# The possibilities of mobile learning for adult learners in the Adult Basic Education and Training sector in South Africa

by

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# Declaration

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I declare that **The possibilities of mobile learning for adult learners in the Adult Basic Education and Training sector in South Africa** is my own work and that all the sources that I have used or quoted have been stipulated and admitted by means of complete references. I also declare that I have submitted this thesis for the originality checking using the originality checking software. As the result, this thesis falls within the allowed requirements for originality.

DitlhaleTWG                                     14 November 2023

Signature                                         Date

# Dedication

This thesis is dedicated to Modimo le Badimo.

# Acknowledgements

I thank God, Motlhodi wa legodi le lefatshe, for allowing me the opportunity to embark on and complete this study, and has been there every step of the way. I will keep trusting on you for my future.

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# Abstract

The use of technologies, mobile devices and applications in teaching and learning is gaining momentum worldwide, especially following the COVID-19 pandemic. Mobile learning (m-learning) is a form of distance learning and a subset of e-learning and flexible learning. It has significance for the development of both individual adult learners and countries, with immediate access to information and knowledge being counted among its advantages. M-learning has the potential to enhance adult learners' thinking collaboration, promote deep learning, and support teaching and learning on any mobile device at any location and at any time. Furthermore, m-learning has the capacity to provide an alternative way of teaching and learning for adult learners or provide opportunities for blended learning. Despite the benefits of m-learning for adult learners, public ABET centres in South Africa have not formally adopted mobile devices in teaching and learning, and adult learners and their teachers are not yet compelled to integrate technology as a means to improve their andragogic activities.

Consequently, this research study was conducted to explore the possibilities of m-learning for adult learners in the ABET sector in South Africa and to find out whether and how mobile technologies can promote m-learning and empower adult learners. The research study was supported by the FRAME model and the principles of andragogy and ubuntu. The FRAME model is based on the notion of learners being able to access information where and when they need it; in the process, adult learners can self-manage their learning in a communal way that promotes respect and unselfishness. An interpretivist/constructivist paradigm was used for the study, for which the qualitative research approach was followed, and data collection methods included individual semi-structured and focus group interviews. A purposive sampling method was used to select adult learner and teacher participants, and thematic analysis was used to analyse data. The research findings indicate that m-learning could be used to a greater degree as an alternative approach to teaching and learning for adult learners. Most participants indicated their preference for m-learning, with the few who cited the disadvantages of m-learning listing features such as small screens and keys, limited memory, and the distractive nature of mobile devices. Also mentioned was the potential for the digital divide to widen between adult learners able to afford mobile devices and those unable to do so; the digital divide therefore can potentially disrupt teaching and learning processes. Further it was found that m-learning was preferred as a means to support face-to-face learning, thus contributing to

a blended learning approach. To assist in the possible adoption of m-learning, it was recommended that mobile technologies and related resources be made available to adult learners and teachers and that training be provided on how to use them. It was also recommended that ABET centres offer academic learning and skills development programmes and use mobile devices to support the process. Due to the limitations of the study, private ABET centres and adult learners with disabilities were not included among the participants, and this could give rise to recommendations for further research. Based on the guidelines derived from the research findings, this research study makes a unique contribution in suggesting that there is a need for m-learning in the ABET sector, where the integration of mobile devices in teaching and learning is necessary, with due acknowledgement of both the advantages and disadvantages of m-learning. There is also a need to make mobile devices, relevant applications and social media available in the ABET sector. Once mobile technologies are available, adult learners and teachers require training in how to use them in skills development programmes that need to be offered at all ABET levels.

**Key words:** Applications, mobile technologies, Andragogy, Ubuntu, the FRAME model, ABET, mobile devices, face-to-face learning, mobile learning, adult learners.

# Opsomming

Die gebruik van tegnologieë, mobiele toestelle en toepassings in onderrig en leer kry wêreldwyd momentum, veral ná die COVID-19-pandemie. Mobiele leer (m-leer) is 'n vorm van afstandsonderrig en 'n subversameling van e-leer en buigsame leer. Dit het belang vir die ontwikkeling van beide individuele volwasse leerders en lande, met onmiddellike toegang tot inligting en kennis wat as voordele daarvan beskou word. M-leer het die potensiaal om die samewerking van volwasse leerders se denke te verbeter, diep leer te bevorder, en onderrig en leer op enige mobiele toestel op enige plek en enige tyd te ondersteun. Boonop het m-leer die vermoë om 'n alternatiewe manier van onderrig en leer vir volwasse leerders te verskaf of geleenthede vir gemengde leer te bied. Ten spyte van die voordele van m-leer vir volwasse leerders, het openbare BOOV-sentrums in Suid-Afrika nie formeel mobiele toestelle in onderrig en leer aangeneem nie, en is volwasse leerders en hulle onderwysers nog nie verplig om tegnologie te integreer as 'n manier om hulle androgogiese bedrywighede te verbeter nie.

Gevolglik is hierdie navorsingstudie uitgevoer om die moontlikhede van m-leer vir volwasse leerders in die BOOV-sektor in Suid-Afrika te ondersoek en om uit te vind of en hoe mobiele tegnologieë m-leer kan bevorder en volwasse leerders kan bemagtig. Die navorsingstudie is ondersteun deur die FRAME (fokus, bereik, vra, modelleer en aanmoedig) -model en die beginsels van androgogie en ubuntu. Die FRAME-model is gebaseer op die idee dat leerders toegang tot inligting kan verkry waar en wanneer hulle dit benodig; in die proses kan volwasse leerders hulle leer self bestuur op 'n gemeenskaplike manier wat respek en onselfsugtigheid bevorder. 'n Interpretivistiese/konstruktivistiese paradigma is vir die studie gebruik, waarvoor die kwalitatiewe navorsingsbenadering gevolg is, en data-insamelingsmetodes het individuele semi-gestruktureerde en fokusgroeponderhoude ingesluit. 'n Doelgerigte steekproefmetode is gebruik om volwasse leerder- en onderwyserdeelnemers te selekteer, en tematiese ontleding is gebruik om data te ontleed. Die navorsingsbevindinge dui daarop dat m-leer in 'n groter mate as 'n alternatiewe benadering tot onderrig en leer vir volwasse leerders gebruik kan word. Die meeste deelnemers het hulle voorkeur vir m-leer aangedui, terwyl min deelnemers die nadele van m-leer en eienskappe soos klein skerms en sleutels, beperkte geheue en die afleidende aard van mobiele toestelle genoem het. Ook genoem is die potensiaal vir die digitale kloof om groter te word tussen volwasse leerders wat mobiele toestelle kan bekostig en diegene wat dit nie kan doen nie; die digitale kloof kan dus potensieel onderrig- en leerprosesse ontwrig. Daar is ook gevind dat m-leer verkies word as 'n manier om aangesig-tot-aangesig-leer te ondersteun, en

sodoende bydra tot 'n gemengdeleerbenadering. Om te help met die moontlike aanvaarding van m-leer is aanbeveel dat mobiele tegnologieë en verwante hulpbronne aan leerders en onderwysers beskikbaar gestel word en dat opleiding verskaf word oor hoe om dit te gebruik. Daar is ook aanbeveel dat BOOV-sentrums akademiese leer- en vaardigheidsontwikkelingsprogramme aanbied en mobiele toestelle gebruik om die proses te ondersteun. As gevolg van die beperkings van die studie, is private BOOV-sentrums en volwasse leerders met gestremdhede nie onder die deelnemers ingesluit nie, en dit kan aanleiding gee tot aanbevelings vir verdere navorsing. Gebaseer op die riglyne wat uit die navorsingsbevindinge verkry is, lewer hierdie navorsingstudie 'n unieke bydrae deur te suggereer dat daar 'n behoefte is aan m-leer in die BOOV-sektor, waar die integrasie van mobiele toestelle in onderrig en leer nodig is, met die nodige erkenning van beide die voordele en nadele van m-leer. Daar is ook 'n behoefte om mobiele toestelle, relevante toepassings en sosiale media in die BOOV-sektor beskikbaar te stel. Sodra mobiele tegnologieë beskikbaar is, benodig volwasse leerders en onderwysers opleiding in hoe om dit te gebruik in vaardigheidsontwikkelingsprogramme wat op alle BOOV-vlakke aangebied word.

**Sleutelwoorde:** Toepassings, mobiele tegnologieë, androgogie, ubuntu, die FRAME-model, BOOV, mobiele toestelle, aangesig-tot-aangesig-leer, volwasse leerders.

# Tshobokanyo

Tiriso ya dithekenoloji, diselefounu le mananeotiriso a khomphiutha go ruta le go ithuta e oketsega ka bonako mo lefatsheng ka bophara, segolo bogolo morago ga leroborobo la COVID-19. Go ithuta ka tiriso ya selefounu ke mokgwa wa go ithuta o le kgakala e bile ke karolwana ya go ithuta ka tiriso ya inthanete gape le go ithuta gore o kgone go fetola mokgwa wa go ithuta go tshwanela seemo se se rileng. Go na le bokao jwa tokafatso ya barutwana ba bagolo ka nosi le ya dinaga, mme bokgoni jwa go fitlhelela tshedimosetso le kitso ka gangwe bo balelwa mo mesoleng ya yone. Go ithuta ka tiriso ya selefounu go na le bokgoni jwa go oketsa go akanya ga barutwana ba bagolo ka go dirisana le ba bangwe, go thusa go ithuta mo go tseneletseng, le go tshegetsa go ruta le go ithuta mo selefounung nngwe le nngwe le mo lefelong lengwe le lengwe le ka nako nngwe le nngwe. Mo godimo ga moo, go ithuta ka tiriso ya selefounu go na le bokgoni jwa go neela mokgwa o mongwe wa go ruta le go ithuta mo barutwaneng ba bagolo kgotsa go neela ditšhono tsa go tswakanya go ithuta ka tiriso ya inthanete le go ithuta go go tlwaelegileng go go direlwang mo phaposiborutelong. Le mororo go na le mesola ya go ithuta ka tiriso ya selefounu mo barutwaneng ba bagolo, mafelo a puso a ABET mo Aforika Borwa ga a amogela semmuso diselefounu mo go ruteng le go ithuta, mme barutwana ba bagolo le barutabana ba bone ga ba ise ba patelesege go kopanya thekenoloji jaaka tsela ya go tokafatsa ditirwana tsa bone tse di fatlhosang barutwana ba bagolo.

Kwa bokhutlong, thutopatlisiso eno e diretswe go sekaseka dikgonagalo tsa go ithuta ka tiriso ya selefounu mo barutwaneng ba bagolo mo lephateng la ABET mo Aforika Borwa le go batla tshedimosetso ya gore a mme dithekenoloji tsa selefounu di ka thusa go ithuta ka tiriso ya selefounu le go maatlafatsa barutwana ba bagolo, le gore di ka dira seno jang. Thutopatlisiso e tshegeditswe ka sekao sa MATLHOMESO le melawanatheo ya go fatlhosa barutwana ba bagolo le ya ubuntu. Sekao sa MATLHOMESO se ikaegile ka kakanyo ya go nna le bokgoni ga baithuti jwa go fitlhelela tshedimosetso kwa ba e tlhokang teng le ka nako e ba e tlhokang ka yone; fa ba ntse ba tsweletse, barutwana ba bagolo ba ka laola go ithuta ga bone ka go dirisana le barutwanammogo go go rotloetsang tlotlo le go dira kwa ntle ga boitebo. Go dirisiwa sekao se motlhotlhomisi o sekasekang deitha mo tlhotlhomisong kgotsa sekao se motlhotlhomisi o agang kitso e e rileng go tswa mo deitheng ya mo thutopatlisisong, mo go sone go latetswe mokgwa wa go botsa batsayakarolo ba thutopatlisiso dipotso ka ga dikakanyo le maitemogelo a bone, mme mekgwa ya kgobokanyo ya deitha e ne e akaretsa dipotsolotso tse motho ka nosi o bodiwang dipotso tse di se nang dikarabo tse di rileng le tse go bodiwang

batsayakarolo ba setlhopha dipotso go batla tshedimosetso e e farologaneng. Go dirisitswe mokgwa wa go tlhopha batsayakarolo go ya ka bokgoni jwa bone fa go tlhophiwa batsayakarolo barutwana ba bagolo le barutabana, mme go dirisitswe tshekatsheko e batlhotlhomisi ba rulaganyang le go sekaseka dideithasete tse di raraaneng go sekaseka deitha. Diphitlhelelo tsa tlhotlhomiso di kaya gore go ithuta ka go dirisa selefounu go ka dirisiwa segolo bogolo jaaka mokgwa o mongwe wa go ruta le go ithuta mo barutwaneng ba bagolo. Batsayakarolo ba bantsi ba kaile se ba se ratang ka go ithuta ka tiriso ya selefounu, ba le mmalwa ba umakile masula a lenaane la dilo tse di kgonang go dirwa ka go ithuta ka selefounu tse di jaaka disekherine le dikhii (dikonopo) tse dinnyane, memori o o lekanyeditsweng, le go tshwenya ga diselefounu. Se se umakilweng gape ke kgonagalo ya go oketsega ga palo e e sa lekalekaneng fa gare ga barutwana ba bagolo ba ba kgonang le ba ba sa kgoneng go reka diselefounu tse ka tsone ba ka fitlhelelang dikhomphiutha le inthanete; ka jalo palo e e sa lekalekaneng fa gare ga ba ba kgonang le ba ba sa kgoneng go fitlhelela dikhomphiutha le inthanete e ka kgoreletsa ditirego tsa go ruta le go ithuta. Go lemogilwe go ya pele gore go ratiwa go ithuta ka selefounu jaaka tsela ya go tshegetsa go ithuta go go tlwaelegileng go go direlwang mo phaposiborutelong, mme ka jalo go na le seabe mo molebong wa go tswakanya go ithuta ka go dirisa inthanete le go ithutela mo phaposiborutelong. Go thusa mo kamogelong e e ka nnang teng ya go ithuta ka go dirisa selefounu, go atlanegisitswe gore go nne le dithekenoloji tsa selefounu le ditlamelwana tse di amanang le tsone mo barutwaneng ba bagolo le barutabana le gore go neelwe tshedimosetso ya gore di dirisiwa jang. Go atlanegisitswe gape gore mafelo a ABET a neele mananeo a tokafatso ya thuto le a tokafatso ya bokgoni mme a dirise diselefounu go tshegetsa tirego eno. Ka ntlha ya ditekanyetso tsa thutopatlisiso, mafelo a poraefete a ABET le barutwana ba bagolo ba ba nang le bogole ga ba akarediwa mo batsayakarolong, mme seno se ka feleletsa se dirile gore go dirwe dikatlenegiso tsa go dira tlhotlhomiso go ya pele. Go ya ka dikaedi tse di tshotsweng mo diphitlhelelong tsa tlhotlhomiso, thutopatlisiso eno e na le seabe se se kgethegileng mo go tshitsinyeng gore go na le tlhokego ya go ithuta ka tiriso ya selefounu mo lephateng la ABET, moo go tlhokegang go tsenyeletsa diselefounu mo go ruteng le go ithuta, ka kamogelo ya mesola le masula ka bobedi a go ithuta ka tiriso ya selefounu. Gape go na le tlhokego ya go dira gore go nne le diselefounu, mananeotiriso a khomphiutha a a maleba le maraanyane a boitapoloso mo lephateng la ABET. Fa dithekenoloji tsa selefounu di le teng, barutwana ba bagolo le barutabana ba tlhoka katiso le thupelelo ya gore ba di dirise jang mo mananeong a tokafatso ya bokgoni a a tlhokang go neelwa mo maemong otlhe a ABET.

**Mafoko a botlhokwa:** Mananeotiriso a khomphiutha, dithekenoloji tsa selefounu, go fatlhosiwa ga barutwana ba bagolo, ubuntu, sekao sa LETLHOMESO, ABET, diselefounu, go ithuta go go tlwaelegileng go go direlwang mo phaposiborutelong, go ithuta ka go dirisa selefounu, barutwana ba bagolo.

# List of acronyms

| | |
|---|---|
| ABE | Adult Basic Education |
| ABET | Adult Basic Education and Training |
| AET | Adult Education and Training |
| CET | Community Education and Training |
| CET | Continuing Education and Training |
| CLC | Community Learning College / Centres |
| COVID-19 | Coronavirus |
| DHET | Department of Higher Education and Training |
| FET | Further Education and Training |
| FG | Focus group |
| FRAME | Framework for the Rational Analysis of Mobile Education |
| HSRC | Human Sciences Research Council |
| ICT | Information and Communication Technologies |
| IT | Information Technology |
| LMS | Learning Management System |
| M-assessment | Mobile assessment |
| M-learning | Mobile learning |
| MOOC | Massive Open Online Courses |
| MP3 | MPEG3, Moving Picture Experts Group 3 |
| MP4 | MPEG4, Moving Picture Experts Group 4 |
| NGO | Non-Governmental Organisation |
| NQF | National Qualification Framework |
| ODeL | Open and Distance e-Learning |

| ODL | Open and Distance Learning |
|---|---|
| PALC | Public Adult Learning Centres |
| PC | Personal Computer |
| PDA | Personal Digital Assistant |
| TVET | Technical and Vocational Education and Training |
| UNESCO | United Nation Educational Scientific and Cultural Organisation |
| Wi-Fi | Wireless Fidelity |
| 4IR | Fourth Industrial Revolution |

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# Chapter 1

# Overview of the study

## 1.1 Introduction

For years, people who can access and proceed through the education system have generally lived better lives than those who cannot. Completing various levels of education, such as secondary and post-secondary education, enabled individuals to obtain certain educational levels requiring particular levels of knowledge, skills, values and attitudes. In this regard, the role of education is to empower people. According to the United Nations (2012), empowerment enables people to increase control over their lives, shape their lives and gain voice and control. Accessing and acquiring education is still relevant today to enable individuals, including rural adults, to develop the needed skills and knowledge to make a living. Education is crucial today because it can clear off the darkness of ignorance and be a tool of change in the optimist direction (Masinga & Bhat, 2021). The most common way to acquire certain educational levels in South Africa has been through going to school as children to attend contact classes. A small number of adults have the opportunity to attend contact classes, let alone have access to education. For example, challenges in attaining education in South Africa remain as there is a growth in the percentage of functionally illiterate individual adults in the 20-39 age group (HSRC, 2017). In this case, most children end up with certain educational levels that they carry into adulthood. However, accessing education and acquiring knowledge and skills by going to school to attend contact classes is not the only way nowadays, as there are other options, such as attending online classes using different devices such as computers, tablets, and mobile phones. In Europe, the European Council considered educational technology as a "response to globalisation and the shift to knowledge-based economies" (Cimermanova, 2009:115), and according to Ahmed (2022), online learning, which is supported by educational technology, is more effective than traditional learning because it provides freedom and time. The appropriate use of portable digital devices expands into daily activities to acquire knowledge, which has become a support for different educational institutions (Criollo-C, Guerrero-Arias, Jaramillo-Alcazar & Lujan-Mora, 2021).

The problem is that many people, especially adult learners, are not used to online teaching and learning and blended or hybrid learning, let alone using different devices at their convenience

to acquire the skills and knowledge needed for survival and well-being. Teachers do not teach adult learners online because it needs different skills from face-to-face teaching, which is an issue in online teaching because many teachers do not use or understand the pedagogy needed to teach online. This is because face-to-face learning has dominated the education sector for many years, and most adult learners are not used to the nature of mobile technologies and online learning. In this regard, the context and focus of this study is on adult learners who do not have the opportunity to learn as adults and not on traditional students studying at universities and colleges. With the nature of mobile technologies, learners may experience distractions in their learning and may have inadequate educational habits that may be perpetuated by inexperienced educators and educational organisations (Crioll-C et al., 2021). Moreover, some educators in the education sector are unfamiliar with online learning and teaching methods. This aligns with an Indian study by Gurung (2021), who posits that most teacher participants indicated a lack of technical and software knowledge when conducting online classes. It is even more of a challenge to adult learners in different geographical areas, including those in rural areas who need to acquire certain educational levels to better their livelihoods and yet do not know how to utilise mobile technologies to learn. Therefore, learning the technology to develop digital skills is necessary to remedy the challenges and to enable the possibilities of successful mobile learning (m-learning). Adult learners can attain personal growth, get involved in professional development, and access learning opportunities when they learn how to use technology (Thompson, 2011). This is one way to expose adult learners to alternative ways of learning to provide educational skills, including Information and Communication Technologies (ICT) skills desired today and knowledge, as well as to support and empower them. In this regard, this study associated the need for adult learning with the opportunities that mobile devices provide to learn at anytime, anywhere, and this falls within the area of open distance learning and online learning.

## 1.2 Background to the study

Face-to-face learning, also known as traditional learning, regards learners as having "knowledge holes" that a teacher needs to fill with information because, in this type of learning, a teacher controls the learning process (Ananga & Biney, 2017:173). Unlike face-to-face learning, m-learning refers to learning incorporating the usage of dominant technologies like mobile phones or other palmtop devices, PDAs, Ultramobile PCs, mini notebooks or netbooks (Traxler, 2005; Brown & Mbathi, 2015; Hashemi, Azizinezhad, Najafi & Nesari, 2011), and is

learner-centred. Mobile learning or m-learning is another way to provide education at a distance. A unique contribution to the body of knowledge in this study was to expose adult learners and teachers in the Adult Basic Education and Training (ABET) sector to the concept of m-learning, revealing how it could support face-to-face learning and sharing advantages and disadvantages that need to be considered for its possible adoption. Traxler (2005) states that m-learning is somewhere on e-learning's spectrum of portability. In South Africa, some adult learners receive education at the ABET centres, and these adults are non-traditional students who finish school and then go to college or university to further their studies. The process of acquiring knowledge and skills is limiting for adults with work pressures or a lack of time to attend the centres. In some parts of the world, especially the Western world, recent years have seen ICT development and online learning providing more adult learners with opportunities to access resources and educational opportunities conveniently and flexibly (Lu, Hong & Xiao, 2022). Distance learning, e-learning or m-learning is flexible as it can be done anywhere, anytime. Flexible learning is convenient for individuals, especially adults, and examples of flexible learning include learning at any time and place, the use of technology, different learning strategies, a choice of instructions and assessments and increased different learning contexts and experiences (Cassidy, Fu Valley, Lomas, Jorel & Riseman, 2017). Roberts (2001:2) uses two terms, "flexible delivery" and "flexible learning", to describe courses taken remotely from campus and that "the flexibility will be in location only; that is, the students are enabled to access the materials from anywhere with good internet connections". The researcher argues that flexibility is limited to the location only. Currently, there are many courses ranging from different kinds of short courses, some credited and some not, to different kinds of fully structured degree programmes. These courses offer individuals flexibility to suit their needs; therefore, flexibility is not always limited to location.

M-learning provides the needed skills for learners to live in the digital world and encourages and supports active learning. M-learning and e-learning are forms of distance education as they share similar characteristics, such as being done at a distance and being flexible and convenient. Flexibility and convenience can encourage adult learners to engage with learning through compelling conditions such as violent student protests and pandemic diseases like Coronavirus (COVID-19) (Mpungose, 2020) because they can access their learning content outside of the mortar classrooms, which are fixed in a particular location. Therefore, m-learning and e-learning can be associated with adult learners to help them learn "in a way that is affordable and accessible with advantages *such as learning anywhere anytime and* to learn technology for

the future" (Folinsbee, 2008:4-5). M-learning emerged from e-learning (Ozuorcun & Tabak, 2012) due to the co-evaluation of e-learning and mobile informatics fields and the use of wireless technologies or mobile devices (Korucu & Alkan, 2011). Additionally, Ozuorcun and Tabak (2012) describe e-learning as providing teaching and learning material via electronic media such as satellite broadcasts, intranets, or the Internet.

According to Brown and Mbathi (2015), there was an assumption, especially within the first world, that m-learning is impossible in Africa due to inadequate bandwidth. However, this assumption is no longer valid as adult learners engage unaware and informally in m-learning (see Chapter 5 Section 5.4). There are successful m-learning projects in Africa, and with many people owning mobile devices, m-learning is even more likely to succeed as an alternative way where adult learners can acquire some form of education. For example, the m-learning pilot project, MobilED, in South Africa was initiated to use mobile phones to introduce new opportunities for community-building and knowledge-sharing in the context of learning (Ford & Leinonen, 2009). The pilot project used a prototype MobilED technology platform. It was an international collaborative project done over three years after 2000, using mobile phone services and technologies. It aimed to explore the advantages of mobile phones in Africa for m-learning (Ford & Botha, 2007). Previously, mobile devices such as smartphones continued to be "the only effective technology device in the hands of Africans" (Ford & Botha, 2007: 2), and to date, this "mobile miracle" continues to provide access to telecommunication in Africa to low-income earners (Bornman, 2021), especially adult learners in the ABET sector in South Africa. In South Africa, adult education is provided at the ABET centres, regulated by the Department of Higher Education and Training (DHET). In this regard, the context of this study is to explore possibilities for adult learners in the ABET centres who own mobile phones, yet challenges riddle their learning journey.

According to Static (2002), there are challenges related to teaching and learning for adult learners in ABET centres in South Africa due to constraints on service delivery of adult education in remote rural locations with low population densities, lack of infrastructure and a decline of funding (see Chapter 3 Section 3.2 and 3.4). The education system has marginalised adult learners in mainly rural areas in South Africa, where there are few ABET centres located far apart. Therefore, the adoption of m-learning for adult learners is of paramount importance.

An adult learner, unlike a child learner, is an adult person who is involved in a systematic learning process autonomously and comes voluntarily to the learning situation, be it informal or formal (Kapur, 2015). During and after the COVID-19 world pandemic, many people's livelihoods were in jeopardy, and it would be beneficial to adults to learn new skills and acquire knowledge to prepare for future opportunities that might arise. This means that adult learners need to take advantage of the mobile devices they own to use them to acquire access to knowledge and skills. Since the pandemic, the ubiquity of mobile devices, online learning, and data availability have changed and provided new opportunities. The Africa Union (2020) points out that as a response strategy to mitigate the impact of the pandemic crisis, it is necessary to equip workers and learners with digital skills that would enable them to participate in the new normal. It is even more important for adult learners, especially those in rural areas, to acquire knowledge and skills during this time for their survival because they are generally marginalised from attaining any education due to various issues, including their geographic location. According to Leumer (2023), adult education in Southern Africa continues to be under-resourced and marginalised.

As a result of not conveniently learning new skills and acquiring knowledge, adult learners are not participating in major economic activities. In this regard, the onus is on the adult learners to improve their acquisition of skills and knowledge and thus improve their livelihood by using mobile technologies to do m-learning. Adult members of families need to show "moral and social, as well as material and economic functions *and* provide the optimum framework for their children's wellbeing" (Amoateng, Richter, Makiwane & Rama, 2004:3-4). In other words, adults are the providers for their families, and they give structure, support, and direction in their households and cannot afford to lag behind due to a lack of knowledge and skills. Therefore, it is pivotal for adult learners to do m-learning and acquire certain educational levels on the go, from anywhere at any time. This flexibility and usefulness that come with m-learning can help adult learners learn without leaving their areas or searching for ABET centres.

With face-to-face learning, adult learners must attend contact classes at a specific time and location. This kind of learning is generally less flexible than online learning as it cannot be accessed on demand (Cooke, 2021). However, m-learning is possible because of mobile technologies that include different applications. Using software and hardware materials of mobile technologies can enable adult learners to access some form of education in their respective environments without having to relocate from one place to another. The study by

Thompson (2011) indicates that technology can impact online learning for adults and can also influence their social and psychological growth. Technologies "can support the development of higher-order thinking and knowledge attainment" (Thompson, 2011:59). Unlike the study by Thompson (2011), which talks about adult education in a technological environment without being specific to mobile technologies, Hashim, Tan and Rashid (2014) mention adult learners' mobility and the need for m-learning. The authors stipulate that m-learning can potentially increase access to education where adult learners can connect with their learning content anywhere, anytime. The study focuses on learners in a developed country, though one can argue that they are used to mobile technologies with sufficient internet connections. In retrospect, other studies, such as the one by Jawiah and Ngmenkpieo (2018) and McKay (2007), focus on adults in rural parts of South Africa but do not focus on mobile technologies and learning, and this is in line with Okai-Ugbaje (2021) when stating that developing countries are educationally not always advanced and have a deficit in resources required to provide adequate pedagogical support for online learning. This evidence that developing countries practice culturally familiar pedagogies whereby learners are mainly passive suggests that m-learning is necessary because research shows that it is student-centred and flexible (Okai-Ugbaje, Ardzejewska, & Imran, 2022).

Mobile technologies make it possible for m-learning to exist, be unique, and play a significant role in the education sector. For example, teachers and learners can access the internet on their mobile devices, enabling them to access information centres such as an online library, the internet and social media. According to Hussain (2009), the role of mobile technologies in education enhances collaborative work and dissemination of new ideas, concepts, knowledge and information, and this is all about the impact that m-learning can have on people.

The m-learning environment requires adult learners to have digital skills to develop knowledge and skills successfully. Digital skills include knowing how to use World Wide Web programs, the Internet, cloud services, computer basics, digital lifestyles, and computer security and privacy (Leahy & Wilson, 2016). Akintolu and Adelore (2016) posit that the usage of mobile devices among adult learners increases and encourages their interest in learning. Cornell Tech (2018) stipulates that although literacy rates worldwide are rising, millions of adults are illiterate. Although many of these people have access to mobile phones, they cannot read and write and consequently cannot use technology on devices to their full potential. In other words, the lack of digital skills among adult learners with access to mobile devices perpetuates their

illiteracy and, ultimately, their inability to acquire knowledge and educational skills. This is concerning and clearly indicates that digital skills and understanding to use mobile devices are needed among adult learners. For example, they must know the features of their mobile devices to enable m-learning, have the skills to navigate their mobile devices and learning systems, have access to data and storage, and so forth.

Developing digital skills to use mobile devices can be elevated by a good connection to the network because most activities on mobile devices are online. In South Africa, network coverage is often a problem in some areas. Beneke (2020) posits that many South Africans, especially in rural areas, do not benefit from internet coverage as many areas' bandwidth is slow or non-existent. Consequently, to avoid a lack of experience in m-learning among adult learners, proper network coverage is needed so that learners can access online learning material to learn.

