1%) of the respondents strongly disagreed about being comfortable with teaching online, while 2.9% indicated that they were comfortable with teaching online (Table 5.3). According to measured mean value, the respondents disagreed significantly ($M = 1.09$; $SD = 0.514$; $t(33) = 12.333$, $p < 0.001$). As a result, the respondents were not comfortable with teaching online.

Table 5.2: Responses on the use of online teaching and learning during Covid-19

	Likert scale (n=34)					Mean	Std	Df	T-test	P value
	SD	D	Neutral	A	SA					
Do you have prior experience of teaching online before Covid-19	97.1%	0%	0%	2.9%	0%	1.09	0.514	33	12.333	<0.001
Did you manage to conduct teaching activities online effectively?	97.1%	0%	0%	2.9%	0%	1.09	0.514	33	12.333	<0.001
Did you manage to conduct learning activities online effectively?	97.1%	0%	0%	2.9%	0%	1.09	0.514	33	12.333	<0.001
Did you manage to conduct assessment activities online effectively?	97.1%	0%	2.9%	0%	0%	1.06	0.343	33	12.333	<0.001
Are you comfortable with teaching online?	97.1%	0%	0%	2.9%	0%	1.09	0.514	33	12.333	<0.001

5.5.1 Summary and discussion of the use of online teaching and learning

97,1% of the teachers said they did not have prior experience of teaching online and they also stated that they had never conducted any online lessons. Furthermore, they mentioned that they were not comfortable at all when it comes to doing teaching and learning activities online. According to Sari and Keser (2021: 252), during lockdown teachers and learners were had no choice but to quickly transition from the traditional face-to-face class lessons to online lessons with enough time to acquire skills to

adequately move to online teaching and learning. In agreement, Sykes (2020: 445) confirmed that some teachers had never taught from home before and some had little experience. Furthermore, the author mentioned that even teachers with little experience in teaching and learning online found it had to transition to online teaching and learning fully within a short space time. Sangai, Mokhele and Makumane (2022: 40) concurred that many teachers and learners were found to be unready to teach and learn online because they were technophobic.

5.6 DEPARTMENT OF EDUCATION POLICIES AND GUIDELINES ON TEACHING AND LEARNING

This section details the level of agreement by the respondents on the Department of Education policies and guidelines on teaching and learning. The respondents were asked the following question: "Are you familiar with the department of education policies and guidelines on teaching and learning?". Most (76.5%) of the respondents strongly agreed with being familiar with the teaching and learning policies and guidelines while another 23.5% agreed with this. The measured mean value showed that there was substantial agreement amongst the respondents ($M = 4.76$; $SD = 0.431$; $t(33) = 64.527$, $p < 0.001$). Thus, respondents were familiar with the policies and guidelines on teaching and learning.

The respondents were asked the following question: "Do you understand the purpose of department of education policies and guidelines on teaching and learning?". The majority of the respondents (70.6%) strongly agreed that they understood the purpose of the Department of Education's policies and guidelines on teaching and learning, 17.6% agreed, and 11.8% were neutral (Table 7.4). The measured mean value showed that the respondents' levels of agreement were high ($M = 4.59$; $SD = 0.701$; $t(33) = 38.143$, $p < 0.001$). Thus, respondents understood the purpose of the Department of Education's policies and guidelines on teaching and learning.

The respondents were asked the following question: "Were you workshopped on policies and guidelines on the teaching and learning?". Nearly half (41.2%) of the respondents strongly agreed that they had been workshopped on policies and guidelines on teaching and learning, 26.5% agreed, 23.5% were neutral, and 8.8%

strongly disagreed (Table 5.4). The mean value measured implies that there was significant agreement among the respondents ($M = 3.91$; $SD = 1.25$; $t(33) = 18.769$, $p < 0.001$). Thus, respondents had been workshopped on policies and guidelines on teaching and learning.

The respondents were asked the following question: "Do you apply these policies and guidelines on your teaching and learning activities?". There was agreement by most (73.9%) of the respondents about applying the Department of Education policies and guidelines on teaching and learning, while 23.5% were neutral and 2.9% disagreed (Table 5.4). The measured mean value revealed that there was substantial agreement between the respondents ($M = 4.03$; $SD = 0.834$; $t(33) = 28.161$, $p < 0.001$). Thus, respondents applied the Department of Education's policies and guidelines on teaching and learning.

The respondents were asked the following question: "Were the policies and guidelines adjusted during the hard lockdown?". The data shows that half (50%) of the respondents were neutral on whether the Department of Education policies and guidelines on teaching and learning were adjusted during the lockdown (Table 5.4). On the other hand, 41.2% were in agreement (agree = 20.6%; strongly agree = 20.6%) that the policies and guidelines were adjusted during lock down while 8.8% were in disagreement (strongly disagree = 5.9%; disagree = 2.9%). The mean value measured was closest to agreement which implies a significant proportion of the respondents agreed with the question about the policies and guidelines being adjusted during the lockdown ($M = 3.47$; $SD = 1.051$; $t(33) = 19.250$, $p < 0.001$).

The respondents were asked the following question: "Do you think the Department of Education policies and guidelines on teaching and learning needs to be revised?". Most (70.6%) of the respondents strongly agreed that the policies and guidelines need to be revised, 17.6% were neutral while 5.9% agreed (Table 5.4). The mean value showed that there was an agreement amongst the teachers ($M = 4.59$; $SD = 0.783$; $t(33) = 34.165$, $p < 0.001$). Thus, the respondents called for the revision of the Department of Education policies and guidelines on teaching and learning.

Table 5.3: Responses to questions addressing the Department of Education policies and guidelines on teaching and learning.

	Likert scale (n=34)					Mean	Std	Df	T-test	P value
	SD	D	Neutral	A	SA					
Are you familiar with the department of education policies and guidelines on teaching and learning?	0%	0%	0%	23.5%	76.5%	4.76	0.431	33	64.527	<0.001
Do you understand the purpose of department of education policies and guidelines on teaching and learning?	0%	0%	11.8%	17.6%	70.6%	4.59	0.701	33	38.143	<0.001
Where you workshopped on policies and guidelines on the teaching and learning?	8.8%	0%	23.5%	26.5%	41.2%	3.91	1.215	33	18.769	<0.001
Do you apply these policies and guidelines on your teaching and learning activities?	0%	2.9%	23.5%	41.5%	32.4%	4.03	0.834	33	28.161	<0.001
Where the policies and guidelines adjusted during the hard lockdown?	5.9%	2.9%	50%	20.6%	20.6%	3.47	1.051	33	19.250	<0.001
Do you think the department of education policies and	0%	0%	17.6%	5.9%	76.5%	4.59	0.783	33	34.165	<0.001

guidelines on teaching and learning needs to be revised?										
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5.6.1 Summary and discussion on Department of Education policies and guidelines of teaching and learning

76.5% of the respondents said that they were familiar with the Department of Education policies and guidelines and 70,6% mentioned that they understood the purpose of the policies and guidelines. A policy is a strategy or guiding idea, or plan written by a group, person, or organisation to adopt or put forth for effective implementation of the plan (Young and Lewis 2015: 4). Thajana (2019: 30) confirmed that policies are crucial for principals and teachers since they will give them an idea or guidance on how to run the school or successfully carry out lessons in order to fully fulfil the goals and objectives of the school or education as a whole. Nearly half of the respondents (41.2%) mentioned that they had been workshopped on the relevant policies that they needed to be familiar with as teachers, and 73.9% of the teachers stated that they applied or implemented the policies throughout their teaching and learning activities. Thajana (2019: 30) stated that effective policy implementation involves planning, requires plenty of time, supervision, and persistence.

50% of the teachers were neutral when they were asked if the Department of Education policies were adjusted during the lockdown, but 70.6% of teachers said that the Department of Education policies should be revised. Ramrathan (2021: 388) stated that several draft plans of guidelines and policies were developed by the Department of Education to recover time lost and catch up with the curriculum in all the provinces of South Africa. These drafts included exploiting digital learning platforms, teaching and learning policies. Instead of using the Covid-19 as a context to ensure that education in the lives of people and the community is relevant, the guidelines and policies concentrated on means of delivery and the technical issues of the curriculum (Blignaut 2020: 4).

5.7 ONLINE TEACHING OF PRACTICAL SUBJECTS

This section details the level of agreement by the respondents on the statements measuring online teaching of practical subjects. The respondents were asked the following question: "Did you conduct practicals during the lockdown?". The data show that all the respondents strongly disagreed that they conducted practicals during lockdown (Table 5.5). The respondents were asked the following question: "Did you receive guidance from the subject advisor on how you can teach the Consumer Studies subject using online resources?". The data shows that all the respondents strongly disagreed that they received guidance from the subject advisor on how they can teach the Consumer Studies subject using online resources (Table 5.5). This implies that none of the respondents received guidance from subject advisors on teaching consumer subjects using online resources.

The respondents were asked the following question: "Do you have the necessary skills in conducting practical subjects through online resources?". According to data all respondents strongly disagreed that they have the necessary skills to conduct practical subjects through online resources (Table 5.5). Without necessary skills and guidance respondents would have struggled to conduct practical subjects through online resources. The respondents were asked the following question: "Do you need to be trained to use online resources to teach practical content of Consumer Studies?". Most (91.2%) of the respondents strongly agreed that they need training to use online resources to teach practical content for consumer subjects, 5.9% agreed with this, while 2.9% were neutral about it (Table 5.5). The average value determined reveals that there was a great deal of consensus among the respondents ($M = 4.59$; $SD = 0.783$; $t(33) = 34.165$, $p < 0.001$). Thus, the respondents need training for them to use online resources to teach practical content.

The respondents were asked the following question: "Do you recommend the use of OTL in Consumer Studies subject?". The data indicates most of the respondents (61.8%) agreed (agree = 5.9%; strongly agree = 55.9%) to recommend the use of OTL in Consumer Studies while 20.6% strongly disagreed, and 17.6% were neutral (Table 5.5). The mean value measured implies that a significant number of the respondents

recommended the use of OTL in Consumer Studies ($M = 3.76$; $SD = 1.615$; $t(33) = 13.589$, $p < 0.001$)

Table 5.4. Responses to questions addressing online teaching of practical subjects

	Likert scale (n=34)					Mean	Std	Df	T-test	P value
	SD	D	Neutral	A	SA					
Did you conduct practical's during the lockdown?	100%	0%	0%	0%	0%	1.00	0.00	a	A	A
Did you receive guidance from the subject advisor on how you can teach the Consumer Studies subject using online resource?	100%	0%	0%	0%	0%	1.00	0.00	a	A	A
Do you have the necessary skills in conducting practical subjects through online resources?	100%	0%	0%	0%	0%	1.00	0.00	a	A	A
Do you need to be trained to use online resources to teach practical content of Consumer Studies?	0%	0%	2.9%	5.9%	91.2%	4.88	0.409	33	69.548	<0.001
Do you recommend the use of OTL in Consumer Studies subject?	20.6%	0%	17.6%	5.9%	55.9%	3.76	1.615	33	13.589	<0.001

a. t cannot be computed because the standard deviation is 0.

5.7.1 Summary and discussion of online teaching of practical subjects

All the respondents strongly disagreed that practicals were conducted during the lockdown and stated that no guidance was provided. Sarac (2020: 1) confirmed that the Department of Education decided to postpone any practical components during the lockdown. However, Elhaty *et al.* (2020: 2867) stated that practicals in a subject have a significant importance in linking theory with practice and it consolidates learner's theory and practical skills. Teaching practical subjects such as science, health, languages, and gastronomy online without application or practical work may create greater challenges for learners (Elhaty *et al.* 2020: 2867). Furthermore, 100% of the respondents said that they do not have skills to conduct practical lesson online. Kusuma (2022: 203) found in their study that not all teachers are capable of implementing online learning. According to Dube (2020: 137), most rural teachers in South Africa are unable to use online learning apps, some cannot even operate a computer.

91.2% of respondents stated that they need training with regards to conducting practical lessons online. Kusuma (2022: 203) stated that it is very important for teachers to have technological pedagogical content knowledge. Dube (2020: 138) mentioned that if teachers are not trained, they will not be able to execute the requirements of the curriculum properly. World Bank (2020: 1) argues that very few classroom teachers received training in online instructional approaches and tools during the COVID-19 pandemic. Only 55.9% of respondents recommended the use of OTL for the practical component of Consumer Studies. Some teachers did not recommend OTL of practical subjects because practicals require learner interaction. However, some teachers believed that it is important to move with the times and OTL is the new normal (Svatos *et al.* 2022: 2).

5.8 TEACHER TRAINING DURING THE COVID-19 PANDEMIC (LOCKDOWN)

This section details the level of agreement by the respondents on the statements measuring teacher training during the lockdown. The respondents were asked the following question: "Did you receive any training during lockdown?". The data show

that all the respondents strongly disagreed that teachers were trained during lockdown (Table 5.6).

The respondents were asked the following question: "Were your needs met?". The data shows that all the respondents strongly disagreed about their needs being met during lockdown (Table 5.6).

The respondents were asked the following question: "Were you provided with enough resources?". The data show that all the respondents strongly disagreed about being provided with enough resources during lockdown. The respondents were asked the following question: "Was the time enough for you to learn as much as you needed to?". The data show that all the respondents strongly disagreed about having enough time for them to learn as much as they needed during lockdown.

The respondents were asked the following question: "Where you satisfied with the training you received?". The data shows that all the respondents strongly disagreed with being satisfied with the training they received during lockdown (Table 5.6). The response was expected as none of the respondents received training during the lockdown.

Table 5.5: Responses to the questions addressing teacher training during Covid-19 lockdown

	Likert scale (n=34)					Mean	Std	Df	T-test	P value
	SD	D	Neutral	A	SA					
Did you receive any training during lockdown?	100%	0%	0%	0%	0%	1.00	0.00	a	a	A
Were your needs met?	100%	0%	0%	0%	0%	1.00	0.00	a	a	A
Were you provided with enough resources?	100%	0%	0%	0%	0%	1.00	0.00	a	a	A
Was the time enough for you to learn as much as you needed to?	100%	0%	0%	0%	0%	1.00	0.00	a	a	A
Were you satisfied with the training you received?	100%	0%	0%	0%	0%	1.00	0.00	a	a	A

a. t cannot be computed because the standard deviation is 0.

5.8.1 Summary and discussion of findings on respondents training during the covid-19 pandemic (lockdown)

100% of the respondents said that they did not receive training to teach online and none of their needs were met by the Department of Education. Worse, they were never supplied with any resources to help them teach from home. No time was given to be able to get trained and be comfortable or satisfied with teaching online. Nadeem *et al.* (2020: 117) agreed that the improvement of teacher practice, pedagogical knowledge, and training methodologies all contribute to the growth of the teaching and learning process. Francom, Lee and Pinkney (2021: 596) point out that in times of uncertainty, timely training support for teachers becomes even more important, because it may not only assist in the smooth operation of their teaching practices, but may also help to maintain their mental health, and reduce feelings of burnout. Dange and Siddaraju (2020: 137) agreed that a good learning environment will also be maintained in

accordance with the demands of the moment when teachers are highly trained and equipped to generate learners of a good quality. However, ADEA, AU/CIEFFA and APHRC (2022: 7) stated that teachers were trained on various distance learning solutions adopted for distance teaching such as radio, tv, smartphone apps and online platforms. None of the teachers agreed that they had received training.

Vale and Graven (2023: 170) mentioned that teachers suffered the challenge of inequitable access to resources. Hence, Papadakis, Kalogiannakis and Zaranis (2018: 4) stated that the success in the teaching and learning process could be influenced by the resources made available to support it and the direct ways in which these resources are used. A teacher can be trained and be ready to practice but without resources the teacher will not be able to facilitate interactive teaching and learning process (Frimpong 2021: 169). Nwokeocha (2021: 16) stated that training boosts teachers' morale and confidence; if teachers are comfortable with their teaching methods and strategies, delivery of good quality education follows.

5.9 RELATIONSHIP BETWEEN RESPONDENTS AND VARIOUS VARIABLES

In addition, one-way ANOVA test was conducted between the respondents demographic and their perceptions on impact of covid-19 on teaching and learning, impact of covid-19 on teaching and learning, department of education policies and guidelines on teaching and learning, online teaching of practical subjects, teacher training during the covid-19 pandemic (lockdown).