As indicated, studies on mobile technologies and online learning such as the European Association for the Education of Adults (2021), Houndjo (2020), OECD (2020), Mpungose (2020) and others have become more common in teaching and learning since the world pandemic of COVID-19. Various studies have shown that online and adult learning are necessary but do not indicate that adult learners should acquire educational skills and knowledge after the world pandemic to improve their livelihoods. For example, a study by Akintolu and Adelore (2016) has shown a need for literacy acquisition among adult learners. Therefore, there is a need to expose, explore and promote m-learning among adult learners in the ABET sector.

## 1.3 Rationale for the study

Due to the global COVID-19 pandemic, people in South Africa suffered at different levels. Institutions and organisations were closing, and people were losing their employment. In other words, "the COVID-19 pandemic had triggered one of the worst jobs crises since the Great Depression, increasing poverty and widening inequalities" (OECD, 2023: 11). At the same time, organisations such as the institutions of teaching and learning were forced to close for a certain period during the lockdown phases, forcing learners to further lose time in acquiring education. For example, workers with low skills suffered immensely from the lack of learning opportunities actuated by shutdowns in economic activities (OECD, 2021).

During the global pandemic, some institutions of teaching and learning were able to put systems in place, such as setting up online classes or allowing learners to come to institutions on a rotational basis. Global research shows an increasing trend in online learning, and many institutions anticipate transitioning to online learning post-pandemic (Valenture Institute & St Stithians, 2021). The move to blended or virtual learning models is a means to allow learners to continue studying and acquiring education after the pandemic. Plans that have been put in place to mitigate the situation of teaching and learning during the global pandemic are likely happening at well-resourced institutions.

Institutions that are not well-resourced tend to have poor teaching and learning processes that perpetuate illiteracy. In 2019, 4.4 million South African adults were found to be illiterate, predominantly black Africans residing in rural provinces such as Limpopo, Eastern Cape, North West and Kwa-Zulu Natal (DHET, 2019), and this is the context for this study. Adult learners from poorer, disadvantaged economic backgrounds lack the digital infrastructure that includes internet access and ICT devices; coupled with their inadequate digital skills, they cannot become online learning users (OECD, 2020). Therefore, learners in institutions that are not well-resourced are left out in the process, especially those in rural areas.

At this juncture, it is concerning that traditional adult learners are not always near those with the resources to study. It is even more concerning because, historically, education for adult learners in South Africa was not taken seriously and is not viewed to be as important as education for children. Baatjes and Baatjes (2008) mention that the ABET sector in South Africa still cannot attract many adult learners, which is perpetuated by the state's failure to deliver adult education properly. Furthermore, due to COVID-19, the suspension of the funding of adult education centres is eminent in most countries (Houndjo, 2020).

After the global pandemic, it would be unfortunate to leave adult learners behind in acquiring education due to not having systems and resources in place and not being exposed to new learning methods. Adult learners in South Africa and beyond must keep learning to acquire knowledge and skills relating to the Fourth Industrial Revolution (4IR) to stay informed and sustain their lives and the lives of those who depend on them. In the 4IR, individuals move between offline and online domains using connected technologies to enable and manage lives where shifts in power, wealth and knowledge will follow those knowledgeable about these

changes (Xu, David & Kim, 2018). One way that can be helpful for adult learners to keep on learning currently and into the future is to use mobile technologies.

This study aimed to explore m-learning for adult learners after COVID-19 in South Africa. It was to see if and how mobile technologies can promote m-learning and empower adult learners. This was also to investigate if m-learning through mobile technologies can benefit adult learners. The matter of m-learning and mobile technologies in the South African ABET sector is neither dealt with nor adequately addressed when looking at the limited studies. The study by Patti (2016) talks about the digital tools that adult learners can use, such as social media applications and technologies, to access education. This study is not restricted to m-learning but supports blended learning for adult learners.

Furthermore, other studies by authors such as Jawiah and Ngmenkpieo (2018), McKay (2007), the Human Sciences Research Council (HSRC), and The Educational Policy Consortium (EPC) (2005) are silent about m-learning for adult learners. In their studies, there is a focus on the importance of adult education and the disjuncture in the deliverance thereof. For example, McKay (2007) states that there has been a decline in ABET provision and delivery in South Africa and that the sector is becoming increasingly marginalised. In this regard, adult learners in the South African ABET sector can have continued access to education through m-learning and its technologies. Hashim, Tan and Rashid (2014) promote adopting m-learning among adult learners from the users' motivation perspective. The perspective of the study identifies reasons that motivate users or adult learners with specific learning platform preferences over others. The study by Akintolu and Adelore (2016) is specific to mobile technologies and their impact on adult learners' achievement in literacy programmes. The authors focus on literacy achievements for adult learners and do not cover skills development. Talking about literacy achievements among adult learners does not equate to skills acquisition that might enable adults to self-sustain. Adult education does not mean merely adult literacy. However, it goes beyond including other forms of education such as health programmes, vocational education, environmental education, popular education, co-operatives, peace education and livelihoods (Baatjes & Baatjes, 2008). The identified gap in the ABET sector was that the use of mobile devices was formally non-existent in teaching and learning. This study was expected to contribute to alerting those involved, especially adult learners, to empower themselves by engaging in flexible learning supported by the use of mobile technologies. By observation, there was ownership of mobile devices among adults that could help them learn flexibly.

## 1.4 Statement of the problem

According to observation and research, many adults in South Africa, including those in the ABET sector, own at least one mobile phone. This statement is supported by Schaefer and Chivandire (2020), who stated that smartphones in South Africa are firm favourites, with device ownership of 94% in 2018 to 97% in 2019. In this regard, various authors in six sub-Saharan African countries surveyed ownership of mobile phones, with the highest ownership in South Africa (Silver & Johnson, 2018). The problem with mobile phone ownership among adults in the South African ABET sector is that they do not use their mobile phones for education. These adult learners, especially those in rural areas, are marginalised by the system of not incorporating technology in the process of teaching and learning, as the ABET sector has "an awkward stumbling block that limits development efforts" (Dean, 2011:1). Instead, they use their mobile phones primarily for communication, that is, to make calls, text and socialise. Kumar and Arulchelvan (2018) state that adults mostly use mobile devices to share and seek information, entertainment and leisure time, unlike children who use them for gaming and education.

Additionally, the COVID-19 world pandemic was a massive challenge on its own. It challenged adult learners who needed to survive the situation to maintain their livelihoods by getting knowledge and relevant skills. COVID-19 highlighted the digital gap in different societies and how those with access to digital technology can have educational attainment compared to those without (European Association for the Education of Adults, 2021). It is through digital technologies that adult learners can acquire knowledge and skills. It is crucial to up-scale ICT–based learning in adult education institutions to avoid interruption of learning (Houndjo, 2020). Therefore, using mobile technologies to conduct m-learning may be one practical solution to remedy the situation. The problem mentioned above, therefore, lingers around the fact that the unemployment rate in South Africa is high "and edged up to 32.9 % in the first quarter of 2023" (Trading Economics, 2023: 1), and rural poor adults and women are continuously unemployed with 43.3 % of rural adults who were unemployed in 2019 (Wasserman, 2019). This unemployment rate is perpetuated by illiteracy levels among rural adults, and therefore, there is a need to empower them to use mobile devices for learning. If adult learners cannot adopt mobile technologies to learn and acquire skills and knowledge, the problem will remain persistent. Then, the poverty and unemployment levels would remain.

## 1.5 Research questions

Based on the research problem stated above, the following main research question has been formulated:

What are the possibilities of mobile learning for adult learners in Adult Basic Education and Training in South Africa?

The following sub-questions were formulated to assist in addressing the main research question:

➢ Which knowledge and skills do adult learners need when using mobile devices for learning?
➢ How can the needed knowledge and skills be taught using m-learning?
➢ What are the advantages and disadvantages of teaching and learning for adult learners when using mobile devices?
➢ Which guidelines can be provided for m-learning in the ABET sector?

From the above, the main research question is: *What are the possibilities of mobile learning for adult learners in Adult Basic Education and Training in South Africa?* This question led to the generation of new knowledge by showing that the use of mobile devices for teaching and learning in the ABET sector is possible.

## 1.6 Aim and Objectives

The study aimed to explore the possibilities of mobile learning for adult learners in Adult Basic Education and Training in South Africa.

To achieve this, the objectives of the study are to:

➢ Identify knowledge and skills needed by adult learners when using mobile devices for learning.
➢ Explore how the needed knowledge and skills can be taught using m-learning.
➢ Identify the advantages and disadvantages of teaching and learning for adult learners when using mobile devices.
➢ Provide guidelines for m-learning in the ABET sector.

## 1.7 Theoretical framework

According to Osanloo and Grant (2016), a theoretical framework is a structure that a researcher can use to comprehend the significance of the study, the problem statement, the kind of literature to collect, data collection and analysis, and the discussion of the findings. In this study, it is used to position the concepts to strengthen the study in a way that connects the researcher with the existing knowledge. In order to explore the phenomenon of the study, three theories were used: The Framework for the Rational Analysis of Mobile Education (FRAME), Andragogy and Ubuntu. The FRAME model is about the interaction between mobile devices, the learner and social aspects. "In this model, the mobile device is an active component in *equal footing* to leading and social processes. …Collectively and individually, learners consume and create information" (Koole & Ally, 2009:26). In this study, the FRAME model suggests that adult learners could interact in their respective ABET centres physically or virtually with other learners or teachers, and using of mobile devices adult learners can also interact with information at any time. Regarding the second theory, Knowles (1968) made the term andragogy famous to explain ideas about adult education and how it should be distinguished from pedagogy. Andragogy can be traced back to Kapp, who used the term in 1833 and was later developed by Rosenstock-Huessy (1925) into a theory of adult learning (Henschke, 2010: 1-2).

With the focus on adult learners, andragogy highlights its five assumptions: self-concept, experience, readiness to learn, orientation to learning *and* motivation to learn (Kurt, 2020). According to Reischmann (2004), andragogy labels a specific practical and theoretical approach to learning that is self-directed and autonomous with teachers and facilitators. Therefore, this study focuses on adult learners, and andragogy speaks to how these learners could learn differently with the help of mobile devices.

Ubuntu, the third theory, underpins education in Africa and Mdluli (1987) calls it an "African worldview". This African worldview is because Ubuntu has the potential to influence institutions' outcomes due to values such as caring, humanness, sharing, compassion, respect, forgiveness and tolerance for others within institutions (Lefa, 2015). Ubuntu can influence a greater desire to learn among learners and manifest good discipline and togetherness in institutions of teaching and learning (Msila, 2008). The absence of Ubuntu values can cause ineffective management of teaching and learning, ill-disciplined learners, disrespect and a lack of trust among learners and their teachers (Lefa, 2015). Ubuntu means "that personhood is

linked to human conduct, and that human conduct is synonymous with good moral conduct" (Letseka, 2013:340) and that is "humanness, the ideal of being human" (Broodryk, 2008: 41). The need for the third theory of Ubuntu was its emphasis on community practice where collaboration and knowledge-sharing can happen. Among other things, Ubuntu can be linked to the concept of netiquette, which is desired and essential in online learning. These underpinning theories are discussed in detail in chapter 2.

The three theories, namely the FRAME model, Andragogy and Ubuntu, have based and acted as the frame of the study. The commonality of the three theories is that they have independent, social and collaborative elements to learning. These theories complement each other to break a sense of isolation among adults and their learning community facilitators. Adult learners undertaking specific courses or programmes to learn, whether informally or formally, need to feel welcomed and connected to others in their learning community, and it is through these engagements that they can learn from one another. They can learn how to respectfully agree and disagree with one another's opinions in an online learning environment, which is about dignity in today's diverse and globalised world. In this way, adult learners in different locations need to conveniently acquire knowledge and skills in a self-directed and autonomous way, just as the andragogy theory purports, using different mobile devices to connect with others and the learning content to create, construct, and share knowledge and skills in a respectful and dignified way.

The following section presents the research design.

## 1.8 Research methodology

According to O'Leary (2004), the word methodology is linked with a particular set of paradigmatic assumptions used to conduct research. "Research methodology is a systematic way to solve a problem, *and* research methods are the various procedures and steps in research" (Farooq, 2019:1). These paradigmatic assumptions are "the foundation upon which the research is based" (Brown, 2006: 1). The research design and methods are discussed next.

## 1.8.1 Research design

The research design is a plan or structure that holds all elements of the proposed research work together and is not linked to any particular method of data collection or any type of data (Akhtar, 2016).  As the overall strategy, the research design integrates the research

methodology and method. Research means "an activity that involves finding out, in a more or less systematic way, things you did not know" (Walliman & Walliman, 2011:1). The research design in this study is planned to include the following aspects: research paradigm, approach and research type. With the research design acting as the foundation for the research, the focus of the study was to explore the possibilities of m-learning for adult learners to promote m-learning. That is, to investigate and look at how m-learning can make it possible for adult learners to access education.

### Research paradigm

Kuhn (1970:175) stipulates that research paradigms are "the entire constellation of beliefs, values, techniques, and so on shared by members of a given community". According to Candy (1989), the three main paradigms are positivism, interpretivist and critical theory, and Tashakkori and Teddlie (2003) have proposed the fourth paradigm, which is the pragmatic paradigm. In this regard, this study followed an interpretivist or constructivist paradigm. In the constructivist paradigm, methods used to interpret knowledge and understanding related to social sciences are different to methods used in physical sciences because humans can interpret the world, and the world cannot interpret humans (Hammersley, 2013). Constructivists uphold that multiple realities are socially constructed, which differs from positivists, who believe in one objective reality (Lincoln & Guba, 1994). Multiple realities are multiple interpretations of a single phenomenon "rather than a truth that can be determined by a process of measurement" (Pham, 2018: 3). With the constructivist paradigm, the plan in this study was to have it as it leads to a qualitative approach of the study. This research paradigm is discussed in detail in Chapter 4, Section 4.2.1.2.

### Research approach

There are different types of research approaches, namely qualitative, quantitative, and mixed-method approaches (Taherdoost, 2022). This study followed the qualitative approach. This approach is interpretive, humanistic and descriptive due to the richness and detail of the discussion and understanding of human experiences and reflections (Jackson, Drummond & Camara, 2007). Therefore, this study fits within the interpretative paradigm due to understanding human experiences and reflections related to m-learning. Plans and procedures in this study were intended to be inductive, and the views are subjective in nature. This study sought to explore the possibilities of m-learning for adult learners in the South African ABET sector for increased access to education. The plan was to explore m-learning to expose adult

learners to m-learning and, with the interviews, explore participants' views on the phenomenon based on their experiences. A qualitative research approach was best suited for the phenomenon under investigation because of the provision of its detailed descriptions of complex concepts and tracking the unexpected, unique event of exposing adult learners to m-learning. This study drew views from general assumptions to adopting a specific detailed research type.

### *Research type*

Research approaches relate to research paradigms as an overall philosophical or theoretical base of the study, and research types specify research procedures. The qualitative research approach used in this study links with the phenomenology research type as a move from general assumption to specific detailed research methods of data collection, analysis and interpretation – followed by the research type. There are different research types, and this study deployed phenomenology to research an issue and develop new knowledge about it. It was considered the most suited for this study because this research type associates itself with the investigative and probing processes and was used for understanding the perceptions and views of participants linked to the possibility of m-learning in the ABET sector in South Africa. Phenomenology focuses on the subjective experiences and meanings of participants. This study uses this research type to investigate a phenomenon that has not been studied at large. Therefore, the phenomenology research study studies something important by searching for clues and defining and exposing participants to m-learning because this aspect is vague and not known to the participants. In this way, phenomenology is used to gain insights at a deeper level into lived experiences perceived by participants in a particular situation (Gearing, 2004). In addition to gaining insights into lived experiences, phenomenology is used to understand phenomena through consciousness (Creswell, 2007) or to understand "the concept of the invariant aspects of phenomena as they appear to consciousness" (Qutoshi, 2018: 217). In this study, this research type is also used to explore the research topic at different levels of depth. It does not necessarily aim to provide conclusive and final answers but forms the basis for other research activities. Chapter 4 Section 4.2.3 discusses this research type in detail.

The following section presents the research methods.

## 1.9 Research methods

Hasa (2017) posits that the research design is the overall structure of a research project and that research methods are different procedures and tools used to collect and analyse data. These methods are different ways, techniques and schemes used to assist researchers in gathering sample data and finding a solution to a problem (Goundar, 2012). According to Giddings and Barbara (2009), methods are the *doing tools* for collecting and analysing data and are much more practical and concrete. The plan was to have research methods as follows: population and sampling, instrumentation and data collection techniques and data analysis and interpretation.

### 1.9.1 Population and Sampling

The study explored the possibilities of m-learning for adult learners, and certain aspects were considered to achieve the goal. Elements such as exploring m-learning and promoting m-learning for adult learners in the ABET sector were explored. To explore the plan, targeted people from the population were sampled. The goal was to sample targeted people to gain an understanding of the phenomenon under investigation, and a purposive sampling strategy was used. Purposive sampling is a non-probability sampling technique that a researcher can use to select a sample of units or subjects from a population (Etikan, 2016), and it should also help identify the possible likely scenarios or trends (Kira, 2014). Participants were selected to provide information based on their experiences. These participants were 20 adult learners studying at four different ABET centres in South Africa and one centre manager or educator from each centre. The ABET centres, two from the North West province and two from Gauteng province, were selected because they provide education specifically to adult learners and were also selected for their availability. Five learner participants from four centres were selected. Participants were enrolled in basic studies such as numeracy and literacy programmes, while others were enrolled in skills development programmes. These programmes are generally offered in ABET centres in South Africa and are further discussed in Chapter 5, Section 5.4. In the selection process, the researcher worked through the centre managers to request willing participants and to understand and be able to adhere not only to the research processes but also to the processes of the centres. The researcher approached participants and asked if they would be interested in participating in the study. Participants were conveniently selected, and their permission to participate voluntarily in the study was requested.

### 1.9.2 Instrumentation and data collection techniques

Data collection is the process of collecting and measuring information in a systematic way that affords an individual an opportunity to answer research questions and evaluate outcomes (Ori, 2021). The researcher planned to conduct two sets of interviews to collect data: focus-group interviews with adult learners and individual semi-structured interviews with adult teachers or managers. Four focus group interviews comprised five participants in each group at each of the four ABET centres. Then, one adult teacher or centre manager from each centre was involved in an individual semi-structured interview, bringing it to 24 participants. First, the focus group interview allowed the researcher to interview adult learner participants about their face-to-face learning experiences.

Interviewing adult learner participants was meant to allow the researcher to explore whether adult learners and their teachers were incorporating any form of technology in teaching and learning, particularly the use of their mobile devices in teaching and learning, and to ascertain their skills. In the focus group interviews, individuals with specific characteristics are meant to focus the discussion on a given issue (Anderson, 1990). Second, an individual interview with an adult teacher at each centre was conducted after the focus-group interview. During the focus-group and individual interviews, the researcher did the exposure part explaining m-learning and related concepts, and it entailed handing out an explanation paper about these concepts (see Appendix 8). The exposure part was done to expose adult learners to the concept of m-learning, hoping to inform and change practice in the future.

Both kinds of interviews were conducted to explore the possibilities of m-learning for adult learners in the ABET sector. Interviews allowed the researcher to capture the views of participants. A voice recorder was used to record interviews, and the handouts for the exposure part were used as informational tools on m-learning. The exposure part could only make the subsequent interview questions real and possible. After the interviews, data were analysed to understand the possibilities of m-learning for adult learners and reach meaningful conclusions. English was used as the primary language, and when participants struggled to use it, their alternative language choice was used and translated into English.

### 1.9.3 Data analysis and interpretation

In order to answer the research questions and reach certain conclusions, the data were analysed and interpreted. Thematic analysis was used from the communication recorded on the digital recorder. Thematic analysis organises, identifies, and offers insights relating to themes or patterns of meaning in a dataset (Braun & Clarke, 2012). This was all about transcribing participants' views and experiences. Braun and Clarke (2012) outline six steps in thematic analysis: familiarising yourself with data, generating first codes, searching for themes, reviewing potential themes, explaining and naming themes, and formulating the report.

### 1.10 Assumption of the Study

The researcher made the following assumptions:

Despite the growing trend of mobile and online learning in South Africa and globally, adult learners in the ABET sector in South Africa are not exposed to this trend or have little knowledge about it. The ABET centres and adult learners might be exposed to the idea of mobile and online learning, but they are not doing m-learning. At that, adult learners and their teachers have mobile phones and need to realise the power of these devices they have or are exposed to in their vicinity to access education.

### 1.11 Trustworthiness

Quantitative and qualitative research studies differ in their research validity approaches. Terms such as validity and reliability seem logical to be applied in a research study to ensure rigour and underpin a study's claim to generalisability (Giddings & Barbara, 2009), and these terms are typically associated with quantitative research (Noble & Smith, 2018). Differently, trustworthiness terms include credibility, transferability, dependability and confirmability of the research study (Lincoln & Guba, 1985) and are distinct from a qualitative research study. These qualitative validating approaches or credibility measures were adopted to ensure trustworthiness in this qualitative research study. This study addressed trustworthiness according to Lincoln and Guba (1985) and is discussed in detail in Chapter 4, Section 4.4.

## 1.12 Ethical considerations

Ethical considerations in a research study involve human treatment confidentiality and norms and values that must be upheld. "Research ethics is a codification of scientific morality in practice" (Research Ethics Committees, 2019: 1). The study, therefore, showed respect to human participants, fairness in the procedures and honesty in reporting the research processes, such as data and results. The researcher adhered to the university's research ethics committee to get guidelines on conducting research ethically and, most importantly, be granted permission to conduct research at ABET centres in South Africa. Ethical clearance was sought at Unisa before proceeding, and the ABET centres granted permission.

## 1.13 Delimitations of the study

The study's delimitations were that it looked at only ABET centres in Gauteng and North West provinces and included adult learners doing skills development and essential face-to-face programmes. Currently, no programmes are offered using m-learning at these centres.

## 1.14 Definition of key concepts

Defining terms is necessary to explain what is essential in the research. In this regard, the following key terms are defined with specific reference to the context of the study:

**Face-to-face learning**

Face-to-face "is an instructional method where course content and learning material are taught in person to a group of people" (Tophat, 2021:1). In a face-to-face session, learners and their facilitators get together in a live meeting at the same place, thereby encouraging the sharing of knowledge (Acheampong, 2021).

**Mobile learning**

Mobile learning "is a new way to access learning content via mobile devices" (Priscila, 2020: 1). It can also be defined as the provision of education where palmtop or handheld devices are used (Traxler, 2005). Through mobile technologies, learners can access education from anywhere at any time because "the core characteristics of mobile learning are ubiquitous, interactive, collaborative and instant information" (Ozdamli & Cavus, 2011:937).

**Adult learners**

Adult learners are people who participate in adult learning opportunities (Kapur, 2019). Adult learners learn differently from child learners, and their learning process is called andragogy and that of children's pedagogy (child learning process) (Knowles, 2011). The most crucial difference between andragogy and pedagogy is the self-concept of the learner, where the learning experience of an adult learner is independent and self-directed (Knowles, 1968), collaborative, problem-based and not didactic (McDonough, 2013), and a child is dependent (Caruth & Caruth, 2013). Adult learners' learning experiences are influenced and enhanced by their social capital and desire to succeed (Caruth & Caruth, 2013). In South Africa, an adult learner is a "mature age" learner who brings complex life experiences to the learning environment (Buchler, Castle, Osman & Walters, 2007). Learning activities for adult learners are meant to promote their thinking or behaviour (Cranton, 1992), improve their lives and provide a personal sense of fulfilment (Mott, 2000).

**Mobile devices**

Mobile devices are electronic devices such as cell phones and computers that are portable, handheld and wireless. Like computers, mobile devices can fulfil functions such as emails, internet access, data transmission, and so forth (Bicen & Kocakoyun, 2013). Mobile technologies include portable electronic devices that are very much linked to the user's mobility. It consists of wireless communication networks that are typified by internet-enabled devices such as watches, tablets and smartphones (International Business Machines - IBM, 2021).

**Adult Basic Education and Training**

Adult Basic Education and Training (ABET) is regarded as providing literacy education to adults in South Africa and is deemed necessary as a base for work, training and career progression (Aitchison, 2006). Rule (2005:19) notes the need for ABET:

> Adult education in South Africa is essential because it is an important mechanism for poverty alleviation and economic development, an essential contribution to personal and community development, as a component for democratic citizenship and civic participation and as a response to the historical legacy of apartheid deprivation.

According to Nassimbeni and Tandwa (2008), there are different organisations such as businesses, Government departments, Non-Governmental Organisations (NGOs) and, on a minor scale, public libraries that provide ABET.

**Distance learning**

Distance learning, also known as distance education, has different characteristics, including learners' access to information without interacting directly with the information provider. "The term distance learning represents approaches that focus on opening access to education and training, freeing learners from the constraints of time and place" (Buselic, 2012: 25). Distance learning is a form of education in which the learners are not physically present in the traditional setting of the classroom (Kapur, 2019). Today, distance learning is influenced by different technologies that "uses audio, video equipment, the Internet and satellite communication channels" (Yusupova & Mukhamadieva, 2020: 82).

**E-learning**

E-learning, or electronic learning, provides education through electronic devices or digital resources such as cell phones, tablets, and computers. All educational activities incorporated in e-learning are carried out by learners learning synchronously, asynchronously, online or offline via standalone or networked computers and other electronic devices (Chitra & Raj, 2018).

**Application**

Applications, commonly known as apps, are software programs that, when installed, can run on electronic devices such as smartphones, tablets and computers for a specific function. They are specifically designed for mobile devices, and the proliferation of mobile devices is closing the digital gap in how users access online services (Ganapati, 2015). Seymour, Hussain and Reynolds (2014) state that there are three different application approaches:

Native Apps – are installed through an application store such as Apple's store or Google Play, and they live and can be accessed through icons on the device's home screen.

Mobile Web Apps – are like websites and, in many ways, feel and look like Native Apps. They run on a browser and use standard web technologies such as JavaScript, CSS, or HTML5.

Hybrid Apps – are part Mobile Web Apps and part Native Apps as they have features of both. Like the Mobile Web Apps, they rely on HTML being rendered in a browser, and like Native Apps, they live in an app store.

## 1.15 Chapter outline

This research study is structured and divided into six chapters as follows:

### Chapter 1

This introductory chapter provides an overview of the study and introduces the research project. The background of the study highlights the research on the possibilities of mobile learning for adult learners in the ABET sector in South Africa. Additionally, the problem statement, research questions, aims and objectives are presented. This is followed by the theoretical framework, research design, and methods. Research design is the overall plan that holds all elements of this research study together, and the research methods as producers used to collect and analyse data are introduced in this chapter. The chapter concludes by defining key concepts related to the study.

### Chapter 2

Chapter 2 highlights the theoretical framework of the study. It outlines the three theories used to underpin this study about the possibilities of m-learning for adult learners in the ABET sector. The theoretical framework examined the three theories: the FRAME model, Andragogy and Ubuntu. Examining the theoretical framework is done by looking at each theory in terms of its definition, characteristics, criticism, and the implication of it. They are compared to determine their relevance in supporting this study. This is followed by the relevance of the theoretical framework to the study.

### Chapter 3

Chapter 3 reviews the literature and related concepts to the topic. It specifically looks at concepts such as the ABET sector in South Africa, m-learning, mobile technology, teaching and learning strategies, support and management strategies for m-learning at ABET centres, and the advantages and disadvantages of m-learning. It also highlights related essential policies. The focus of the literature on these concepts is closely related to determining and unpacking the topic: the possibility of mobile learning for adult learners in the ABET sector in South Africa. Chapter 3 also discusses the concept of mobile learning and its influence, as seen by different scholars.

### Chapter 4

Chapter 4 explains and details the research design and methods used in this research study. It accounts for the chosen research paradigm, qualitative approach, and data collection and analysis methods used to determine the possibility of m-learning for adult learners in the ABET sector in South Africa. It also focuses on the data analysis technique and the study's trustworthiness. Finally, the ethical considerations adhered to in ensuring the study's trustworthiness during the research are further elaborated.

**Chapter 5**

Chapter 5 focuses on the presentation and analysis of findings from the empirical study. The findings that emanate from the focus group and individual interviews are discussed in line with the research questions, theories underpinning this research study, and the literature review. This chapter's focus on recurring patterns or emerging themes made it possible to organise and analyse data thematically. The discussion analysed themes from interviews with twenty adult learner participants and their teachers. The findings are interpreted and discussed to answer the main research question and sub-questions.

**Chapter 6**

Chapter 6 concludes this study and includes a synopsis of each chapter and the summary of the research study, focusing on the literature review and the empirical study. It discusses the synthesis of the research findings, and conclusions are made in line with an outline of the research questions. In conclusion, this chapter outlines the recommendations for the possibility of m-learning for adult learners in the ABET sector and suggests further research.

**1.16 Conclusion**

The focus of this chapter was to introduce the topic under investigation about the possibilities of m-learning to promote m-learning for adult learners in the ABET sector in South Africa. This chapter introduced the study and provided a clear background and rationale for the study. The justification for the research has been presented by highlighting the problem statement, research questions, and aims. The significance of the study was also highlighted by a focus on theoretical framework and research design and methods.

The overview of the study about the possibilities of m-learning for adult learners has been developed and linked to other features found in this chapter, such as the trustworthiness and

ethical considerations that guided this study. Lastly, this chapter provided a brief outline of key concepts, a structure of the study and a conclusion.

The next chapter outlines the theoretical framework by discussing different theories to support this research study.

# Chapter 2

# Theoretical framework

## 2.1 Introduction

In the previous chapter, the researcher provided an overview and background of the research study relating to the possibilities of m-learning for adult learners in the ABET sector in South Africa. This chapter starts by explaining the theory concept, a theoretical framework based on different scholars' views and the need for three theories in the research study. It then examines each of the three theories framing this study. These theories are the Frame for the Rational Analysis of Mobile Education (FRAME), Andragogy, and Ubuntu. The three theories were selected because they are deemed relevant to explain the phenomenon under investigation and provide focus and a foundation for the study. The chapter concludes with the application of the theories to the research study.

## 2.2 Explaining the concept theory and theoretical frameworks

Kuehl (2019) defines different works that drive research studies and give them a focus, such as theory-based work, model-based work, schema-based work, concept-based, category-based work, framework-based and non-framework-based works. Therefore, different results or theories are essential in research studies, and it is called upon to define the theoretical frameworks.

A theory can be described as "an organised body of concepts and principles intended to explain a particular phenomenon" (Leedy & Ormrod, 2005:4). According to Varpio, Paradis, Uijtdehaage and Young (2019), a set of propositions that are related logically and express the relations among different constructs or concepts is called a theory. A theory can also be explained as interrelated concepts or definitions that predict or explain situations or events (Glanz, 2008). These concepts and ideas constitute a broad and deep knowledge base and can be defined as a theory (Kivunja, 2018). These concepts and ideas are meant to explain, show the relationship and application, and enable people to understand the phenomenon under investigation.