The independent sample test was applied to examine the relationship between the demographic and the perception of learning assessment during Covid-19. The results in table 5.7 suggests that the respondents only differ in their perception with online teaching of practical subjects during Covid-19 ($P=0.034$). The mean value indicates that males ($M=2.55$) slightly have higher agreement than females ($M=2.26$). There was no difference with respect to the respondents' ethnicity and their perception. However, respondents within 21-30 years had significantly higher perception ($M=2.5$)

with online teaching of practical subjects during Covid-19 (P=0.031). No significance on employment category, and length of service.

Table 5.6: Relationship between race, gender and the perception of learning assessment during Covid-19

Demographics	Impact		Use		Policies		Practical		Training	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Gender										
Male	2.60	0.00	1.35	.99	4.27	.62	2.55	.14	1.00	0.00
Female	2.60	0.00	1.00	.00	4.21	.53	2.26	.36	1.00	0.00
<i>t</i> value	0.000		1.870		0.266		2.215			
Sig.	1.000		0.071		0.792		0.034			
Race										
Black	2.60	0.0	1.08	.49	4.20	.56	2.30	.33	1.00	-
Coloured	2.60	-	1.00	-	4.30	-	1.80	.	1.00	-
<i>t</i> value	-1.902		0.171		-0.199		1.616		-	
Sig.	0.066		0.865		0.844		0.116		-	
Age group										
21-30	2.6	0.00	1.25	.84	4.2	.64	2.5	.26	1.00	-
31-40	2.6	0.00	1.00	.00	4.3	.46	2.4	.32	1.00	-
41-50	2.6	0.00	1.00	.00	4.1	.55	2.1	.34	1.00	-
51-65	2.6	0.00	1.00	-	4.7	-	1.8	-	1.00	-
F ratio	0.00		0.676		0.587		3.368		-	
Sig.	1.000		0.573		0.628		0.031		-	
Employment										
Permanent	2.60	0.00	1.11	.55	4.25	.54	2.27	.35	1.00	-
Contract	2.60	0.00	1.00	0.00	4.15	.57	2.53	.21	1.00	-
<i>t</i> value	0.000		.549		.469		-1.932		-	
Sig.	1.000		.587		.642		0.062		-	
Length of service										
0-5	2.60	0.00	1.28	.89	3.97	.62	2.48	.27	1.00	-
6-10	2.60	0.00	1.00	0.00	4.48	.43	2.36	.35	1.00	-
11-15	2.60	0.00	1.00	0.00	4.36	.43	2.33	.41	1.00	-
16-20	2.60	0.00	1.00	0.00	4.17	.56	2.30	.20	1.00	-
21-25	2.60	0.00	1.00	0.00	4.33	-	1.80	-	1.00	-
26-35	2.60	0.00	1.00	0.00	4.00	.76	1.93	.23	1.00	-
F ratio	-		.439		1.123		1.953		-	
Sig.	-		0.817		0.371		0.117		-	

5.10 SUMMARY OF THE CHAPTER

This chapter presented and analysed the questionnaire administered to Consumer Studies teachers in the Amathole East district. The findings emerging from this data indicated that teachers were negatively affected by COVID-19 pandemic personally and professionally. Teachers did not conduct any practical lessons during the lockdown due to lockdown regulations and were never guided on how they could go about doing it. Nevertheless, most of the teachers would recommend OTL in Consumer Studies and would appreciate training. The next chapter focuses on the presentation and analysis of the qualitative data that was obtained through interviews with principals, Consumer Studies subject advisors and circuit managers.

CHAPTER 6: PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS (QUALITATIVE)

6.1 INTRODUCTION

This section presents the research outcomes arising from semi-structured interviews. Data analysis is the process of converting the gathered data to meaningful information (Taherdoost 2022: 1). Semi-structured interviews were utilised to gather qualitative data. The interviews took place in participants' offices and took 20 to 30 minutes. The interviews were recorded and transcribed. During the transcribing process themes emerged which led to the thematic process. To make sense of a set of raw data, a deductive approach was used which applied a thematic framework as a guide to the interview process. Themes and sub-themes were developed during the process. These themes were considered in relation to the theories and other broad issues around the research problems. Moreover, qualitative data was analysed using NVivo software version 12. The research findings have been outlined using descriptive statistics on various themes including demographic characteristics. To ensure coherence and to limit repetition and the researcher analysed and reported the results themselves.

6.2 QUALITATIVE ANALYSIS

According to Akinyode (2017: 17), gathering data through the use of qualitative method allows the researcher to collect data from multiple sources aiming at understanding the meaning of problems through the respondents or involved audience. Qualitative analysis is a process that is divided into three stages which includes the reduction of the text, the exploration of the text and the integration of the exploration (Akinyode and Khan, 2018: 165). Meaning the induction and deductive approaches were employed to produce meaningful set of raw data and deductive means of qualitative data is a process that features certain framework (Pitso, 2018: 72). Data was collected through semi-structured interviews, data was reduced and gathered into themes which is the process of thematic analysis.

6.3 RESPONDENTS PROFILE

Manohar *et al.* (2018: 7) stated that in order for a researcher to obtain accurate findings, it is vital to select the appropriate participants. The principals of schools offering Consumer Studies subjects in the Amathole East district were interviewed. The Amathole East district has 11 schools that offer Consumer Studies subject. Moreover, Consumer Studies subject advisors also play a crucial role in guiding the teacher on how to teach and assess in the Consumer Studies subject. The Amathole East district has 2 Consumer Studies subject advisors. Furthermore, other participants in this study were the circuit managers; the Amathole East district has 4 circuit managers who are responsible for the monitoring and guiding of the schools. Census sampling was used to select the appropriate number to participate in this study. All 11 principals were selected, 2 subject advisors and 4 circuit managers. Thus, the total number of participants for qualitative approach was 17. Due to anonymity P1-11 was used to label the principals, SA1-2 was used to label the subject advisors and CM1-4 was used to label the circuit managers. The biographical section had 5 categories, age category, gender category, ethnicity category, length of service and highest qualification.

6.3.1 Rate of response

The total target population for this study was 17 (principals, subject advisors and circuit managers). The researcher managed to interview all 17 participants which resulted in 100% response rate. According to Bell, Bryman and Harley (2018: 210), there is no logically proven minimal acceptance response rate. However, Lavidas *et al.* (2022: 2) stated that a response rate of less than 50% is unacceptable. The response rate for this study is considered very high and findings for this study are considered credible.

6.4 FINDINGS QUALITATIVE ANALYSIS

The findings of the study are grouped into three: responses from the principals, responses from the subject advisors and responses from the circuit managers and

overall summary at the end of each question. The qualitative finding addresses the objectives of the study.

6.4.1 Demographics

As stated in the previous chapter in section 7.6, El Refae, Kaba and Eletter (2021: 94) stated that demographics describes the characteristics of a person's status such as age, gender, ethnicity, and income. Table 6.1, 6.2 and 6.3 below illustrates the demographics of the principals, subject advisors and circuit managers.

Table 6.1: Demographics of principals

PRINCIPAL (P)	GENDER	AGE GROUP	ETHNICITY	NO OF YEARS AS A PRINCIPAL	HIGHEST LEVEL OF QUALIFICATION
1	M	51-60	Black	11-15	Degree
2	F	41-50	Black	0-5	Master's degree
3	M	51-60	Black	6-10	Diploma
4	M	51-60	Black	16-20	Diploma
5	M	41-50	Black	6-10	Degree
6	M	41-50	Black	6-10	Postgraduate Diploma
7	F	41-50	Black	0-5	Degree
8	M	61-70	Black	16-20	Diploma
9	M	41-51	Black	6-10	Postgraduate Degree
10	F	51-60	Black	16-20	Diploma
11	M	41-50	Black	0-5	Master's degree

Table 6.1 shows that 73% of principals were male and 27% were female. Out of 11 principals 55% were between the age of 41-50 years, 36% were between 51-60 years and 9% was between 61-70 years of age. In terms of ethnicity, 100% of principals were black. In addition, 27,27% of the principals had occupied this position for 0-5 years and 16-20 years, 36,36% had been principals for 6-10 years and 9.1% had been principals between 11-15 years. With regards to highest qualifications, 36.36% of principals were in possession of a diploma, 27.27% degrees, and 36.36% postgraduate degrees (master's degree).

Table 6.2: Demographics of subject advisors

SUBJECT ADVISORS (SA)	AGE GROUP	GENDER	ETHNICITY	NO OF YEARS AS A SUBJECT ADVISOR	HIGHEST LEVEL OF QUALIFICATION
1	41-50	F	Black	6-10	Degree
2	41-50	F	Black	0-5	Degree

Table 6.2 shows that both subject advisors were between the ages of 41-50 and were both female and black. One of the subject advisors had occupied this position between 6-10 years and the other 0-5 years. The highest level of qualification for both subject advisors was a degree.

Table 6.3: Demographics of circuit managers

CIRCUIT MANAGERS (CM)	GENDER	AGE GROUP	ETHNICITY	LENGTH OF SERVICE AS A CIRCUIT MANAGER	HIGHEST LEVEL OF QUALIFICATION
1	M	41-50	Black	0-5	Degree
2	F	31-40	Black	0-5	Master's degree
3	M	31-40	Black	0-5	Degree
4	M	51-60	Black	11-15	Degree

Table 6.3 shows that 25% of circuit managers were female and 75% were males. Moreover, 50% of circuit managers were between the ages of 31-40 years, 25% 41-50 years, and 25% 51-60 years. All of the circuit managers were black and 75% of them had occupied this position for 0-5 years and 25% for 11-15 years. 25% had a master's degree and 75% had degrees.

6.4.2 Impact of COVID-19 on teaching and learning

This theme and all those that follow are illustrated with excerpts from participants in their own words.

6.4.2.1 The effects of COVID-19 pandemic on school, teachers and learners

Principals - 100% of the principals mentioned that the school, teachers and learners were negatively affected by the lockdown.

The lockdown affected every person in the world. We were affected badly by the lockdown in terms of removal of the social aspect of our teaching and learning responsibilities. This was a new undertaking for everyone, but we soldiered on. (P1)

Learners lost parents, we lost our family members and relatives, and the school was vandalised. (P6)

According to the participants, teaching and learning activities suffered as the social aspect was compromised due to being away from the school. Moreover, teachers and learner were negatively affected emotionally as they lost loved ones due to the pandemic.

Learners suffered a lot as they were behind with their school however, they seemed to be enjoying being home. As for teachers, they were also negatively affected as most of them are very passionate and not being used to staying home. And they were already prepared for the year but everything had to be revised to make up for the lost time. They prepared tests, assignments, projects and lesson plans. The school also suffered a great deal as we found the school vandalised as there was no one coming to the school and check. We also received reports of GBV regarding two learners and one teacher. (P7)

The above response indicated that more issues arose during the hard lockdown, such as teachers and learners being exposed to gender-based violence (GBV).

6.4.2.2 The effects of COVID-19 in district office affected by lockdown

Subject advisors and Circuit Managers- Subject advisors and circuit managers were asked about the impact of the hard lockdown at the district office, with the responses revealing the negative effects.

Everyone at the office was negatively affected, we had to close our offices without any heads-up. (SA1)

we were badly affected, the office was closed for our own safety, and everything changed, people died, people lost their jobs, poverty increased. (SA2)

This was the first time something like this has ever happened in the country or even in the world. We could not be able to work or do our work as we normally do so our duties were negatively affected. (CM1)

We could not access our offices as we were not allowed to go to work because we are not health workers. So, we were not able to do our jobs. (CM2)

We were affected negatively as we lost some staff member during the pandemic. (CM3)

To summarise, the district office was also negatively affected as they had to stop their work and close their offices.

6.4.2.3 Effects of COVID-19 on teaching and learning

Principals - Teaching and learning activities are the main core business of a school. It is very important to understand how this business was affected by the lockdown.

Teaching and learning activities were negatively affected, everything had to stop completely and then slowly we were able to hold face to face classes but a few times a week. Learners had to be grouped and attend the same class or lesson in different days. This created more work for the teachers because they had to repeat the same lesson to different groups in a week. This resulted in the teaching process being slowed down and teaching and learning ended up happening under very strenuous situation to try and finish the year syllabus. (P2)

Furthermore, the other participants said there were no teaching and learning activities taking place during the hard lockdown.

We missed out on teaching and learning time due to the lockdown. Some learning activities and assessments had to be done right away and fast to

ensure that the academic calendar is completed. Some assessments had to be extended which resulted with pressure on teaching and learning activities.
(P9)

From the responses provided by the principals it is clear that in the Amathole East region, especially in quintile 1-3 schools, no teaching and learning took place during the hard lockdown. Moreover, time was lost, and the school calendar had to be amended.

Subject Advisors - Subject advisors were also asked the same question regarding the impact of the lockdown on teaching and learning activities. One subject advisor stated that it was impossible for schools to carry out teaching and learning during the lockdown as everyone in the country except health workers were instructed to stay indoors and close schools as well as offices. There was nothing that teachers could have done as this took everyone by surprise. So, studies were put on hold on hold and matric learners in particular were under pressure.

I do not think anyone was thinking of the school or teaching activities. We were worried that we are going to die, seeing those numbers grow everyday made me so scared. I did not even want to go outside. The school was closed, teachers could not teach, and they love teaching, learners were worried about their future if they will be able to write their matric exams. Everything was up and down nje! Yoh things were difficult. (SA2)

Subject advisors highlighted that no teaching and learnings took place during the lockdown. They further expressed that they were scared and worried for the grade 12s as they have already prepared for their future and their hopes and dreams might not come true.

Circuit Managers - Circuit managers confirmed that no teaching and learnings took place in their region during the hard lockdown.

Badly affected, as teachers and learners couldn't attend classes due to lockdown regulations, the schools were completely closed. There was no way teaching and learning activities could have continued. (CM1)

Time was lost. Everything was on a standstill, and everyone was shocked as we never knew that something like that will happen. But we have learnt our lesson that we need to prepare for things like this. (CM4)

6.4.2.4 Summary and discussion of impact of COVID-19 on teaching and learnings

In summary, all participants said they were negatively affected. They identified issues such as time being lost for teaching and learning activities. This concurs with Shepherd and Mohohlwane (2021: 22) who confirmed that learners lost a lot of learning time. P1 mentioned the social aspect of learning, confirmed by Reimers (2022: 29) who stated that due to the epidemic, learners had fewer opportunities for one-on-one contacts with teachers and peers, which decreased their participation, engagement, and learning. Participants also mentioned the high numbers of learner dropouts, lives lost due to COVID-19, vandalised schools, and rise in GBV case numbers. Blecher *et al.* (2021: 2) reported that the COVID-19 epidemic killed over six million people worldwide and that lockdown measures created the greatest global recession in a century, causing poverty and unemployment to worsen both internationally and in South Africa.

One of the negative impacts of the pandemic was the rise in GBV. This finding is supported by Roy *et al.* (2022: 3) who found that the pandemic caused increased stress and, consequently, increased incidents of GBV. The number of GBV cases reported increased by 30% worldwide because woman and girls were stuck with the perpetrators and unable to reach out for help (UNFPA 2022: 5). Chisango and Marongwe (2019: 160) found during the pandemic there was a high rate of theft and vandalism in the neighbourhoods where the schools were located.

6.4.3 Recovery from the impact of COVID-19 lockdown

6.4.3.1 Current state of the schools

Principals - The aim of the question was to find out how schools managed once the lockdown rules were eased (Note: these interviews were conducted in 2022 which was still in the period of state of disaster in terms of the Disaster Management Act).

The school is back to conducting normal classes and teachers working hard to bring work up to date. However, the school still needs resources and training for teachers on online teaching. (P2)

We are doing well as the school, even though some teachers are finding it hard to catch up as they are always behind with submissions. (P4)

Catching up and recovering became the starting point for schools once the lockdown regulations were eased. However, some schools indicated that they were still struggling to come up to speed due to lost and damaged school infrastructure, equipment and resources. P6 raised the issue of rural areas schools being ignored:

We are struggling, our schools in rural areas are ignored and the department do not care really. We are really struggling, we short tables, chairs, writing boards, printing machines, even one computer we do not have. We reported many times they tell us about the next financial year it's been close to two years now. (P6)

In support of this point, P10 mentioned that it was hard running a rural school as there is no help to make progress. These schools are barely supported, hence the low pass rates. This principal also mentioned that they reported a number of problems caused by the lockdown but received no help from the Department.