A theoretical framework consists of one or more theories and concepts that are logically connected and relate to the study to provide the grounding of the research (Varpio et al., 2019).

"The theoretical framework is the structure that can hold or support a theory of a research study" (Swanson, 2013:122). In other words, a theoretical framework comprises a theory or theories expressed by experts to give a coat hanger for data analysis and interpretation of results (Kivunja, 2018). Thus, in simple terms, a theory or combined theories are used to support and structure the investigation of a phenomenon. In this regard, the theoretical framework also supports the research questions mentioned in Chapter 1, Section 1.5, to explain the research findings and answer the research questions. Therefore, this research is driven by theories, literature and the empirical study for meaning, and it is the original research. This is unlike a professional doctorate paper, which "focuses on applying research to practical problems *in* formulating solutions to complex issues" (Walden University, 2021:1). Kivunja (2018) asserts that every study must develop and use a theoretical framework because it plays an essential role in data analysis and meaning-making. In this regard, this research study draws its support from a theoretical framework consisting of three theories: the FRAME model, Andragogy, and Ubuntu. Each theory is significant in supporting and explaining the phenomenon under investigation. It will enable the researcher to be eclectic in approaching the research study from different angles because one theory would be inadequate to support and explain everything. The discussion of the three theories follows, starting with the FRAME model.

## 2.3 The FRAME model

Considering the nature of education today and how teaching and learning are being featured more dominantly on different online platforms than ever before, it is paramount to enable more access to education. The FRAME model is based on assessing how effective mobile devices are for mobile learning.

### 2.3.1 Defining the FRAME model

The FRAME model was initially created to analyse mobile devices' effectiveness and impact on distance learning (Koole, 2006). The FRAME model defines m-learning as a learning process that is driven by the convergence of mobile technologies (considering the technical characteristics of mobile devices), human learning capacities (considering personal aspects of learning) and social interaction (considering social aspects of learning) (Koole & Ally, 2009: 25-26). This model, depicted in Figure 2.1, was developed to understand the m-learning process and different mobile devices as distance learning tools (Koole & Ally, 2006:1).
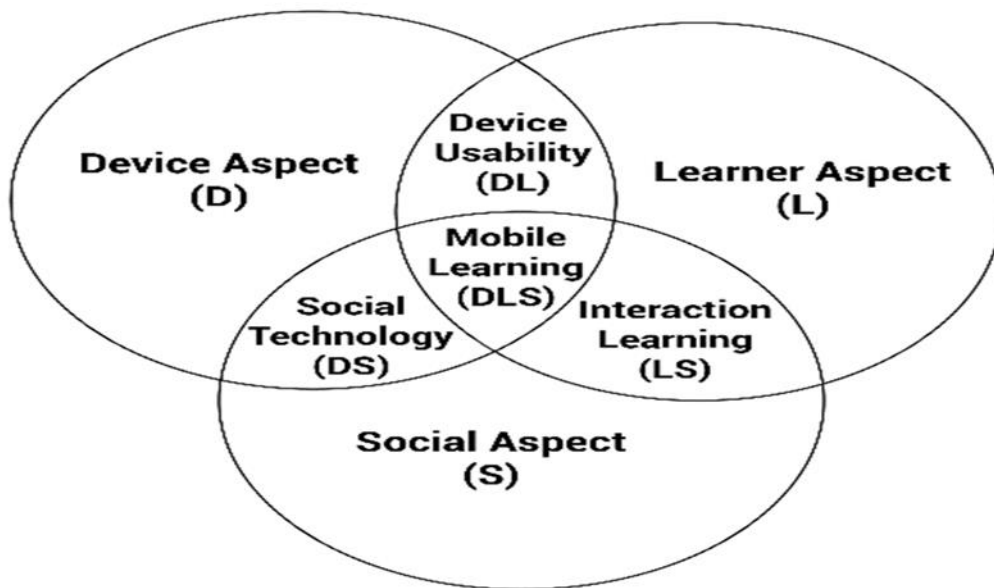
Figure 2.1: The FRAME model (Koole & Ally, 2009)

According to this theoretical model, learners can access information where and when needed. Through networked mobile devices, learners can collaborate and sieve important, relevant and trustworthy information. Marguerite Koole developed the FRAME model, and she pioneered this model to describe learners, in their learning mode, may move within different virtual and physical locations and thereby interact and participate with other people, systems or information at any time, anywhere (Koole & Ally, 2009). This theory comprises different characteristics that follow.

**2.3.2 Characteristics of the FRAME model**

The characteristics of the FRAME model are represented in the Venn figure, Figure 2.1, depicting three intersecting aspects defining mobile learning experiences. The Device aspect (D) has the Device Usability (DL) and Social Technology (DS) elements, all denoted by letters in brackets. The elements of the device usability and social technology found under the device aspect describe the *affordances* of mobile technology because *affordances* reflect the possible relationship among actors and objects (Norman, 1999). These affordances represent the relationship that users or learners are meant to have with the varied mobile devices available in the market.

The device aspect is all about the different mobile devices that users or learners should have because m-learning would not be possible without these tools. According to Koole and Ally (2009), the device aspect refers to the technical, physical, and functional characteristics of mobile devices. Characteristics of mobile devices comprise features such as the physical characteristics (size, weight), input capabilities (keyboard, mouse), output capabilities (monitors, speakers), file storage and retrieval (RAM or ROM storage on the device), processor speed (response rates), and error rates (flaws in hardware and software) (Shneiderman & Plaisant, 2005). Characteristics and features of mobile devices are outlined in Chapter 3, Section 3.4. These characteristics, which comprise the hardware and software parts, are the building blocks of a mobile device and must make the device usable and enable m-learning to happen effortlessly. In this way, Koole and Ally (2009) postulate that these characteristics must maintain high physical and psychological comfort levels.

The learner aspect (L) denotes an individual learner's emotions, prior knowledge, memory, cognitive abilities and possible motivation (Koole & Ally, 2009). It is about how a learner uses a mobile device to learn at any given time. It is not only about how a learner connects and uses a mobile device but also about how he or she connects with other learners in the learning process. This learner aspect and the learning process of using mobile devices draws upon other learning theories regarding creating and transferring knowledge. Koole (2021), the creator of the FRAME model, acknowledges that current learning theories, such as connectivism and constructivism, align with her theoretical model. She stipulates that when a learner interacts with a mobile device, it is not only influenced by the collective but also where the constructivist ideas such as the learning communities, situated cognition and interaction come alive (Koole, 2021). In the learning process, deploying elements such as one's past experiences, prior knowledge, memory, and environment associated with using different mobile technological devices are simply the elements of constructivism and connectivism. Ditlhale (2020) states that in constructivism, individual learners construct knowledge based on their social experience. In contrast, in connectivism, knowledge is derived when learners interact over the networks using mobile technological devices. These characteristics of the learner aspect are all about a learner who is in the learning process, creating and absorbing knowledge in the learning community.

The social aspect (S) is similar to the learner aspect in the sense that in the learning process, it is the learner, through the use of mobile devices, who has to cooperate and interact not only with a mobile device but also with other learners to learn. "Individuals must follow the rules of cooperation to communicate – thereby enabling them to exchange information, acquire knowledge, and sustain cultural practices" (Koole & Ally, 2009:31). For one to engage and interact with other learners, there must be criteria such as the conversation and cooperation and social interaction, that one needs to meet and align with because when there is a mismatch, the social aspect in the learning community would not be conducive. Koole and Ally (2009) call this a process of requiring rules of cooperation that require contributors to be sufficiently clear, relevant, accurate and informative as necessary because when the rules are absent, miscommunication and lack of education learning may occur.

### 2.3.3. Critique of the FRAME model

In the FRAME model, "the learner aspect of the model adopts the assumption that all students can learn and manipulate mobile phones for optimal academic success" (Wells & Ngubane, 2021:2). The authors stipulate that the FRAME model does not adequately address issues relating to learners' psychological variables such as mastery, confidence, competency, fear and anxiety nor does it include people with disabilities. In other words, the FRAME model is not explicit about how learners should be supported in their learning process when using mobile devices and being in different locations. In education, support is crucial for all learners, especially those with disabilities, if they have to achieve and succeed. Student support is the division that offers services and support to learners, including services such as the academic and personal development of learners and all learners need to be supported, especially those who use mobile devices to learn using a distance mode. Despite the critique of the FRAME model, the following implications positioned the theory to address and minimize the impact on the findings.

### 2.3.4 Implications of the FRAME model

The three aspects of the FRAME model mentioned, when they converge, form the Mobile Learning Process (DLS) represented in Figure 2.1. The convergence of the three aspects of the FRAME model can result in effective mobile learning that provides contextualised deep learning and access to information through collaboration (Koole & Ally, 2009). According to

Watkins, Carnell, Lodge, Wanger and Whalley (2002: 4), effective learning refers to learning that focuses less on the acquisition of knowledge by individuals and more on the collective to generate knowledge. In this regard, to become an effective learner using mobile devices in physical or virtual environments, one must understand individual and social processes deemed necessary.

Through the convergence of the three aspects, learners are bound to be able to evaluate the information they access more, especially from the internet, if it is relevant. This aligns with Siemens (2005), who posits that knowledge is abundant and subject to paucity. Brown (2005) talks about how learners can move from the knowledge production to knowledge navigation mode and that in the latter, learners can experience formal and informal learning ways and that these learners need to be able to choose, exploit and apply information in their learning situations. This FRAME model implies that the possibilities of mobile learning for adult learners in the ABET sector in South Africa are plausible, where adult learners, their educators and their mobile devices can get together to access and create knowledge and skills that benefit them.

The FRAME model highlighted how learners could interact with their peers, teachers, and their devices to learn. Andragogy defines these learners as adult learners; therefore, the next section discusses andragogy.

## 2.4 Andragogy

Different methods, practices and approaches must be adopted for adult learners to acquire knowledge and skills. With the emerging ways and systems to teach and learn, andragogy is relevant in defining adult education. According to Kaur (2016), andragogy focuses on the learning experience of adults; it is self-directed, and adult learners must commit and be motivated to learn.

The focus is on andragogy, which is defined in the next section.

### 2.4.1 Defining andragogy

Knowles (1970) popularised andragogy as different methods, practices, and approaches that adult learners can use in their education and argued that andragogy is different from pedagogy. "Andragogy is the art and science of helping adults learn, and pedagogy is the art and science of teaching children" (Knowles, 1980:43). In the pedagogical world, a learner is dependent on a teacher, whereas, in the world of andragogy, a learner is not dependent on the teacher but on

self. Andragogy shows the "individual freedom, the relationship between individual and society, and the aims of adult education" (Pratt, 1993:15). The term andragogy can be traced back to authors who had written about it before Knowles (1970) popularised it. Those are Kapp (1833), Rosenstock-Huessy (1925), Lindeman (1926) and Simpson (1964). The core principles of andragogy bear a sound foundation for planning adult learning experiences and an effective approach to adult learning (Holton, Swanson & Naquin, 2001).

**2.4.2 Characteristics of Andragogy**

The characteristics of this theory are coined in the principles or assumptions that guided it as it applies to adult education. In defining andragogy, six assumptions are clear and present, and they are:

> Adults learn what they need to know, are responsible, and self-manage their own learning. The role and the influence of the learners' life experiences affect the process of adult learning. Adult learners must be ready with clear goals to learn, they are also problem centred in their orientation to learn and that is the solution to problems encountered in the learning process. The empowerment of learners leading to an increased motivation (Chametzky, 2014; Rodrigues, 2012).

The principles listed above mean that adult learning is "self-directed" because adult learners come to the learning process by themselves, not forced and come on their own terms and conditions. They come with an idea of what they want to learn, which means they know what skills and knowledge they want to acquire and for what reasons they want to acquire such. Halupa (2015) asserts that andragogy has links to Maria Montessori's constructivist theories that were built on three postulations of being a student working the curriculum rather than with the direct instruction, student choice and learning time of interrupted blocks. Halupa's assertion supports Knowles's phrase of "self-direction" in his andragogy theory in the sense that adult learners' learning experiences are driven by what they have experienced in life. In other words, this is to say that adult learners come to the learning experience based on their past experiences of interacting with others and the environment. Their coming to the learning experience is enunciated by the constructivist and connectivist elements. Bell (2009) stipulates that connectivist knowledge is typified by human and non-human networking. Constructivism and connectivism are related to andragogy and position adult learners as individuals who come to the learning process knowingly and willingly to *connect, construct* and gain knowledge and skills.

The robustness of andragogy is supported and revealed by its characteristics. However, gaps in this theory have been indicated by the literature. The following section highlights these gaps as the critique on andragogy.

### 2.4.3 Critique on andragogy

Andragogy has been criticised because adults and children learn and are taught differently. Davenport and Davenport (1985) criticise this difference by pointing out whether the two learn differently and what exactly andragogy is. According to Welton (1995), the notion that children learn differently from adults with the "effective teaching practice" (Welton, 1995: 128) only boxes adult education into the professional category driven by capitalism and calls this an expert culture. The implication is that education for children is not categorised into the professional and expert culture category. It is generalised, meaning that children cannot be considered or become professionals or experts in their endeavour to learn.

Something relating to the professional and expert culture associated with adult education is the criticism that andragogy favours adult learners and their educators from the Western world and does not favour those not from these worlds. The critique is that andragogy helps to reproduce the hegemony and the dominant culture of racism (Collins, 1994), and it fails to consider other voices, especially African ones (Sandlin, 2005). In other words, andragogy is othering, perpetuating structured social inequalities, and reproducing the status quo (Sandlin, 2005). To underpin the above, Benavot (2008) states that most adults with low literacy rates live in low-income countries where severe poverty prevails. These low-income countries are non-white and non-Western and include countries such as those in the South, West and East of Asia, the Pacific and Sub-Saharan Africa. Interweaved to the critique of andragogy's position of "othering" is that not only are adult learners from the non-Western worlds subjected to the exclusion but also female adult learners. According to Tisdell (1998), feminism is concerned with the emancipation of women's gender relations and emphasises the importance of the role of affectivity in learning. The perspective of feminists is that andragogy disregards other ways of knowing (Sandlin, 2005). Another criticism from Burge (1988) relates to the methods of andragogy and that not all adult learners may prefer these methods: some adult learners are not self-directed due to a lack of self-confidence. Other critiques, such as Lee (2003) and UKEssays (2018), are technical as they focus on how teachers of adult learners teach them and how these learners learn versus technical elements in children's education. Despite the criticism of andragogy, it remains widespread, applicable, widely used and recognisable within the adult

education sector. Andragogy is related to adults learning at a distance mode. According to Darden (2014), online instruction or distance learning is the preferred way by adult learners to continue their education because distance learning allows flexibility and accessibility to online information. It is still relevant for lifelong learning and educational reform for adults as it positions the advancement in adult learning.

### 2.4.4 Implication of andragogy

The six principles mentioned in section 2.4.2 are the pillars that support and define what andragogy entails. The first principle assumes that adult learners learn what they need to know, and unlike a child learner, an adult learner comes to the learning process willingly and not "forced". As an adult, the researcher did four short learning programmes at an ODeL institution of higher learning and came to the learning process with the knowledge of why the short learning programme needed to be studied and the decisions and reasons to study such. In other words, the researcher did not rely on other people to decide what is important to learn. The implication of this principle to this study is that adult learners in different ABET colleges in South Africa ought to come to the learning process based on their own decision to embark on such willingly. Adult learners need to know how the learning process and activities will benefit them and how the newly acquired knowledge and skills will solve their problems and be applied to their life situations.

The second principle assumes that adult learners are responsible and self-manage their own learning, which ties in with the first principle because when one knows the need to learn, one is meant to be responsible for self-manage one's own learning process to succeed. The implication is that adult learners are independent learners who can self-direct their learning process and know how and when to engage with other learners.

The role and influence of the learners' life experiences in adult learning is the third principle of andragogy, which means that adult learners' life experiences influence their learning process. Unlike learning activities for children, adult learning activities are based on their life experiences. For example, the researcher did a short learning programme in education and the fundamentals of banking, and the researcher's life experiences made him relate to the learning content and activities easily because the researcher came to the learning process with specific knowledge and experience of what is happening in the education and banking sectors. This theory related to the study implies that adult learners can significantly engage and contribute

to the learning activities and can act as valuable resources in which they can learn from each other.

The fourth principle that adult learners must be ready with clear goals to learn implies that they expect to acquire specific knowledge and skills that will enable them to deal with different life situations they have targeted. Adult learners' life experiences relate to different roles they get involved in within society, and their readiness to learn is geared towards their roles.

The fifth principle concerns adult learners who are problem-centred in their orientation to learning, meaning that they seek solutions to problems encountered in their process. They want to learn and acquire knowledge and skills that help them to solve problems instead of learning generic content. This principle implies that when adult learners experience life and encounter problems, their learning is influenced by learning opportunities that enable them to solve problems and learn immediately.

The above five principles work best when the sixth and the last principles are in place, and this principle is about empowering learners, leading to increased motivation. As mentioned, adult learners come to the learning process by themselves willingly just because they have internal motivating factors. This principle is the base of andragogy because it bears concepts such as self-study, self-management of learning and self-development. Adult learners become motivated and empowered during the learning process as they want self-development and growth.

The implication of andragogy is that adult learners are the focal point of this theory. Based on life experiences unlike children who lack life experiences, adult learners know what they want to learn so that they can find solutions to problems they encounter in their lives. They are self-driven with clear goals as to why they want to learn. They have strategies such as cooperative learning, which can be associated with Ubuntu that they can use in their learning process as they can often willingly look out for different or new learning experiences.

Next, the focus is on examining Ubuntu, the third theory used to underpin this study.

## 2.5 Ubuntu

In South Africa, the Ubuntu term is derived from the Nguni language and called Botho in the Setswana language. In this study, the third theory, Ubuntu, is needed to explain the phenomenon and concepts under investigation in detail and from different angles. In this way, the possibilities for adult learners to adopt mobile technologies to learn can be underpinned by

Ubuntu. Using mobile technologies to learn fits in well with distance education, where adult learners in different ABET centres in South Africa can pursue their learning while in other areas away from the campus. In this regard, a community of learning is needed where students can connect over the networks to support and learn from one another and be geared to succeed in their endeavours. In this regard, Msila (2008) is of the view that Ubuntu values can promote practices of kindness, compassion, respect, and unselfishness, which these characteristics can contribute towards creating effective learning environments.

### 2.5.1 Defining Ubuntu

There are different Sub-Saharan languages known as Bantu from which the Ubuntu concept comes (Battle, 2009). Ubuntu is a key theme in African philosophy as it highlights the importance of communal or group existence, which differs from the individual human rights or individualism that the West emphasises (Mangena, 2016). Literally, Ubuntu means "I am because you are – I can only be a person through others" (Mbigi, 2005:1). Translated into the Setswana language, the statement means "motho ke motho ka batho ba bangwe". In other words, Ubuntu does not promote competition as it is mainly concerned with the welfare of others (Letseka, 2016). The Ubuntu spirit of solidarity is regarded as the inverse of hostility, competitiveness and selfishness, and such a spirit encourages unity amongst individuals and groups (Poovan, du Toit & Engelbrecht, 2006). In this line, Eze (2008:107) states that "a person's humanity depends on the appreciation, preservation and affirmation of another person's humanity". Ubuntu is popular in Africa, especially in the southern region, and black scholars from the region contributed to the concept's philosophical meaning. Tutu (1999) views Ubuntu as a conflict–resolution philosophy, while Samkange and Samkange (1980) define Ubuntu as humanism and Ramose (1999; 2014) and Metz (2007) link the concept of humaneness to Ubuntu.

Furthermore, Ubuntu has elements such as treating and respecting others as human beings, sharing, compassion, brotherhood, and open communication. According to Msila (2008), Ubuntu elements such as respect, unselfishness, kindness, and compassion can positively create an effective learning environment. The possibilities of using mobile technologies to learn in the ABET sector in South Africa would require an effective learning environment where learners are welcomed into the learning community. Through the Ubuntu elements within their learning environments, learners can learn how to have different opinions while still showing respect to one another. Both learners and their teachers can show compassion towards one

another and, through the effective use of mobile technologies, learn and communicate, decreasing the distance between the various role players. Adult learners who are meant to learn using mobile technologies both on and off campus can do so successfully around the value of humanness to help each other in every possible way and, as mentioned, to also bridge the social, geographical, and educational gap between learners, teachers, and the ABET sector.

## 2.5.2. Characteristics of Ubuntu

Ubuntu is closely related to the concept of social justice. "The connection between social justice and Ubuntu emphasizes the interconnectedness of all individuals and the importance of community and empathy in achieving a fairer and more just society" (Tafirenyika & van der Berg, 2023: 10). Social justice is a belief that in a democratic society, citizens must have equal access to opportunities, fundamental human rights, health, and resources including education (Gray, 2017). Blignaut (2020) believes that teaching and learning anchored on social justice will likely raise citizens who can create equal opportunities for all. Just like Ubuntu, social justice accepts and recognises shared values and resources amongst community members (Metz, 2011). According to Mbigi (1997), Ubuntu has five characteristics: dignity, respect, compassion, the spirit of solidarity and survival.

Additionally, Prozesky (2003) has ten characteristics that define Ubuntu: compassion, toughness, vulnerability, generosity, friendliness, kindness, empathy, hospitality, gentleness and humaneness. Edwards, Makunga, Ngcobo and Dhlomo (2004) state that the characteristics mentioned above have been the building blocks of the African culture. The characteristics mentioned by the two authors indicate that the list is not exhaustive. Next is an explanation of some Ubuntu characteristics.

Humanism / Humaneness. The concept of humanism was coined by Samkange and Samkange (1980), and Ramose (1999) coined the term humaneness to characterise and define Ubuntu. As one can argue, the two concepts can be used interchangeably to position a humanistic point of view in which individuals are obliged to their community. The humanistic point of view refers to many things. Tang (2015) suggests that it implies that individuals have different strengths and skills and are not isolated and that to complete themselves, they can help each other through mutual support. This humanistic point of view can be translated to mean "the belief in a universal bond of sharing, that connects all humanity" (Ubuntu, 2011:1). By sharing, it means sharing tangible and intangible things, including products, resources, services and many other things that are cemented to define Ubuntu such as love, respect, and compassion.

The spirit of solidarity. The spirit of solidarity does not promote self-interests but communal interests. Through the spirit of solidarity, "feelings of pride and responsibility are contextualised within the community" (Poovan, du Toit & Engelbrecht, 2006:18). According to Mbigi (1997), from early childhood, Africans are socialised and taught to understand that challenging activities and goals can be accomplished through collective efforts. The spirit of solidarity is closely linked to the concept of cohesion, where groups or team members within different communities are meant to achieve goals collectively rather than individually. Cohesion is "the amount of mutual affection among members and attraction to the group" (Yuki, 2002:327). Through the spirit of solidarity and cohesion, groups of people can ensure "a culture of empowerment and teamwork" (Mbigi & Maree, 1995:5), and these people forget about their personal achievement and the "I mentality and focus on the group achievement and the 'we' mentality" (Poovan, du Toit & Engelbrecht, 2006:19).

Compassion and gentleness. The Cambridge Dictionary (2022) explains compassion as a strong feeling of sympathy for the suffering of others and a wish to help them and gentleness as the quality of being soft, kind and calm. Compassion is about practising humanism and reaching out to others to form friendships and relationships (Broodryk, 2002). At the same time, Mangena (2016) defines gentleness from the Ubuntu perspective as the softness of a person's heart to sacrifice one's time for others. Compassion and gentleness, therefore, are the two concepts that show that individuals can help each other and have a heart to attend to and reach out to other people's problems. From experience within the African community, a person who has compassion and is gentle is someone who reaches out to others to help them and has a character and behaviour of being calm, content and well-mannered. Closely related to Ubuntu is the idea of gentleness that can be noted by Yamamoto (1997: 52) when stating that Ubuntu "says I am human only because you are human. If I undermine your humanity, I dehumanise myself". Among the ten concepts that Prozesky (2003) has listed are generosity, friendliness, and kindness, and they have some qualities of compassion and gentleness in explaining Ubuntu.

**2.5.3. Critique on Ubuntu**

Ubuntu is criticised "as a traditional African concept which revolves around communitarian philosophy with non-individualistic character" (Financial Study Groningen, 2018:1). Concepts and phrases that define Ubuntu, such as humanism, humaneness, respect, I am because we are, and others are criticised because they relate to the communitarian aspects which are viewed to be in contrast with the "individualistic way of living in Western countries" (Financial Study

Groningen, 2018:1) emphasising individual human rights (Mangena, 2016). In other words, communitarianism does not promote the concept of individualism associated with individual freedom. Ubuntu promotes communal existence and the importance and interests of a group at the expense of individual freedom. It is a concern, for example, where Ubuntu rejects competition and is mainly about the welfare of others (Letseka, 2016) that learners who perform well and excel in their respective learning areas would not be considered and recognised in that regard. That is a concern. In retrospect, Ubuntu promotes collaboration among learners, and when learners can support each other, they are meant to excel and perform well, which is competition.

Another criticism is that Ubuntu is viewed as a vague concept associated with anything that revolves around the significance of interpersonal connections, which can mean different things (Metz, 2011). In this way, as stated, humanism and humaneness are some of the concepts that define what Ubuntu is and Gade (2011) slides in very well with the notion that Ubuntu is rather vague. The author mentions that three texts were located in the 1970s that identified Ubuntu as "African humanism" and do not explain what African humanism is. According to Gade (2011: 308), African humanism might mean something different from a human quality. Perhaps concepts such as humanism and humaneness are somewhat vague, as we can note from Mangena (2016) that the prefix "African" needs to be added to the concept (for example, African humanism or African humaneness instead of just saying humanism or humaneness, respectively) in defining Ubuntu. At the same time, Gyekye (1997) posits that Western humanism differs from African humanism as the former promotes civil rights and individual freedom.

To conclude this section, there seems to be an element of "othering" from the critics of Ubuntu. Critics distinguish the African culture from the Western one in favour of the latter, and this is clear from the Financial Study Groningen (2018) when mentioning that historically, African people had to rely on each other in harsh living conditions to share scarce resources and survive and that it was never a case with people from the West and that is from where Ubuntu has its roots. This is not entirely correct as Africa, arguably, has been with many resources, including minerals such as gold, diamonds, platinum, and others that continue to be shipped out of the continent to the Western world. Through Ubuntu, adult learners can realise their humanity and acknowledge other learners. It also means that when their teachers treat adult learners well, they will likely perform better (Chinhanu & Adebayo, 2020). In the learning process, Ubuntu

can influence and encourage adult learners to take their learning seriously, and this is what Lefa (2015: 11) calls "effective discipline".

### 2.5.4. The implication of Ubuntu

In Ubuntu, cultural values such as perceiving a meaningful existence are framed by moral norms and values such as courtesy, compassion, generosity, caring, kindness, respect and concern for others. In this way, therefore, the overarching value of Ubuntu is humanism or humaneness. Thus, where adult learners are meant to use mobile technologies in their learning process, whether in a contact or distance mode, Ubuntu teaching and learning should be more communal than individualistic.

There is a need to reduce distance where adult learners learn at a distance mode via mobile technologies, and this process can draw its support from a frame of building the community of Ubuntu. Building the Ubuntu community would help adult learners avoid feeling isolated. The community of m-learning can be built by integrating technology and the need to introduce these technologies in the ABET sector with constant materials and to keep pace with the rapidly changing technological environment.

### 2.6. The application of the FRAME model, Andragogy and Ubuntu in m-learning

There are different ways in which the FRAME model could be applied in the learning environment where adult learners use mobile technologies. Adult learners doing m-learning can learn face-to-face, in case they meet for formal and informal sessions with their peers or teachers and online learning modes. In other words, adult learners have a chance to do blended learning. Through m-learning, other forms of teaching and learning, such as contact, hybrid, blended and online learning, can be done depending on the preference of adult education providers. The FRAME model creates a pillar and a base in which different types of learning can allow adult learners to learn together collaboratively at any time, anywhere. These types of learners can form groups to learn how to learn collaboratively to gain a deep understanding of the learning content and to develop teamwork skills and netiquette, among other things. In this way, adult learners are meant to acquire knowledge and skills and be able to transfer them into their daily lives.

Mobile devices are central to m-learning in assuming specific roles. Through mobile devices, online conducive learning platforms can be created to promote effective learning where adult learners are meant to participate actively. In this way, adult learners can be independent learners

within a group where they can assist and learn from one another in their quest for knowledge. The researcher's view is that when adult learners within a group in a connected environment learn together, not only do they learn about converging mobile technologies with human learning capacities and social interactions, but each one contributes to their learning process. No one can hide or is left behind in this kind of learning process.

The FRAME model is relevant for this study as it shows how different forms of interaction can happen and, through that, how effective learning can be ensured. This is meant to happen in the online connected platform where adult learners use m-learning. This model alone is inadequate to define the possibilities of m-learning for adult learners in the ABET sector in South Africa because it does not explain the position of adult learners, nor does it explain support for adult learners, which is crucial in the learning process. In order to ensure the effective implementation of m-learning, andragogy is identified to complement the FRAME model in defining how adult learners learn in the digital age.

Applying andragogy is closely associated with adult learning rather than child learning. In the context of this study, adult learners are deemed to have an important role to play because, unlike children, they manage and direct their learning process. For learning to be successful, adult learners must come to the learning process voluntarily with their life experiences. These learners are characterised to be independent. The assumption of andragogy is that adult learners know what they want to learn, and among other things, this is based on their life experiences. The researcher believes that we live in the digital age, where much has changed since the industrial era. Many adults are unemployed and find it challenging to make means to survive. These adults know what they want to learn to increase their chances of acquiring knowledge and skills deemed relevant to the current era for them to survive by becoming employable or creating their own jobs. Just as andragogy assumptions postulate that adult learners are problem-centred in their learning, they can seek solutions to problems related to their learning and their lives. The abovementioned point about unemployment and survival indicates that adult learners can voluntarily participate in the learning process to find solutions to the unemployable nature they find themselves in by selecting learning programmes they deem necessary and engaging in such a learning process. Not only can they come voluntarily to the learning process based on their life experiences, but they also come with clear goals to become empowered and succeed in their lives.

The FRAME model and andragogy may be applicable to explain the phenomenon under investigation. However, the researcher saw it necessary to include Ubuntu in the theoretical framework to support m-learning for adult learners. The focus is now drawn to the third and last theory of Ubuntu to inform this study.

In the learning community, where adult learners are meant to create and acquire knowledge and skills, there must be ground rules in place, and these may be called regulations, laws, right ways or more appropriate to online learning; these may be called netiquette. According to Kozik and Slivova (2014), netiquette is a set of rules regarding the behaviour of participants or users on a network. It is considered a set of rules that are not written. Every system, including the education system, needs ground rules for effective functioning. Ubuntu was selected because it constitutes elements of ground rules or netiquette. Therefore, as a key theme in the African philosophy, Ubuntu can promote values and practices of respect, kindness, unselfishness, and compassion so that adult learners can have an effective learning environment where they can interact and learn. In this learning environment, not only can adult learners interact and learn respectfully, just as Ubuntu purports, but they can support one another in the learning community, where they can emerge victorious at the end of their learning process.

The FRAME model, Andragogy and Ubuntu were selected to supplement each other in support of the possibility of m-learning for adult learners in the ABET sector in South Africa. Adult learners can learn and construct knowledge using mobile devices connected to the network. The FRAME model informs this study when it highlights learning where adult learners use mobile technologies in conjunction with the social element they should bring to their learning process. M-learning would not be possible if adult learners could not access the proper mobile devices with appropriate features and data tools to connect to the networks. Access to appropriate mobile devices with their technologies can make m-learning possible for adult learners. Andragogy apprises this study by highlighting how adult learners learn differently from how children learn and how their life experiences influence their learning process. Ubuntu frames this study by ensuring and making a point that ground rules or netiquette are needed in the learning environment where adult learners have to succeed. The three theories enlighten this study by indicating a point about the interactions that have to happen in the learning process. Adult learners are meant to interact with their mobile devices, content, other learners and their teachers, and it is through these interactions that effective learning can happen. In other words, these theories indicate that adult learners doing m-learning are independent learners who can share ideas and learn together.

## 2.7 Conclusion

The FRAME model, Andragogy and Ubuntu comprise this study's theoretical framework. This theoretical framework is developed by using different theories coming from different eras, and they all frame and convey issues of how adult learners can effectively learn using mobile devices in the context of the ABET sector in South Africa. This chapter started by looking at the concept of theory and theoretical framework, and it went on to explain each of the three theories selected. The three theories each have a distinctive nature to complement and support each other in addressing the phenomenon under investigation. They seek to find ways for adult learners to learn as independent learners who can collaborate, share ideas, create knowledge, and be empowered in the process. The FRAME model focused on the use of mobile devices, andragogy focused on how adult learners can learn using mobile devices, and Ubuntu highlighted the way adults support one another and how they see fellow learners, and the importance of having ground rules in the education system so that all who are involved can succeed. Various elements relating to each theory were discussed, and the chapter concluded by discussing the applicability of the theories to the study.

The next chapter discusses the concepts and literature relevant to this study.

# Chapter 3

# Literature review on the possibilities of m-learning for adult learners in the ABET sector in South Africa

## 3.1 Introduction

The previous chapter discussed the three theories framing this study, namely the FRAME model, Andragogy, and Ubuntu, and how they relate to and underpin this study. This chapter reviews the literature on the possibility of adult learners using mobile devices to learn in the ABET sector. It discusses the concept of m-learning as seen by different scholars and examines the influence and impact m-learning has on the current space of teaching and learning. The rationale for using mobile devices in the education space is emerging, has the potential and cannot be denied. The aspects of mobile technologies and management of m-learning act as a basis for how and why it is possible to implement m-learning in the ABET sector. Against this background, the following section discusses the ABET sector in South Africa, which is the context of this study.

## 3.2 The ABET sector in South Africa

The ABET sector in South Africa has come a long way, dating back to the early 1900s. In the 1930s, the provision of education to adults was driven by church groups and mission schools and in the 1940s, night schools were legally recognised. Then, in the 1950s, the government of the time turned backwards to close night schools. However, from the 1960s to 1990s, night schools became popular again as centres where adults could go to acquire education. During this time, there was an upgrade in operations within the sector, and the establishment of effective programmes was considered. Static (2002) stipulates that during 1989, education faculties of different English language universities in South Africa were establishing adult literacy departments or units and that the 1990s highlighted the "boom time" with an endorsement of policy work to recognise lifelong learning. During this time, the first adult examination was set.

The year 1994 is significant as it highlights the time when black people could vote in the first democratic election that ushered democracy in South Africa. It was only during the year 1994 that the ABET sector was institutionalised in the country. During this time and in subsequent years, the provision of education to adult learners became prominent, with the ABET Act coming to life and the recognition of ABET in the White Paper 2-3 on education. According to

Aitchison (2004), ABET received attention in Education White Paper 2-3 and the White Paper on Education 1. In the process, NGOs were getting recognition in line with their efforts to support the provision of adult education and funding was made available. Not all was bright and cheerful after 1994 as challenges emerged. For example, some publishers prompted the lack of a market for ABET materials, and the closing of Learn and Teach highlighted the decline of the NGOs and their involvement in supporting the provision of adult education (Static, 2002). Learn and Teach was established in 1982 as a magazine meant to help individuals who wanted to learn to read and write in English, as stories were written in plain and simple language (Learn & Teach magazine, 2021).

ABET can be defined as providing basic numeracy and literacy skills and knowledge and further education and skills to adult learners in South Africa. The policy document on Adult Basic Education and Training (Department of Education, 2003:1) defines ABET in the following way:

> "Adult Basic Education and Training is the general conceptual foundation towards lifelong learning and development, comprising of knowledge, skills and attitudes required for social, economic and political participation and transformation applicable to a range of contexts. ABET is flexible, developmental and targeted at the specific needs of particular audiences and, ideally, provides access to nationally recognised certificates."

The purpose of the ABET sector in South Africa is to offer knowledge and skills to adult learners, which is synonymous with the concept of "lifelong learning". According to Richardson (1978), lifelong learning is the process where individuals seize the opportunity to learn and retain their development of skills, knowledge and their lives' interests. This type of learning occurs in various situations and throughout one's life and is not restricted to the classroom or childhood (Ates & Alsal, 2012) as it occurs in all places at all times (Laal, 2011). The concept of "lifelong learning" demonstrates why the ABET sector was started to provide knowledge to adult learners and improve their lives and communities. However, skills development programmes lacked and still lack in ABET Level 1 to 4, which does not align well with the concept of "lifelong learning".

In the global world, particularly the Western one, the development of adult education happened during the Industrial Revolution era in the nineteenth century because skilled workers were needed. There was an emerging need to provide education to the working class in specific

vocational skills (New World Encyclopaedia, 2021). In South Africa, adult education developed when the settlers settled in the country and needed workers to communicate with. This pattern continued at the booming mines. According to Hunter (2010), mine workers were illiterate, and there was a need to educate them. The author further stipulates that the majority of people in South Africa live in abject poverty and continued to do so post the apartheid era and that adult education could help to remedy the situation, encourage social transformation and allow adults to get involved in the mainstream economy. This is in line with Ates and Alsal (2012), who stated that lifelong learning by adult learners is vital in saving people from poverty by, for example, giving them the right skills and knowledge for the labour market.

Adult education is meant for adults who can learn in their own time and voluntarily. Adults who need education are those who are illiterate and scarcely write their names and addresses and are those with inadequate formal education (Static, 2002). To date, by observation, illiterate adults persist together with some adults who can read and write, especially the young ones from mainstream education. All need adult education. In general, these adults in need of knowledge, skills and self-development tend to be older and reside in rural areas, and UNESCO (2020) posits that refugees and migrants, rural adults, adults with disabilities, older adults and some with low prior educational attainments face obstacles to participate in adult learning and education. In today's challenging economic world, with few job opportunities coupled with a rapid technological change impacting different sectors, skills development, especially Fourth Industrial Revolution (4IR) skills and training are needed among adults. This need at hand is why South Africa added the letter T for Training to ABE, which stands for Adult Basic Education. Rule (2006) states that the letter "T" for training is meant to link education and training in the context of policy emphasis, whereas ABE refers to constitutional rights. ABE is a term that is commonly used in many countries, whereas ABET is preferred in South Africa (Static, 2002). The adoption of the term ABET had to address the following two concerns (ABET, 2022):

> The first one is that business and labour unions were concerned about the impact of education and its little application in work and life. At the same time, training meant drilling in routine jobs without looking at the underlying values and knowledge. Adding the "T" to ABE indicated a commitment to integrating education and training into ABET.

The second one is that ABET was born from adult literacy work, and literacy alone was not seen as adequate to support real social transformation. Therefore, ABET was meant to offer general education.

There are different types of institutions aimed at offering different learning programmes to adult learners. They are Adult Education and Training (AET), Further Education and Training (FET) or Technical and Vocational Education and Training (TVET), primarily offering vocational and training learning programmes and Continuing Education and Training (CET), which mainly refers to higher education and training (ABET, 2022) and the focus of this study is on the ABET sector, subsequently called differently as the AET. However, there are success stories and challenges in the ABET sector. Static (2002) and the HSRC (2017) highlight challenges such as the lack of funding, poorly trained adult literacy educators, and lack of skills development and training versus certification. Clearly, poorly trained teachers within the ABET sector lacked knowledge of how to train adults in skills training because the sector itself was poorly funded, which means that there were no resources or ways to upskill teachers. These challenges within the ABET sector are exacerbated by the adult learning styles that differ from children's. The internal aspects of adult learning include the learner's goals, the relationship between a learner and teacher, and motivation, which differ from those of children (Knowles, 1984; New World Encyclopaedia, 2021). Chapter 2 Section 2.4.1 and 2.4.2 highlight andragogy, the adult learning style, and differentiate it from pedagogy, a child learning style. In andragogy, adult learners come to the learning process voluntarily and engage with their learning independently. Although andragogy purports that adult learners voluntarily engage with learning independently, the literature indicates that adult learners within the ABET sector still rely on their teachers to teach them with teaching and learning styles similar to those of children. Those adult learners who lack motivation find it difficult to engage with their learning, which is the challenge. This is because motivation is an internal force that shows action and what determines it (Russell, 1971; Beck, 2004), and it is a crucial element for successful learning because it is a stimulant that causes people to learn (Aljohani & Alajlan, 2020). It encourages people to learn and keeps them within the learning situations (Rogers & Horrocks, 2010). Without adequate motivation, adult learners are bound not to perform effectively and would find their learning not satisfying or rewarding (Mount & Blake, 1984).

The delivery of adult education can include laboratories, traditional classrooms, distance learning, independent learning, broadcast learning, and online learning. These methods and techniques have advantages and disadvantages. In South Africa, the delivery of adult education

is mainly done face-to-face or in traditional classrooms. Adult basic education programmes are provided in Public Adult Learning Centres (PALCs), also known as Community Learning Centres or Private Learning Centres (OECD, 2022). In Private Learning Centres, adult education programmes have traditionally adopted a blended learning approach, combining face-to-face facilitation with computer-based lessons (Carroll, 2020). In this study, the interviews happened at four PALCs where teaching and learning are predominantly face-to-face. Quite recently, online learning gained popularity, but mainly for children in schools and students in institutions of higher learning, with the ABET sector being excluded from this kind of innovation within teaching and learning. Isaacs (2007) posits that in South Africa, all different facets of the ICTs for education prisms, such as ICT access and ICT teaching programs, have seen computer usage in all public schools and tertiary institutions with limited strides being made in the informal, ABET, and TVET sectors. Lagging in incorporating online learning for adult learners in the ABET sector is a disadvantage, perpetuating traditional teaching and learning methods that purport to adult literacy programmes. Therefore, this study contributes by exploring m-learning as a possible mode in the ABET sector.

Adult education provision in South Africa is mainly associated with adult literacy programmes rather than lifelong learning (McKay, 2012). Aitchison and Alidou (2009) substantiate the statement when they state that the delivery of adult education in the Sub-Saharan region of Africa is predominantly about reading and writing, with some basic literacy programmes that are not likely to guide adult learners into other learning channels. Generally, the ABET sector offers education that others who have gone through the system refer to as theory and knowledge, which has little application in work and life and does not focus on training and skills development. According to McKay (2012), the ABET system's disappointing output is that it attracts adults who want to gain labour market and livelihood skills, and the system does not offer these educational offerings. Against the previous statement, it is clear that the ABET sector cannot always produce adult learners who are skilled, knowledgeable and competent to engage and participate in the country's social, political and economic strands. This is also clear from the fact that the unemployment rate in South Africa is among the highest in the world. According to Karombo (2021), in 2021, 7.8 million South Africans, or 34.4% of the population, were unemployed. In South Africa, youth are those between the ages of 15 and 35, and the burden of unemployment circulates amongst the youth as they account for 59,5%, irrespective of their educational level.

According to Ford & Leinonen (2009:198), "mobile phones do not play an active role in formal education in South Africa", and in 2023, there are concerns that the use of smartphones in classrooms can be disruptive, with many countries introducing bans on the use of smartphones in classrooms (UNESCO, 2023). There have been m-learning projects being piloted over the years in South Africa, such as the UVS, MobilED, ReKindle Learning, RethinEducation, Getsmater (Koole & Ally, 2009), ICT4RED-Information & Communication Technologies for Rural Education (Botha & Herselman, 2015). It has been argued that pilot projects do not survive beyond the pilot stage. The above pilot projects indicate that m-learning as a concept and practice is not yet prominent in the ABET sector. From the researcher's experience attending ICT school workshops, m-learning is becoming known in South Africa. In this regard, the coronavirus pandemic highlighted the importance of m-learning in teaching and learning. With specific reference to m-learning, the ABET sector can adopt mobile devices to enhance their education provision to adult learners. This is because adult learners are self-motivated and self-directed, and learning is voluntary. In this regard, McNutty (2021) argued that mobile learning could be helpful and be used to reach a more significant number of adult learners who may want to learn but have limited and unequal access to classroom education.

The above calls upon a discussion of m-learning in the next section.

## 3.3 M-learning

M-learning is when wireless mobile technology allows individuals to access learning materials and information from anywhere at any time for formal and informal learning (Ally, 2009). Being able to learn from anywhere and at any time and bridging the gap between non-formal, formal and informal learning are the affordances of m-learning (Canole, 2014). M-learning uses mobile devices such as tablets, smartphones, and cell phones for learners to access and share knowledge (McNutty, 2021). Crompton (2013) defines m-learning as learning that happens across different contexts, such as social and content interactions using personal electronic devices. Mobile devices, with their embedded technologies, are viewed to support and nourish the new and existing forms of learning in different contexts, free from space and time (Parchoma & Wright, 2011). The term m-learning encourages collaborative learning (Pinkwart, Hoppe, Milrad & Perez, 2003) in classrooms (Perry, 2003) and in fieldwork (Chen, Kao & Sheu, 2003). That means it is a subset of both e-learning and open and flexible learning that personalises the learning process (Conrad, 2014) to a level of "just in time, just for me" (Peters, 2009: 116). In other words, m-learning is mobile distance learning or mobile education

(Traxler, 2009) as part of distance education. Distance education is a formalised instructional learning where the time or geographic constraints of learning do not afford in-person contact between student and instructor (King, Young, Drivere-Richmond & Schrader, 2001).

To date, reports such as those from UNESCO (2023) and Mpungose (2020) indicate that learners in schools and institutions of higher learning in South Africa, including adult learners in the ABET sector, have an idea of what online or e-learning is about, and some had the exposure and experience to use it during the coronavirus pandemic in 2019-2021 when teaching and learning shifted from face-to-face to online learning in institutions of teaching and learning across the world. However, m-learning, in particular, has not been used exclusively in the provision of education in the education sector in South Africa. The previous statement aligns with Isaacs, Roberts, and Spencer-Smith (2019), who stated that m-learning programmes might be emerging to support teaching and learning. M-learning is not yet established, and as it is emerging, it is not clear how to use it well (Traxler, 2009; Saikat et al., 2021). The authors state that m-learning is problematic both for evaluation and definition because it is situated, contextual, and personal.

Although m-learning is viewed as emerging, it associates itself with other forms of learning, such as blended, hybrid and digital learning. Hybrid, blended, digital, ubiquitous, and online learning or e-learning happens through laptops, personal and desktop computers and "the use of wireless, mobile, portable and handheld devices" (Traxler, 2009:10). M-learning associates itself with other forms of learning, using portable and handheld devices such as smartphones, mobile phones, e-book readers, PDAs, Netbooks, MP3 / MP4 players and tablets (Maiti & Tripathy, 2012). It can be argued that the above overlapping kinds of learning are rooted in face-to-face learning, and different authors explain these kinds of learning starting with face-to-face learning.

Face-to-face learning is when the learners and their facilitators physically meet in one place to communicate without using online technology (Ibrahim, 2011). On the one hand, hybrid learning is when "a significant amount of learning activities has been moved online, and time traditionally spent in the classroom is reduced but not eliminated" (Garnham & Kaleta, 2002: 5). Blended learning is when mixing face-to-face learning with technology, the internet and distance learning (Avazmatova, 2020) and it is sometimes called hybrid or mixed-mode learning (Commonwealth of Learning, 2021). It "is formal education in which a student learns at least in part through online delivery of content… in part at a supervised brick-and-mortar

location away from home" (Staker & Horn, cited in Volchenkova, 2016: 25). Digital learning occurs in all learning areas and is facilitated by technology (Victoria State Government, 2017). With the help of electronic gadgets and technology, learners can access information. It can be through a broad spectrum of practices that include virtual and blended learning, and this is digital learning (Sujana, Eswari & Nadu, 2021).

Furthermore, ubiquitous learning or u-learning means that learning can happen everywhere, where the learning content follows people around or on the internet (Thiyagu, 2009). Then, online learning is done using various technologies such as audio and video conferencing, email, the worldwide web, chat and texts delivered over computer networks (Dhull & Arora, 2019). Similar to online learning, electronic learning or e-learning is educational material presented via a computer (Carliner, 1999). According to Clark (2002), it is when teaching and learning are delivered on a computer to build knowledge and skills related to individuals' goals. During this kind of learning, there is no physical face-to-face contact or physical learning material issued to learners because it is purely online (Nicholas, 2003).

The above learning definitions, including m-learning, are interrelated and overlap with one another, and they also base their origin on distance education. They are simply different forms of distance education produced and incorporating new forms of communication promoted by technology and enhanced over the decades (Moore, Dickson-Dean, Galyen & Chen, 2010).

Concerning the above, the following discussion now examines the meaning of distance education and its subsidiaries. "M-learning is a distance learning model which is designed to meet the education needs with the help of mobile devices" (Korucu & Alkan, 2011:1926). M-learning and distance education are similar in providing learners with education opportunities independent of place and time. Therefore, the discussion of distance education is relevant in this study. Distance education provides education to learners who learn at a distance due to their different geographical locations. Distance education "can be carried out anywhere and at any time, which makes it attractive to adults with professional and social commitments" (Holmberg, 1989:168). According to Guilar and Loring (2008), distance learning is when instructors and their learners cannot meet face-to-face in the physical environment. It is about print or electronic communication media tools used for instruction to learners learning differently from their instructors regarding time and place (Moore, 1990). Distance education is an umbrella term embracing terminologies such as distance study at further education level" (Moore et al., 2010).

In the twenty-first century, distance education is defined as Open and Distance Learning (ODL) with the delivery of more courses through distance education models worldwide. ODL is about open access to education and training to free the learners from the constraints of place and time and offer flexible learning opportunities (Ghosh et al., 2012). It dates back to the 1800s (Saykill, 2018). Other subsidiary terms associated with distance education in the twenty-first century are Massive Open Online Courses (MOOCs), Open and Distance e-learning (ODeL), and others.

M-learning has its roots in distance education or distance learning. It is a subset and part of distance learning as it is situated somewhere under the spiderweb of distance education. Key elements, among others, such as mobile technology, can drive the prominence and effectiveness of m-learning in the ABET sector. The following section discusses mobile technology.

## 3.4 Mobile technology

In today's world, which is driven by technology, mobile devices play an essential role across different fields such as health, banking, agriculture, arts and entertainment, and education. Mobile technology (tablets, laptops, smartphones) has attracted research interest and can be viewed as a learning tool with educational potential (Nikolopoulou, Saltas & Tsiantos, 2023). The approach to technology in education is varied as it draws its improvement from other technologies, and that is, technology has always had a role to play in education, and it always will. People must use it wisely to teach, learn, and gain knowledge and skills. M-learning is only possible because of technologies associated with mobile devices such as smartphones, tablets, notebook computers, and PDAs, and these devices are ubiquitous. Next, the focus is on examining mobile technology as a learning tool.

### 3.4.1 Mobile technology as a learning tool

Mobile technology as a learning tool draws its base from other educational technologies that "can be traced back to the emergence of very early tools, such as paintings on cave walls" (Nye, 2007:1). The most current influential technologies in education include computers and other machines such as smartphones, laptops, tablets, virtual reality glasses, PDAs, and servers are technologies that are "mobile hardware technologies and ranked internet-based mobile learning tools" (Yildirim & Varol, 2017:37). There are also software technologies that work in line with

the abovementioned technologies such as WhatsApp, Facebook, Twitter, and YouTube. Elon Musk, the world's billionaire, bought Twitter in the year 2023, and according to Feiner (2023), he decided to rebrand it to X and expand it to add comprehensive communications and the ability to conduct the entire financial world. However, a Twitter name is still used for the internet domain (Feiner, 2023), and this research paper uses Twitter instead of X. Van den Berg and Mudau (2022), in their study, explored WhatsApp as a software communication technology used to support teaching and learning during the pandemic among students and their tutors at a South African institution, and the benefit was that the WhatsApp tool was fast and easy to use to share learning materials over mobile devices, and this included minimal distractions as a disadvantage. Learning management systems (LMSs) such as Blackboard, Sakai, Moodle and others are also other technologies that have a significant role in education and can be used by students, teachers and administrative staff, including IT people. LMSs support online collaborative groupings, communication among users, discussion, professional training, inclusive learning environment for academic progress, and reinforce the learning process (Bradley, 2020). The hardware and software technologies are part and parcel of mobile devices, and these "mobile devices are light enough, are equipped with communication capabilities and may influence how learners learn" (Nikolopoulou, Saltas & Tsiantos, 2023: 140) and have the potential to teach and learn. Computers, including laptop computers, tablet computers (Oran & Karadeniz, 2007), and smartphones, are essential today because they can be used online or offline. Either way, they have the potential to support learning. For example, when computers are offline, they can be used to do things like typing, preparing presentations, playing videos, being used to code and various other features. When they are used online, computers can be used to do things like video conferencing, live chats, surfing the internet, downloading and uploading material over the internet and so forth. According to Konig and Seifert (2020), moving from offline to online and vice versa is determined by the internet, and that means "online is virtuality and offline is reality" (Kafle, 2010:2).

Features found on various computers have the potential to transform how learners learn from traditional ways to new ways that incorporate technology. "Almost every computer built today is capable of delivering multimedia presentations for entertainment, advertising or education… multimedia incorporates text, graphics and audio media" (Anderson, 2008:144). The Internet is a crucial technological feature used in different sectors, including education. The Internet is a means of connecting computers anywhere in the world via dedicated routers and servers, and connected computers can send and receive all kinds of information, such as text, graphics,

voice, video, and computer programs (Glowniak, 1995). Computer networking is a term used by Harasim (2012) to define the internet with capabilities of making things such as emails, computer conferencing, forums, virtual communities, online collaborative learning, and so on possible. Because of the internet, "connectivity" is possible and can happen across the globe. That is, people can connect or communicate with one another anytime from anywhere in the world.

Information is no longer limited to the few as more and more people can easily access information by surfing the internet. The more information is available, the more storage is needed for it. Promethean (2017:1) talks about cloud-based technology and that "with more centralised storage for resources, cloud-based technology will allow educators to increase their reach and share more information without increased expenditure, or additional time pressure". Files being deleted or lost will be something of the past. These technologies are influential in education.

According to Mayisela (2013), mobile technologies are mobile devices, computers, and wireless communication tools. It is also referred to as a broad range of wireless and mobile networks, mobile devices, the internet and facilitating activities (Xiaojun, Junichi & Sho, 2004) that can be adopted for mobile learning. International Business Machines - IBM (2022) defines mobile technology as technology that goes anywhere with its user, and its devices allow communication, computing and networking that connects them. Mobile technology is a distinct category of technology because its application provides unique and distinct experiences compared to those given by using fixed and stationary networks.

Clearly, the provision and acquisition of knowledge and skills for adult learners is never stagnant as it evolves with time, and it should now be at a level where mobile technologies support it. This process must continuously evolve with the technology, information, learners and society to stay relevant and current.

### 3.4.2 Aspects of mobile technologies, including social media applications

Mobile devices are small handheld computing devices with a display screen, touch input, and a small keyboard. Generally, these devices weigh less than one kilogram and have a different operating system (OS) such as the Research in Motion (RIM), Android, IOS, or Windows, and "the operating system is a vital component of the system software in a computer system" (Arora et al., 2014:483). All mobile devices require an operating system to function because this system is considered the backbone of all programs, applications and settings, such as how one

texts or connects to the internet using a mobile device (Hendricks, 2022). Operating systems run different types of software technologies or applications popularly known as apps, and examples are LinkedIn, Facebook, Twitter, WhatsApp, and many others. Other mobile technologies are GPS, Bluetooth, Wi-Fi, camera, storage, Short Message Services (SMSs), radio, music player, internet surfer, voice recorder, document creator and sharer, third-party application runner, and emails. According to IBM – International Business Machines Corporation (2023), the above examples indicate that mobile technology comprises a portable two-way communications device: networking technology and computing devices that connect and go where the user goes.

Some applications on mobile devices need to be connected to the network operated somewhere to give the user a practical experience or to work. Mobile Network Operators (MNOs) are wireless carriers that maintain and own their towers and related tools such as controllers, base station switching centres, servers and many other tools that make all this work (Shavers & Bair, 2016). These MNOs, also known as mobile network carriers, cellular companies, wireless carriers, or wireless service providers, provide connection services to mobile devices or wireless communication services. Services offered by MNOs do not come for free, as there is a fee that users must pay directly or indirectly. Liao, Du, Karsai, Sarraute, Minnoni and Fleury (2018:2) define the paying terms by users to their services as follows:

> In case of a prepaid subscription, credit is purchased in advance by the customer, and access to the service is granted only if there is available credit. On the contrary, in the case of a post-paid subscription, a user is engaged in a long-term contract with the operator, and service is billed according to the usage at the end of each month. Typically, a contract specifies a limit or "allowance" of minutes and text messages for what a user is billed at a flat rate, while any further usage incurs extra charges.

In South Africa, the well-known MNOs are CellC, Vodacom, MTN (Mobile Telephone Network), Telkom, and Rain, and the less-known ones are FNB (First National Bank) Connect, Internet in South Africa, Mr. Price and Virgin Mobile. Others are still emerging, such as the PnP Mobile. There are many mobile technologies, including social media applications. The above aspects of mobile technologies need to be considered for the possible adoption of m-learning for adult learners in the ABET sector in South Africa.

Social media applications are part of mobile technologies and have different roles in impacting the provision of education to adult learners in the ABET sector. In the twenty-first century, teaching and learning in the ABET sector can no longer be limited to the content found in prescribed books. It is a problem to rely on prescribed books because they often get delivered late or are simply insufficient and expensive. Learning material such as books used by adult learners and their teachers does not always consider different learning styles, and information in these books becomes outdated fast. In this regard, mobile technologies, including social media applications, must be considered within the ABET sector to help with different teaching and learning styles and access to online information. Other challenges persist in the ABET sector, such as absenteeism and dropping out of adult learners, absenteeism of teachers or facilitators, unsupportive supervisors, transportation and its cost to travel to the centres, lack of incentives, conflict priorities between work and learning, quality assurance and the condition of learning facilities (HSRC, 2018). These challenges can be addressed using mobile technologies or social media applications, such as learning from home using mobile devices instead of coming to a physical classroom. Using mobile devices can also help learners not commute daily to the centres.

Through technology and social media applications, learning at a distance has to provide learning experiences that learners need. Communication is vital as it is the foundation of teaching and learning. Adult learners merely need to connect to the networks via their mobile devices to communicate, learn and exchange ideas to be creators of new knowledge. Innovation in teaching and learning relies on social media and a constructive approach to distance learning. Adult learners can discuss issues online and learn through that, and their work can be exposed to other learners who can give advice and feedback (Tal, Yair & Tal-Elhasaid, cited in Veletsianos, 2010). Social media applications help people to share content. This could be in the form of pictures, audio, or video. Visual elements such as pictures and video make it easier for students to grasp the content of what is being shared, and these defeats "abstract" as a concept. Understanding the term 'social media' would make it easier to see its stance in the education sector, particularly in the ABET sector. Social media is "websites and applications that enable users to create and share content or to participate in social networking" (Chandler & Munday, 2016:177). Individuals register themselves on the networks to become members. After successful registration, one can sign into the networks anytime, from anywhere, to connect and communicate with others. Their interactions lead to sharing content so they can

collaborate to produce a result. Examples of social media applications that adult learners can use on their mobile devices include forums, Twitter, LinkedIn, Facebook, Facebook Messenger, YouTube, WhatsApp, and virtual tours. In this regard, adult learners could benefit by using social media applications, independent of the location and time, to interact with the content and others in their learning process. According to Wallace (2015), social interactionism in the education sector emphasizes the importance of the location of learning, where learners are viewed as instrumental in constructing their understanding and knowledge.

Many studies report on the use of social media and LMSs for learning and are discussed in this section. According to Kilinc and Altinpulluk (2021), the use of discussion forums, found under different LMSs in online learning environments, is the most preferred learning tool that stimulates interaction and complex thinking, which is not found in traditional face-to-face learning situations. On the one hand, Twitter has the potential to be a teaching-supporting tool that can be used for sharing information and answering educational questions (Cohen & Duchan, 2012). Alternatively, Cooper and Naatus (2014) believe that LinkedIn as a learning tool can be used creatively to increase student collaboration and engagement. Student collaboration and engagement can be viewed to have the same value as student communication found in the Facebook application. "By using Facebook in learning, the role of students can therefore shift from only receiving knowledge to both searching and sharing their knowledge" (Hassan, 2014:1). YouTube, as another social media application tool, can help learners and their teachers to generate knowledge as "it offers multimedia forms of education, *where* learners *can* recall and comprehend better when they have a full experience, that is when they see, hear and do" (Pratama, Arifin & Widianingsih, 2020: 124).