Subject Advisors - Subject advisors had a reasonably optimistic response to the question, which contrasted with the responses by the principals.

Not bad at all. Most schools have recovered, and they are doing well. (SA1)

They are doing well; they have recovered the lost time. This year we did not have issues regarding time and recovering. We are back on time. (SA2)

Circuit Managers - Circuit managers confirmed that some schools were still suffering and some schools had to close down permanently due to lack furniture, equipment and shortage of staff.

Some are back on track, as they came up with ideas to work on their recovery. Some are still suffering as we are also struggling to replace what was lost. Some schools had to close down due to short staff and no equipment or

furniture, so we had to transfer learners and teachers to different schools. So, for some it is still a struggle. (CM1)

There will always be a gap, and we will always feel that at some point the schools suffered. But we are hoping for everything to get back to normal. (CM2)

One of the circuit managers mentioned that they would be visiting schools to physically see the damage and come up with solutions.

As much as some schools were back on track, some were still facing challenges as they had lost colleagues due to COVID-19. Principals and teachers worked hard to ensure that they achieved the objectives of their jobs. However, it was quite difficult for them to recover quickly as they lacked resources, equipment, and were short staffed. Subject advisors stated that the schools were back to normal, but survival was questionable. Circuit managers pointed out that some schools had to close down as the infrastructure was destroyed, furniture destroyed and there was a shortage of staff. One of the principals blamed the low pass rate on the Department of Education because of their neglect of rural schools.

6.4.3.2 Schools recovered from the impact caused by COVID-19

Principals –

Recovery is relative. Things have taken a turn for the better, however, recovery is going to be a long road to travel. (P1)

Full recovery has not yet been reached by the school, but it is still in process.” (P5)

However, P6 said:

Until the department decide to take us seriously, we will not recover. (P6)

In contrast, P11 was confident, and said.

Yes, we have. (P11)

Subject Advisors – Clearly, some schools were still trying to get everything back on track with the help of subject advisors.

Most of them have recovered but we still have schools that do not have furniture and equipment since it was stolen during the lockdown. Books were burned and everything was a mess, so we are still trying to help those schools to recover. (SA1)

SA2 specifically mentioned that in terms of teaching and learning activities, schools have recovered but issues such as resources are still a challenge.

Circuit Managers - Circuit managers are required to ensure that schools are functional and operational.

Not all of them. As some schools did not have many issues only the loss of time so those ones recovered well. Others are still working on recovery. (CM1)

Some schools fully recovered and some still have a long way to go. (CM3)

According to majority of the principals, schools were still far from reaching full recovery as they lacked a lot of resources. However, others stated that they were working on it which was promising. One principal highlighted that they need to be taken seriously by the Department of Education. Only one principal confirmed that they had recovered. The subject advisors and circuit managers agreed that some schools were still far from recovery, but they were trying their best.

6.4.3.3 Measures put in place to ensure recovery from COVID-19 lockdown

Principals - Principals were asked what measure they put in place to help their schools recover from COVID-19 hard lockdown.

We dedicated more of our time by extending school hours and working during weekends to cover for the lost time.” as time was one of the issues all school had. (P2)

We were put in the firing line as we are the ones who had to find strategies on how to make things work. Some teachers use their own money to print as our printing machine was stolen. We added 1 hour 30 minutes to our school operational time. We also have extra classes on Saturdays and Sundays for the matric learners. (P6)

Due to lost time, clearly adding more time was needed. P4 mentioned that they had to sit down with parents and the school governing body (SGB) to discuss how to tackle challenges the school was facing. P10 shared how they decided to add 1 hour to their day-to-day school time further for all grades including grade 12. They eliminated some of the content the learners had to learn because there was not enough time to cover it all. This shows that the school was dedicated and invested in their learners' success.

We started by employing rotational strategy, where we divide classes into groups and first group would attend Monday, Wednesday and Friday then rotate the following week, had to ensure that we have sanitisers and masks, we also ensured social distancing and all other lockdown restrictions were adhered to. (P10)

Nwokeocha (2021: 21) echoes this cautious approach by stating that in Africa schools were gradually being reopened with "cautious optimism" so that Covid-19 infections would not flare up again.

Then, we stretched our school time by 1 hour 30 minutes for the recovery of time lost. We also added a Sunday for grade 12 learners. We cut out some of the learning content for grade 8 to 11 as we were behind time. We engaged with the learners to find out how they were doing emotionally as some lost parents during those hard times. We tried our best to ensure that our learners are well accommodated. But teachers are the one who felt the pressure of trying to push content and sacrificed their family times.

It is evident from these responses that some schools came up with strategies that helped them recover from the impact of COVID-19 hard lockdown. Teachers played a huge role by sacrificing their time and being dedicated to ensuring that their schools recovered.

Subject Advisors - The same question was posed to the subject advisors.

We only started coming up with strategies after we came back to work. That is when we decided on adding more extra hours and cutting down on subject content. We tried to help schools that were vandalised but the department came to a decision that some schools should be closed and transfer teachers and learners to other close by schools. Those are some of the things we did to recover. (SA1)

SA2 mentioned that they started with a rotational method meaning learners were coming to school in batches as they did not have enough space to accommodate all learners at the same time because of the 1.5m social distancing rule. The respondent also mentioned cutting down the content, extra classes during weekends, and extended school hours.

Circuit Managers - Circuit managers acknowledged that schools suffered a lot and that it was important to find ways to recover.

We came back from the lockdown with strategies that learners should attend in batches so that we can maintain social distancing to protect them as well as teachers. We pushed exam dates back, extending school ours, cut down on content, additional school days such as Saturdays and Sundays, and cut down on school holidays. (CM4)

6.4.3.4 Summary and discussion of recovery from COVID-19

Only after the lockdown restrictions were eased recovery measures were put on the table. It is clear that there was no communication at all during the hard lockdown. All participants mentioned rotational strategies such as extra classes, extension of school time, limiting learning content, changing exam dates, and reducing school holidays. Furthermore, teachers dedicated their personal time in the effort to recover lost teaching and learning time. Shepherd and Mohohlwane (2021: 23) concurred that rotational timetables were employed, and these allowed learners to be in contact learning for 50% of the 93 days lost. However, Reimers (2022: 29) also mentioned that the pandemic raised the burden of responsibility and stress on teachers.

Furthermore, there was a loss of core content and skills within the fundamentals for each subject and grade.

However, none mentioned anything about how furniture, equipment and other resources that were lost during the lockdown were going to be replaced or when will would be replaced. They did not mention anything about reopening the schools that were closed and replacements of teachers or hiring of teachers with a special focus on schools that were short staffed. One circuit manager mentioned the important issue of space, that some schools did not have enough space to accommodate learners because of the 1.5m of social distancing rule, implying that rural schools were overcrowded to start with so were unable to accommodate all learners. Maree (2022: 251) concurred that in South Africa's public schools, there have always been large number of learners in each class.

6.4.4 The impact of the use of OTL

6.4.4.1 Adoption of online teaching and learning utilised during the lockdown

Principals - OTL was one of the teaching strategies that were encouraged during the hard lockdown, as teachers and learners were not allowed to be at the school premises together. The aim of this question was to find out if the quintile 1-3 school managed to follow this trend.

We are a quintile 2 institution with very limited resources. As indicated before, ours is a school governed through excessive red tape together with very limited resources that do not allow us to move into the digital space. (P1)

Principals expressed the view that they wanted to use OTL, but the Department of Education failed to supply them with the necessary resources.

Impossible, online teaching and learning requires resources such as computers, internet and electricity of which those are the things we do not have. When we are here at school our phones are not working because there is no network, there is no network towers around here. The school does not have electricity as well as areas around here where learners reside. (P5)

All (100%) of the principals said that they did not use OTL during the hard lockdown, although some principals highlighted that they tried using social media platforms such as WhatsApp, but not all learners had mobile phones.

Subject Advisors - The question was posed as follows for the subject advisors and circuit managers: "Did the Consumer Studies teachers teach online during the lockdown? If yes, how was it done and if no why?". Both Subject Advisors said that teachers did not teach online

No, no teaching took place during that time and teachers have never been trained to teach online as this pandemic was not expected. (SA1)

No, no teacher taught online. (SA2)

Circuit Managers - All Circuit Managers responded "No" to the question mentioning reasons such as lack of resources and no provision of training:

No teacher in my district taught during the lockdown, they do not have any resources and it was going to be difficult for them to teach online without proper training and resources. (CM2)

6.4.4.2 Consumer Studies teachers prior experience in teaching online

Principals – It seems teachers never thought that someday they would be required to teach online using technology.

None of my teachers came forward to say they do have experience or not. So according to my knowledge teachers do not have prior knowledge. (P4)

Partly, the younger teacher does know how to use online tools as some studied via online institutions. (P3)

Only the new teachers know a thing or two about online teaching, but they have gained this experience on their own for their personal growth. (P7)

No, our teachers do not have experience in online teaching since this ‘online’ thing is still new to us and never got a chance to learn it before COVID-19 hit. (P8)

Subject Advisors - It is clear that Consumer Studies teachers in the Amathole East district did not have prior experience of teaching online except from the young teachers who were technology savvy with relevant skills for the current ways of doing things.

Our teachers mentioned that they know nothing about online teaching, so I can safely say no! (SA1)

No, they don’t. (SA2)

Circuit Managers –

We have never applied or encouraged online teaching in our district, so I doubt our teachers have prior experience. (CM2)

Some teachers know about online teaching but most of them they do not know anything about online teaching. (CM4)

Other circuit managers mentioned that some teachers might have experience based on their personal capacity. However, CM3 pointed out that they were not sure if teachers did have prior experience or not, the only way to find out would be to ask them.

It is quite clear that Consumer Studies teachers in the Amathole East district were not familiar with OTL, except for the new teachers who studied in university where OTL is a normal method of teaching. These findings indicate that the Department of Education had not played a role in ensuring that their employees were updated sufficiently to the ‘new normal’.

Principals - Participants were also asked if the school had resources. All principals said no, they did not have resources nor tools to teach online. Clearly rural school or quintile 1-3 schools were struggling.

We do not even have one computer or laptop, even when we want to print something, one has to use their own money then claim it afterwards. I think it

will take us a long time to get all of these resources because the department of education does not even think of rural area schools. And not only resources, we bring water from our homes and we are still using pit toilets. So, everything is hard for us. (P6)

Our school is one of those neglected schools in the region, we do not have computers or even printing machines. (P4)

Our school only have few desktop computers with no internet. (P2)

It is a serious concern that schools lacked basic resources or equipment that could help keep the school functional.

Subject Advisors – Subject advisors were in line with principals that resources were a problem in all schools within the Amathole East district.

Most of our schools in this district are disadvantaged so they do not have fancy equipment or technology. We would also love to see them improve but it is hard as finance is a problem. (SA1)

The schools do not have digital tools as there is not enough funds, according to the Department. (SA2)

The responses of the Subject Advisors show that rural schools are disadvantaged because they do not have updated technologies or digital technologies that may assist in enhancing teaching methods.

Circuit Managers -We preach digitalisation on a daily basis especially after covid but we are struggling to supply schools with the necessary tools and resources due to lack of funds. To answer the question, no schools do not have digitalisation tools. (CM1)

CM3 went as far as saying that some schools have computer labs, but they do not have enough for the number of the learners that they have.

CM2 went further:

In our region, no. (CM2)

All principals mentioned that they did not have any tools or resources that supported OTL. The subject advisors and circuit managers concurred that schools were not well equipped. However, some circuit managers did not seem to understand the concept of OTL because they referred to some schools having computer labs. OTL is a teaching method that happens when the teacher and learner are in different locations, so having computer labs are not relevant to the OTL issue. Hence, training is needed.

6.4.4.3 Perceptions of online teaching and learning for current school

Principals - Lastly under the use of OTL, principals were asked their opinions or perceptions regarding OTL.

Interestingly, P3 stated that “I believe it is only conducive to urban schools only. As they have resources.”

However, other principals such as P4 said “the world has gone digital in so many ways which I think it will be beneficial to us and learners to stay relevant. It will be helpful because we can produce good potential university students as we always receive complaints that our learners do not know how to operate computers but what can we do if our department is failing us?”

This proves that principals have different perceptions regarding the adoption of OTL. P3 did not respond regarding benefits they would gain from adopting OTL as a method of teaching, however, it is still their opinion on OTL.

Digitalisation makes teaching and learning much easier for teachers and learners as it will be quicker to assess and record marks. And learners will also be assessed wherever they are. (P5)

We live in a world driven by the fourth industrial revolution, so online teaching is the way to go and we need to familiarise ourselves with it. (P9)

Online teaching and learning will be successful only when there’s resources to support the online learning. Provision of data, gadgets and all other necessities are a hindrance for schools in rural areas and some townships to pilot the online learning, teaching and assessment digitally. (P5)

Willingness to learn, which is one of the most important attributes teachers needs to have in order to be able to acquire new skills. (P7)

Subject Advisors - The perceptions of subject advisors are important as they are the ones involved in designing subjects and they understand the needs of teachers and learners within those specialised subjects.

Online teaching is only functional in schools that have everything that is needed. Yes, it is good to learn about it as universities are doing everything online. Learners love technology am sure they will enjoy being taught online. (SA1)

It is clear that resources are important for the successful implementation of OTL. SA2 said they would like to learn more about OTL as it looks very interesting, and went on to say:

Our schools will be like Model C schools and our learners will pass very well. (SA2)

Subject advisors showed positivity regarding OTL; they believe that they would be able to produce good learners, and one of them mentioned that learners will enjoy OTL as they love technology.

Circuit Managers - Circuit managers were also asked what they think about OTL.

Based on what we saw during covid lockdown, we need to use it. Looking at quintile 4 to 5 school, it was amazing to see that they are continuing with their schoolwork even if they are far from the school premises. For example, my children did not suffer any time lost in their studies. Our location and rural schools need to be equipped properly so that learners in these areas do not get left behind as universities now want learners to apply online. How are they going to apply without understanding the word 'online' itself? (CM1)

We need competitive learners that can be able to survive in a tertiary environment. So, I think online teaching and learning will be very beneficial not only to learners but teachers as well because today's generation is technologically savvy. (CM4)

It is concluded that most principals believe in the positive gains of OTL. Principals believe that their teachers and learners would benefit a lot in terms of being relevant to a world driven by the fourth industrial revolution. Some of them believe that it is a good teaching method and very interesting as today's learners love technology. Along with subject advisors, principals believe that OTL is viable in schools that are fully equipped, and they believe that with OTL they will be able to upgrade their schools. OTL is very important as schools within quintile 4-5 categories managed to continue with their studies. This means that OTL will help if the world faces another scenario like COVID-19 in the future.

6.4.4.4 Summary and discussion of use of online teaching and learning

To summarise: no school used OTL methods during the hard lockdown as teachers and learners were never trained, were never provided with resources and no one knew that at some point this would be needed. Chisango and Marongwe (2021: 159) in Sedibeng West, Gauteng, South Africa, three quintile 1 secondary schools were used to study the extent of the digital divide. The authors concluded that OTL was not truly practical as learners lacked the necessary ICT skills, schools also lacked management tools, with no access to wi-fi, lack of financial means to purchase data, and network connectivity issues. These challenges are the same as the ones mentioned by participants in the current study. Some principals mentioned that they tried using social media platforms and failed as learners came from different backgrounds and some did not have mobile phones.

The responses above indicate that these schools were not getting the support they needed from the Department of Education. Principals mentioned that teachers were expected to switch to OTL without any guidance and support from the Department. Khoza (2020: 247) stated that teachers were expected to find ways of educating learners without standardising the process and developing a learning design model to compare it to.

Nwokeocha (2021: 19) investigated the impact of COVID-19 on teaching and learning in Africa and noted many difficulties regarding OTL implementation such as lack of

digital infrastructure (e.g. personal computers), inadequate internet access, a lack of electricity, inadequate ICT skills, and a large number of teachers who did not meet the minimum standards for professional competence.

6.4.5 Department of Education policies and guidelines

6.4.5.1 Familiarity with the Department of Education policies and guidelines on teaching and learning

Principals - All the principals confirmed that they are familiar with the Department of Education policies and guidelines.

The Department of Basic Education has a myriad of policies on teaching and learning, and it is imperative that any person who assumes a position of principal of a school governed by those policies to be familiar with them. (P1)

Yes, I am familiar, I have been engaging with them ever since I came became a teacher. As they are guidelines on how we should manage schools, conduct our teachings, assessments, types of assessments, inclusive education and processes and procedures. (P7)

Principals are familiar with the Department of Education policies and guidelines, as it is very important for them to know them. Policies are there to guide principals and teachers on their day-to-day work. They assist them in doing what is required and how it is required.

6.4.5.2 Subject advisors' and circuit managers' role in the effectiveness of department of education policies and guidelines on the teaching and learning

Subject advisors and circuit managers were asked about their role in ensuring the effectiveness of Department of Education policies and guidelines. Subject Advisors and Circuit Managers are the ones that principals and teachers go to when they have problems or if they do not understand something.

Subject Advisors –

Our role is to guide teachers specifically on Consumer Studies subject. We guide them using the CAPS document and assessment policy to direct them on how they should conduct their lesson and what is needed as well as how to conduct assessments. (SA1)

My role as the subject advisor is to support and guide Consumer Studies teachers throughout the year. I workshop them on the subject and what is required by the subject. In a case whereby they do not understand, I help them out. I also monitor their subject files to see how they are doing by looking at the performance of learners and methods of assessments used. If they have any issue maybe with at risk learners, we come up with corrective measure to assist those learners as they are also in our policies. (SA2)

Basically, the responsibility of the subject advisors is to support Consumer Studies teachers and guide these teachers and principals on what to teach, how to teach it, and what needs to be assessed. Furthermore, they keep track of teachers' work and monitor their work.

Circuit Managers - Circuit managers are responsible to ensure that policies are implemented within the schools.

Our role is to ensure that the policies are followed accordingly (CM3)

I have the responsibility of ensure that teachers and principals are aware of policies in place, why the policies are in place and how to apply them in their contexts. (CM2)

We communicate with principals and SGB's by providing schools with the services they need. Our role is to ensure the successful application of the policies as we are responsible for quality of basic education. (CM1)

Overall, the circuit managers are there to ensure that principals are aware of the policies, and confirmed in their comments they are aware of them. They also ensure that policies and guidelines are applied accordingly.

6.4.5.3 Department of Education policies or guidelines based on online teaching and learning

Principals - This question was only directed to the principals as managers of the school to rate their knowledge on Department of Education policies and guidelines on online teaching and learning. 91% of the principals confirmed that there is a policy of online teaching and learning.

Yes, we do have e-learning policy but have never been implemented especially in our area. (P3)

Yes, there is one e-learning, but we are not that familiar with it since e-learning is not yet our interest. (P10)

According to P10 they are not yet interested in OTL as they still need to focus on the basics first, such as infrastructure, resources and equipment.

Yes, there are, one of them being the White Paper on E-education. (P5)

The response by P5 implies that there is more than one policy of OTL. P6 and P8 both agreed that a few years back the Department of Education developed a White Paper on e-Education which they believe is about OTL, but they have never engaged with it as they have not been encouraged to do so. Although, the White Paper is available, the Department of Education has a duty to play their role to encourage schools to look into it.

6.4.5.4 Purpose of Department of Education policies and guidelines on teaching and learning

Subject Advisors - Subject Advisors and Circuit Managers were asked to explain the purpose and implications of Department of Education policies and guidelines.

They imply that principals and teachers should follow certain instructions to manage the school and how to carry out the teaching and learning successfully. (SA1)

SA1 seems to be referring to instructions or manuals that principals and teachers need to follow.

This is further explained by SA2:

Basically, these are guidelines that guides teachers through the teaching of the subjects and behaviour or even employment requirements processes. We have many policies that governs the management of the school. (SA2)

Circuit Managers - The circuit managers responses were in line with those of the subject advisors.

They are a book of instructions telling the school and teachers how they should teach, assess, run the school, what is allowed and what is not allowed. They are a booklets with list of expectations of the department of education from their employees or how their employees should do their work properly. (CM1)

Policies actually tell the teacher or principal what should be done regarding the management of the school, how the teachers should teach, test, examine and calculating of marks. (CM3)

According to the subject advisors and circuit managers, the Department of Education policies and guidelines inform the principals and teachers what to do, how to do it, and when to do it (their jobs). They are guidelines that should be followed to ensure proper running of the schools and proper handling of subjects.

6.4.5.5 Workshopped or trained on the application of policies or guidelines

Principals - Most principals said yes, they have been workshopped but one principal, P9 said:

No, I was never workshopped. One is expected to familiarise themselves with the policies by themselves. (P9)

P11 said:

We haven't seen workshops in a long time now, they used to train us often but not anymore. (P11)

The majority of responses indicated that principals and teachers do get trained and are workshopped on how to apply the Department of Education policies and guidelines. P4 confirmed that they were workshopped on the policies, but the principal also mentioned that they do not remember when last they attended a workshop, and they have new teachers who have been employed for over a year but have never received an invitation to attend a workshop. In contrast, P5 said:

There are always workshops running, the department always sent invitations of workshops but how we get there is a problem. Some teachers do not have cars and even those with car complain about petrol as we have to drive 2 hours to reach the district office. (P5)

P8 stated that they attend workshops because they want to be relevant and do things according to how the employer expects.

Subject Advisors - The same question was posed differently for Subject Advisors and Circuit Managers, as they were asked if principals and teachers had been workshopped on the relevant Department of Education policies and guidelines.

Yes! all our teachers are workshopped thoroughly. (SA1)

Yes we workshop and train our teachers regularly especially when we see that it is needed, we ensure that they are well trained. (SA2)

It is clear that principals and teachers do get workshopped, as the majority of the principals stated.

Circuit Managers - Circuit Managers responded to the same question as the Subject Advisors and they all answered yes to the question. They also emphasised that workshops take place often throughout the year.

Yes, as we conduct workshops often during the year. (CM1)

6.4.5.6 Adherence to the Department of Education policies and guidelines

Subject Advisors - Subject Advisors and Circuit Managers were asked about the methods they use to ensure that principals and teachers are meeting the requirements of the Department of Education policies and following the guidelines.

We train them well by ensuring that they understand everything that is required. Then we monitor them throughout the year. (SA1)

We monitor their subject files and administrative files of principals; they are a communication to us. They tell us exactly if teachers and principals are following the guidelines. As well as the workshops we conduct. (SA2)

Circuit Managers –

We ensure that we invite principals and teacher to attend trainings and workshops, that is why we keep repeating workshops, but some teachers and principals do not take workshops seriously. But they do try to keep up with the requirements of policies. Number of cases we receive tell us exactly if these problems in implementing of policies. (CM1)

We check up on them, if we feel like many of them are struggling then we organise another workshop. Even some principals request for workshops if they do not understand something but most of them are familiar with the policies the problem might be application. We send Subject Advisors to facilitate and monitor the work done then we conclude from the feedback if principals and teachers follow the policies and guidelines. We also meet with SGBs for reports. (CM4)

Circuit managers highlighted that workshops and trainings are important to ensure that principals and teacher understand what is expected from them. They further rely on subject advisors' feedback. However, they pointed out that some principals and teachers do not take workshops seriously.

Methods that were used to monitor principals and teachers with regards to policies and guidelines application included training and workshops, repeat workshops, monitoring

of administration files and subject files, reports on how issues are handled, and meetings with SGBs. In addition, assessment of cases in schools also bring to light any problems.

6.4.5.7 Summary and discussion on Department of Education policies and guidelines

Principals are aware of the Department of Education policies and guidelines because they are trained and have been workshopped on how to apply them. However, one principal stated that they are familiar with the policies and guidelines but only because they decided to learn about them themselves not because they received any workshop. 100% of the respondents said that they were aware of the White Paper on e-Education. Dhawan (2020: 15) stated that the Department of Education came up with a digitally adopted emergency curriculum and felt that it is a good and reusable curriculum. Furthermore, workshops and training took place often throughout the year to assist teachers and principals in problematic areas or issues they come across.

6.4.6 Online teaching and learning of practical subjects

This theme was derived from the questions “do you have experience in teaching practical subjects online?”, and “were the practical subjects taught during the lockdown?”. Respondents were asked if they had received any guidelines from the Department on how to conduct practical subjects online. In addition, principals were asked if they have any suggestion on how practical subjects can be taught online.

6.4.6.1 Experience in teaching practical subjects online

Principals - Principals were asked if they have taught practical subjects online and all principals responded with a “No”. They were further asked if practical subjects were taught during the lockdown.

The subjects such as Consumer Studies only got to be taught once the government relaxed the lockdown regulations. (P1)

As we did not go digital and no communication, there was no teaching of any subject at all. (P4)

The principals clearly stated that they have never taught practical subjects online and others went as far as saying they have never taught any subject online before. Furthermore, all principals said that no teaching took place during the hard lockdown.

6.4.6.2 Prior experience in teaching practical subjects online

Subject Advisors - Subject advisors were asked if they think schools had prior experience in teaching practical subjects online.

No, they don't. It is a concept that we have never emphasised before this lockdown thing. (SA1)

Our teachers do not have experience in teaching online. (SA2)

The response of subject advisors showed that teachers had never been trained in online teaching.

Circuit Managers –

I do not think so (CM2)

No, our schools this side are suffering with lack of resources, so no school has ever taught any subject online. (CM3)

However, P4 highlighted that some teachers knew how to work online but had gained experience on their own for their own personal growth and mentioned that none of their schools were reported to be teaching online.

Based on the responses, no schools within quintile 1-3 category in the Amathole East district taught practicals online as the teachers had no experience in teaching online. Furthermore, learners also need to be trained on how to work online.

6.4.6.3 Guidelines from subject advisors and circuit managers

Principals - Principals were asked if they received any guidelines from subject advisors or circuit managers on how to conduct practical subjects during the lockdown. P3 and P8 stated that there was no communication between subject advisors, circuit managers and the school. However, P7 stated that subject advisors came up with ideas.

No, no communication at all. (P3)

Yes, our subject advisors tried to come up with ideas, but they kept forgetting that we need resources and tools for everything. As their suggestions are doable but without resources, they become impossible. (P7)

Subject advisors do not really care for our schools in rural areas, they are very hands on in urban schools. (P10)

Principals did not receive any guidelines regarding the practical subjects, but principals did mention that no teaching and learning activities took place during the hard lockdown.

6.4.6.4 Ensure the teaching of practical subjects during lockdown

Subject Advisors - No one expected the pandemic, even the education sector did not see it coming, so everyone was very unprepared.

I did not ensure anything as I was confused myself. (SA1)

The schools and offices were closed, we could not work. Unfortunately, we couldn't do anything. (SA2)

Subject advisors were also shocked, and they were unable to do anything because their offices were closed as they did not fall under health workers category, so they also had to stay home.

Circuit Managers - All circuit managers stated that they could not do anything as nothing was prepared and nobody knew that the country would be on a lockdown.

Nothing, as we cannot ensure teachers are working without providing with necessary tools. (CM1)

Were we all home, afraid of covid so we couldn't do anything at that moment. (CM3)

As hard lockdown was not expected, there were no preparations as subject advisors and circuit managers were also home and could not access their offices so there was no way they could have communicated with the schools.

6.4.6.5 Description of Consumer Studies subject and its practical component

Subject Advisors - This question was directed to the subject advisors as specialists in the subject of Consumer Studies.

In our district learners are required to complete food production practicals. Where they produce food items and learn to sell them by understanding selling price and production costs. However, Consumer Studies subject is focusing on clothing production, patchwork quilting by hand, knitting or crocheting, soft furnishing production and food production in terms of practicals. And it is a practical subject done from grade 10 to 12. (SA2)

We used to call Consumer Studies Home Economics back in the day. Where we teach learners how to survive basically, we teach them how to cook and make business out of it, we teach them how to knit as for business purpose, we teach them about nutrition meaning how they can eat healthy. So practically in our region or district we only looking at the cooking components of the subject where learners produce products and understand how much is needed to produce it and how much they can sell it for. So, our practical components support entrepreneurship skills.” (SA1)

The subject advisors basically said that Consumer Studies is an FET subject meaning it starts in grade 10 until grade 12 and it is a subject that encourages entrepreneurship. In the Amathole East district their main practical component is food production.

6.4.6.6 Suggestions for incorporating online teaching tools for the practical component of Consumer Studies

Principals - Principals were asked if they had any suggestions on how the teaching of practical subjects could be enhanced using online tools.

Firstly, the Department of Education should invest in these online resources and train teachers on online teaching and there should be policies implemented to regulate the whole online teaching and learning process. (P2)

Learners may be able to practice what will be done in class before the lesson. As they are able to record, learners can keep going back which will help them remember for exams. Again, if it happens we get hit by another pandemic we will be able to continue with the lesson and not be left behind. (P4)

Provision of resources and all other requirements to successfully use online platforms is what will enhance the use of online tools for teaching of practical subjects. (P5)

I don't think our schools and community of our learners have enough resources for the ideology of online practicals. (P8)

Some principals did not have any suggestions.

I have no experience in teaching practical subjects online. My knowledge in that space is non-existent. (P1)

Principals did not have many suggestions as they were not familiar enough with OTL, as they stated that they had no previous experience in OTL. They stressed the need for resources and support from the Department of Education.

Subject Advisors –

It is going to take too much time and money that we already do not have. Yes, it would be nice to be able to shift with the times but realistically speaking it is not possible any time soon. (SA1)

Learners can be able to practice away from school which will enhance their learning abilities. I have not thought about this yet so I will need to think hard about it. (SA2)

According to the subject advisors, the adoption of OTL into the Consumer Studies curriculum will be costly and will take a lot of time, which will require patience, but OTL does have the potential to enhance learners' learning abilities.

Circuit Managers –

By online tools, we refer to internet and computers. It is not easy to conduct practicals online. But the teacher can present a skill needing to be performed online while learners watch, and it will become easier for learners to do the task. Teachers can use MS Teams especially for assessments where learners can perform the skills required at their comfort so that they not panic. (CM1)

Thus, subject advisors believe that online teaching methods may enhance teaching and learning activities.

We firstly need to equip our teachers with resources, infrastructure and resources, to be able to perform any online lesson. As Consumer Studies is a practical subject, I think it would be good to teach the theoretical part online than practical. Learners need to see exactly how things are done. But teachers can invite top chefs to show learner how to produce certain dishes or calculate selling price online because it might interest learners and retain their attention if they receive a lesson from their favourites or role models. (CM4)

CM4 highlighted that practicals in a subject require learners to be hands on in order for them to comprehend procedures and steps of producing products. CM1 and CM4 suggested blended learning for Consumer Studies. CM3 had a different angle on this matter:

I think teaching online might not be conducive as teachers and learners might end up being lazy and not come to school. Maybe if they can use it in a form of blended learning where they can watch videos before the lesson then they can go to class with some direction. (CM3)

This means that teachers' and learners' morale might be compromised.

6.4.6.7 Summary and discussion of online teaching and learning

No teaching of practicals took place during the lockdown and none of the participants had ever taught practical subjects online before. Sarac (2020: 1) confirmed that the Department of Education decided to postpone any practical components needed to be completed during the lockdown. One participant suggested that teachers could allow

learners to perform practical items online then record and send them to the teacher. Some participants felt like OTL is not meant for their schools or the Consumer Studies subject. In their study, Chisango and Marongwe (2021: 160) found that some principals and teacher were technophobic, meaning that they were not interested in technology and therefore try to avoid it. However, the authors stated that the reason for not being interested in technology is usually only because of lack of training and so lack of ICT skills. One principal suggested blended learning as the practical component requires learners to be hands on and guest teachers or chefs could show learners online how things can be done which can be recorded as videos if learners want to use them as revision. Hence, Elhaty *et al.* (2020: 2867) highlighted that teaching practical subjects such as science, health, languages, and gastronomy online without application or practical work may create greater challenges for learners. However, laziness was highlighted as a disadvantage that might be caused by OTL. The main issue raised though, was the lack of resources which will definitely send OTL into failure.