Different LMSs include Moodle, Canvas, Blackboard, Rippling, and Mindflash. These LMSs are accessible via mobile devices, and the study by Mobo (2020) indicates that smartphones are internet-based systems and can employ an LMS for flexible learning where learners can access learning content wherever they are. Adult education providers such as the ABET sector can pick one LMS that adult learners can use and access over their mobile devices, for example, Moodle. Moodle is relevant communication and learning technology that can be used to design, teach and manage different learning programmes that learners need to embark on. It can help learners and teachers, including the management team, to manage the learning programme.

According to Veletsianos (2010), Moodle is used at different teaching and learning institutions to serve the needs of large educational institutions. Veletsianos further explains that any user, in principle, can design a Moodle-based innovation that could be accepted into the central technological architecture, the Moodle kernel. In Moodle, designers can design the content to be taught and learnt and ensure that different learning programs are suitable for online learning. Different social media applications and LSMs are easily accessible on mobile devices, and with their accessibility, they can promote m-learning for adult learners. The possible adoption of m-learning for adult learners cannot be successful only because social media applications and LMSs are available. These tools must be managed, and teaching, assessing and support strategies will also be considered.

The subsequent discussion outlines different strategies for m-learning.

## 3.5 Teaching and learning strategies for M-learning

Traditional teaching and learning approaches in the ABET sector persist because "for a long time, adult education programmes have been dominated by the use of inappropriate learning environments as well as methods" (Sichula, Chakanika & Sumbwa, 2016:14) such as rote learning in physical classrooms. In this way, learners may not learn efficiently as these methods are not learner-centred and do not cater for different learning styles because "undesirable learning environments tend to produce negative attitudes towards learning, leading to, possibly, failure" (Langa, cited in Doveton, 1991:18). It can be noted that this research study aimed to expose adult learners and teachers in the ABET sector to m-learning and how it could support teaching and learning for deep and flexible learning. In order to create deep learning, adult learners need to be allowed to "self-direct" (Knowles, 1984) their learning and create their own content. When learners are given a chance to create their own content, they take a lead role and become active participants in their learning. Sternberg (1985), in the Triarchic Theory of Intelligence, defines different kinds of intelligence and that they need not be limited to recalling or regurgitating. The author talks about creative and practical intelligence that learners need and that ideas must be translated into practice. One way to achieve this is when learners are given a chance to create their own content in their learning process using mobile technologies. According to Sichula, Chakanika and Sumbwa (2016:14), learner-centred approaches align more with the facilitation style than the teaching style:

> "It has been contested that the use of teaching in adult education is domineering and presumes that the person to be taught is an empty vessel. An adult has an array of

experience and it is on this experience that learning of new ideas can be built. Facilitation is advanced as being ideal in the practice of adult education. Most importantly, the role of the educator is to facilitate learning by engaging the learners in dialogue".

Teaching, learning, and assessment strategies need to be learner-centred and not teacher-centred to adopt m-learning. Learner-centred approaches promote collaboration, teamwork or group work where learners can share ideas and embark on peer teaching and assessment to gain knowledge and skills. Currently, collaboration is the dominant feature in teaching and learning. According to Mofield (2019), collaboration has benefits in delivering differentiated instruction for classroom diversity and can potentially increase student learning outcomes. Teaching and learning have changed from when teachers were seen as the only source of information to modern-day methods whereby learners can collaborate and source their information. "Collaboration is a key characteristic of human development, reflected in all our survival and civilizational activities…" (Harasim, 2012:17). In this regard, the theoretical framework used in this study is based on collaborative learning where adult learners could interact with one another and their mobile devices to create and access information in a communal way that benefits all. When learners engage in collaborative learning, they can formulate deep learning and a clear understanding of content. Teaching and learning must be planned to allow learners to connect and formulate new knowledge and experiences, assisted by a facilitator. According to Harasim (2012), online collaborative learning focuses on knowledge building, collaboration and the use of the internet as a means to reshape traditional education for the knowledge age. In online collaborative learning, learners work together in a socially constructed platform where ideas are exchanged, and the connection of ideas develops and multiplies. It is not only the learners involved as they exchange and connect ideas with the facilitator. In other words, this socially constructed learning platform needs a sufficiently knowledgeable facilitator to enable the learners to develop more information. Unlike in other approaches, learners in online collaborative learning are active because they can interact with other learners to exchange ideas and do their own research. This form of learning pushes and engages learners to be involved in their learning. Learners become active participants and not passive recipients of information.

Learner-centred approaches can be promoted by the social presence of teachers and learners in m-learning. Ample research supports the importance of establishing a *social* presence in an

online learning environment. Short, Williams and Christie (1976: 65) explain social presence as "the degree of salience (the quality or state of being there) between two communicators using a communication medium". Gunawardena (1995:148) takes this definition slightly further by explaining it as "the degree to which a person is perceived as a "real person" in mediated communication".

Richardson and Swan (2003:67-68) highlight the connection between a high social presence, satisfaction with the instructor and what they refer to as "perceived learning". Gunawardena (1995:149) refers to studies that revealed the "role of the moderator…as critical to creating a sense of online community and enhancing social presence". Techniques cited as applicable included "providing a forum for introductions of participants, facilitating some social interaction along with academic interaction, and providing collaborative learning experiences" (Cobb, 2009:243). Russo and Benson (2005:54-55) found an "even stronger relationship between student satisfaction and the perceived presence of other students".

While research clarifies that social presence alone will not guarantee learner success in the ABET sector, sufficient evidence suggests that teachers and adult learners will likely place a very high value on this aspect of the m-learning experience. Using mobile technologies to collaborate can provide adult education to learners with the "classroom experience", an experience that is meaningful and engaging – allowing them to 'feel' the presence of others in their space, making sure that they do not feel isolated. According to Goh (2001), collaborative learning affords learners enormous advantages when solving problems and accomplishing meaningful learning compared to any individual alone.

The possibility of adult learners embarking on m-learning would be distance learners located at a *distance* from their campuses. These learners would require a more flexible approach to their learning and need, therefore, to be able to access their learning material outside of regular working/campus hours. "The main characteristics of m-learning are reliability, convenience, immediacy, interactivity and flexibility" (Criollo-C, Lujan-Mora & Jaramillo-Alcazar, 2018: 2). The m-learning would need to offer both asynchronous and synchronous support and engagement recorded and be made available for learners who are unable to attend the 'live'

sessions – meaning they can access these resources in their own time. In traditional teaching and learning, feedback on tasks and submitted activities is generally provided in written format; however, teachers would need to be encouraged to use voice recordings to provide detailed feedback on assignments, allowing learners to listen to feedback while 'on-the-go.' Teachers of adult learners in the ABET sector will have to be taught different ways to deliver content that can be viewed on a mobile device – to fulfil the need for easy access anywhere and at any time. Mobile phones have a small screen with an input medium, making content structuring important (Grimus & Ebner, 2014). For content delivery, teachers will need to know of ideas such as using the camera feature to take pictures and using the voice memo recorder feature to record content such as conversations (Reinders, 2010). A need to access learning content is "to continue to harness mobile devices to support teachers and, by extension, improve learning opportunities for students around the world" (UNESCO, 2017: 66).

Collaborating in the learning process goes hand in hand with sharing. Traditionally, learners have only been able to share their ideas with others through making posters, doing presentations, writing in their books and writing examinations – all happening inside the classroom. Mobile devices are an option that adult learners can use to share information effortlessly and quickly. Al-Emran, Mezhuyev, and Kamaludin (2020) posit that m-learning has a useful element and a significant positive impact on knowledge sharing and acquisition. Sharing learning content using mobile devices can happen through internet-based, network, and non-network ways. Through these ways, learners can share educational content in different formats, such as video, pictures, audio, and text.

Ongoing research includes the use of mobile assessments (m-assessments) in different contexts, including distance education settings, informal learning settings, work-based settings, classrooms, and mobile environments (Sahin, 2019). According to Sahin and Mentor (2023), there is more interactivity and increased accessibility to formative and summative assessments, and mobile devices can encourage and enhance different forms of assessment, such as having multiple choice questions, true and false answers or short answers, which can all be done via online quiz tools. M-assessments can be used to assess different goals on a basic range, from checking learners' facts or knowledge to moving complex learning goals such as building critical thinking skills (Sahin & Mentor, 2023). Written assessments such as essays or posters can be done via Google Docs, allowing learners to work collaboratively on a single document. Practical assessments can be done via video, audio, or voice recording tools. Above all,

engaging in teaching, learning, support, and assessment using mobile devices can be smooth when all involved are aware of mobile learning, netiquette, and cyber security practices.

## 3.6 Support and management strategies for m-learning at ABET centres

The possibility of adult learners adopting mobile devices to learn can be a success with the help of management in the ABET sector. Adopting m-learning in the ABET sector needs change management to shift teaching and learning from being exclusively face-to-face to incorporating forms of distance learning via mobile devices. According to Martincic (2010), successful change management and implementation is necessary for every educational organisation, and leading the staff becomes vital. The inclusion of mobile technology as part of the infrastructure needs an operational plan for change to happen. It is the responsibility of the management to initiate change and then implement and manage it. There is a gradual change in the ABET sector. The 2013 White Paper for Post-School Education and Training indicates that the provision of adult education will move from the Public Adult Education Centres to the Community Colleges, which is the case in 2023. "Nine community colleges, one in each province, have been established and include the incorporation of 3,279 adult education and training centres. The government has committed to increasing youth and adult involvement in the community education and training to one million by 2030" (DHET, 2023:1). According to Aitchison and Land (2019), a change happened where public adult learning centres were nested into community colleges, and teachers in these community colleges were getting a new title: lecturers and the authors called this change a 2015 magical transformation time. It is arguable that transformation entailed just a change of names and did not change ways of teaching and learning in the ABET sector. According to Aitchison and Land (2019), scripted lesson plans, curriculum and materials development need to be prioritised for change because the system still has poorly equipped teachers, some only with a school leaving certificate, working in adult learning centres. For change to happen, it needs an alignment with the institution's strategic goals so that it becomes operational. Mahardhika and Raharja (2023) argue that the success of an educational institution depends on strategic planning, where an institution can analyse and predict the future and compete competitively. Furthermore, strategic planning is also required for the 21st-century educational trend, where education can provide academic renewal and innovation needed to adapt to scientific, social, and technological developments (Mahardhika & Raharja, 2023).

When considering the possibility of m-learning, management in the ABET sector needs to look at how to manage teaching, learning, assessments, support for learners, and the quality of education to be provided.

When resistance to change emerges, leadership and management in a complex change situation must adopt a new role: to facilitate "emergent change". In other words, this means that the leadership and management in the ABET sector will have to lead through vision, values, and ethics. A policy document can help leadership and management in a complex change situation as it is a powerful tool that can guide individuals and make them embrace change. The DHET (2019) indicated that teachers within the ABET sector need training for the old system to be transformed, and teacher training needs to enable teachers to respond to people's needs and access online material that can be adapted to suit their learners. In this way, Cameron and Green (2015) believe that moving from a traditional world to an emerging one is about complex change, and the focus should be on patterns, feedback, ongoing behaviour, and application to this study.

Teaching and learning that is supported by the availability of resources can benefit adult learners and teachers. In order "to enhance adult learners' learning and experience, a wide range of support and resources are needed, such as instructional design and delivery, course scheduling, curriculum design, academic advising, institution vision and support" (Zhang & Zheng, 2013:13). Adult learners are more likely to succeed when they can get support from their teachers and other learners within the ABET sector because they are goal orientated. In the m-learning environment, just like the ABET sector's planned delivery mode, learner support has to play an essential part in learners' success, including the vulnerable. Support around the use of the internet and websites is one user-friendly strategy that can be adopted to allow learners to access information. According to Simpson (2004), distance institutions organise their learner support systems differently; some learners may need more support than others. In this way, teachers can create materials and support structures. They can develop inclusive educational centres and other sources where learners can seek help.

Furthermore, teachers can create course content to suit a diverse range of learners' needs. For example, reading material can be made available in audio format or supplemented by videos, animations, and graphics. This suggests that teachers must accommodate different options as some learners are differently abled while some struggle to learn or work in the environment in

which they find themselves. With the above, the ABET sector's learner support must involve tuition, peer, administration, counselling, and guidance.

## 3.7 Advantages and disadvantages of m-learning

A balanced view of the advantages and disadvantages of m-learning is needed, as it will have an impact on the learning experiences of adult learners. At one level, there are the following advantages of m-learning; at another level, the disadvantages of m-learning will be discussed after the advantages. The DHET (2019) envisages that different types of teaching and learning for adult learners need to be accessible at different levels and stresses online learning or accessing some material online, which is viewed as an advantage.

It is vital to bring new technology into the learning space, such as mobile devices, because they are lighter to carry around than PCs and books. The publication of the Annual Internet Report (2018 – 2023) by Cisco (2020) indicates that ownership of smartphones will have grown by the end of 2023 and that 70% of the world's population will own a smartphone during this time. Access to mobile devices may be the sole platform for adult learners to access educational information and knowledge (Al-Hunaiyyan, Alhajri & Al-Sharhan, 2018). M-learning supports creation options, multimedia content delivery, situated learning and continuous support. Mobile devices' communication features such as SMS, MMS (Multimedia Messaging Service), and importing and exporting of texts, media or audio files can be used as part of learning activities (Crescent & Lee, 2011; Elias, 2011). Communication is critical in teaching and learning, and its features would enhance m-learning as adult learners and teachers could easily interact with one another to communicate. According to Chetri (2020), through m-learning, adult learners can easily interact with their teachers via online teaching and learning platforms like Hangout, Google Meet and Zoom.

M-learning can provide immediate access to knowledge and information and allow adult learners to participate in virtual learning communities, read asynchronous publications, access audio and video clips, receive live-streamed lecturers, access documents and educational games, use the device for learning purposes, and read e-books (Sattler et al., 2010; Criollo & Lujan-Mora, 2018). Learning activities learners are involved in can be diversified by m-learning. Criollo et al. (2018) posit that mobile devices can be used as an effective learning tool due to their approachability and mobility. In this regard, m-learning provides opportunities for

adult learners to learn according to their interests and needs (Chetri, 2020). Approachability and mobility of mobile devices can benefit all learners, including learners with special needs. In this way, the learning process of learners with special needs can be supported by m-learning (Savill, 2010). This aligns with Chetri (2020), who stated that m-learning allows access to e-learning for learners unfamiliar with ICT devices. Through mobile devices, all learners can benefit from a potentially more rewarding learning experience that can improve their levels of numeracy, literacy and participation of adults in education. M-learning allows learners to learn during non-working hours (Chetri, 2020) and according to Sizova, Sizova and Adulova (2020), m-learning allows learners to be involved in lifelong learning.

In addition to its advantages, m-learning has its possible disadvantages. Mobile devices are portable and have "small screens and keys" (Sizova, Sizova & Adulova, 2020:330), making learning difficult for learners. Mobile devices might have functional issues such as key size, screen size, connectivity and battery life (Miniar et al., 2008). Mobile devices might experience limited memory and poor function (Elias, 2011). Some teaching and learning institutions still see using cell phones in the classroom as distracting. "The report shows that some technology can support some learning in some contexts, but not when it is over-used or inappropriately used" (UNESCO, 2023:1). According to Maphalala and Nzama (2014), South African administrators, parents, teachers, and the public at large raised concerns about adverse consequences linked with learners' increase of cell phone use in schools, that cell phones have a negative impact on the teaching and learning process. Distractions happen when "learners spend time chatting online with their friends, surfing websites or texting instead of learning" (Tindell & Bohlander, 2012: 1). The disadvantage of the use of cell phones can lead to the disruption of academics and learners' personal lives (Ngambi & Masters, 2007). In addition to the distraction, using mobile devices poses a risk of cheating in teaching and learning. Chartrand (2016) posits that cheating is when learners use online dictionaries or look for answers during a test. Distractions and cheating are perpetuated, arguably, by a lack of appropriate learning theories for m-learning, which are still emerging and not prominent (Moore, 2009; Sharpless, 2000; Hedberg & Diao, 2020).

Additionally, M-learning can promote the digital divide where those who cannot afford it can experience cost and accessibility barriers. For those who can afford mobile devices, there might be content or pirating security issues for them. Instead of banning the use of cell phones

entirely, some reports show that policies need to be created for cell phone use in schools where learners can be encouraged to use cell phones in controlled classrooms (Maphalala & Nzama, 2014) and where only specific applications such as Google Workspace, Microsoft products, and TikTok can be banned from educational settings as perceived to be distractive (UNESCO, 2023).

The advantages and disadvantages of m-learning need to be carefully considered when adopting m-learning for adult learners in the ABET sector in South Africa. Literature indicates that mobile devices used for learning are easily accessible and that ownership of the devices is increasing (McNutty, 2021) with accessible affordances (Isaacs, Roberts & Spencer-Smith, 2019). Despite the disadvantages, adopting mobile devices for teaching and learning is possible. It is possible to do so because mobile devices could support adult learning in the ABET sector, and their access to education could be improved. Mobile devices have a usability element and can provide personalised learning with instant feedback to learners (McNutty, 2021).

The concept of affordances stretches not only across mobile devices but also across other elements associated with m-learning, such as online learning, and all linked to distance education. All those can enhance and make it possible to provide education to adult learners in the ABET sector. Adopting m-learning for adult learners in the ABET sector is also possible if policies, rules, and procedures can be established, set and implemented to be used and followed.

## 3.8 Conclusion

Different concepts that relate to this study have been presented in this chapter. A discussion was presented on m-learning and how it can benefit adult learners. Concepts related to m-learning, such as distance learning, were unpacked to indicate that they have long been associated with adult learners. This chapter also reviewed the literature on the role of mobile technologies in education, highlighting their potential to change how adult learners can acquire knowledge and skills today. The focus was also on the description of different mobile devices. It highlighted how the management in the ABET sector can effect change in these mobile devices being used in teaching and learning for adult learners. Different elements discussed were deemed essential to answer the research questions of this study.

The next chapter focuses on the research design and methodology used to investigate the possibility of m-learning for adult learners in the ABET sector.

# Chapter 4

# Research design and methods

## 4.1 Introduction

This study aimed to explore the possibility of m-learning for adult learners in the ABET sector in South Africa. This chapter begins with a discussion of the rationale for empirical research. Thereafter, it motivates and discusses the research design and methods, including the research paradigm, approach, and type. The proceedings employed in the process of the research data collection and analysis methods of this study are presented and discussed in subsequent sections. The process is done to produce answers to the main research question. Finally, this chapter discusses issues of trustworthiness of the study and the issues related to ethics in research. The following section provides the rationale for the research.

## 4.2 Rationale for empirical research

Dan (2017) states that empirical research involves systematically collecting and analysing data. The rationale for empirical research is to generate knowledge, verify facts, and draw conclusions. This study involved empirical research as it is perceived as necessary today for trustworthiness among people. According to Yin (2016), the process of collecting and analysing data is meant to help the researcher produce empirical evidence related to the phenomenon under study. To produce the empirical evidence, the researcher had to explore the phenomenon under study: the possibilities of m-learning for adult learners in the ABET sector in South Africa. In this qualitative study, exploring the phenomenon involved the participation of participants who expressed their views and lived experiences, and this allowed the researcher to understand the problem better (Creswell, 2013).

Technology today is available and impacts many lives, including the lives of teachers and learners, and adult learners need ways that are flexible and easier that would allow them to access education conveniently (see Chapter 1 Section 1.2). With the ownership of mobile devices, adult learners can access information online primarily for free (Criollo-C et al., 2021). The rationale for empirical research in this study proved that adult learners and their teachers in the ABET sector had little or no knowledge of how to use mobile devices to learn and teach. Apart from a few, many participants indicated their preference for m-learning. According to Chetri (2020), m-learning is personalised, learner-centred, and collaborative; it provides

blended learning opportunities, increases motivation, and fosters problem-solving. In this regard, the rationale for empirical research in this study was to provide empirical evidence based on conclusions derived from interviews about the possibilities of m-learning for adult learners in the ABET sector.

## 4.3 Research design

This study used a research design as a strategy to answer the research questions outlined in Chapter 1, Section 1.5. "A research design is the arrangement of conditions for the collection and analysis of data in a manner that aims to combine relevance to the research purpose" (Selltiz, 1962:70). This master plan specifies procedures and methods for the collection and analysis of the information needed (Zikmund, 1988). According to Creswell and Plano (2007), a research design is not just about collecting and analysing data but also about interpreting and reporting data in research studies. The research design procedures are meant to answer the research questions (Grey, 2014). Akhtar (2016) posits that a research design has its origin in the Imperial College in London in 1962 and has the following features:

1. It is a plan that is particular about the information type and sources relevant to the research problem.
2. It is a technique specifying the approach type to be used in the process of data collection and analysis.

Under the research design of this study, the research paradigm, approach, and type are contained elements and are discussed in the following sections.

### 4.3.1 Research paradigm

Research is a designed systematic process meant for the collection, analysis, and application of data for a clear comprehension of the investigated phenomenon. In this regard, any research process is meant to fall under a particular research paradigm. Different research paradigms include constructivism, pragmatism, post-positivism, and others. According to Rehman and Alharthi (2016), the three dominant ones are positivism, interpretivism and critical theory. These research paradigms can be viewed from the ontological, epistemological and axiological perspectives. Ontology, epistemology, methodology and axiology are the four elements that define and base a paradigm (Lincoln & Guba, 1985). It is vital that researchers understand the paradigm elements because they include the basic assumptions, values, norms and beliefs that each paradigm holds and consequently can guide and uphold a research study (Kivunja & Kuyini, 2017: 26-27). Creswell (2012) posits that ontology is an outlook on how real nature is

and that epistemology is about the nature of knowledge. Research methods of a paradigm are introduced in Chapter 1, section 1.9 and outlined in Section 4.3. The axiology of a paradigm includes explaining, assessing and comprehending terms of right and wrong behaviour. It considers the nature of ethics related to the human values of participants in a research study (Kivunja & Kuyini, 2017).

### 4.3.1.1 Defining Research Paradigm

The term paradigm is used by Kuhn (1962) to describe a philosophical way of thinking. Lincoln and Guba (1994) define paradigm as a basic set of beliefs in which the actions of the research study can be guided. The "paradigm" concept explains a set of values, beliefs and assumptions that researchers have and that define a research culture within which the nature and conduct of research are regarded (TerreBlanche & Durrheim, 2002:49). Bogdan and Biklen (1998:22) define the paradigm concept as "a loose collection of logically related assumptions, concepts, or propositions that orient thinking and research". In other words, a research paradigm is a base of practices and assumptions used in a research project to develop and comprehend the phenomenon under investigation (Creswell, 2007). In support of Creswell (2007), Goduka (2012:126) stipulates that paradigm is about the "entire constellation of beliefs, values and techniques shared by members of a research community". According to Mackenzie and Knipe (2016), the paradigm concept denotes the "worldview" of researchers in an educational research environment, and Sefotho (2015) posits that this worldview pilots or directs research processes in a field of study. Simultaneously, Mertens (2005:7) explains paradigm differently as "a way of looking at the world". Denzin and Lincoln (2008:22) note the paradigm concept as "a net containing the researcher's epistemological, ontological, and methodological premises of research".

Any study under investigation has to follow a specific research methodology and does not exist within a philosophical vacuum. The research process, done by researchers, should align itself paradigmatically. From the above definitions, therefore, the researcher's view is aligned with the notion that a research paradigm is a structure of assumptions, values and beliefs that guide the research project.

The following table tabulates different paradigms and their related elements.

| Paradigm | Ontology | Epistemology | Question | Method |
|---|---|---|---|---|
| **Positivism** | Hidden rules govern the teaching and learning process. | Focus on reliable and valid tools to undercover rules | What works? | Quantitative |
| **Interpretive/ Constructivist** | Individuals in groups create reality | Discover the underlying meaning of events and activities | Why do you act this way? | Qualitative |
| **Critical** | Society is rife with inequalities and injustice | Helping uncover injustice and empowering citizens | How can I change this situation? | Ideological review, Civil actions. |
| **Pragmatic** | Truth is what is useful | The best method is one that solves problems | Will this intervention improve learning? | Mixed methods, Design-Based |

Table 4.1: Elements of paradigms (Jasmin, 2022).

Several paradigmatic theories, such as transformative, interpretivist, constructivist, positivist, deconstructivism, critical, emancipatory and pragmatism, are discussed in the literature (Mackenzie & Knipe, 2016). At the same time, McMillian and Schumacher (2010) pin down critical theory, interpretivism and positivism as the primary research paradigms researchers use to guide them. Table 4.1 was compiled only to briefly overview different paradigms, such as positivism, critical and pragmatic, and how they differ from interpretive or constructivist paradigms from the ontological, epistemological, questionable, and methodological perspectives. Therefore, this study is associated with the constructivist or interpretivist paradigm in allowing individuals to construct their own understanding, and we will discuss only the constructivist or interpretivist paradigm in the next section.

*4.3.1.2 Constructivist paradigm*

This study is based on the constructivist or interpretivist paradigm, as it is concerned with interpreting and uncovering perceptions and attitudes related to the possibilities of m-learning for adult learners in the ABET sector in South Africa. Creswell (2003) posits that participants' views are regarded and relied upon in the constructivist paradigm. According to the constructivist paradigm, "reality is socially constructed" (Mertens, 2005: 12). The participants' perception is critical in this paradigm and shows that there are multiple realities and many truths all related to the external reality. In this regard, the researchers can get in-depth information and insights raised and heard from participants' voices (Thanh & Thanh, 2015). Cohen and Manion (1994) posit that the world of human experience can be intentionally understood under the constructivist paradigm.

The deployment of a constructivist paradigm in this study was deemed appropriate from the epistemological, ontological and axiological points of view. According to Kivunja and Kuyini (2017), the term epistemology explains how people come to know something, whether it be the truth or reality. Ontology questions the nature of reality (Creswell, 1994) to determine if something makes sense or is accurate. The term axiology associates itself with matters, especially concepts of value determination or worth, in a research project. In this regard, this study's epistemological point of view is appropriate because meanings or knowledge were constructed from participants. The ontological viewpoint under this paradigm is relative and positions the researcher's belief in multiple realities. According to Chalmers, Manley and Wisserman (2005), cited in Kivunja and Kuyini (2017), these multiple realities can be explored to construct meanings and knowledge through the interactions of humans. From the axiological perspective, matters relating to ethics in this study were considered and adhered to, and these, overall, determined the methodology of this study. Data collected from individual and focus-group interviews is how knowledge and meanings were discovered and interpreted systematically.

The following discussion is about the research approach.

## 4.3.2 Research approach

All the aspects of the research design and methods are linked, and it is noted that the constructivist paradigm uses a qualitative approach. A research approach can be explained as a

logical plan that allows researchers to get from here to there (Yin, 2009). There are different types of research approaches, namely qualitative, quantitative and mixed-method approaches, and this study followed the qualitative approach. According to Creswell (2013), a qualitative approach uses pictures and words in the data collection and presentation process. Denzin and Lincoln (2008) posit that the qualitative research approach can be conducted using documentary and historical analysis, interviews, surveys, case studies and ethnographies to collect data. In this study, the researcher used words as narratives from interviews.

Plans and procedures in this study were followed to include inductive elements and features; these views are subjective. Accordingly, the research process uses a qualitative approach due to its profound, reflexive, rigorous and interpretive nature. Therefore, this study sought to explore the possibilities of m-learning for adult learners in the South African ABET sector. This was to understand how mobile technologies can promote m-learning as a way of learning and to influence increased access to education among adult learners. On the one hand, the plan was to explore m-learning to expose adult learners to the concept of m-learning.

Furthermore, the plan was to explore participants' views through interviews. This was to get and understand their views related to the phenomenon. The qualitative research approach is best suited for the phenomenon under investigation because of its detailed descriptions of complex concepts and tracking the unexpected, unique event of exposing adult learners to m-learning.

This approach is interpretive, humanistic, and descriptive due to the richness of the discussion, detail, and understanding of human experiences and reflections (Jackson, Drummond & Camara, 2007). This aligns with McMillian and Schumacher (2010), who stated that a qualitative approach focuses on non-numerical data collected from the occurring phenomenon. In this way, meanings of the phenomenon are meant to be established from participants' views and experiences. In this regard, the researcher was concerned with the descriptions and explanations about the possibilities of m-learning among adult learners in the ABET sector in South Africa from the insiders, adult learners, and their teachers or managers rather than outsiders. Additionally, these participants were deemed necessary because they are actively involved in teaching and learning adult learners. Therefore, they could be asked to express their views about the phenomena under investigation. Through such interactions, the researcher was able to access and have in-depth information about the possibilities of m-learning for adult learners.

### 4.3.3 Research type

Research types involve using accepted methods and procedures to research a question or problem in detail to create new knowledge about it. According to Pawar (2020), there are different research types, such as applied, descriptive, analytical, fundamental, conceptual, empirical, longitudinal, laboratory, and exploratory. The different types are related to the systematic investigation of obtaining new findings and validating existing data about specific phenomena. The aim of this research study was influenced by the assumption that adult learners do not do m-learning. The aim and assumption made the researcher adopt a phenomenology research type suitable for the research process. This phenomenology research type was considered the most suited for this study because it allows for revealing gaps in knowledge related to the phenomenon under investigation. This suitability was also perpetuated by the fact that literature indicated that m-learning does not go beyond the pilot project in most institutions (Okai-Ugbaje, Ardzejewska, & Imran, 2022), and this is the reason this research type was viewed as the most suited to explore the phenomenon.

Phenomenology is qualitative in nature, and Spiegelberg (1969) argues that there are various styles of phenomenology and that "a consensual univocal interpretation of phenomenology is hard to find" (Giorgi & Giorgi, 2003:23-24). The central style of phenomenology is understanding subjective consciousness to obtain direct knowledge through reflections (Qutoshi, 2018). Therefore, in this research study, phenomenology is used to investigate the research problem that previously has not been studied in-depth or clearly defined, and its purpose is meant to lead and encourage further research or studies in the future. In other words, the role of this research type is not only to try to understand the phenomena in-depth and lay the ground for future studies but also, importantly, to expose participants to m-learning in the ABET sector in South Africa. Through this research type, the researcher also hoped that readers of this work would be exposed to the possibility and benefits of m-learning among adult learners in South Africa.

The qualitative nature of phenomenology allows it to use different methods, including text analysis, discussions, observations, interviews, and focus group meetings for an in-depth understanding of phenomena (Qutoshi, 2018). In this way, this research type aligns and supports the interview processes used in this research study, which are the focus group and individual interviews. Interviews were conducted and provided reactions and opinions from participants about the phenomena under investigation. They can engage and voice their perceptions freely after the explanation and exposure part about m-learning. Participants' reactions and opinions were considered and respected during the interview process.