6.4.7 Teacher training

6.4.7.1 Teacher training or workshops on conducting lessons from home during the lockdown

Principals - Training and workshops would have helped teachers to be confident about the work, but P4 mentioned that teachers were never provided with training to teach outside the classroom with learners in different locations; P1 stated:

Teachers conducting lessons from home require infrastructure on both sides of the spectrum (teachers and learners). Training of teachers will require that learners are also equipped not only with resources but capacity to undertake lessons online. (P1)

These responses are clearly stating that if teachers and learners were provided with training and resources, they would have been able to conduct lessons online. However, P8 mentioned that.

when covid hit, no one expected that it would be so big that the country will need to lockdown. So, there was no time for training. (P8)

Thus, proper training together with enough time for practice would have helped. Other than that, all principals said no training was provided as the lockdown was not expected.

Subject Advisors - Subject advisors concurred that no training was provided so they were not prepared for the lockdown.

No, no one expected the lockdown. Everything was a rush then boom lockdown level 5 the world pandemic then everything had to be on a stand still. (SA2)

Circuit Managers - The circuit managers also stated that no training was provided for the principals and the teachers.

No training was provided, even us we did not receive training on how to work from home. (CM4)

From these responses it is gathered that everything needs to start with the Department of Education in order for them to be able to transfer knowledge to the schools.

6.4.7.2 Provision of resources to work from home

Principals - Participants were asked if teachers were provided with resources and tools to work from home.

No, the school itself does not have resources to even do print outs or computers to go through emails. So, it will be very hard for the department of education to provide teachers with resources. (P3)

No resources were made available to teachers to work from home. (P5)

No resources provided. (P8)

All the principals mentioned that no resources were provided to the teachers to work from home. Hence, teachers were unable to work from home because they had nothing to work with.

Subject Advisors - The functionality of the school requires resources, but subject advisors concurred with the principals, saying that teachers were not provided with resources.

Circuit Managers –

It was going to take us until after covid to provide all teachers with resources.

So, no. (CM1)

CM2 agreed that the lockdown took everyone by surprise, so no preparations were made.

6.4.7.3 Checking up on teachers during the lockdown

Principals - Lastly, principals were asked how they were checking up on teachers during the COVID-19 hard lockdown.

Truly speaking, we were not checking up on each other. (P4)

We used our staff WhatsApp group to communicate updates and to check up on each other. (P7)

P2 also mentioned that they used social media as a way of communication during the lockdown.

Via social/communication media platforms such as WhatsApp, phone calls and texts. (P2)

Some principals mentioned that they were focusing on their families and forgot about work as they were losing close family members during that time. They also mentioned that they were getting updates via television and radio as well as online media.

Subject Advisors –

I couldn't checkup as I did not have personal numbers to call as I left everything in the office hoping that the lockdown was not going to last that long. (SA1)

The same response was received from SA2. It is clear that everyone was minding their own business trying to protect themselves and their families and following the rules and regulations of the lockdown.

Circuit Managers - CM1 stated that they did not check up on teachers during these time as they were home in the rural areas with no network to make calls. CM3 said:

We never had such relationships with principals and teachers. Hence, we were not checking up. (CM3)

The type of relationship also played a big role, as the circuit managers stated that they do not have relationships other than work relations with principals and teachers so they did not checkup, although this could have given principals and teachers strength if they experienced their employers or the Department of Education caring for them even in difficult times. CM4 admitted:

To be honest, we did not check up on teachers. (CM4)

6.4.7.4 Summary and discussion of teacher training

Participants stated that teachers were not trained on OTL due to the fact that the COVID-19 pandemic was not expected, and no resources were provided in order for teachers and learners to teach and learn remotely. This finding is supported by Chisango and Marongwe (2021) who noted that obstacles preventing the adoption of digital technology in rural schools include lack of digitally proficient teachers, inadequate digital technology infrastructure such as computers and slow internet connections, and teachers' attitudes towards accepting and using digital technology. Frimpong (2021: 169) points out that without resources, even a skilled, trained and prepared teacher will not be able to engage in an OTL process.

Furthermore, participants were asked whether they supported or checked up on teachers. some principals mentioned that they phoned their staff members and others mentioned that they had WhatsApp groups for communication. However, subject advisors and circuit managers stated that they did not check up. This shows that teachers did not receive adequate support from the school management or Department

of Education. UNESCO (2020: 3) states that teachers need relevant and quality professional development and support to be able to continue teaching in crisis contexts.

6.5 THEMATIC ANALYSIS

Thematic analysis revealed the following themes.

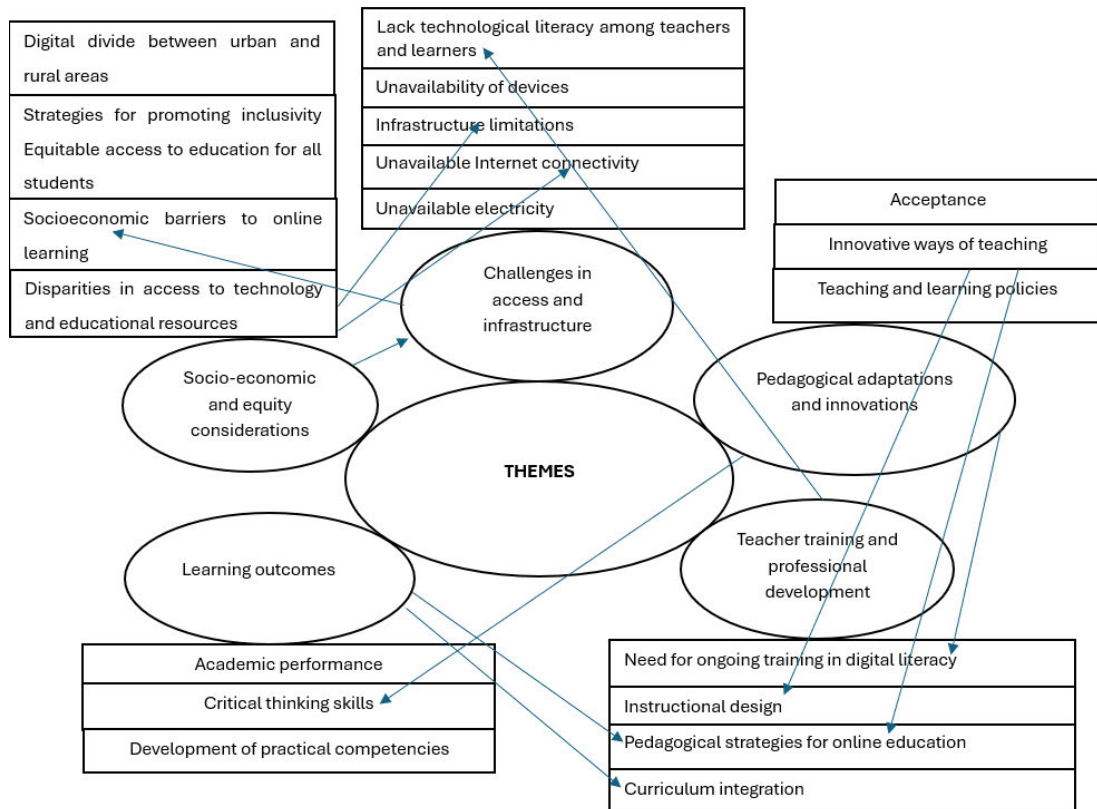


Figure 6.1: Thematic map of themes emerged during the interviews

6.5.1 Challenges in access and infrastructure

All participants expressed concern with regards to the challenges in access to resources and infrastructure. This showed that schools in the Amathole East district which is a rural area is facing challenges such as unavailable electricity, unavailable internet connections, infrastructure limitations and technological literacy among teachers and learners. Hence, this theme focuses on challenges in access and infrastructure.

6.5.2 Pedagogical adaptations and innovations

The focus of this theme is on pedagogical adaptations and innovations. Some participants mentioned that they are not familiar with the Department of Education policy on OTL. They further mentioned that it is not easy to adapt into any new teaching methods as they do not receive any support from the department. They also mentioned that OTL will not be suitable for practical subjects. This shows that these issues of adaptation and being innovative.

6.5.3 Teacher training and professional development

Participants mentioned that teachers never received any training nor resources to conduct OTL lesson for Consumer Studies subject. The significance of professional development programmes and teacher training in facilitating the efficient use of online teaching and learning tools is the main focus of this theme. It may include discussions on the need for teacher training, ongoing training in digital literacy, instructional design, curriculum integration, and pedagogical strategies for online education.

6.5.4 Learning outcomes

This theme emerged after participants mentioned that OTL is not suitable for the teaching of Consumer Studies as it contains practical component. This theme discusses the impact of OTL tools on Consumer Studies learning outcomes. It includes expected academic performance, critical thinking skills and the development of practical competencies.

6.5.5 Socio-economic and equity considerations

In the development and implementation of OTL tools in secondary education, this theme tackles equity and socioeconomic issues. The digital divide between urban and rural locations, socioeconomic impediments to online learning, differences in access to technology and educational resources, and tactics for fostering inclusion and fair access to education for all students are a few topics that may be covered.

6.6 SUMMARY OF THE CHAPTER

This chapter provided qualitative data analysis in the context of the study's aim and objectives. The data was grouped into themes, illustrated by direct excerpts from the interview transcripts. The findings revealed that the COVID-19 hard lockdown affected all school stakeholders negatively. The findings show that the quintile 1-3 school never got the chance to adopt OTL methods due to lack of resources and training. Chapter 7 presents an overview of the study and the findings as well as conclusions and recommendations arising therefrom.

CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS

7.1 INTRODUCTION

The empirical study was outlined in Chapter 1 and the research findings in Chapter 5 and 6. This chapter concludes the study by focusing on the conclusions, implications and recommendations based on the findings. In Chapter 1, the main objectives were stated related to exploring the efficacy of an OTL in the practical component of Consumer Studies in selected schools in the Amathole East district. The researcher applied a mixed methods approach to ensure that the phenomenon under discussion was fully explored through multiple lenses. This chapter will first provide a summary of the conceptual framework of this study. Furthermore, this chapter will also discuss the empirical findings of the study which also influence the recommendations made. The researcher also presented the OTL tool that supports the practical component of Consumer Studies subject in the Amathole East district. The researcher then expressed the implications this study will have on policy, theory and practice. Chapter 7 also discusses the limitations that affected this study and future research opportunities are highlighted.

7.2 SUMMARY OF THE CONCEPTUAL FRAMEWORK

According to Chukwuere (2021: 2681), a conceptual framework is a concept or structure of a thesis or dissertation that outlines the map of the literature review. Furthermore, it directs the researcher to achieve the objectives and helps the researcher to identify locations of data, the process of gathering data, and appropriate ways of analysing data (Hughes, Davis and Imenda 2019: 24). To develop an OTL tool that supports the practical component of Consumer Studies subjects in quintile 1 to 3 school, a conceptual model that is supported by extensive literature is important. The conceptual model for this study is illustrated in Figure 7.1.

Figure 7.1 presents a conceptual framework of this study after exploring the efficacy of an OTL in the practical component of Consumer Studies subject in selected schools in the Amathole East district. This conceptual framework supported this study in terms of deciding on the most appropriate research approach, research philosophy, data collection methods, data analysis methods and interpreting the findings. The conceptual framework showed that, the adoption of OTL was fast tracked by the COVID-19 pandemic. The study then focused on the practical component of Consumer Studies subject in quintile 1-3 schools mainly in rural areas in the Amathole East district. According to the framework school and the subjects are governed by department of policies such as teaching and learning, rural education and e-education. Furthermore, the department of education policies lays out the objectives of the policies and implementation process. Figure 7.1 presents a conceptual framework of the development of OTL tool that supports the practical component of Consumer Studies subjects.

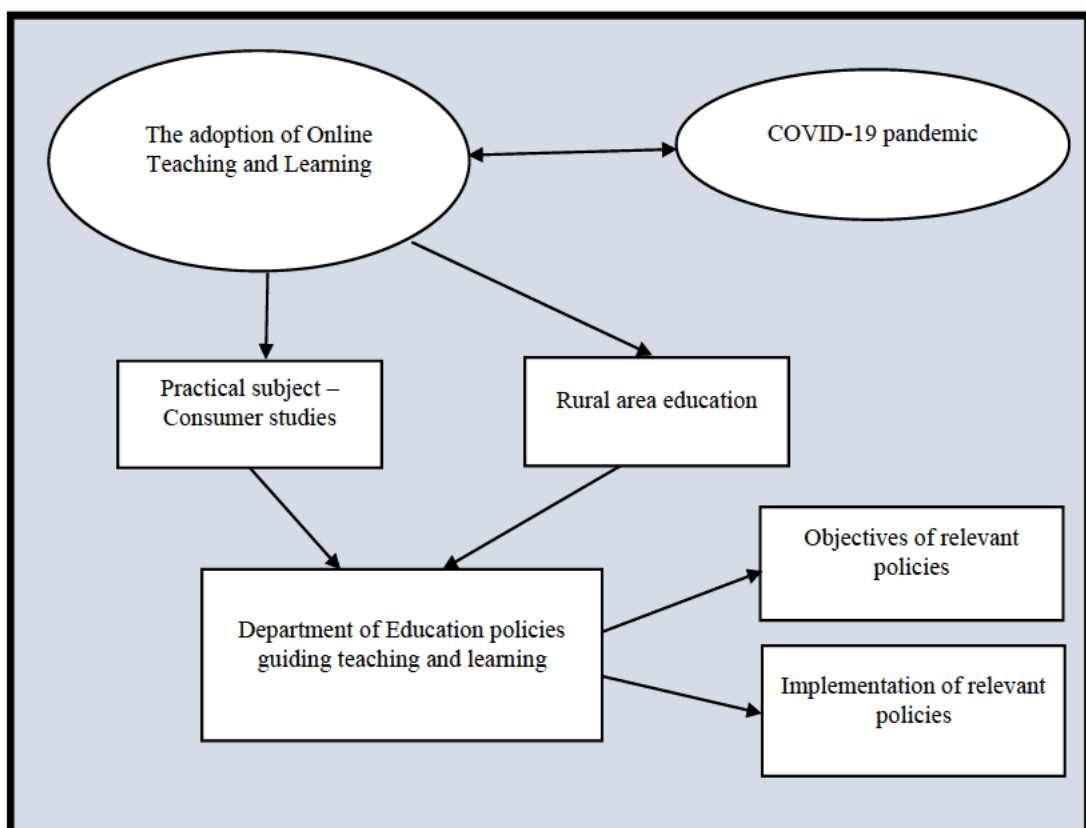


Figure 7.1: Conceptual framework for the development of OTL tool that supports the practical component of Consumer Studies subjects

7.3 SUMMARY OF THE EMPEIRICAL FINDINGS

The empirical findings of the qualitative and quantitative studies will be discussed in line with the objectives, as shown in Figure 7.2.

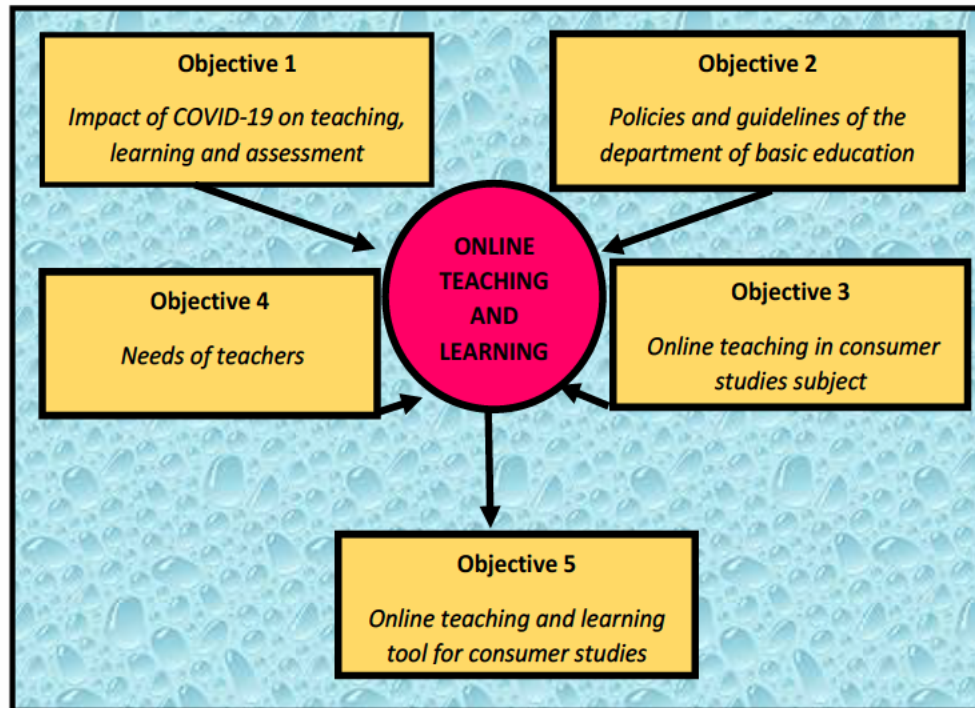


Figure 7.2: Objectives of the study

7.3.1 Demographics

The findings of the study were presented and discussed in chapter 5 and chapter 6. The participants of this study were the Amathole East district Consumer Studies teachers, principals in schools teaching Consumer Studies, and Consumer Studies subject advisors and circuit managers. The majority of teachers were females, and they were between the ages of 21-30, 31-40 and 41-50. Moreover, the majority of the teachers were black, permanently employed with the majority being employed for 0-10 years. The principals were all black mainly males, and between the ages of 41-50 years. In addition, most principals had occupied the position for 6-10 years and were in possession of a diploma qualification. The subject advisors were a male and a female, both black, between the ages of 41-50 years, in possession of degrees and had been

subject advisors for 0-5 years and 6-10 years respectively. Circuit managers were all black and mostly males with the majority being 31-40 years of age. The majority of the circuit managers had been in the position for 0-5 years and most of them had degrees.