The research design as a plan is used to explore the research problem, answer the research questions and use specific research methods to help implement the plan. In this way, the following section discusses the research methods.

## 4.4 Research methods

Research methods are designed to address specific research questions. They can be described as techniques, processes or strategies used in data collection and analysis to understand a topic better or uncover new information (University of Newcastle Library Guides, 2022; Williams, 2007). They are ways of conducting research; for example, they involve experiments, surveys, tests, and interviews to collect data samples and find a solution to a problem (Goundar, 2012) or that research decisions can be made or reached (McMillian & Schumacher, 2014). This study's research methods were planned to include population and sampling, instrumentation and data collection techniques and data analysis. These aspects are outlined in the following sections.

### 4.4.1 Population and sampling

In the research study, population refers to a large group of people who are used to provide answers to research questions. According to Punch and Oancea (2014:381), a population is a "target group, usually larger, about whom we want to develop knowledge, but which we cannot study directly in its entirety, therefore we sample from that population". In other words, a group of researchers are interested in generalising about a population (Babbie, 2010). Therefore, this qualitative study has a population targeted to get data and reformulate it for an in-depth understanding. This population was adult learners and their teachers from ABET centres. That is, the population came from two provinces in South Africa, Gauteng and the North West, and four centres with two centres from each province.

With the targeted population in place, this study followed purposive sampling. A sample is "a smaller group that is actually studied, drawn from a larger population; data are collected and analysed from the sample and inferences are then made to the population" (Punch & Oancea, 2014: 382). In this regard, purposive sampling is a systematic way of choosing participants based on the purpose of the research study (Walter, 2006) to provide information in addressing the research problem. In purposive sampling, participants are likely to be informative and knowledgeable about the phenomenon of the study (McMillian & Schumacher, 2010). In this study, they were selected because they were managers or teachers of adult learners, and some were adult learners. The criteria for the purposive sampling of learners and centres were all learners who were doing Level 4 at the public ABET centres.

The sample consisted of four managers or teachers teaching adult learners and twenty adult learners. The teacher participants were all working either as managers or teachers of adult learners, and one of them came from one centre of the four. All learner participants were learning at the four ABET centres, and five learners came from each centre. Concerning the above, the participants came from four public ABET centres, two located in the North West province and two in the Gauteng province in South Africa. These centres are known as ABET centres but are officially called Community Learning Centres or Colleges. They were selected to pose their views about teaching and learning in the ABET sector. These centres were selected on purpose and not randomly and had an active enrollment of ABET Level 4 adult learners. ABET Level 4 is equivalent to Grade 9 and provides adult learners with basic general education learning. Although the sample is small, it represented managers or teachers and adult learners in the ABET centres in the South African context. They all fall under the same authority and administration, the DHET.

The focus of the study was to explore the possibility of m-learning in the ABET sector in South Africa, and the study was more than just exploring teaching and learning for adult learners. Therefore, to clearly understand issues and build knowledge, the researcher saw it necessary to have the exposure part about m-learning during the interview process. The exposure part about m-learning was a crucial part of the research as it allowed participants to understand the phenomenon clearly beyond their own experiences of teaching and learning in the ABET sector and, with that, to help answer the questions under study. The managers or teachers were expected to work within the ABET sector because that guaranteed their knowledge and

experience about teaching and learning. Likewise, adult learners were expected to be within the ABET sector as active learners because that knowledge and experience about teaching and learning of adult learners was assured. In this regard, the criterion that contributed to selecting participants was the purpose of the identified case in which they were to help answer the research question willingly.

The study occurred at Centre B and Centre C in the Gauteng province. These two centres fall under the provincial jurisdiction of the Gauteng Community Education and Training - CET College. In the North West province, the study took place at Centre A and Centre D, and these two centres fall under the provincial jurisdiction of the North West ABET centres or CET College. All provincial jurisdictions are under the national DHET and depend on them for funding. "DHET is funding the development of qualifications for community college educators in at least nine South African universities" (Aitchison & Land, 2019:150). Section 14 of the National Policy on Community Colleges talks about the funding framework for CET colleges. Funds get allocated "to each college based on the national Norms and Standards for Funding CET Colleges" (Government Gazette, 2015:14). In 2023, the National Treasury of the Republic of South Africa estimates R1.1 billion to be "reprioritised to CET infrastructure" (National Treasury, 2023:2).

As much as efforts were made and desired in the selection process of participants to have equal racial and gender representation, the focus of the study was not on these as variables. Profiles of participants are provided in Chapter 5, Section 5.3.

### 4.4.2 Instrumentation and data collection techniques

In this qualitative study, focus groups and individual semi-structured interviews were instruments for collecting data. They made it possible for the researchers to gather necessary and relevant data for the research (Nieuwenhuis, 2007). According to Watkins and Gioia (2015), data collection methods are processes planned intentionally to collect data sources meant to be used to answer the research question. The data collection aims to source enough information from different sources to create rich descriptions for meaning (Merriam & Tisdell, 2016). The data collection process included qualitative instruments: the focus-group interviews, which were meant "to provide useful insights on the topic" (Collins & O'Brien, 2003:142) and individual interviews, which were meant to gain perceptions of individuals on a given phenomenon, and these instruments are discussed in the next section.

### 4.4.2.1 Focus-group interviews

In this study, the first data collection strategy used was focus-group interviews, and there was no justification for the decision because results would not be influenced either way. During the focus-group interview process, individuals are put together to focus on the topic under investigation (Johnson & Christensen, 2004). Under discussion on a topic, group interaction defines a focus-group interview as an investigative method that gathers data (Devos, Strydom, Fouche & Delport, 2005:306). According to Kumar (2014), the focus-group interview includes exploring and understanding experiences and perceptions. The interviewer interviews a group of people who share everyday experiences related to a particular event or situation. In other words, the focus-group interview is an engagement where a group of people come together at one place with the sole purpose of discussing a specific topic led by an interviewer. In this study, the homogenous group consisted of five adult learner participants who were selected to provide information related to the research. The number of participants within a group was ideal because focus groups consist of a small group. In this regard, Krueger (1994) posits that focus group interviews should have a minimum of three to a maximum of twelve participants. The researcher conducted four focus-group interviews (one per centre) to ascertain the information provided by each group.

The researcher formulated an interview guide to follow for the focus-group interview data collection instrument (see Appendix 5). This guide had different parts, i.e., Parts A-G. Part A was about general information, consisted of opening questions, and afforded both participants and the researcher an opportunity for the introduction. Part B was about the verbal consent participants needed to give if they were willing to participate, and Part C was about the follow-up participation in case it was needed. Part D and E entailed the background and biographical information led by introductory and transition or biographical questions, respectively. The introductory questions were meant to introduce the topic and activate the interaction and conversation among participants within a group, whereas the transition questions focused on the discussion. Part F had questions concerning the focus of the interview, and this section started by handing out notes compiled by the researcher (see Appendix 8). These notes were meant to expose adult learner participants and their teachers to the concept of m-learning and other associated concepts.

The researcher had assumptions, stated in Chapter 1 Section 1.10, that participants would not know what m-learning is based on the idea that the use of mobile phones is not practised in

most institutions of teaching and learning in South Africa. Unlike the developed countries, South Africa is a developing country, and the assumption was also that most people in the country are not exposed to the use of technology in teaching and learning. The assumption was valid because teaching and learning in the ABET sector was still exclusively face-to-face (see Chapter 1 Section 1.2 and Chapter 5 Section 5.4). With the assumption in place, the researcher figured compiling notes or an informational hand-out for participants was critical. The interview guide was divided into seven sections: Part A-G, and the hand-out of the notes was done at the end of Part E before Part F because Part F comprised questions about m-learning, and participants were fully informed about the procedure, and they appreciated it. Before key or main questions were asked, the exposure part was deemed critical because without it, subsequent questions would not make sense to the participants, and therefore, the whole process might have been fruitless. After the exposure part, questions were asked and discussed, and just as planned, participants were able to answer and discuss questions effortlessly because of the exposure part. Part G asked the final questions. This section allowed participants to make final statements, add things they might have missed, or ask questions for clarity.

During the focus-group interview process, the researcher introduced himself to the participants, highlighting the aim of the interviews and the reasons why they were selected. The researcher welcomed participants, thanked them for their time, explained the ground rules for the discussion, and emphasised that everyone should feel free to speak their mind as there are no right or wrong answers. The researcher not only welcomed participants to the place where interviews were conducted but also created a friendly environment as snacks were put on the table for all to have and snack on during the process. These things eased participants, including the researcher and created a relaxed environment to discuss the topic under investigation.

From the onset, in each group, the researcher could pick up that some participants were outspoken while others were not. Those who were not outspoken posed a challenge, and the researcher had to find ways to encourage them to participate freely. Conversely, those who quickly contributed to the discussion were beneficial and gave answers that provided detailed information. At the same time, they helped the researcher by encouraging others to participate by explaining specific phrases or giving examples to their peers in the group. As the interviews unfolded, all participants participated, which contributed to the richness of the discussions.

Questions covered biographical information such as their choice to study at the ABET centre, their studies and their future plans related to their studies. The next group of questions asked about their understanding of m-learning. It was related to the study's research questions that sought to understand and explore the possibilities of m-learning for adult learners in the ABET sector in South Africa. This aspect relates to the FRAME model used in this study, which refers to the effectiveness of mobile devices for m-learning. The focus was also on the current adult learners' experiences, skills development, adult responsibilities, their view of mobile technology, and advantages and disadvantages. These aspects relate not only to the FRAME model but also to Andragogy, which concerns how adults learn.

At all four centres, the focus-group interviews went according to plan. However, at one centre, Centre C, the researcher realised at the end of the session that the digital voice recorder was not recording. With the help of the adult teacher and centre manager, the availability of adult learner participants was organised, and the researcher called for a follow-up meeting. A new date was agreed upon, and the researcher had a second round of interviews with the same four participants.

The focus-group and individual interviews focused on the same areas related to the theoretical framework, the FRAME model, Andragogy and Ubuntu. Next is the discussion of the individual interviews with teachers or managers of adult learners.

### 4.4.2.2 Individual interviews

Individual interviews were the second strategy to collect data and answer the research questions. This second interview strategy helped with triangulation purposes to answer the research questions and make the research study more credible and valid. Triangulation can enrich research as it offers a variety of datasets to explain different aspects of a phenomenon of interest (Noble & Smith, 2019). At the centre of triangulation is the idea that strategies leading to the same outcomes give more confidence in the research findings (Rothbauer, 2008). According to Creswell (2010), an interview is a communication process from two different sides. The interviewer collects data by asking participants questions to learn about their opinions, beliefs, ideas, views, and conduct. An interview is meant to obtain views from individuals being interviewed on an issue (Flick, 2009). A dialogue between the interviewer and interviewee ought to happen through the interview process. McMillian and Schumacher (2010) posit that different kinds of interview forms, such as unstructured, semi-structured and

structured, could be used to collect data. Semi-structured interviews were used to interview teachers or managers of adult learners in this way. The researcher chose to use the semi-structured interviews because they allow freedom and flexibility in how adult teacher or manager participants could answer questions and participate in the empirical phase of the study. This assertion aligns with Lawson and Philpott (2008), who state that standard questions are used in semi-structured interviews and allow the researcher to probe or add follow-up questions, if needed, in line with participant responses. These follow-up questions were meant to clarify specific issues, if any, during the interview process.

Prior arrangements were in place, such as approval letters or research permissions from the university and ABET centres, appointment dates and interview times. All individual interviews, including the focus-group interviews, were conducted face-to-face. At the beginning of the individual interviews, the researcher explained the purpose of the interview clearly, then explored the biographical data, followed by general questions with each participant. Starting the interview process by asking simple to complex questions, according to McMillian and Schumacher (2010), helps to formulate rapport. The researcher used the research guide comprising seven sections (see Appendix 5 & 6) to interview participants, and all interviews lasted between 30 minutes and one hour.

The researcher used a digital audio recorder to record the interviews, and participants were informed about this beforehand and gave verbal consent over the recording. McMillian and Schumacher (2010) explain that recording the interviews ensures verbal interaction and creates material and resources for reliability checks. As mentioned, during this process, probing and follow-up questions were used to source more information about the possibilities of m-learning for adult learners in the ABET sector in South Africa.

In general, conducting interviews may be time-consuming and costly if data is collected from different places. In this study, the researcher had to travel to different places to collect data, including two different places in Gauteng and two different places in the North West provinces of South Africa. Travelling costs for participants were mitigated as only the researcher had to travel to the interview locations.

**4.4.3 Data analysis**

Accounting for the data analysis process, the researcher used thematic analysis to analyse both focus-group and individual interviews recorded on a digital audio recorder. According to Braun and Clarke (2012), thematic analysis organises, identifies, and offers insights relating to themes or patterns of meaning in a dataset. There are six steps in thematic analysis, and for the researcher to better understand the information, the data collected had to be analysed and examined. In analysing data and using the first phase of thematic analysis, the researcher read and reread the data to note initial ideas. According to Leedy and Ormrod (2005), analysing data is a process of interpreting the results. By analysing data, the researcher can describe and formulate intentions to draw conclusions and answer the research questions. In the second and subsequent phases, the researcher made initial codes, then researched for themes and reviewed the themes. According to Babbie (2007), data analysis is an interpretation of observations meant to discover patterns and meanings of relationships. In a qualitative study, the process of analysing data is interactive. It interlinks the collection and analysis phases (Creswell, 2007). The process of analysing data allows researchers to identify patterns and themes, discover explanations and relationships and formulate interpretations (Hatch, 2002). Therefore, in the fifth phase of using thematic analysis, the researcher defined, named and grouped themes to comprehend the analysis of the story and its meaning.

This qualitative study had four objectives flowing from the primary research aim, and data analysis was done to formulate parts from a complex whole and to make meanings in that way. According to Denzin and Lincoln (2008), the analysis of data links three sub-processes: data display, data reduction and conclusion verification or drawing. In this way, the process of analysing data helps researchers make sense of the collected data and explain it by pinpointing themes and patterns. In this regard, the final phase of thematic analysis allowed the researcher to produce a report that explains themes and patterns. The six steps of thematic analysis are summarised in the following table:

| Phase | | Description of the process |
|---|---|---|
| **1** | Familiarise yourself with data. | Transcribing data (if necessary), reading and reading the data, and noting initial ideas. |

| 2 | Generating initial codes | Coding interesting features of the data systematically across the entire data set, collating data relevant to each code. |
| 3 | Searching for themes | Collating codes into potential themes, gathering all data relevant to each potential theme. |
| 4 | Reviewing themes | Evaluating if the themes work concerning the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis. |
| 5 | Defining and naming themes | Ongoing analysis to refine the specifics of each theme and the overall story the analysis tells, generating clear definitions and names for each theme. |
| 6 | Producing the report | The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating the analysis to the research question and literature, and producing a scholarly analysis report. |

Table 4.2: Six steps in the thematic analysis (Braun & Clarke, 2006).

The thematic analysis allowed the researcher to analyse data closely to identify themes such as patterns, ideas, and topics that came up repeatedly.

## 4.5 Trustworthiness of the study

The importance of trustworthiness in any qualitative study is to evaluate if the study is accurate and credible and if it can be beneficial to the participants involved and the areas they are coming from. Zimbiti (2016) mentions that trustworthiness ought to determine if the findings in the research study are a true reflection of reality. The validity of qualitative research is based on trustworthiness and is supported by forms of credibility, transferability, dependability, and confirmability. Lincoln and Guba (2000) call these the four criteria that determine the credibility, accuracy, and true value of the qualitative research study. In order to achieve trustworthiness in this study, the elements of credibility, transferability, dependability and confirmability were considered and adhered to and are discussed next.

**4.5.1 Credibility**

To some extent, qualitative research studies rely on data collected from participants for their meaning. This is supported by Lincoln and Guba (1985), who define credibility as a way where participants' views and meanings are represented in and form part of the study's results. In other words, the research study is credible and has true value when truthful descriptions collected from participants or documents are analysed and, therefore, are believable, recognisable, and trustworthy. Credibility deals with the question of "how congruent are the findings with reality" (Shenton, 2004:64). To ensure credibility in this study, the researcher collected data from different participants who participated in the focus-group and individual interviews. In this manner, all interviews were recorded, allowing anyone, including participants, to crosscheck, validate and confirm information at any time. This aligns with Denzin and Lincoln (2008), who defined credibility as a way where participants' opinions are meant to be correctly represented in data analysis and findings. The nature of qualitative studies poses the possibility of multiple realities; therefore, the researcher and others can interpret the research findings differently. In this regard, it is the individual's responsibility to assess the credibility level depending on their understanding.

**4.5.2 Transferability**

The concept of transferability can be explained as transferring the research outcomes to different stations and contexts beyond the level of the study itself. This is the extent to which the outcomes of one research study can be applied to other situations. According to Shenton (2004), transferability gives readers a clear understanding of the phenomenon under investigation from thick descriptions, thereby enabling them to compare the instances of the described phenomenon with those they have seen in their situations. Transferability in qualitative research shows that the research study's results can be transferable and applied to similar situations.

To demonstrate transferability, thick descriptions were used in this research study, including adequate details about procedures and methods used and about participants in their research sites. Teddlie and Yu (2007) state that thick descriptions refer to extensive, rich research context and methodology details. In this regard, the data collection and analysis methods are highlighted in Sections 4.3.2 and 4.3.3.

### 4.5.3 Dependability

This qualitative study is a detailed report about the research process, describing the methods used and how the findings are reached. Therefore, this report, with its research processes, is meant to enable future researchers to replicate the work "and not necessarily to gain the same results" (Shenton, 2004:71). In the research process of this study, evaluations were done about the fieldwork process and ethical considerations thereof. In ensuring dependability, the researcher described the research methods used in the study. Another planned dependability criterion of this study was to make the research report accessible and available to participants, ABET centres, DHET and anyone interested in it.

### 4.5.4 Confirmability

According to Shenton (2004:72), confirmability refers to "the degree to which the study's findings are a result of the experiences and ideas of the participants rather than the preferences of the researcher". With a trace, other researchers should be able to confirm the research results, and, in this study, the researcher ensured confirmability by not influencing the study results. In other words, the researcher ensured that biases and personal preferences were eliminated and did not become part of the research results. The researcher conducted a focus group and individual interviews, recorded on a digital voice recorder and stored in a safe place. Both instruments, focus-group interviews and individual semi-structured interviews, ensured confirmability through triangulation. Storing material in a safe place should allow anyone, if they wish, to trace, verify, and confirm information, and this is what Lincoln and Guba (1985) call an audit trail.

The relationship between the researcher and participants cannot be jeopardised in any way; hence, the trustworthiness element in this research activity was ensured by adherence to ethical issues deemed critical. Next is the discussion of ethical measures considered in this study.

## 4.6 Ethical considerations

When the research idea was conceived, the researcher had to reflect and consider ethical ways to guide the study throughout. Through the ethical guidelines considered, the researcher had to evaluate and understand that the code of principles during the research process was upheld to avoid any form of harm. It is pivotal to do good and avoid harm in a research study, and harm can be reduced or prevented by applying appropriate ethical principles (Orb, Eisenhauer & Wynaden, 2001). According to Babbie (2010), ethical issues in research need to be considered

because their code of conduct or beliefs of what is good or bad, what is proper or improper, or what is right or wrong need to guide the research process. This research study used human subjects who were interviewed face-to-face. Arifin (2018) stipulates that participants must participate voluntarily and that their identity must be protected through anonymity and confidentiality. In this regard, any research study involving people must have ethical behaviour and application. Therefore, this qualitative research study adhered to specific ethical considerations to maintain acceptable ethical standards, as defined below.

**Ethical clearance and permission** were obtained from the College of Education at Unisa (see Appendix 1). The researcher also received permission from the four ABET centres where the imperial research was conducted (see Appendix 2).

**Informed consent** is necessary and pivotal as it aims to inform research participants about research so that they can make informed decisions about their participation. In support of this, Shahnazarian, Hagemann, Aburto and Rose (2013) explain that research participants must consent and be informed that they can withdraw their participation at any time. In other words, research participation is voluntary; in this study, all participants were above 18 and participated voluntarily. All participants were asked to sign the consent forms to indicate their willingness to participate and also gave verbal consent during the interview process. They were informed about the recording of the interviews and that information will be kept safe.

**No harm or risk to participants** is about protecting participants at all costs and levels during the research or interview process. This aspect is what Farrimond (2013:25) calls "nonmaleficence", and it is about ensuring that participants are not exposed to any form of harm when collecting data from them. Harm may include a cause or danger or embarrassment to participants due to revealing information that is sensitive or uncomfortable to talk about. In this research study, the interviews took place in the classrooms of the four selected centres during the day between 11 am and 5 pm. The researcher avoided personal questions that might cause harassment and discomfort to participants.

**Beneficence** is referred to by Farrimond (2013) as an element that is supposed to benefit people who are involved in the research study, such as the researcher and participants. The benefits are clear when there is familiarity with the subject. This aspect was clear and noticeable by the researcher during the interview process when the exposure part about m-learning was done.

## 4.7 Conclusion

This chapter focused on the research design and methodology. The study followed a constructivist research paradigm, a qualitative research approach, and the phenomenology research type in exploring the possibility of m-learning for adult learners in the ABET centres in South Africa. Focus groups and individual interviews were used to collect data for this study and presented as the research methods. This chapter also accounted for the thematic data analysis used to analyse data collected from the interviews. Aspects of trustworthiness closely linked and associated with ethical measures were considered, adhered to and accounted for in this chapter. In a qualitative study that includes human participants, it is always important to consider ethical considerations, and these were covered in this chapter.

The next chapter outlines the qualitative research findings in detail.

# Chapter 5

# Presentation and discussion of findings

## 5.1 Introduction

The previous chapter outlined the research design that comprised the research paradigm, approach, and type that this study is based on, and all these elements are qualitative in nature. The current chapter focuses on the presentation and discussion of the research findings. It also highlights the analysis of the empirical data collected from research participants and profiles of participants. The theoretical framework, including the FRAME model, Andragogy and Ubuntu, and the literature review discussed in Chapter 3, guided the interviews. This is to ensure that the research findings are supported and aligned with the literature (Bowen, 2009), which yielded the findings that are the focal point of this chapter. The findings in this study were derived from both focus-group and individual interviews, and consequently, emerging themes were produced.

## 5.2 Analysis of empirical data

Chapter 4 Section 4.3.3 outlined the data analysis process, highlighting some aspects of the empirical data analysis process. In this study, empirical data was collected from both focus-group and individual interviews. Through this systematic process, the researcher was meant to understand utterances made by the participants to explain and interpret the phenomenon being investigated. In the constructivist paradigm, understanding participants' views was regarded and relied upon (see Chapter 4 Section 4.3.1). The process of data collection and analysis interlinks and impacts one another. According to Hashemnezdhad (2015), the qualitative data analysis procedure can include the approach of coding the raw information, content analysis, and summative content analysis. At one level, content analysis allows data to produce emerging themes; at the other level, summative content analysis produces meanings of themes.

In this study, data analysis included transcribing interviews recorded to understand and make meaning of everything adult learners and their teacher participants said. According to Nieuwenhuis (2007), the process of understanding and making meaning of the transcribed data is guided by rigour. This process was done to gain an in-depth understanding of participants' views and incorporate the thematic analysis outlined in Chapter 4 Section 4.3.3. From

participants' responses, codes were added to identify the emerging themes and organise data accordingly. In this regard, perspectives from participants about the possibilities of m-learning for adult learners were analysed and interpreted. The following section outlines the profiles of participants.

## 5.3 Profiles of Participants

In this qualitative study, the sample consisted of twenty-four participants. These included twenty adult learner participants and four teacher participants, and of the four, participant 24 was a manager and a teacher. There were five adult learner participants from each centre. The ABET centre manager is actively involved in the teaching process as well as in the management role of the centre. This study required either an ABET centre manager or teacher to be a participant and represent his or her ABET centre. Participants 21, 22 and 23 were teachers and not managers at their ABET centres, and Participant 24 was the ABET centre manager.

In order to contextualise the research study, the biographical information included the gender, age, experience, academic qualification, position held at work, level of learning, and race, as the relevant aspects of participants. Although the interview questions were the same for both adult learners and their teachers, adult learner participants were selected to give views about teaching and learning in association with technology and the possible adoption of m-learning in the ABET sector. On the other hand, teacher participants were sampled to give views about their teaching and the integration of technology in the process. The following table, Table 5.1, depicts the profiles of adult learner participants.

| Province | ABET centre | Focus-Group | Participants | Level of learning | Age |
|---|---|---|---|---|---|
| North West (NW) | A (Public centre) | FG1 | Participant 1 | Abet Level 4 | 21 |
| | | | Participant 2 | Abet Level 4 | 18 |
| | | | Participant 3 | Abet Level 4 | 18 |
| | | | Participant 4 | Abet Level 4 | 22 |
| | | | Participant 5 | Abet Level 4 | 20 |
| Gauteng (GP) | B | FG2 | Participant 6 | Abet Level 4 | 32 |

| | (Public centre) | | Participant 7 | Abet Level 4 | 21 |
|---|---|---|---|---|---|
| | | | Participant 8 | Abet Level 4 | 24 |
| | | | Participant 9 | Abet Level 4 | 20 |
| | | | Particpant10 | Abet Level 4 | 19 |
| Gauteng (GP) | C (Public centre) | FG3 | Participant11 | Abet Level 4 | 19 |
| | | | Participant12 | Abet Level 4 | 39 |
| | | | Participant13 | Abet Level 4 | 24 |
| | | | Participant14 | Abet Level 4 | 24 |
| | | | Participant15 | Abet Level 4 | 63 |
| North West (NW) | D (Public centre) | FG4 | Participant16 | Abet Level 4 | 42 |
| | | | Participant17 | Abet Level 4 | 19 |
| | | | Participant18 | Abet Level 4 | 18 |
| | | | Participant19 | Abet Level 4 | 22 |
| | | | Participant20 | Abet Level 4 | 41 |

Table 5.1: Profiles of adult learners.

From the information given, it is clear that adult learner participants who participated in the focus-group interviews came from South Africa's two provinces of the North West and Gauteng from different ABET centres. Five learner participants came from each centre. All adult learners were learning at ABET Level 4. In South Africa, adult education is provided at ABET Levels 1 to 4. Some adult learning centres offer the National Qualifications Framework (NQF) Level 4 certificate, which is the Matric/Grade 12 certificate. From the focus-group interviews, most learners aimed to get the Matric/Grade 12 certificate after completing their ABET Level 4. Many learners use their Matric/Grade 12 certificates to apply for spaces at tertiary institutions to further their studies. ABET (2022) details ABET Level 4 as equivalent to Grade 9 at a school level and NQF Level 1.

The age and gender of adult learner participants varied, ranging from those who were eighteen years of age to those who were above the age of sixty.

The profile details of teacher participants at the ABET centres who participated in this study are illustrated in Table 5.2 below.

| Province | ABET centre | Participants | Academic qualifications | Gender | Age | Position | Work Experience |
|---|---|---|---|---|---|---|---|
| North West (NW) | A (Public centre) | Participant21 | Bachelor of Education | Male | 38 | Teacher (Lecturer) | 10 years |
| Gauteng (GP) | B (Public Centre) | Participant22 | Diploma and Bachelor Honour In Adult Education | Female | 55 | Teacher (Lecturer) | 24 years |
| Gauteng (GP) | C (Public centre) | Participant23 | Bachelor of Arts in Political Science | Female | 59 | Teacher (Lecturer) | 12 years |
| North West (NW) | D (Public centre) | Participant24 | Diploma in Adult Basic Education | Female | 59 | Manager / Teacher (Lecturer) | 24 years |

Table 5.2: Profile of adult teachers.

Table 5.2 represents the details of adult teacher participants at the ABET centres. During the individual semi-structured interviews, participants gave their responses related to the phenomenon under investigation. The study required teachers or managers at the ABET centres to participate in individual semi-structured interviews where adult learners learn.

From the information, all four participants have many years of teaching experience, hold different positions as teachers and managers and are qualified professionals. The variation element produced different views about the possibility of m-learning for adult learners in the ABET sector in South Africa. Three participants were females, with one male participant.

The identities of all participants, both adult learners and their teachers, who participated in the focus-group and individual semi-structured interviews were not disclosed as codes were used instead of their names. This was done in line with adhering to research ethics. Other

biographical data aspects such as race, gender, and whether the ABET centre was public or private were considered unnecessary and did not affect the research findings.

Before the presentation of empirical findings, it was deemed necessary to recapitulate the main research question: "What are the possibilities of mobile learning for adult learners in Adult Basic Education and Training (ABET) in South Africa?" the study aimed to explore the possibilities of mobile learning for adult learners in Adult Basic Education and Training in South Africa. Sub-questions and objectives are mentioned in Chapter 1, Sections 1.5 and 1.6.

Next is an outline of the presentation of empirical findings.

## 5.4 Presentation of empirical findings

This study aimed to explore the possibilities of m-learning for adult learners in the ABET sector in South Africa. In their responses, adult learner participants could talk about their experiences of learning and mobile technologies. At that, teacher participants could also talk about their experiences teaching and learning with adult learners associated with technology. The research questions guided both focus-group and individual interviews and the data analysis resulted in themes and sub-themes.

The following section discusses themes that emerged from the focus-group interviews.

### 5.4.1 Themes from the focus group interviews

In general, teaching and learning involve both learners and their teachers. In this regard, it was essential to involve adult learner participants because they would shed light on the phenomenon under investigation and answer the sub-question: *which knowledge and skills do adult learners need when using mobile devices for learning?* In the constructivist paradigm, shedding light on the phenomenon under investigation is important because reality is socially constructed (see Chapter 4 Section 4.3.1). Moreover, their experiences were viewed as necessary. Adult learners participated in the focus-group interviews at the different ABET centres to collect data regarding the problem. Four focus-group interviews were conducted in two provinces of the country, and research questions were used to guide the interview process, resulting in themes. Themes and sub-themes emerged and are tabulated in Table 5.3 below.

| Themes | Sub-themes |
|---|---|
| 1. Identifiable knowledge and skills that adult learners need. | a. Knowledge and skills needed by adult learners for their livelihood. |
| | b. Knowledge and skills needed by adult learners to use mobile phones. |
| | c. Knowledge and skills needed by adult learners to learn when using mobile devices and technologies. |
| 2. Ways in which mobile devices can be used to learn the needed knowledge and skills. | a. Exploring different applications to learn via using mobile devices. |
| | b. Access to a learning space. |
| 3. The advantages and disadvantages of m-learning | |

Table 5.3 Research themes and sub-themes.

### 5.4.1.1 Theme 1: Identifiable knowledge and skills that adult learners need

Skills are achievements acquired through training or practice (Irvine, 1997), and the process of teaching and learning can be said to be complete when teachers can teach learners and when learners can receive knowledge and skills being taught to them. When both parties can act accordingly to complete the teaching and learning process, a fairer and more just community of learning could be promoted, where equal access to opportunities, including education, could be made available, just as Ubuntu positions a concept of social justice. Looking at the possibilities of m-learning for adult learners in the ABET sector pinpoint not only knowledge that adult learners need but also different skills that adult learners need for their livelihood and betterment. In this regard, theme 1 had three sub-themes: knowledge and skills needed by adult learners for their livelihood, knowledge and skills needed by adult learners to use their mobile phones, and knowledge and skills needed by adult learners to learn through mobile devices. These sub-themes are discussed below.

**Sub-theme 1a: Knowledge and skills needed by adult learners for their livelihood**

The knowledge and skills adult learners need are directly linked to their own survival and their families. In this sub-theme, the findings indicated that almost all groups expected to receive knowledge and skills from their adult learning process, hoping to find work afterwards (see Chapter 3, Sections 3.2 and 3.3). In andragogy, the role and influence of the learners' experiences affect the process of adult learning. That is, adult learners come to the learning process based on their past experiences of interacting with others and the environment – hence their willingness to come to the learning process with a hope to better their lives (see Chapter 2 Section 2.4.2). Participant 1 from FG (Focus group) 1, when coming to do ABET Level 4, Chapter 5 Section 5.3 explains ABET Level 4, hoped that it would include the learning of bricklaying skills as this participant has done this kind of learning skill before. In other words, this participant hoped that he would develop skills and upskill that way. Participant 4 from the same group shared the same sentiment and mentioned that:

> "When I came here, I wasn't interested in doing the levels or subjects being offered here. I wanted to learn the skill of baking because learning how to bake was going to help me bake different things and sell them."

This participant further stated that learning skills are essential as it will make it easier for them to find employment.

All FG 1 participants mentioned that they had an idea of different skills they wished they were doing, such as computer skills, bricklaying, baking, sewing, carpentry, and cooking skills. All these participants mentioned that they prefer to learn skills but do not mind learning subjects contained at theoretical levels. Related to andragogy, adults learn what they want to know, are responsible, and self-manage their own learning, i.e., they know what skills and knowledge they want to acquire and for what reasons they want to acquire such (see Chapter 2 Section 2.4.2). They clarified that it would be better for them to do their ABET Level 4, including learning skills. "It was going to be nice to learn about different skills after our normal classes," said Participant 4.

ABET Level 4 had six subjects that adult learners must do and pass to obtain their ABET Level 4 certificate. Examples of the subjects are two languages, English and Setswana, and the other four subjects can be selected from subjects such as Ancillary, Mathematics literacy, Life

orientation, Agriculture, and others. Participant 6 of FG 2 mentioned that on ABET Level 4, there are different streams, such as the commerce or science stream. It can be argued that on ABET Level 4, adult learners only get knowledge, not skills, because the content focuses on theory and not practice. The above links to andragogy, as adult learners come voluntarily to the learning situation to acquire knowledge. Conversely, although these adult learners appreciate that they learn something, they wish that their learning was structured to include learning the necessary skills. They wish to learn necessary skills, which ties in with andragogy when it purports that adult learning is self-directed and that adult learners commit and become motivated to learn when they learn what they need to learn (see Chapter 2 Section 2.4.2).

Some skills development programmes at Centre A were offered separately from the ABET Level 4 learning programme. When participants were asked why they did not learn about different skills straight away instead of doing ABET Level 4 consisting of theoretical learning, Participants 1 and 4 indicated that it was equally vital for them to do ABET Level 4 because when they finished it successfully, they could continue to do Matric/Grade 12. The National Senior Certificate (NSC) examination, commonly referred to as "matric", is an annual event of major public significance as it signifies the culmination of twelve years of formal schooling (Department of Basic Education - DBE, 2021). Just like learning about different skills, completing Matric and receiving a Matric certificate not only signifies the end of schooling years but also gives hope of finding employment or furthering studies at tertiary institutions. This statement is supported by utterances from FG 2 participants when stating that their reasons for studying at the ABET centre are because of their old age, which no longer applies to mainstream schools. They indicated that they desired to obtain a Matric certificate and find employment afterwards.

From the comments of Participants 2 and 3 of FG 1, it became clear that adult learners embark on the learning process because they want to survive in life. Because of sitting at home without a job, Participant 3 decided to come to the ABET centre to learn because he wants to succeed in life and be able to own cars and houses. All participants from FG 1 added that they can even start their own businesses with learning.

All participants from all focus groups stated that one subject, Ancillary, had the needed practical and theoretical aspects. They alluded that the subject of ABET Level 4 makes it possible for others to secure jobs for themselves. They explained that the Ancillary subject was like Biology, Life sciences or Life Orientation. Participant 6 of FG 2 stated, "with Ancillary, we notice that everyday life is ancillary; for example, some learners had a chance to go to the career expo and discovered that there are job opportunities for those who had done Ancillary level 4. Participant 13 of FG 3 supported the statement by indicating that with Ancillary, people can secure jobs for themselves, such as being a porter, paramedic, or assistant nurse. According to this participant, Ancillary helps them do practical learning on how to put drips on patients, provide first aid in emergencies, and load and position patients on an ambulance or wheelchair. The supporting statement from Participants 16 and 19 of FG 4 was that in Ancillary, they get taught how to care for patients and provide first aid and pills for those who are sick. "In Ancillary, we role play as nurses or health-care workers to be treating patients who are sick. We learn how to do first aid on patients or put bandages on them, all depending on what needs to be done," said Participant 19.

The researcher picked up mixed messages from the participants regarding their learning of ABET Level 4. Many participants indicated they were happy with their ABET Level 4 as they were learning a lot, especially from subjects like Ancillary, Agriculture, Economic and Management Sciences (EMS), and Maths literacy. "With ABET Level 4, I can go and look for work or start a poultry business," said Participant 2. Participant 3 had the same sentiment as Participant 2 that in ABET Level 4, they learn a lot and that there is no need for them to pursue Grade 12 upon completing ABET Level 4. Contrary to Participants 2 and 3, other participants indicated that with ABET Level 4, they stand a chance to do Matric, start their own businesses or be employed primarily in the public sectors of health or defence as soldiers. Participants 14 and 15 of FG 3 stated that with ABET Level 4, they can secure jobs as soldiers or work at hospitals. In supporting the statement, Participant 5 further stated that he knows of his neighbour who did ABET Level 4 and is now working as a soldier. "I know of someone who was doing ABET Level 4 here and is now working in town sewing clothes for children, and the other one runs a bakery business," said Participant 20 of FG 4.

Conversely, only five participants indicated that ABET Level 4 was not good enough for them as they still needed to do Matric. They confirmed that most companies prefer to employ

candidates with a Matric certificate. "I think ABET Level 4 is not good enough for us", stated Participant 7 of FG 2. Participant 1 of FG 1 said, "ABET Level 4 won't help – mostly, a Grade 12 certificate is needed. My plan is to do Grade 12 after this level". Like this participant, Participant 16 of FG 4 stated that the Matric certificate is needed for those looking for jobs and that it is disappointing when one does not have it. This Participant continued to say: "Also, it depends on the job advertisement – for example, if it wants a person with the Matric certificate or ABET Level 4 certificate".

**Sub-theme 1b: Knowledge and skills needed by adult learners to use mobile phones**

Mobile phone ownership in the Sub-Saharan region is everywhere (Chapter 1 Section 1.4 and Chapter 3 Section 3.6). This statement is confirmed by the fact that all adult learner participants from all ABET centres owned a mobile phone. Only one adult learner participant from FG 1 indicated that his mobile phone is different to others as it is an old phone type and not a smartphone. This indication became clear for this participant because of the exposure part done by the researcher to alert participants about different kinds of mobile devices. Due to exposure, participants knew the difference between a smartphone and an old mobile phone. Related to the device aspect in the FRAME model, there are characteristics of mobile devices such as the technical, physical, input and output capabilities, file storage and retrieval and functional, which include examples such as the size, weight, keyboard, mouse, monitors, speakers, RAM or ROM storage. These characteristics of mobile devices must maintain high physical and psychological comfort levels (see Chapter 2 Section 2.3.1) for effective teaching and learning to happen, and smartphones can provide comfort levels better than old phones. In this regard, Participant 3 stated that he could not use Google or download and use WhatsApp. A 63-year-old participant from FG 3 showed his cell phone and was unsure whether it was a smartphone or not, and all other participants within this group immediately said, "Madala, that is a smart you have". The word "Madala" is an informal word referring to an old male person in the South African context. The point is that most adult learner participants owned smartphones (see Chapter 1 Section 1.4 and Chapter 3 Section 3.7) and knew the difference between kinds of mobile phones, as indicated in the researcher's exposure part. (See Appendix 8 of the handout issued to participants depicting different kinds of mobile devices).

Although one adult learner participant indicated being unsure of how to use specific applications on his phone, most had knowledge and skills on using their devices in their everyday lives. Participant 16 of FG 4 said:

> "*I use my phone and Google to research different things, such as information about different recipes, because I like to cook different things. When my child is sick, I also use my phone to search for information about different concussions I can give him*".

Responses from FG 4 Participant 16, like Participant 20, indicated her position as a mother who shares her mobile phone with her child when using it. Participants 16 and 20 said: "I have downloaded cartoons on my phone for my child to watch". Participant 20 added that she also uses her phone for personal things. Participant 10 of FG 2 stated that he uses his phone to make and receive calls and text messages. The adult learner participants' responses clearly indicate that they have knowledge and skills at a certain level in using their mobile phones.

In summary, it became clear from their responses that these participants had knowledge and skills to download specific applications such as WhatsApp and, Music, Google; make phone calls and receive them; write emails and send them; write and read text messages; chat via chat applications or websites; connect to social media like Facebook, Twitter, and Instagram; research information for school work; search and apply for jobs using their mobile phones, read news and listen to music or audio files and watch videos. This knowledge and skills adult learners need in using mobile phones are viewed as general and not specific to m-learning. In contrast, knowledge and skills are transferable and can be quickly adopted by any adult learner who wants to do m-learning. Ta'amneh (2021:1) posits that smartphones have become instruments most learners use daily. In this regard, when Participant 16 of FG 4 mentioned that she uses Google to search for information about different recipes, the researcher interjected to alert this participant that she was doing m-learning. This participant did not go to the brick-and-mortar library to get books and research different recipes but used her phone. Associated with the FRAME model, this adult learner participant could access information where and when needed (see Chapter 2 Section 2.3.1).

**Sub-theme 1c: Knowledge and skills needed by adult learners to learn when using mobile devices and technologies**

From the previous sub-theme, it became clear that adult learners have general skills and knowledge of using their mobile phones in their daily lives but are unaware that their knowledge and skills of using their phones can be linked to learning. They also lacked information about different kinds of learning, such as face-to-face and m-learning, and they were exposed to these concepts through the exposure part during the interview process. In this regard, adult learner participants realised that they have been doing m-learning by simply using mobile phone applications to access information and learn. For example, Participant 5 of FG 1 stated that the Ancillary subject they do on ABET Level 4 requires them to use Google for more information. They do that via mobile phones. Accessing online information is an advantage (see Chapter 3 Section 3.7). "We use Google to search for information about different terms such as meaning of cataract or symptoms of different diseases", said Participants 4 and 5. The capabilities of their mobile phones enable them to connect to the networks or the internet and search for information, which, in actual terms, is supported by technology. According to Jack and Higgins (2018), learning supported by technology or educational technology includes many different digital technologies such as computers, interactive whiteboards, tablets, and others designed to support teaching and learning.

In this regard, adult learner participants knew about features and different applications found on their mobile phones, such as YouTube, Facebook, Twitter, and others. However, they could not relate them to the concept of formal learning. In other words, almost all adult learner participants did not understand what was meant by the term m-learning and posed different views about it before they were exposed to it during the research. They did not know if it incorporates mobile technologies and applications used in learning. Before the exposure part, the researcher asked participants if they knew what m-learning is and different responses were provided. "I've got no clue what m-learning is, " said Participant 3 of FG 1, and Participant 4 said it was the first time he/she had heard of m-learning. Others guessed what m-learning was by stating, "I think it is online learning where one uses a cell phone" (Participant 16 of FG 4). Then Participant 20 said, "I think m-learning is education that one gets from lorries that move from one place to the other place. For example, lorries travelling from one clinic to the other with people educating different communities about different diseases".

Conversely, four adult learner participants from ABET centre C knew what m-learning was because the researcher had to visit their ABET centre a second time as the digital audio recorder did not record the first interview process. During the first interview with these participants, the exposure part was done; hence, four participants knew what m-learning was during the second interview process. Participant 11 said m-learning was like using social media. Then Participant 13 added, "m-learning is not only learning using cell phones, but it is also different to face-to-face learning that we do here because here we can see our teachers".

Interviews included the exposure part, which was handing out a document explaining m-learning. With the exposure part that informed adult learner participants about m-learning, the majority of sixteen participants voiced their opinions about challenges they encounter in their lives, how they affect their learning and how m-learning can help to sort out these challenges. Participant 2 of FG 1 stated that there were challenges, such as understanding the learning area of Maths. In support of this, other participants pointed out that the teaching style of some of their teachers made it difficult for them to understand the learning content. For example, FG 3 participants stated that they get taught as if they are university students and must do many things on their own. A response from FG 3 participants indicated that they experience a lack of support, contrasting with what andragogy stands for (see Chapter 2 Section 2.4). Then Participant 13 recalled an incident where he needed a teacher's clarification and that the response was negative. Participant 13 said:

> "*Our teachers do not realise that we are not children and cannot be talked to that way. Sometimes they say bad things to us, like saying that if we do not study, we will not make it in life*".

The assertion from Participant 13 clearly indicates that adult learners are aware that they are not children and cannot learn and be taught the same way as children do. This assertion links with what andragogy stands for as the art and science of helping adults learn differently from a child learner who is dependent on a teacher (see Chapter 2 Section 2.4). The provision of adult education in South Africa was under the jurisdiction of the Department of Basic Education, which is responsible for teaching and learning in schools and not in institutions of higher learning. Since 2015, with the new legislation, the provision of adult education has been done by the DHET. From the above, the researcher made a counter statement to participants to state that since the departure of the ABET sector from the Department of Basic Education to

DHET, and with the new legislation (DHET, 2015; Land, 2021), adult teachers are now called lecturers, and that it goes with their teaching style that is happening in universities and not in schools. The participants' responses remained the same: their teachers needed to teach them well by suitably explaining to them and supporting their learning journey instead of not having enough time for them. FG 3 participants stated that their teachers must teach them to understand and spend more time with them. "They must be patient with us, especially since we are adults with many responsibilities. I am a parent-learner," said Participant 13.

All FG group participants voiced different challenges, such as being given a lot of study work and, with other responsibilities, ending up submitting assignments late. Some adult learner participants indicated they had children and life partners to care for and needed time for them. They voiced that coming to the ABET centre every day was challenging. It is a challenge for adult learners to attend classes daily; as a result, some dropout, as indicated below.

> *"It is tiring to come here every day. I am also getting tired. If you check my attendance register, you will notice that at the beginning of the year, I was attending well, now I don't. Imagine every day from 8am till 2pm. Shame, I don't blame those dropping out,"* said Participant 6.

Money was posed as a challenge, and some indicated that they had to commute from home to work, then to the ABET centre and back home. This also posed a challenge not only for money but also for time to move around.

Sixteen adult learner participants voiced their preferences for using their mobile devices and technologies to learn because they use mobile phones daily, know how to use them, and believe that m-learning could help them to learn. They voiced their preferences for adopting m-learning, which would help them avoid coming to the ABET centre daily as some of the schoolwork and its submissions could be made using mobile devices from home.

> *"Writing notes is tiring; we even use our cell phones to take pictures of notes written on the board. I prefer m-learning to come as it will sort out our issues. A lot of things can be done, such as doing schoolwork at home and submit online,"* said Participants 16 and 20 of FG 4.

Participant 1 added, "Just look at our books; we carry many books to come to school and with m-learning, we will be just using apps". Adult learner participants' preference for m-learning

is based on the FRAME model, in the sense that in their learning process they may move within different virtual and physical locations, interacting and participating with others, systems or information anywhere at any time. This gives them the advantage of collaborating, creating and absorbing information.

In contrast, a few participants from FG 2 had different views of m-learning, although they had knowledge and skills to use and operate their mobile phones. As an example, Participant 6 said,

> *"I do not want school-related work on my phone. At 2 p.m. when school is out, I go home and want nothing to do with schoolwork. Mobile learning or distance learning would not work for me…no thanks. Should it be adopted here, I'd go to another school. I want to use my phone to listen to music, chat, make phone calls, but no schooling".*

In supporting Participant 6, Participant 7 said she could only do m-learning when given the "necessary tools" such as smartphones, data, a tablet, or a computer. Additionally, Participant 8 weighed in on the conversation to mention other problems associated with m-learning, such as losing a phone. Participant 6 of FG 2 opposed m-learning and said,

> *"Currently, I am struggling with my schoolwork, especially when I have to go home and prepare for a test. Then what about m-learning? I want to see my teacher in-front of me face-to-face, and in that way, I can understand. I have realised that people who do mobile or online learning are copying one another's work. That means that they do not understand. I know of students who are studying at UNISA, a distance-learning University of South Africa, helping each other when doing assignments. They copy one another's work. They do not have lecturers nor see them, so they teach themselves and do not understand what they are doing. I don't want that. I want to see my teacher in front of me, face-to-face".*

Participants 6, 7 and 8 showed their disfavour from m-learning due to the disadvantages associated with using mobile devices for learning (see Chapter 3 Section 3.7).

The above utterances from FG 2 participants indicated that these adult learner participants have the knowledge and skills to use their mobile phones. They own their mobile devices and have access to technologies linked to them, such as different applications. Participants own mobile

phones and can use them, and to a certain extent, they have been doing m-learning unconsciously. For example, by using Google to search for information. Even the few who do not prefer the idea of m-learning own mobile devices and have the knowledge and skills to use them. The critical point for the possible adoption of m-learning in the ABET sector is the awareness of it, just as the exposure part in the interview did, and indeed, a move beyond the awareness level where adult learners could use their mobile devices to learn.

*5.4.1.2 Theme 2: How mobile devices can be used to learn the needed knowledge and skills*

Adult learners in the ABET sector encounter different challenges in their learning journey, and the previous section showed various challenges. It can be argued that adult learners, unlike children, experience more challenges due to not only learning responsibilities but also life responsibilities, such as maintaining their livelihoods and those that depend on them. In this regard, adult learners can use mobile devices and technologies in different ways to learn the needed knowledge and skills. Exploring applications found in mobile devices, access to a class, and support structure are some of the critical elements that m-learning for adult learners can rely on for its prominence, and these are sub-themes discussed next.

**Sub-theme 2a: Exploring different applications to learn via using mobile devices**

Online learning is at an advanced level more than ever before. This is due to some new designs of online tools and applications emerging. M-learning, a sub-set of online learning, has a noticeable spot in the educational field due to mobile devices and technologies that keep on emerging. Mobile devices such as smartphones and tablets are ubiquitous. The ubiquity of smartphones is evident as all participants from all groups interviewed had owned smartphones at some stage, and almost all still own them. Mobile devices such as smartphones and tablets are embedded with different applications. According to Zhang and Liao (2015), applications mean some kind of technology, system, product application, or software running on a smartphone.

All FG group participants mentioned some applications they know, such as Twitter, Facebook, WhatsApp, Instagram, YouTube, TikTok, games, calling, and Google, which are available. All FG group participants know about these apps and use them. WhatsApp is a popular application among participants as they use it to chat, make, and receive calls. WhatsApp is an online chatter

and instant messaging application that sends photos, videos, images, messages and files (Mursidi & Murdani, 2018). Participant 7 of FG 2 stated that he uses WhatsApp to communicate with people. Another popular application among participants was Google. All participants said they use Google to search for information or school projects. To such an extent, participants also mentioned that their teachers have smartphones and sometimes use them to search for information when teaching them. Participants 7 and 9 stated,

> *"During the Ancillary subject, our teachers use their phones to search for some information for us. Other teachers use their phones to communicate with us via WhatsApp".*

Participant 8 and 9 also stated that when they are given school projects to do, their teachers would instruct them to go and search for information at the library or use Google from their phones.

In exploring different applications that are available on mobile phones, the disjuncture is that participants were not aware that the applications they mentioned could be used not only for personal use but also for learning. FG 3 participants had to be interviewed twice because of the failed recording during the first round. In the second interview, they stated that before the exposure part, they were unaware that they were doing some form of m-learning, like communicating with their teachers via WhatsApp about schoolwork and watching videos from YouTube. They further stated that, with the exposure part of the interviews, they now know they can download school-related material using their cell phones. "Before, it was a matter of knowing about different applications such as Twitter, Instagram, and Facebook to be used only for communication", said Participant 13. Knowledge and skills about these applications are needed to use them for learning purposes because not all participants know about these applications. For example, Participant 15 did not know what YouTube was, and Participant 4 stated that emailing is a problem and that he would like to be taught how to email should m-learning be adopted. The statement from Participant 4 shows the need and relevance for m-learning to ensure that adult learners stay updated on the use of technologies.

Participant 6 did not prefer m-learning and, referring to the YouTube application, said, "with m-learning, I'd fail because I'd watch videos from YouTube that are not school related, that would distract me". Since anyone can upload video content on YouTube, its content, if not verified, could be misleading (Helming et al., 2021), and the entertaining nature of YouTube

poses risks that can result in reduced academic motivation (Shoufan & Mohamed, 2022). In contrast, the social aspect of the FRAME model denotes that rules of cooperation must be clear, in place, relevant, informative and accurate for communication and learning to occur (see Chapter 2 Section 2.3.2). Despite this fact, Participant 6 knew the YouTube application and how it works. In this way, different studies profiled how different applications can be used in the educational field. For example, Van den Berg and Mudau (2022) investigated postgraduate students' WhatsApp groups as an online communication tool to support teaching and learning during COVID-19. Shoufan and Mohamed (2022) did a scoping review of YouTube and education, Suarez-Lantaron, Ruiz, Garcia-Perales and Reche (2022) on the educational use of WhatsApp and others. The studies mentioned above show how applications can be used in the educational field and that m-learning is possible for adult learners in the ABET sector. This is made more accessible because today's smartphones have different apps, and many other apps can be downloaded to support teaching and learning.

**Sub-theme 2b: Access to a learning space**

Currently, the learning space that adult learners can access in the ABET sector is physical classrooms (see Chapter 3 Section 3.2) made of bricks and mortar. The researcher visited four public ABET centres and noticed that two of the centres had their own private land. Additionally, one centre used an old school building belonging to the community or government, and the other did not own private space or buildings. "We call this place here a Skills Centre. It is a rented place and does not belong to Community Learning Centre B. It is a satellite; we attend here because going to the *main college* is far," said Participant 6. Satellites are sub-centres of the main centre or college. They are located in different areas to enable other learners who stay far from the main centre to access education. At Centre C, adult learners use classes from a community public high school actively working with its own learners and teachers. With an agreement, small sections of this high school are given to and treated as the ABET centre and operate separately from the high school. Teaching and learning in these ABET centres happen during the week, from Monday to Friday. With the new legislation, these ABET centres are called Community Learning Colleges or Centres (CLCs), although Participants 11 and 12 of FG 3 still called them night schools. "I tell people that I go to a night school and not ABET," said Participant 12.

> *"ABET is a night school. Remember, back in the day, these schools were called night schools. I still call our centre a night school. They were calling them night schools because people used to attend them late, from 6pm till 8pm"* said Participant 1.

In South Africa, night schools were synonymous with adult learners and not children, as children attended classes during the day. This is to say that night schools embodied aspects of adult learning and andragogy, where adults used to work either in their homes or do some formal paid work during the day and voluntarily went to learn in the evenings. Indeed, the terms night schools and ABET centres are popular among South Africans.

Generally, adult learner participants come together with their teachers at these centres and meet face-to-face for teaching and learning sessions. As mentioned, some participants stated that challenges are associated with coming to the centre every day. Those challenges included commuting daily, not having enough money to commute daily, and spending some hours at the centre, which are seen as extended hours.

> *"I have a challenge to stay here from 8 am till 2 pm and actually to come here every day and you'd find that at times you haven't studied anything,"* said Participant 12.

In addition, Participant 1 said, "Some teachers do not come and teach us, and it is boring. It is the reason why I don't want to come here every day". Participant 13 added,

> *"My challenge is that I notice that I am an older person who will attend school and sometimes I wonder and ask myself questions if it is worth it or if I am wasting my time. Maybe I should quit and go and look for work plus one salary is not enough in our household. At the same time, I realise that learning might benefit me in the future".*

Challenges vary and go with specific responsibilities. Participant 16 said,

> *"I must do chores at home before coming to school and that is challenging. At times, my son comes here crying, looking for me or something because our home is not far from this centre".*

Ubuntu, as a conflict-resolution philosophy, can help to sort out adult learners' problems by showing humanism or humaneness and understanding and willingness to help. Despite the above challenges that adult learners experience, they still must come to the contact centres for access to education. The disadvantage is that adult learners in the ABET sector, with different life responsibilities, depend on face-to-face contact sessions at the ABET centres to learn. In

other words, these adult learners cannot learn "anytime, anywhere" unless they physically come to the ABET centres. As participants have stated, coming to the centres physically to access education is limiting and, to a certain extent, inconvenient for some. The four adult learner participants who did not prefer m-learning still had some positive aspects about using mobile devices to learn, such as searching for information and communicating with fellow learners and their teachers. The limiting aspect of not using mobile devices contrasts with the concept of mobile learning discussed in the FRAME model (see Chapter 2 Section 2.3), promoting teaching and learning "anytime, anywhere". It is apparent from adult learner participants that they own mobile devices and should be able to access education "anytime, anywhere". Despite challenges experienced with coming to the centres, four adult learner participants expressed that they preferred a physical classroom set-up instead of using a mobile device for learning. They expressed that mobile devices' screen sizes are too small for one to learn. Chapter 3 Section 3.7 highlights the above as the disadvantage of using mobile devices to learn. Five others referred to face-to-face and m-learning as a subset of online learning. Participant 4 said, "M-learning need to be supported by face-to-face learning". The combination of face-to-face learning and m-learning that Participant 4 refers to is blended learning and has benefits. According to Shand and Farrelly (2018), blended learning allows learners to meet face-to-face, and with the online portion of blended learning, they have continuous access to online content resources, frequent communication, and grades.

Teaching and learning can never be complete without the support structure for learners in place. Currently, participants expressed that the support structure they have at their centres is resources such as chalkboards and books. Other than that, they have their teachers whom they reach out to when they need help. Linked to support, Ubuntu highlights the importance of communal or group existence where people can help one another, and this is different from individualism or individual human rights. "We don't have computers, no Wi-Fi and no photocopying machine," said Participant 8 of FG 2. Participants who were at the centres during the COVID-19 pandemic expressed their views that their learning was not supported during that time and that m-learning could support their learning. "M-learning is needed, imagine if another sickness comes, we will not learn", said Participant 13. The majority of sixteen adult learner participants indicated that should m-learning be adopted, some problems related to learning might be solved. "With m-learning, I'd be able to get a chance to learn and work at the same time," said Participant 11. Participant 5 also added, "with m-learning I'd be able to

submit my schoolwork online while at home or at work". All participants stated that it would save them time to travel daily to school. The above addresses the challenges adult learners experience, and with m-learning, access to different learning spaces, including physical classrooms, would simplify how adult learners learn. The notes that were given to participants during the exposure part comprised definitions of m-learning and related concepts and pictures of different mobile devices (see Appendix 8). The researcher explained the concepts and allowed questions or discussion around them. In this regard, the exposure made it easier for participants to participate confidently and provide their views on m-learning.

### *5.4.1.3 Theme 3: The advantages and disadvantages of m-learning*

Participants indicated the advantages of using mobile devices and technologies to learn (see Chapter 3 Section 3.7). Participants expressed that using mobile devices for learning would help them not only to sort out their learning challenges but also their personal challenges. Participant 5 stated that m-learning could help adult learners source more information online. Participants 2 and 3 added that searching for information online could be an easy process as information could be searched from one location of a mobile device instead of going to the library to search for books from different shelves.

The advantages of studying while working are relatable work experience learners can get, better academic performance, freedom from debt and time management skills (Caldwell, 2017). The literature section (Chapter 3 Section 3.2) indicated that adults have responsibilities as they need to survive, take care of themselves, and create livelihoods for those who depend on them. Unlike children, adults' responsibilities impact many aspects, including work performance, social relations, and family life (Duda, 2018). Adults must be working or running a business to survive and create livelihoods. In this regard, the advantage of learning at a distance using mobile devices or doing hybrid or blended learning is vital to assist adult learners in receiving some form of education and surviving in life simultaneously. "I am busy with my business, and m-learning will allow me a chance to focus on my business and learn at the same time," said Participant 4.

Learning at home was seen as an advantage, as: "there are many older people who want to learn but fail to come to the centre to mix with young adults who misbehave and disrespect them at times and studying via mobile phones would help them to study at their private homes" said Participant 7. To support this statement, Participant 16 of FG 4 mentioned that mobile phones could be used as tools to teach one better as they can explain content step-by-step, and with their capability to record and playback, this was deemed the preferred option. Additionally, this participant mentioned that when using mobile devices as tools to learn from, learners need to learn by listening and focusing on a person speaking and teaching.

Participant 13 of FG 3 argued that there are no challenges or disadvantages with m-learning,

> *"Let's put it like this, there are solutions behind all these challenges for m-learning to be adopted. With network connections, people can always switch between networks to have access to the network. With power cuts, there is a schedule that gets circulated to show times of down times and when power is back again. This needs planning of when one can be online to study or submit assignments. Even with data, one cannot use it for useless things like playing online games meanwhile you know that you have to study. That's the responsibility of a person doing m-learning".*

Other four FG 3 participants supported Participant 13 by indicating that although they acknowledge that there might be challenges with m-learning, those challenges could be dealt with, such as asking network providers to install more towers with backup systems so that during power cuts, people must not be disconnected to the networks.