7.3.2 Objective 1: *To analyse the impact of COVID-19 on teaching and learning of Consumer Studies in quintile 1 to 3 secondary schools in the Amathole East district*

All of the participants agreed that the COVID-19 pandemic negatively affected the teaching and learning of Consumer Studies in quintile 1 to 3 secondary schools in the Amathole East district. No teaching and learning activities took place because schools were closed due to the lockdown regulations. Gustafsson and Deliwe (2020: 3) reported that due to the COVID-19 pandemic schools were closed, and learning was lost. This reveals that teaching and learning activities suffered as everything was at a standstill. Shepherd and Mohohlwane (2021: 22) confirmed that learners lost a lot of learning time. One principal also mentioned that social aspect of learning was removed as learners could not attend classes and engage with their peers as well as teachers. These sentiments are supported by Reimers (2022: 29) who stated that during the COVID-19 pandemic the opportunity for learners to interact with their peers and teachers was limited, which caused a decrease in learner engagement and participation. Reimers's show that not only teaching and learning activities suffered but learners suffered as well, as some learners learn best from their peers and by being able to engage with teachers by asking question. Hence, connectivism theory is best suited for this study as it supports connections and relationships between learners themselves, learners and teachers as well as learners and learning material (Siemens 2004: 4). However, social interactions were not possible during the lockdown in the Amathole East district.

According to 63% of the principals, teachers and learners suffered emotionally as they lost their loved ones and others suffered abuse in their households. Furthermore, they mentioned that some schools had their infrastructure vandalised and equipment was stolen. In this regard, Roy *et al.* (2022: 3) concurred that the pandemic caused

increased stress and consequently, rising incidents of GBV. The UNFPA (2022: 5) reported that the number of GBV cases reported increased by 30% worldwide because woman and girls were stuck with the perpetrators and unable to reach out for help. All subject advisors and circuit managers mentioned that schools were vandalised during the lockdown and some schools had to be closed permanently which required teachers and learners to be moved to other close by schools. However, the respondents did not mention anything about reopening the schools that were closed. Chisango and Marongwe (2019: 160) observed that in the neighbourhoods where schools were located there was a high rate of theft and vandalism during the pandemic. It is clear that the pandemic had a negative impact on schools as a whole, as it not only affected teaching and learning activities, but the infrastructure as well. This is a result of lack of security at the schools during the lockdown. However, none mentioned anything about how furniture, equipment and other resources that were lost during the lockdown were going to be replaced or when will would be replaced.

After the lockdown restrictions were eased recovery measures were put in place. 100% of the participants mentioned rotational strategy, extra classes, extension of school time, decreased learning content, changing of exam dates and decreased school holidays. This was also mentioned by Shepherd and Mohohlwane (2021: 23) in their study on impact of COVID-19 on education. The authors mention that rotational timetables were employed which allowed for learners to be in contact learning for 50% of the 93 days lost. Reimers (2022: 29) added that rotational timetables were employed, reduced attendance and reduced core content. The participant teachers communicated that they dedicated their personal time to trying to recover lost teaching and learning time and this produced extra stress and strain. Reimers (2022: 29) highlighted that the pandemic raised the burden and stress on teachers because the workload was increased. One circuit manager mentioned the important issue of space, saying that some schools did not have enough space to accommodate learners because of the 1.5m rule of social distancing. This response illustrates that rural schools are overcrowded by failing to accommodate all learners. Maree (2022: 251) pointed out that massive learner numbers in each class is another feature of South African public schools.

7.3.3 Objective 2: *To examine how the quintile 1 to 3 secondary schools in the Amathole East district apply the policies and guidelines of the Department of Basic Education on online teaching and learning*

All of the teachers and principals stated that they are familiar with the Department of Education policies related to teaching and learning. In addition, 88.2% of the teachers agreed that they understand the purpose of Department of Education policies and 11.8% were neutral. Viennet and Pont (2017: 19) stated that it is important to understand Department of Education policies as they are documents of action designed by the government in relation to educational practices, production and delivery of education. However, the findings revealed that some teachers are not familiar with the Department of Education policies, which is a concern.

All of principals were aware of the Department of Education policies and guidelines because they indicated that they had been trained and workshopped on how to apply them. However, one principal stated that they are familiar with the policies and guidelines but only because they decided to learn about them themselves, not because they received any workshop. Furthermore, 67.7% of teachers agreed that they have been workshopped on the Department of Education policies related to teaching and learning. This shows that the majority of the participants have been workshopped and understand the purpose of policies meaning they are able to achieve the set goals and objectives as per the policies. Nweke *et al.* (2021: 625) state that teachers are responsible for carrying out educational policies at every educational level through their interactions with learners in the classroom. In the current study, 73.9% of the teachers agreed that they implement and apply the Department of Education policies, so they are endeavouring to carry out policy objectives that the policy maker has determined in an education policy (Muhdi 2019: 2720).

According to the findings 82.4% of the teachers and 100% of the principals, subject advisors and circuit managers were aware of the White Paper on e-Education and believed some adjustments need to be done. Dhawan (2020: 15) stated that the Department of Education came up with a digitally adopted emergency curriculum and felt that it was a good and reusable curriculum. Workshops and training take place

often throughout the year to assist teachers and principals in problematic areas or issues that they come across. It is clear that, education is affected by different factors such as state of disasters as well as the changing world due to technology, this requires introduction or adoption of teaching and learning methods to meet objectives and goal of the subject as well as accommodating changes in the world of technology.

7.3.4 Objective 3: *To assess how online teaching and learning is used in Consumer Studies subject*

According to all participants, no teaching and learning took place during the hard lockdown even though they were expected to adapt to OTL. All participants mentioned that they did not use OTL to continue with teaching and learning activities. Dhwana (2020: 6) reports that the COVID-19 pandemic forced schools to transition to OTL. The participants mentioned that it was not possible to use OTL because teachers and learners were never trained, were never provided with resources, and no one knew that at some point OTL would be needed. Chisango and Marongwe (2021: 159) concluded from their study on the digital divide of three quintile 1 schools in Sedibeng West, Gauteng that OTL is not possible if learners lack the necessary ICT skills, if schools lack the management tools, and if there is no access to wi-fi, lack of financial means to purchase data, and network connectivity issues. These challenges are the same as the one's mentioned by Amathole East participants. Even the connectivism theory states that OTL is influenced by technology and networks (Siemens 2004: 4). The findings point to the need for teachers and learners being in possession of the right resources to successfully employ OTL. Furthermore, it is clear that technologies, connection and ability to operate technology tools is very important to transition to OTL.

Some principals stated that they tried using methods such as a WhatsApp to communicate with teachers and continue lessons. However, that strategy did not succeed as most of their learners reside in rural areas and were from disadvantaged families, so they could not afford smart mobile phones or computers. Some of the areas the learners lived in did not even have electricity. Reimers (2022: 2) mentioned that some schools tried to implement alternative teaching and learning methods during

the lockdown but failed as these arrangements differed in their efficacy and in the degree to which they were successful in reaching learners from varied social backgrounds. Furthermore, connectivism theory supports social interactions as it encourages learner participation and collective contribution in learning (Mahlambi 2021: 477). It is clear that schools did try alternative methods of teaching but were restricted because of lack of resources and it was worse for disadvantaged schools. According to one of the principles of connectivism, learners from different backgrounds should be taken into consideration before the implementation of OTL. Furthermore, the findings show that the implementation or adoption of OTL depends on the right ICT tools, connection, skilled operators and suitable locations.

The responses indicated that these schools did not get the support they needed from the Department of Education. Moreover, principals mentioned that teachers were expected to switch to OTL without any guidance and support from the Department. This is similar to what Khoza (2020: 247) found in that teachers were expected to educate learners but had no standardised process and a learning design model as a reference point. Nwokeocha (2021: 19) found that the difficulties with OTL implementation were due to a lack of digital infrastructure (such as personal computers for people and homes, inadequate internet access, especially in rural areas), a lack of electricity, inadequate ICT skills, and a large number of teachers who did not meet the minimum standards for professional competence. Nimavat *et al.* (2021: 240) pointed out that schools in rural area struggle the most to implement OTL due to lack of infrastructure, as learners in these communities are mostly disadvantaged and cannot afford tools such as laptops, tablets and smart phones to access OTL. Rural area teachers, learners and schools need support from the Department of Education, as they need all the resources and adequate training on how to adopt OTL.

No teaching of practicals took place during the lockdown and none of the participants had ever taught practical subjects online before. Sarac (2020: 1) confirmed that the Department of Education decided to postpone practical components scheduled for the period during the lockdown. In addition, Elhaty *et al.* (2020: 2867) highlighted that teaching practical subjects online without application or practical work may create great challenges for learners. Participants were asked to come up with ideas on how

they could incorporate OTL in practical component of Consumer Studies. One participant suggested that teachers could get learners to perform practical items at home then record and send this to the teacher. In addition, one principal suggested blended learning as a practical component requires learners to be hands on and guest teachers or chefs can show learners online how certain things can be done then record the videos if learners want to use them as revision. This reveals that the OTL adoption in practical subjects is possible depending on the type of OTL systems, teaching and learning methods and strategies appropriate for the type of subject such as Consumer Studies. This means that it is important to consider the subject and its content before adopting OTL to ensure that the appropriate system, teaching and learning methods as well as strategies drive towards the achievement of subject goals and objectives. Hence, connectivism theory encourages teachers and learners to establish links across different ideas, concepts and fields as a key competency to adopt OTL (Boyratz and Ocak 2021: 1125).

Participants were asked if they would recommend the adoption of OTL in Consumer Studies. Most of the participants felt that OTL is not meant for their schools (rural) or the Consumer Studies subject. In their study, Chisango and Marongwe (2021: 160) found that some principals and teachers are technophobic meaning they are not interested in technology and try to avoid it. However, authors stated that reason for not being interested in technology is usually because of lack of ICT skills. If teachers are not motivated or have a negative attitude towards OTL, the adoption of OTL will not succeed as teachers are essential operators of OTL.

7.3.5 Objective 4: *To analyse the needs of teachers in the Amathole East district in terms of teacher training to conduct practical lessons for Consumer Studies online*

All of the teachers stated that they were never trained in OTL, and this was confirmed by 100% of the principals, subject advisors and circuit managers This was due to the fact that COVID-19 pandemic was not expected, and no resources were provided in order for teachers and learners to teach and learn remotely. Connectivism theory takes changes in learning, environment and situation into consideration and encourages the

adaptability of teaching and learning activities to accommodate unforeseen or changing environments (Utecht and Keller 2019: 108). However, it is limited due to the fact that preparation is a major requirement for the success of OTL and it may have been more illustrative to present a preparation plan. Chisango and Marongwe (2021: 158) supported the participants by stating that the lack of digitally proficient teachers, inadequate digital technology infrastructure (such as computers and slow internet connections), as well as teachers' attitudes towards accepting and using digital technology are some of the obstacles preventing the adoption of digital technology in rural schools. It is therefore important to consider having a plan in place in terms of how such situations can be prepared for such eventualities in the future. Frimpong (2021: 169) argued that without resources, even if there is a plan in place with skilled, trained and prepared teachers, implementation of OTL will not succeed.

Aristovnik *et al.* (2020: 2) mentioned that the district and Department of Education are responsible to ensure the success of OTL by providing training, resources and monitor progress. However, a lack of digitally proficient teachers, inadequate digital technology infrastructure, such as computers and slow internet connections, as well as teachers' attitudes towards accepting and using digital technology are some of the obstacles preventing the adoption of digital technology in rural schools. Participants were asked how they supported or checked up on teachers; some principals mentioned that they called their staff members and others mentioned that they had WhatsApp groups for communication. However, subject advisors and circuit managers stated that they did not check up. This shows that teachers did not receive adequate support from the school management or Department of Education whether professionally or personally. The United Nations (2020: 15) stated that teachers and learners needed support as well as psychological assistance as they suffered a lot as a result of the pandemic and might struggle with getting back on their feet. The findings revealed that teachers, learners and schools suffered a lot during the lockdown as some lost loved ones, experienced abuse, and schools were vandalised. All these may have had a huge impact on teachers' and learners' psychology which may require assistance and support from schools' management such as the district office or Department of Education.

7.3.6 Objective 5: *To develop an online teaching and learning tool that supports the practical component of Consumer Studies subjects in quintile 1 to 3 schools*

The last objective of this study was to develop an OTL tool that supports the practical component of Consumer Studies subjects in quintile 1 to 3 schools. Based on findings, it was discovered that quite a number of factors affect the adoption of OTL in Consumer Studies subject such as teacher and learner readiness, social, resources, policy, subject focus, pedagogies, location, support, situational and evaluation. Through the use of thematic analysis and statistical analysis similarities and differences, patterns and themes of collected and analysed data were grouped and considered. Then, existing models in section 2.7.4 were studied and missing factors that might be of a great help in adopting OTL in Consumer Studies subject were identified. This was followed by developing a new theoretical perspective in a form of OTL tool that supports the practical component of Consumer Studies.

As discovered in section 2.7.4 of the literature review, existing frameworks were not able to incorporate all the necessary factors important an implementation framework for OTL that would be suitable for Consumer Studies in rural schools. Therefore, an OTL framework for the Consumer Studies practical component was developed which can be used to improve and enhance the teaching and learning pedagogies currently in place. Furthermore, this tool will assist policy makers in ensuring the effective implementation of OTL in Consumer Studies. Lastly this tool will be relevant to rural area schools within the Amathole East district. Figure 7.3 presents the OTL tool. Insights from the overall findings generated for this study were used to develop the tool.

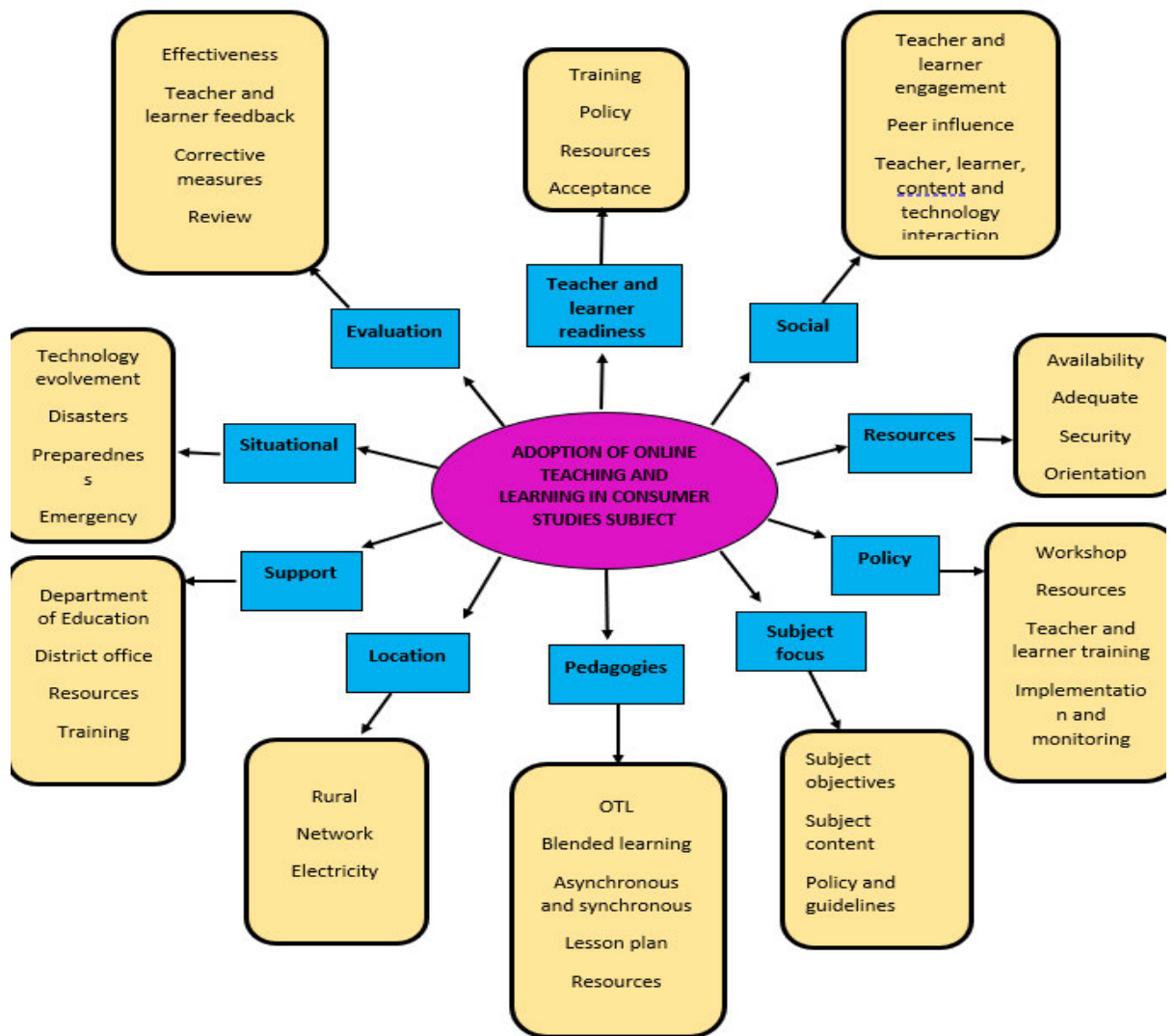


Figure 7.3: OTL tool that supports the practical component of Consumer Studies in quintile 1 to 3 schools

The determined factors offer a practical and detailed checklist to serve as an OTL tool that supports the practical component of Consumer Studies in quintile 1 to 3, especially within rural areas, to ensure the efficacy of OTL in the practical component of Consumer Studies subject in selected schools in the Amathole East district. Each factor is discussed below.

I. Teacher and learner readiness

Teacher and learner readiness covers issues related to teachers' experiences of OTL and process. It was investigated if teachers had previous experience of

OTL or not, and whether they would recommend the adoption of OTL in Consumer Studies subject curriculum or not. Furthermore, if they had resources or received training or not. The following was found:

- Training is needed by teachers to be able to conduct OTL lessons which also applies to learner readiness.
- Teachers and learners to be provided with resources.
- Teachers to understand the policies in terms of their importance and implementation.
- Teachers and learners' attitude towards OTL influences their acceptance.

II. Social

Social factors focus on the social connection between the parties involved. It is vital to consider interactions between teachers, learners, content and technology.

- It should be possible for teachers and learners to communicate with one another to discuss concepts and ask questions.
- Learners should also be able to engage with their peers as they learn from each other.
- Teachers and learners interact with subject content via available technologies.

III. Department of Education policies

OTL services addressed, and policies and guidelines help to adopt and implement OTL. Policies consist of rules and regulations, issues related to infrastructure, ICT facilities and maintenance, inequality issues as well as technical support, safety and training. Hence, the following factors need to be considered:

- Training and workshops for teachers and learners.
- Teachers and learners to be supplied with resources.
- Implementation and monitoring to ensure the desired outcomes and goals are met.

IV. Resources

In this case resources refers to infrastructure, ICT tools and skilled teachers. The main issue is the availability of resources such as hardware, software, network connection, digital devices and internet sources.

- Resources need to be made available to teachers and learners.
- Resources need to be enough for both teachers and learners.
- Resources need to be kept safe.
- Teachers and learners need to be orientated on the use, maintenance and safe keeping of resources.

V. Location

The study location was Amathole East district, which is a rural area with many issues preventing the adoption of OTL such as lack of electricity and network connections. Thus:

- The Department of Education needs to pay special attention to rural area schools.
- Installation of electricity.
- Setting up of network connections.

VI. Support

Some of the issues raised were related to lack of support from the Department of Education, as the rural area schools felt neglected in terms of resources and financial support which shows inequalities within the South African school context. Hence:

- The Department of Education to provide rural schools with support.
- The district office to support the schools and teachers.
- Teachers and learners to be provided with training.
- Schools, teachers and learners to be provided with resources.

VII. Subject focus

The study focus was on Consumer Studies as it consists of a practical component (food production). The OTL needs to be applicable to practical subjects and allow for learner engagement and teacher plans.

- OTL needs to meet the objectives of the subject.
- OTL relevance to subject content.
- Well-developed OTL policy to implemented.
- Teachers to have lesson plans in place to accommodate OTL.

VIII. Pedagogies

This factor focuses on types of OTL systems, teaching and learning methods as well as strategies suitable for Consumer Studies. Points to consider are:

- Adoption of OTL.
- Asynchronous and synchronous systems are both suitable for Consumer Studies.
- Blended learning as an appropriate teaching strategy for practical subjects.
- Well laid out lesson plans.
- Relevant resources.

IX. Situational factors

The COVID-19 pandemic found schools unprepared and issues such as loadshedding also need to be considered as an issue. Preparations are needed for such unforeseen situations.

- OTL to be implemented now before any unforeseen disasters.
- Emergency policies to be prepared in time.
- Teacher and learner readiness.
- Changes in technology to be catered for.

X. Evaluation

After the implementation of new pedagogies and frameworks, it is vital to evaluate if the frameworks serve the required outcomes. Hence it is important to go back after some time to find out if OTL is implemented and how it is going.

- To find out if the framework and guidelines are effective.
- To find out from teachers and learners how they feel about OTL within Consumer Studies.

- If some implementation stages have negative outcomes, possible corrective measures should be taken.
- The framework needs to be regularly reviewed to see if any changes, additions or eliminations need to be made.

7.4 RECOMMENDATIONS

This study employed exploratory method that investigated and explored the efficacy of an OTL tool for practical subjects. The findings of the study demonstrated that an OTL tool is practical as long as all requirements are met with the necessary resources. Hence, the study recommends that:

- The Department of Education should update the White Paper e-Education and ensure proper implementation. As some teachers do not know that this policy exists, training and workshops are vital.
- The Department of Education policy makers should consider developing e-education policies that are subject focused as objectives and goals of subjects are different.
- The Department of Education should revisit the allocation of funding of the quintile 1-3 school to ensure enough financial support to meet at least the basic needs of the schools.
- The Department of Education should consider extensive training of teachers and learners as the world has evolved and technologically skilled learners are needed in the country. Furthermore, this will ensure a smooth and successful transition from conventional to virtual classrooms. The incorporation of these must, without doubt, be part of future teacher training programmes.
- The Department of Education to note that teachers' acceptance of OTL depends on the attitudes they have towards OTL. With adequate support from the Department of Education teachers may be motivated to learn and adopt new ways of teaching.
- The Department of Education should pay special attention to schools in the rural areas as they lack proper infrastructure, equipment, resources, etc.

- Schools to consider blended learning as the COVID-19 pandemic proved that one method of teaching will not always be applicable to the different situations the country might come across.
- The South African government needs to act quickly to make OTL a reality, especially for learners in rural areas who need support to access and benefit from this new learning experience.
- The Department of Education should provide schools with the resources and support interventions should be informed by learner specific contexts such as the types of subjects and locations of schools.
- School managers should be under pressure to innovate during these times. For rural schools these innovations will be priceless for the education of the learners within disadvantaged areas.
- The Department of Education must take responsibility and improve the existing infrastructure and facilities to accommodate blended learning or OTL. Moreover, support within school communities, and among parents as well as school administrators, is vital to ensure the success of OTL.
- It is recommended that the Department of Education evaluate the effectiveness of OTL policies and guidelines with regards to the implementation of OTL, and review these if necessary.
- In summary, the Department of Education should be alert and prepare for the next pandemic or other disasters as COVID-19 has proved that anything is possible.

7.5 IMPLICATIONS OF THE STUDY

The implications of this study will be relevant to policymakers of the Department of Education as they will be able to assess the current policies on teaching, learning, assessment and e-education for relevance in specific contexts. The findings revealed that teachers and principals have not engaged with the e-education policy; such adoption would be helpful in the adoption of OTL. Furthermore, it was discovered that teachers and principals require proper training and workshopping on these policies concerning the OTL strategy. Once, teachers and principals understand the importance of policies with proper training they will be able to apply them accordingly.

The findings of this study will be able to assist teachers and principals on how OTL may be incorporated in practical subjects with the use of the tool designed for Consumer Studies. Furthermore, participants will be able to understand the importance of being technologically literate since COVID-19 fast tracked the adoption of OTL. In addition to that, the Department of Education will be able to prioritise rural area schools or quintile 1-3 schools as the findings showed that these schools lack infrastructure, equipment, skilled teachers and more resources. The findings show that the Department of Education needs to provide teachers and principals with training in order for them to be relevant to the rest of the world. The department of education needs to consider OTL in schools as they will be able to equip learners with computer skills needed in universities. Furthermore, OTL is suitable for rural area schools as learners can be able to do some work from home rather than travelling or walking long hours to schools. Meaning, during different situations such as COVID-19 pandemic or natural disasters learners can still be able to access learning material, The reconsideration of funding for quintile 1-3 schools will benefits these schools as they lack resources for OTL.

The results of this study make a contribution to the body of knowledge as academics and researchers are encouraged to further expand teaching and learning theories. This study makes a significant contribution to the literature on OTL related to practical subjects. The literature review of this study found that there is a lack of literature on this topic. The findings confirm that the theoretical implications of learning theories assist in ensuring that OTL theory is successfully carried out.

7.6 LIMITATIONS OF THE STUDY

The study aimed at exploring the efficacy of an OTL in the practical component of Consumer Studies subject in selected schools in the Amathole East district. However, the researcher came across limitations that could have not been avoided. Time become one of the limitations of the study as the researcher could not involve other target populations such as SGBs, parents and learners or other districts. This would have given the researcher a chance to hear the views and ideas of learners regarding OTL as they are also directly involved, and it would have given the data more depth. A

larger target population could have enabled the researcher to gain a richer data set from a wider sample. The research was limited to one geographical area with relatively few teachers, principals, subject advisors and circuit managers.

Consumer Studies is offered in only a few schools in the district. Being limited to the only 11 schools which offer Consumer Studies in the Amathole East district, the final empirical data was limited, which could have influenced the research outcomes. In addition, the views of the participants are likely to change due to environment or a change of situations. Due to the low numbers of the participants, the research found it appropriate to use interviews and questionnaires to collect data. Interviews assists in extracting data that has depth and be able to observe the respondents' true feelings. With regards to the questionnaires, teachers did not have enough time to engage in interviews or other methods of data collection as they did not have enough time because they had to attend to classes. Lastly, interviews were only conducted in English as it was unfeasible to translate questions into many other languages. Further barriers were related to the inability of some principals to express themselves properly in English. Thus, the researcher was not able to fully understand their views on some of the questions.

7.7 FUTURE RESEARCH

For generalisability, this study should be replicated in the future employing a larger sample in different districts. This may also lead to the comparison of the roles and services of districts towards their quintile 1-3 schools. Furthermore, future research should explore the incorporation of OTL in other secondary school practical subjects because there is a lack of literature on OTL of practical subjects and more ideas may emerge on the implementation of this teaching pedagogy. Lastly, an investigation of the efficacy of the White Paper e-Education in the context of rural schools is necessary to ensure that the White Paper is applicable in that context.

7.8 CHAPTER SUMMARY

This chapter provided a summary of both secondary and primary findings of this rigorous research exercise, providing research conclusions and recommendations to

the Department of Education, the government and schools. Both secondary and primary research findings pointed to the necessity of incorporating OTL in the curriculum of practical subjects. Furthermore, the findings highlighted that proper training of teachers and learners as well as the right resources will yield positive outcomes in terms of OTL implementation. In addition, the chapter highlighted limitations and future research suggestions.

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APPENDICES

Appendix A: Ethical clearance



12 August 2022

Mrs A R M Mbili
1111 Mcubakazi
Butterworth
4960

Dear Mrs Mbili

The Pedagogical Applications of Online Teaching and Learning of Consumer Studies During Covid-19 Pandemic: Amathole District, SA.

Ethics Clearance Number: IREC 068/22

The Institutional Research Ethics Committee acknowledges receipt of your notification regarding the piloting of your data collection tool.

Kindly ensure that participants used for the pilot study are not part of the main study.

In addition, the DUT-IREC acknowledges receipt of your gatekeeper permission letters.

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

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

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

Yours Sincerely

Prof J K Adam
Chairperson: DUT-IREC

Appendix B: Questionnaire

THE PEDAGOGICAL APPLICATIONS OF ONLINE TEACHING AND LEARNING OF CONSUMER STUDIES DURING COVID-19 PANDEMIC: AMATHOLE DISTRICT, SA.

Dear Participant

I am currently registered student with the faculty of management sciences at the Durban University of Technology (DUT), located in Durban South Africa. As part of my studies and to qualify for the award of a Doctorate in Management Sciences degree. I must complete a dissertation. I am therefore conducting a study titled: The pedagogical applications of online teaching and learning of Consumer Studies during COVID-19 pandemic: Amathole district, SA. Furthermore, the aim of this study is to explore the efficacy of an online teaching and learning tool in the practical component of Consumer Studies subject in selected schools in the Amathole East district. I must conduct questionnaire with relevant participants. I kindly request you to participate and contribute to this study by completing the following questionnaire. All the data collected in this study will solely be applied for research purposes and confidentiality is guaranteed.

Thank you for your participation.

Principal Researcher

Adelaide Mbili

SECTION A: BIOGRAPHICAL INFORMATION

Note: This study is **ANONYMOUS**

Thank you in advance for taking the time to answer this questionnaire!!!

INSTRUCTIONS TO RESPONDENTS:

1. Please select ONLY ONE response with a **cross (X)** for each question.
2. Answer ALL the pre-coded questions in section A and B.
3. Please do not hesitate emailing or calling me for a confidential follow up interview.

1.1. Job category:

1.1.1.	Academic	1
1.1.2.	Administrative	2

1.2. Gender category:

1.2.1.	Male	1
1.2.2.	Female	2

1.3. Age category:

1.3.1.	18 – 20 years	1
1.3.2.	21 – 30 years	2
1.3.3.	31 – 40 years	3
1.3.4.	41 – 50 years	4

1.3.5.	51 – 65 years	5
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1.4. Ethnicity category:

1.4.1.	Black	1
1.4.2.	Coloured	2
1.4.3.	Indian	3
1.4.4.	White	4

1.5. Employment category:

1.5.1.	Permanent	1
1.5.2.	Contract	2
1.5.3.	Any other	3

1.6. Length of service:

1.6.1.	0 – 5 years	1
1.6.2.	6 – 10 years	2
1.6.3.	11 – 15 years	3
1.6.4.	16 – 20 years	4
1.6.5.	21 – 25 years	5
1.6.6.	26 – 35 years	6

1.6.7.	> 36 years	7
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SECTION B: ALL TEACHERS

1. Please indicate how the following statements apply to you under the Likert Scale statement below:

KEY	S D	D	N	A	SA
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

	IMPACT OF COVID-19 ON TEACHING AND LEARNING	S D	D	N	A	S A
	To what extent do you agree with the following statements:					
1.1	You managed to continue your teaching activities during the lockdown.	1	2	3	4	5
1.2	You managed to continue your learning activities during the lockdown.	1	2	3	4	5
1.3	You managed to continue your assessment activities during the lockdown.	1	2	3	4	5
1.4	COVID-19 affected you negatively.	1	2	3	4	5
1.5	Learners were affected negatively by COVID-19	1	2	3	4	5

	THE USE OF ONLINE TEACHING AND LEARNING	SD	D	N	A	SA
	To what extent do you agree with the following statements:					
2.1	You have prior experience of teaching online before COVID-19.	1	2	3	4	5
2.2	You manage to conduct teaching activities online effectively.	1	2	3	4	5
2.3	You manage to conduct learning activities effectively.	1	2	3	4	5
2.4	You manage to conduct assessment activities effectively.	1	2	3	4	5
2.5	You are comfortable with teaching online.	1	2	3	4	5

	DEPARTMENT OF EDUCATION POLICIES AND GUIDELINES ON TEACHING AND LEARNING	S D	D	N	A	S A
	To what extent to do agree with the following statements:					
3.1	You familiar with the department of education policies and guidelines on teaching and learning.	1	2	3	4	5
3.2	You understand the purpose of department of education policies and guidelines on teaching and learning.	1	2	3	4	5
3.3	You were workshopped on policies and guidelines on the teaching and learning.	1	2	3	4	5
3.4	You apply these policies and guidelines on your teaching and learning activities.	1	2	3	4	5
3.5	The policies and guidelines were adjusted during the hard lockdown.	1	2	3	4	5

3.6	The department of education policies and guidelines on teaching and learning needs to be revised.	1	2	3	4	5
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	ONLINE TEACHING OF PRACTICAL SUBJECTS	S D	D	N	A	S A
To what extent do you agree with following statements:						
4.1	You conducted practical's during the lockdown.	1	2	3	4	5
4.2	You received guidance from the subject adviser on how you can teach the Consumer Studies subject using online resource.	1	2	3	4	5
4.3	You have the necessary skills in conducting practical subjects through online resources.	1	2	3	4	5
4.4	You need to be trained to use online resources to teach practical content of Consumer Studies.	1	2	3	4	5
4.5	You recommend the use of online teaching and learning in Consumer Studies subject.	1	2	3	4	5

	TEACHER TRAINING DURING THE COVID-19 PANDEMIC (LOCKDOWN)	S D	D	N	A	S A
To what extent do you agree with the following statements:						
5.1	You receive any training during lockdown.	1	2	3	4	5
5.2	Your needs were met during training.	1	2	3	4	5
5.3	You were provided with enough resources.	1	2	3	4	5

5.4	You had enough time to learn as much as you needed to.	1	2	3	4	5
5.5	You are satisfied with the training you received.	1	2	3	4	5

Appendix C: Interview Schedule (Principals)

THE PEDAGOGICAL APPLICATIONS OF ONLINE TEACHING AND LEARNING OF CONSUMER STUDIES DURING COVID-19 PANDEMIC: AMATHOLE DISTRICT, SA.

Dear Principal

I am currently registered student with the faculty of management sciences at the Durban University of Technology (DUT), located in Durban South Africa. As part of my studies and to qualify for the award of a Doctorate in Management Sciences degree. I must complete a dissertation. I am therefore conducting a study titled: The pedagogical applications of online teaching and learning of Consumer Studies during COVID-19 pandemic: Amathole district, SA. Furthermore, the aim of this study is to explore the efficacy of an online teaching and learning tool in the practical component of Consumer Studies subject in selected schools in the Amathole East district. I must conduct questionnaires and interviews with relevant participants. I kindly request you to participate by taking part in the interview session. All the data collected in this study will solely be applied for research purposes and confidentiality is guaranteed.

Thank you for your participation.

Principal Researcher

Adelaide Mbili

Interview questions

Theme 1: IMPACT OF COVID-19 ON TEACHING AND LEARNING

1. How was the school, teachers and learners affected by lockdown?
2. How were teaching and learning activities affected by lockdown?
3. How is the school doing now?
4. Has the school recovered from the impact of COVID-19? Why?
5. What measure have you put in place to ensure the school survives the lockdown?

Theme 2: THE USE OF ONLINE TEACHING AND LEARNING

1. Did your school use digitalisation during the lockdown? If so, which ones? If not, why?
2. Do teachers have prior experience in of online teaching? If yes, how did you acquire it? If not, why?
3. Does the school have online resources and tools to teach? If so, name them. If not, why?
4. What do you think about the use of digitalisation in teaching and learning?

Theme 3: DEPARTMENT OF EDUCATION POLICIES AND GUIDELINES ONTEACHING AND LEARNING

1. Are you familiar with the department of education policies and guidelines onteaching and learning?
If yes, how did you get to familirise yourself with these policies? Which policies are you aware of?
2. Are there any available department of education

policies or guidelines based on online teaching and learning? If yes, please name.

3. Were you workshopped or trained on how to apply these policies or guidelines?
4. Are teachers aware of these policies and guidelines? If yes, how do you know? If no, why?
5. Are teachers trained, workshopped or trained on how to apply these policies or guidelines? If yes, how often? If not, why?

Theme 4: **ONLINE TEACHING OF PRACTICAL SUBJECTS**

1. Do you have experience in teaching practical subjects online? If yes, how did you acquire it? If not, why?
2. How were practical subjects taught during the lockdown?
3. Did you receive any guidelines from subject advisers or circuit managers regarding the teaching and learning of practical content of Consumer Studies? If yes, what were the guidelines?
4. Do you have any suggestions on how the teaching of practical subjects can be enhanced using online tools?

Theme 5: **TEACHER TRAINING DURING THE COVID-19 PANDEMIC (LOCKDOWN)**

1. Were the teachers provided with training or workshop on how to conduct lessons from home? If yes, when and for how long?
2. Were the teachers provided with resources to be able to work from

home? If yes, what type of resources? If not, how and how were teachers expected to work without resources?

3. Did you check up on teachers during the lockdown? If yes, how? If not, why?
4. Do you think teachers are well trained or skilled enough to conduct teaching and learning activities? If yes, how do you? If not, why do you think so?

Appendix D: Interview Schedule (Circuit Managers and Subject advisers)

THE PEDAGOGICAL APPLICATIONS OF ONLINE TEACHING AND LEARNING OF CONSUMER STUDIES DURING COVID-19 PANDEMIC: AMATHOLE DISTRICT, SA.

Dear Circuit Manager/ Subject adviser

I am currently registered student with the faculty of management sciences at the Durban University of Technology (DUT), located in Durban South Africa. As part of my studies and to qualify for the award of a Doctorate in Management Sciences degree. I must complete a dissertation. I am therefore conducting a study titled: The pedagogical applications of online teaching and learning of Consumer Studies during COVID-19 pandemic: Amathole district, SA. Furthermore, the aim of this study is to explore the efficacy of an online teaching and learning tool in the practical component of Consumer Studies subject in selected schools in the Amathole East district. I must conduct questionnaire and interviews with relevant participants. I kindly request you to participate by taking part in the interview session. All the data collected in this study will solely be applied for research purposes and confidentiality is guaranteed.

Thank you for your participation.

Principal Researcher

Interview questions

Theme 1: **IMPACT OF COVID-19 ON TEACHING AND LEARNING**

1. How was the circuit office affected by the lockdown?
2. How were the schools, teachers and learners affected by lockdown?
3. How were teaching and learning activities affected by lockdown?
4. How are the schools doing now?
5. Do you think schools have recovered from the impact of COVID-19? Why?
6. What measure did the circuit office put in place to ensure the school survive the lockdown?

Theme 2: **THE USE OF ONLINE TEACHING AND LEARNING**

1. Did the Consumer Studies teachers teach online during the lockdown? If yes, how? If not, why?
2. Did the Consumer Studies teachers have prior experience in online teaching? If yes, how do you know? If not, why?
3. Do schools have digitalisation tools? If yes, name them. If not, why?
4. What do you think about the use of online teaching and learning?
5. Do you recommend online teaching and learning in schools and why?

Theme 3: **DEPARTMENT OF EDUCATION POLICIES AND GUIDELINES ON TEACHING AND LEARNING**

1. What is your role in the effectiveness of the department of education policies and guidelines on the teaching and learning?
2. What do the department of education policies and guidelines on teaching and learning imply?

3. Are there any available policies or guidelines on digitalisation in teaching and learning and what they imply?
4. Are teachers and principals workshopped or trained on how to apply these policies or guidelines?
5. How do you ensure that principals and teachers adhere to the requirements of the policies and guidelines?

Theme 4: ONLINE TEACHING OF PRACTICAL SUBJECTS

1. Do you think teachers have prior experience in teaching practical subjects online? If yes, how do you know. If not, why?
2. How did you ensure practical subjects are taught during the lockdown?
3. Subject adviser, how would you describe the subject Consumer Studies and its practical component?
4. How did you guide the principals and teachers in carrying out the teaching and learning activities of practical content of Consumer Studies?
5. Do you have any suggestions on how the teaching of practical subjects can be enhanced the using online tools?

Theme 5: TEACHER TRAINING DURING THE COVID-19 PANDEMIC (LOCKDOWN)

1. Were the teachers provided with training or workshops on how to conduct lessons from home? If yes, when, and how long?

2. Were the teachers provided with resources to be able to work from home? If yes, name them. If not, how were teachers expected to teach?
3. Did you check up on principals and teachers during the lockdown? If yes, how? If not, why?
4. Do you think teachers are well trained or skilled enough to conduct teaching and learning activities? If yes, how do you know? If not, why.

Appendix E: Request for permission to conduct research (Eastern Cape Department of Education)

1111 Mcubakazi

Butterworth

4690

December 2021

Permission request to conduct research

Dear Sir/Madam

My name is Adelaide Rethabile Motshabi Pitso-Mbili

I am a Doctor of Philosophy in Management Sciences Specialising in Hospitality and Tourism student at the Durban University of Technology. The research I wish to conduct for my Doctoral thesis seeks to explore the efficacy of an online teaching and learning tool in the practical component of Consumer Studies subject in selected secondary schools in the Amathole East district.

I am hereby seeking your consent to conduct interviews and questionnaires with principals, Consumer Studies teachers, subject advisers and circuit managers regarding school management, survival of the lockdown regulations and be able to continue with the syllabus and curriculum during the pandemic. The interviews and questionnaires will be based on the understanding of policies and guidelines on teaching and learning. Furthermore, it will focus on online measures taken for practical subjects such as Consumer Studies.

I have provided you with a letter of information explaining the research and ethics guidelines from the DUT Institutional Research Ethics Committee (IREC). I therefore request permission in writing to conduct my research with selected schools in the Amathole East district. DUT requires the permission letter to be on the Eastern Cape Department of Education headed paper, signed and dated. Furthermore, specifically referring to myself by name and title of my study.

If you require any further information, please do not hesitate to contact me 078 427 7340 or email adelaidepitso@gmail.com.

Thank you for your time and consideration in this matter.

Appendix F: Consent form



CONSENT

Statement of Agreement to Participate in the Research Study:

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

Full Name of Participant	Date	Time	Signature/	Right
---------------------------------	-------------	-------------	-------------------	--------------

Thumbprint

I, Adelaide Pitso-Mbili (name of researcher) herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

_____ **Full Name of Researcher** _____ **Date** _____ **Signature** _____

_____ **Full Name of Witness (If applicable)** _____ **Date** _____ **Signature** _____

_____ **Full Name of Legal Guardian (If applicable)** _____ **Date** _____ **Signature** _____

Appendix G: Gatekeeper's letter



Province of the
EASTERN CAPE
EDUCATION

CORPORATE PLANNING, MONITORING, POLICY AND RESEARCH COORDINATION

Steve Vukile Tshwete Complex, Zone 6 Zweelitsha, 5608, Private Bag X0032, Bisho, 5605 REPUBLIC OF SOUTH AFRICA:
Enquiries: Ms. F. Pakade Tel: 040 608 7170/4001 . Fax :040 608 4372. Email: fundiswa.pakade@ecdoe.gov.za
Website: www.ecdoe.gov.za Date: 25 July 2022

Mrs. Adelaide Rethabile Motshabi Mbili

1111 Mchubakazi

Butterworth

4960

Dear Mrs. Mbili

PERMISSION TO UNDERTAKE A DOCTORAL RESEARCH: THE PEDAGOGICAL APPLICATIONS OF ONLINE TEACHING AND LEARNING OF CONSUMER STUDIES DURING COVID-19 PANDEMIC: AMATHOLE DISTRICT, SA

1. Your application to conduct the above-mentioned research involving (11) principals, (35) teachers, (2) consumer studies subject advisors and (4) circuit managers in quantile 1 to 3 secondary schools in the Amathole District under the jurisdiction of the Eastern Cape Department of Education (ECDoE) is hereby approved based on the following conditions:
 - a. there will be no financial implications for the Department;
 - b. institutions and respondents must not be identifiable in any way from the results of the investigation;
 - c. you seek parent's consent for minors;
 - d. it is not going to interrupt educators' time and task;
 - e. the research may not be conducted during official contact time;
 - f. the research may not be conducted during official contact time, provided that an arrangement to do research at the school including getting inside a classroom has been arranged and agreed upon in writing with the Principal and the affected teacher/s;
 - g. you present a copy of the written approval letter of the Eastern Cape Department of Education (ECDoE) to the Cluster and District Directors before any research is undertaken at any institutions within that particular district;
 - h. you will make all the arrangements concerning your research;



Customer care line: 086 063 8636
Website: www.ecdoe.gov.za





- i. should you wish to extend the period of research after approval has been granted, an application to do this must be directed to Chief Director: Corporate Strategy Management;
 - j. you present the Department with a copy of your final paper/report/dissertation/thesis free of charge in hard copy and electronic format. This must be accompanied by a separate synopsis (maximum 2 – 3 typed pages) of the most important findings and recommendations if it does not already contain a synopsis;
 - k. you present the findings to the Research Committee and/or Senior Management of the Department when and/or where necessary;
 - l. you are requested to provide the above to the Chief Director: Corporate Strategy Management upon completion of your research;
 - m. you comply with all the requirements as completed in the Terms and Conditions to conduct Research in the ECDoE document duly completed by you;
 - n. you comply with your ethical undertaking (commitment form);
 - o. You submit on a six-monthly basis, from the date of permission of the research, concise reports to the Chief Director: Corporate Strategy Management.
2. The Department reserves a right to withdraw the permission should there be non-compliance to the approval letter and contract signed in the Terms and Conditions to conduct Research in the ECDoE and/or legal requirements to do so.
 3. The Department will publish the completed Research on its website.
 4. The Department wishes you well in your undertaking. You can contact the Mrs. Fundiswa Pakade on the numbers indicated in the letterhead or email fundiswa.pakade@ecdoe.gov.za should you need any assistance.

T. MASOEU
CHIEF DIRECTOR: CORPORATE STRATEGY MANAGEMENT
FOR SUPERINTENDENT-GENERAL: EDUCATION



Customer care line: 086 063 8636
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Appendix H: Editor's certificate

DR RICHARD STEELE

BA HDE MTech(Hom)

HOMEOPATH

Registration No. A07309 HM

Practice No. 0807524

Freelance academic editor

**Associate member: Professional Editors'
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EDITING CERTIFICATE

Re: ADELAIDE RETHABILE MOTSHABI PITSO-MBILI

**Doctoral thesis DUT: THE PEDAGOGICAL APPLICATIONS OF
ONLINE TEACHING AND LEARNING OF CONSUMER STUDIES
DURING COVID-19 PANDEMIC: AMATHOLE DISTRICT, SA**

I confirm that I have edited this thesis and the references for clarity, language and layout. I returned the document to the author with track changes so correct implementation of the changes and clarifications requested in the text and references is the responsibility of the author. The intellectual content of the document is the responsibility of the author. I am a freelance editor specialising in proofreading and editing academic documents. My original tertiary degree which I obtained at the University of Cape Town was a B.A. with English as a major and I went on to complete an H.D.E. (P.G.) Sec. with English as my teaching subject. I was a part-time lecturer in the Department of Homoeopathy at the Durban University of Technology for 13 years and supervised many master's degree dissertations during that period.

Dr Richard Steele

15 July 2023

per email

Appendix I: Plagiarism report

Adelaide Pitso-Mbili Thesis

ORIGINALITY REPORT

10% SIMILARITY INDEX	7% INTERNET SOURCES	6% PUBLICATIONS	4% STUDENT PAPERS
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