Although Participant 3 expressed views that there are no challenges or disadvantages associated with m-learning for its possible adoption, other participants expressed the disadvantages of m-learning (see Chapter 3 Section 3.7).

The disadvantages of using mobile phones varied and included aspects related to network problems and load-shedding. Three participants of FG 1 indicated that load-shedding happens quite frequently in South Africa and that when it happens, it affects the connection of mobile devices to the network due to poor signal. They indicate that the network problem would negatively affect teaching and learning by using mobile devices and that they would fail in a situation like that. Some challenges related to m-learning were due to a lack of money to buy data, power banks or a stolen phone. FG 1 participants indicated that levels of unemployment

are high in South Africa (see Chapter 1 Section 1.4 and Chapter 3 Section 3.2) and that they do not have money, and with lack of money, they would find it difficult to afford to budget and buy data and other related things for m-learning. Participant 5 mentioned that learners would access social media instead of learning. The statement from Participant 5 is similar to the point that mobile devices are distractive (see Chapter 1 Section 1.4 and Chapter 3 Section 3.7), and their distraction would negatively affect adult learners' learning process. "M-learning would make one lazy because learners would simply use Google to search for things, copy and paste schoolwork from Google", said Participant 4. Participant 6 of FG 2 highlighted an aspect of discipline and dedication in that it could be a disadvantage that could lead one to relax, become lazy to learn and not submit assignments. This statement is supported by Participant 11, who says that "m-learning would disadvantage learners who lack discipline and those who got no skills and knowledge to use their phones". The elements mentioned above were expressed as the disadvantages of m-learning; if not considered, they could hinder the possible adoption of it. The disadvantages indicated by a few participants are not in line with Ubuntu and the FRAME model in the sense that there are limitations indicated. These limitations were considered disadvantageous for online teaching and learning and collaborative learning. In contrast, Ubuntu and the FRAME model support m-learning when mobile devices are in order and functioning correctly.

### 5.4.2 Themes emerged from individual interviews

Individual interviews were held at four ABET centres, with one participant from each centre. Responses from individual interviews are treated as a separate case from those gained from the focus-group interviews because the role of teachers is not to learn but to teach – which is different from the role of learners. In other words, individual interviews were a case on their own, separate from the focus-group interviews. This aligns with the statement that multiple views can create similar or contrasting results in research studies and that the researcher can analyse the data both within each situation and across situations (Yin, 2003, cited in Gustafsson, 2017). The teachers and managers of adult learners are the pinnacle in their centres and lead the teaching and learning process. In this way, they were seen as essential in expressing their views about the possibilities of m-learning for adult learners in the ABET sector in South Africa.

The following table, Table 5.4, tabulates themes and sub-themes that emerged from individual interviews.

| Themes | Sub-themes |
|---|---|
| 4. Identifiable knowledge and skills adult learners need. | a. Knowledge and skills needed by adult learners for their livelihoods. |
| | b. Knowledge and skills needed when using mobile devices. |
| | c. Knowledge and skills needed by adult teachers to teach when using mobile devices and technologies. |
| 5. Ways in which mobile devices can be used to teach the needed knowledge and skills. | a. Exploring different applications to teach when using mobile devices. |
| | b. Access to a teaching space. |
| 6. The advantages and disadvantages of m-learning. | |

Table 5.4: Research themes and sub-themes.

### *5.4.2.1 Theme 4: Identifiable knowledge and skills that adult learners need*

Identifiable knowledge and skills adult learners need as a theme indicate that teaching and learning are two related concepts even in practice because hardly one goes without the other one. Teachers need to teach learners with the purpose of helping them acquire knowledge and skills and learn with the sole purpose of acquiring knowledge and skills. In this regard, the three sub-themes emerged under this theme.

Next is the discussion of these three sub-themes, which present the findings.

**Sub-theme 4a: Knowledge and skills needed by adult learners for their livelihoods**

Teachers who teach adults are aware that they teach older people who have responsibilities, and at the same time, these adults need some form of education. Unlike children, adults come to the learning process by choice, and Chapter 2 Section 2.4 discussed andragogy as a theory explaining these choices for which child learners do not have these choices. "As the core

principle of Andragogy, adults are readiest to learn when the learning meets an immediate life needs and are most motivated when it fills that need" (Tonseth, 2015:3331-3332). In this way, the researcher asked teacher participants if they teach learners any skills and prepare them for the world of work. Participant 21 mentioned that in teaching and preparing learners for the future, they are encouraged to link their teaching with what adults know and their experiences. This assertion links to andragogy in the sense that adult learners come to the learning process willingly with life experiences to gain experience and prepare for their future (see Chapter 2 Section 2.4). Participant 21 went on to explain,

> *"For example, in teaching and learning of ICT, I have noticed that adults want it for employment purposes only. They want to show their prospective employers that they have computer skills. Again, in teaching Ancillary Health Care, we get learners who can find employment in hospices as health care workers. We are teaching them skills and not just theory. In ICT, we have computers, and they can do the practical work on them. Even in Ancillary, they also do the practical work like role-playing emergency situations where they must apply first aid".*

Participant 24 added,

> *"We have learners who are working as teachers and some as assistant nurses in hospitals, and they have gone through the pathway of doing level 4 in the ABET centre. This is not a waste of time. When we had a literacy day and met as a province in Mafikeng, we got testimonies from older women who just stood up and talked about how they had started their learning at the ABET Centres. Some are studying at universities doing their Honours and Master's Degrees. Adult school is important as it helps adults".*

Participant 21 also added that adult learners who complete ABET level 4 stand a chance to start a business like an internet café because of the ICT knowledge and skills they get from their learning. Statements from Participants 24 and 21 clearly indicate that adult education is essential as it provides a second chance for adult learners to better their lives as educated individuals who can secure jobs or create ones for others. This assertion links to Ubuntu as Ubuntu values can promote practices of respect, compassion, kindness, unselfishness and sharing and open communication in creating an effective learning environment where help for a second chance can thrive (see Chapter 2 Section 2.5). Similarly, Participant 22 mentioned

that some of the learners who did lower ABET Levels have car fixing businesses and that they "need ABET Level 4 certificate that I think can help them grow their businesses".

Responsibilities come along with challenges that adults need to deal with, and gaining knowledge and skills is one way that can help adults. In this way, Participant 22 mentioned that adult learners in their centre are those who have decided to come and learn because they experience life challenges and want to turn their lives around for the better.

> *"We try to skill them and prepare them for the future. They need to learn and get a certificate. For example, with ABET level 4 certificate, they can go and get skills like bricklaying or look for work at the shops so that they can get money to support themselves and their siblings,"* said Participant 22.

Skills development is crucial in South Africa and many other countries worldwide, and according to Sida (2018), skills development is internationally considered crucial for productive employment. It can increase productivity, development, inclusive economic growth and reduce poverty. Since 1995, South Africa's unemployment rate has been increasing among people with tertiary qualifications, and this unemployment is structural as the unemployed do not have the skills the economy requires (Pauw, Oosthuizen & Van der Westhuizen, 2008; DHET, 2022).

High levels of unemployment in South Africa are perpetuated by the fact that the country experiences people who lack relevant skills. According to Anumala (2019), there are three types of skills: transferable/functional skills, personal traits/attitudes and knowledge-based skills. Transferable skills are abilities and skills that can be applied to various jobs and companies; knowledge-based skills are the knowledge one has that is specific to producers and subjects to perform specific tasks, whereas personal traits are viewed as certain characteristics one embodies (Anumala, 2019). In this regard, the ABET centres visited offer learning programmes deemed to be theoretical in nature and offer almost none of the skills development at ABET Level 4. ABET centres that offer skills development learning programmes are separate from the official ABET Level 4 programme.

Participant 22 said: "With our teaching, we prepare our learners for the world of work by teaching them how to do research and compile files". In ABET Level 4, adult learners learn health care skills from the Ancillary health care subject they do. Participant 21 also mentioned

that adult learners learn ICT skills using computers at the centre. Although skills development is done separately from ABET Levels' learning, other skills training in these centres includes bricklaying, carpentry, sewing, baking and farming.

> *"Adults need to be helped how to learn and not control the curriculum for them. They have a vast amount of life experiences and some even know more than their teachers. For example, some know a lot about politics. They just need guidance and cannot be taught like kids"* said Participant 21.

When done well, the guidance they need to learn should help them acquire the necessary knowledge and skills for survival.

**Sub-theme 4b: Knowledge and skills needed when using mobile devices**

All four adult teacher participants indicated that they own smartphones, and during the interview process, the researcher witnessed how they used them. Participant 24, the centre manager who teaches some classes, kept receiving and making calls during the interview. The researcher realised that these calls were important because Participant 24, as a centre manager, was busy organising transportation for question papers to be collected from the regional office. This is because the interviews took place during the preliminary examination period at the ABET centres. Apart from the distractions during the interviews, it was clear that participants own smartphones and use them daily. For example, Participant 23 said,

> *"I use my phone for chatting and Facebook. I am not into Instagram and other social media. Otherwise, I use it to teach my learners because, with the ABET Level 4s, we have a WhatsApp group that I can use to remind them about something to read or a certain section that they need to focus on for a test"*.

Participant 24 mentioned that she uses her phone to communicate with the regional and head office, and the researcher witnessed this. Participant 21 mentioned that he uses a smartphone for everything he can think of, like chatting and doing social media like WhatsApp. "I am the master of Google. I check everything that I do not understand. I also check my emails on my phone," said Participant 21.

Additionally, Participant 21 cautioned that although there are ready-made applications such as WhatsApp and Facebook, educational applications must be developed. Adult teacher

participants noted that their learners own mobile phones and use them daily. Participant 21 added, "I found out that our learners use Facebook. It is on top of the list and WhatsApp, and I am not so sure if they use Google or not". From the interviews, it became clear that all participants had sufficient knowledge and skills to use their mobile phones.

**Sub-theme 4C: Knowledge and skills needed by adult teachers to teach when using mobile devices and technologies**

Ownership of mobile phones such as smartphones among adult teacher participants confirms that participants in this study not only know how to use their devices, but they also use them in their educational line of work in the ABET centres. All participants indicated that using WhatsApp is vital in communicating with their learners and colleagues about educational-related matters. This ties in with the FRAME model (see Chapter 2 Section 2.3), where participants engage with the teaching and learning content and with other colleagues and learners. The adult teacher participants frequently used Google and searched for information online about different subjects. Participant 21 declared that he is technologically savvy and likes technology. He mentioned that he adopted the use of a mobile phone for communication with the learners during COVID-19 and added,

> *"I used to share information with my learners. I would search for information online and then download it for my learners to read. I also used to have a dedicated time, from 6-7 p.m., to interact with my learners and allow them time to ask questions where they do not understand. I used to do that but this year, I have not created any time to do so".*

According to Participant 21, applications specially designed for teaching and learning can elevate the standard and position of m-learning well. This way, knowledge and skills will be needed to use the applications once they are developed. Participants also stressed that learners need to use Google and search for information online to help them read and write properly and improve their English language proficiency.

Participants 21 and 22 indicated they could not use mobile phones as teaching tools. With a follow-up call to clarify whether mobile phone use is restricted in adult learning centres, participants mentioned that they are not allowed to use mobile phones for teaching because of the previous AET policy. For some reason, they have become accustomed to it even though

they are now CLCs and not AETs. The restriction can potentially hinder the prospect of technology use in educational classrooms. According to Participant 22, the participant is the only one who uses a mobile phone in class to search for information from Google. According to Participant 21, learners are also restricted from using mobile phones in classrooms, which prevents them from participating and engaging with technology in their learning process. Chapter 3 Section 3.7 highlights the importance of m-learning, which has the potential to benefit adult learners and teachers. If learners are not allowed to use their mobile phones in class, how can teachers be motivated to use them? In this way, the knowledge and skills needed in teaching and learning through mobile devices and technologies would be limited. Generally, this would further hinder the possible adoption of m-learning in the ABET sector.

Three participants mentioned they were skilled enough to use their mobile phones to teach. "I have a travel and tourism application on my phone, and I teach this subject. I'd be happy if m-learning can be adopted so that all the learners can learn online. Nowadays, it is all about technology". Although participants could use their mobile devices and be able to use Google and communicate via WhatsApp, they were unsure if these skills and knowledge were adequate for m-learning. "I cannot say that I am skilled enough to teach using a mobile phone, I may be lacking certain skills," said Participant 23. Participant 24 added that she was born before technology and that should m-learning be adopted, she would need to be trained to use a mobile phone to teach. "On our accreditation, we have applied for computer classes. That means we will learn about online teaching skills and computer skills," said Participant 24. Because technology keeps evolving, adult teacher participants need knowledge and skills to teach through mobile devices and technologies.

### 5.4.2.2 Theme 5: Ways in which mobile devices can be used to teach the needed knowledge and skills

The rise of technology has given possible easier ways to do things, including ways of teaching and learning in educational institutions. In recent years, the term online learning, including m-learning, has gained popularity. In this regard, Basak, Wotto and Belanger (2018:192) state that "m-learning is the sub-set of e-learning and e-learning is a macro concept, and it includes the mobile learning as well as online environments". In this way, this section explores how mobile devices can be used to teach adult learners the needed knowledge and skills in the ABET

sector. Ways such as exploring applications found in mobile phones and features of these mobile devices are critical, and these sub-themes are discussed next.

**Sub-theme 5a: Exploring different applications to teach when using mobile devices**

Mobile phones are embedded with standard applications that come with a new device, and many other applications are downloadable online (see Chapter 3 Section 3.4). With many available applications, some are suitable for teaching and learning and adult teacher participants gave examples such as Facebook, WhatsApp, Twitter, Instagram, email, online library, and Google. Findings from adult teacher participants indicated that they commonly used only two applications, Google and WhatsApp. They are aware of other applications such as Twitter, Facebook, and Instagram but know them as applications for socialising and not for education. In this regard, Participant 24 said that she teaches Setswana's home language and does not need Google. She added that she only uses Google when in a stand-in position for a teacher who teaches something else like Ancillary Health Care, "I use technology in that way, but not so much". Participant 23 indicated that she once had a WhatsApp group of learners and explained,

> *"I had a WhatsApp group during the COVID-19 time, and I was teaching my learners through it and used to send them question papers and discuss them over that application. I was seen as a hero because they even passed my English during that year".*

As all adult teacher participants indicated, applications such as Twitter, Facebook, and Instagram are not designed strictly for educational purposes nor populated by people who use them for educational activities. This is in line with Zhang and Liao (2015), who posit that challenges with educational applications are that some are not balanced, lack quality, and that their business model is not transparent. At the same time, applications meant for educational purposes are not well recognised within the educational field. This is supported by Participant 21 when he said that he is not on Twitter by choice because this participant is aware that it has many bullies as people socialise, interact and exchange messages over this application and are unaware that Twitter can be used for educational purposes. During COVID-19 times, teacher participants used WhatsApp. They used it willingly to help learners who were falling behind in their studies, and this was the suddenly devised plan by individual teachers to reach out to adult learners. Participant 23 said,

*"It is not a must that I have to use WhatsApp. I was using it out of my concern for those who would not be in class feeling that they were missing something. Remember, these are adult learners with responsibilities as some are working, so posting something was meant to help such learners".*

Teachers should be trained on how to teach using different applications that are meant for educational purposes.

**Sub-theme 5b: Access to a teaching space**

For the interviews, adult teacher participants were visited at their workplace and the ABET centres where they teach and conduct their classes. Although participants have heard of online schools, the exposure part of the interview process exposed them to m-learning, which is the sub-set of online learning. The exposure part about m-learning made participants aware of online teaching and learning and that they have been doing it on a smaller scale, but it also made them aware that they can use their mobile devices to teach. In this regard, all adult teacher participants noted that the m-learning space can help them and their learners as learners can search for information online instead of relying on them as teachers all the time. Participant 23 stated that learners, just because they do not want to buy copies of dictionaries, can easily access Google to access online dictionaries. Participant 21 supported the statement and said, "I am not a Mr know-it-all; sometimes I ask my learners to take out their mobile phones so that we can confirm something that we are not sure of during teaching and learning". In addition, Participant 22 believed learners need access to their mobile devices in class because they will get more information from these devices, and those without them need to be provided with new ones.

The popularity of online learning in South Africa and worldwide has paved the way for the Department of Education to make plans to implement online learning sometime in the future. This is about education that is supported by technology, and in this regard, Participant 23 said,

*"The department is busy organising training for us and told us that at some stage we will be doing online teaching. For me, this is important because during COVID-19, our learners were sitting at home and doing nothing whereas other learners, especially those from the mainstream education, were busy doing online learning, and it affected*

*their performance and their pass-rate dropped. With online teaching, they say I'd be able to teach learners located in other areas. It will be a new thing".*

Should online teaching and learning be implemented in the ABET sector, teaching and learning for adult learners and their teachers will no longer be restricted to the physical classrooms. Furthermore, all adult teacher participants indicated that the m-learning space would provide more manageable ways of teaching and learning and help address problems that adult learners experience. "They can have access to more information online," said Participant 22. "Think about it: question papers could be sent to them via a phone while they are still at home and can prepare before coming here, and that saves time too," said Participant 24.

### 5.4.2.3 Theme 6: The advantages and disadvantages of m-learning

Adult teacher participants noted the advantages of using mobile devices and technologies as an alternative and supplement to face-to-face teaching and learning in the ABET sector. All adult teacher participants believed that m-learning could simplify teaching and learning processes and help adult learners with the challenges they face in their lives. Participant 21 stated that m-learning was needed as the world is going the ICT route and that adult learners would have access to the wealth of knowledge available online. This is similar to the comment from Participant 22, who said,

*"The thing is we, lecturers, cannot provide all the information to our learners. For them to access information, other sources such as the library or computers are needed".*

Participant 21 also made a point that,

*"With special applications like maths applications, learners can learn maths using those. Similarly, playing videos can be very helpful as one can have a better understanding than one can get from the teacher. Again, watching videos can be beneficial as one can watch alone without being distracted by other learners in the classroom situation".*

According to Participant 22, m-learning would help adult learners not travel daily to the centres or late at night from the centres. Different studies, including the research by Mokubung (2012) on the high drop-out rate of ABET learners at an adult education centre, have indicated that adult learners tend to drop out of their learning due to different challenges they encounter in their lives. Adult teacher participants confirmed this point of dropping out, citing challenges

such as schoolwork load, family problems and responsibilities they have. According to teacher participants, the dropout rate among adult learners is also influenced by the lack of resources such as textbooks and libraries. The drop-out rate as a challenge could be mitigated by m-learning, where adult learners and teachers could use mobile devices to access online resources. Participant 23 said,

*"At the beginning of the year we get more learners but they drop-out during the course of the year due to SBAs (School Based Assessments), this is challenge. The government has promised us that they would get rid of the SBAs but nothing is happening. The government needs to device a better strategy for the continuous assessment and stop blaming us that we are not teaching. Perhaps, our learners can be allowed to use mobile devices to create something and access online resources to simplify their work. Learners are struggling with these SBAs, and their initial purpose to come to school end up not been fulfilled".*

In this regard, Participant 22 stated that m-learning could serve as a solution to this problem because it has the advantage of helping learners do some of their tasks online using mobile devices. "Mobile devices can be used to research online and for learners to compile that information and submit it instead of coming to class or having to go to the field and different places for research", said Participant 23.

Communication is critical in education (see Chapter 3 Section 3.4). Teaching and learning involve different aspects of communication, such as verbal and written communication, and communication via social applications such as WhatsApp. WhatsApp groups are prevalent, and almost all participants have indicated that they belong to a WhatsApp group where messages about learning activities are shared. Adult teacher participants have done some teaching activities using WhatsApp, like discussing particular learning material, especially during COVID-19. "During COVID-19, we had a WhatsApp group and learners who could not understand some parts of the learning content were told to contact teachers via WhatsApp", said Participant 24. Both adult learners and their teachers have used WhatsApp to ask questions and notify one another about anything related to schooling. In this way, Participant 22 mentioned that m-learning could enhance and support communication among teachers and learners. Participant 24 said,

*"Technology can help our learners; they need to understand it as they can use mobile devices to communicate with us when they feel unsafe or need help. In that way, they can make a voice note message from their phones to alert us".*

As stated, communication can happen at different levels, and Participant 24 mentioned that mobile devices can also help adult learners who are mute "to talk and communicate via a mobile device, and they can send us a message, for example, to tell us that they are sick and not coming to school." Adult teacher participants indicated that the possibility of adopting m-learning in the ABET sector would assist because using mobile devices and technologies to learn would promote independence among learners. Indeed, m-learning has the potential to promote independence and encourage learners to take responsibility for their learning with support from their teachers.

Adult teacher participants considered the disadvantages of using mobile devices to learn (see Chapter 3 Section 3.7). For example, all adult teacher participants indicated that m-learning is needed as it can help adult learners and make their learning journey easier but stated that they do not see it replacing face-to-face learning. Participant 21 said,

*"I cannot say m-learning can replace face-to-face learning, it can serve as an addition or supplement to face-to-face learning because there could be different challenges such as discipline when using only mobile devices for teaching and learning".*

In support of the above, Participant 22 stated that the combination of face-to-face and m-learning can suit learners as m-learning alone would distract them from doing their own things instead of not learning. With m-learning, adult teacher participants further noted the disadvantage of the screen size of mobile devices. They indicated that the screen size of mobile devices was too small for all kinds of teaching and learning. In this regard, Participant 21 mentioned that the screen size of a cell phone would make it hard for one to read from but suggested that a bigger tablet could be used.

Mobile devices have applications enabling users to browse the internet and visit different websites. Four participants deemed this point a disadvantage because learners could visit inappropriate websites. Participant 24 said,

> *"I have a learner who likes to come to me and ask that we watch previous episodes of television dramas or soap operas from YouTube, and you see that applications such as YouTube when not used well, they have the potential to distract teaching and learning"*.

Teacher participants also perceived another challenge related to money; for example, if the cell phone gets stolen, it would need money to be replaced. Browsing the internet was also seen as an aspect that needed money to buy data. "With m-learning, where will our learners get data from? They cannot afford it, and there is no free Wi-Fi at the centres" (Participant 22). Another challenge was said to be "over-relying on mobile devices for any form of information" (Participant 21), and this was viewed as an aspect that would also encourage learners to copy and paste work online, resulting in plagiarism.

> *"The problem with Googling is that these learners do not filter information and that is a problem. They compile and come with the same type of information from Google, and we have seen that during the marking of exam scripts of learners from different centres. They copy and paste from Google word for word and not necessarily that they copied from one another. They use Google from their phones and cannot put information their own words to it"* (Participant 23).

M-learning is only possible if adult learners and teachers have mobile devices like smartphones or tablets. These tools are at the core of and define what m-learning is all about. In this way, Participant 23 mentioned that the meaning for adult learners who do not have smartphones is that they cannot learn. According to Participant 24, the challenge for those with the learning tools, mobile devices, would be the level of understanding of the English language used in the device. This participant stated that adult learners whose first language is not English might find it challenging to understand the level of English being spoken on educational videos or mobile devices. "But when teachers are there to support and explain to them, then it should not be a problem," said Participant 24. Indeed, learners are not the same, so their understanding would also differ. Some will comprehend better when, for example, they are watching a video online or those who would need a teacher's explanation. According to Xu (211:414), these learners fall under the perceptual learning style, which "concerns with the involvement of learner's sense organs in the process of learning, such as eyes and ears".

## 5.5 Reflection on the findings of focus-group and individual interviews

This section presents the reflection of data collected from the focus group and individual interviews. From the interviews, themes and sub-themes emerged and are synthesised in the following table.

| Themes | Sub-themes:<br>Focus-group interviews | Sub-themes:<br>Individual interviews |
|---|---|---|
| 1. Identifiable knowledge and skills that adult learners need. | 1.1 Knowledge and skills needed by adult learners for livelihoods.<br>1.2 Knowledge and skills needed by adult learners to use mobile devices.<br>1.3 Knowledge and skills needed by adult learners to learn when using mobile devices and technologies. | 1.1 Knowledge and skills needed by adult learners for livelihoods.<br>1.2 Knowledge and skills needed by adult learners to use mobile devices.<br>1.3 Knowledge and skills needed by adult learners to teach when using mobile devices and technologies. |
| 2. Ways in which mobile devices could be used to teach and learn the needed knowledge and skills. | 2.1 Exploring different applications to learn when using mobile devices.<br>2.2 Access to a learning space. | 2.1 Exploring different applications to teach when using mobile devices.<br>2.2 Access to teaching space. |
| 3. The advantages and disadvantages of m-learning. | | |

Table 5.5: Research themes and sub-themes emerging from all data.

The differences and similarities in findings from the focus group and individual interviews are shown in the sub-themes (Table 5.5) that emerged from the same themes. The researcher used thematic analysis to analyse data (see Chapter 4, Section 4.4.3). In analysing data and using the first phase and subsequent phases of thematic analysis, the researcher read and reread the

data to note initial ideas. Noted initial ideas were followed by interpretation of these ideas to search for and review themes. Themes were defined and named as indicated in Table 5.5. The first theme, identifiable knowledge and skills that adult learners need provides an essential view of the needed skills and knowledge that vary. Adult learners engage in the learning process with the hope to find work and better their lives. In the constructivist paradigm, the world of human experience can be intentionally understood, and the researcher can get in-depth information from participants' voices. Relevant to this study was that knowledge and meanings were constructed from adult learner and teacher participants. In this regard, the focus group and individual interviews highlighted the skills and knowledge needed for their livelihoods, how to use mobile devices, and how to teach and learn when using mobile devices. Importantly, skills needed by adult learners and teachers are online skills for the 4IR. These skills are crucial today in teaching, learning, and day-to-day life due to the penetration of technology in different sectors that impact people's lives. Adult learner participants were generally technologically savvy in using mobile devices more than teacher participants. However, for m-learning, adult learners and teacher participants would need training on how to use mobile devices specifically for teaching and learning. Apart from the 4IR skills, skills such as bricklaying, baking, motor-mechanic, sewing, and business were desired by adult learners, whereas teachers desired online teaching skills. In general, findings denoted that applications and the use of mobile devices could add value to current teaching and learning.

The second theme, Ways in which mobile devices could be used to teach and learn the needed knowledge and skills, centred around the notion that applications found in mobile devices could provide access to an online teaching and learning space. The similarity between the learners' and teachers' responses was that training needs to be offered on using different applications in teaching and learning because applications such as Twitter, Facebook, WhatsApp, Instagram, and YouTube are known for communication, entertainment, and socialising, not for education. In this way, four adult learner participants indicated that they did not want any learning on their mobile devices, and the rest of the learners indicated their preferences for learning and using different applications, highlighting the flexibility and convenience that mobile devices could offer them. All teacher participants indicated that the use of applications and mobile devices should be supported by face-to-face learning. Another finding under this theme was that, to avoid confusion, educational applications must be created. The similarity between learners' and teachers' responses was that m-learning would be advantageous in providing and

enhancing ICT skills. Highlights of the differences and similarities of the three themes reflected in the findings of focus group and individual interviews contributed to triangulation (see Chapter 4 Section 4.4) in validating this research study.

The third theme indicated the advantages and disadvantages surrounding m-learning if adult learners adopted it in the ABET sector. Under this theme, the advantages and disadvantages of using mobile devices in teaching and learning, m-learning, were noted. Sixteen adult learner participants indicated the advantages of m-learning to simplify their educational lives, where they could use mobile devices to access online learning resources and submit assignments conveniently online. These participants also noted the disadvantages of m-learning, such as the distraction that mobile devices could pose to the learning process. In noting the disadvantages of m-learning, they stressed that there was a solution to each disadvantage. In this way, four adult learners indicated they were not used to using mobile devices for learning and do not see doing that in the future. Teachers noted the advantages and disadvantages by highlighting that m-learning would be advantageous only when supported by face-to-face learning. They stressed that adult learners would need face-to-face interaction and support from teachers and be guided on using mobile devices appropriately in learning.

## 5.6 Conclusion

The focus of this chapter was to report on findings on the views of adult learner participants and their teachers or managers about the possible adoption of m-learning in the ABET sector in South Africa. Data was collected from individual interviews with adult teacher participants and focus-group interviews with adult learner participants. During the interview process, it was essential to expose participants to the concept of "m-learning", its meaning and its position in education because, without the exposure part, it would be difficult for participants to pose their views about something they might not be familiar with. From the research, it became clear that almost all the participants were not exposed to the concept of "m-learning". After the exposure, participants became aware that m-learning was related to some of the activities they used on their mobile devices, the need for online learning and related 4IR skills. Therefore, they could answer the research questions and express their views freely about m-learning. Data gathered from participants' views indicated that they are, to a certain extent, exposed to the practice of m-learning and have engaged with it. Sixteen adult learner participants prefer the adoption of it in the ABET sector. All adult teacher participants prefer the combination of m-learning and

face-to-face learning, referred to as blended learning. Only four adult learner participants voiced their concerns that m-learning would be disadvantageous and distractive and that they do not perceive mobile devices as learning tools.

The deductions from the empirical research findings permit the conclusions and recommendations of the study, which are discussed in the next final chapter.

# Chapter 6

# Summary, conclusions, and recommendations

## 6.1 Introduction

The focal point of the previous chapter was to discuss the findings of the collected data from the empirical research. During the empirical research, data was collected from the focus group and individual interviews, and the chapter also highlighted themes and sub-themes that emerged from the research data.

This chapter aims to outline the overview of the entire study with the purpose of determining if the research aim and objectives of the study have been achieved. This chapter reflects on the most significant elements dealt with in the study and answers the research questions. The researcher did conduct a literature review and empirical research, which posed different aspects of m-learning for adult learners.

The key aspects of this chapter, Chapter 6, are the summaries, synthesis of research findings, conclusions, recommendations of the study and suggestions for further research. This chapter starts by presenting the summary of the study, followed by the review, discussions, and findings, all relating to the research questions. It ends with the suggestions for further research.

## 6.2 Summary of the study

The purpose of this research study was to determine the possibility of adopting m-learning for adult learners in the ABET sector in South Africa so that face-to-face learning for adult learners can be supported by m-learning for flexible learning and the need for 4IR skills. To determine this possibility, the researcher saw it as essential to expose participants to the concept of m-learning and what it stands for in the educational field. Therefore, this study's focus was first to expose adult learners to the concept of m-learning and what it stands for in the educational field. This was followed by interviews to determine adult learners' and teachers' perceptions of the possibility of m-learning in the ABET sector in South Africa.

In this regard, the first part of this research study reviewed relevant literature and identified the gap in the existing literature that adult learners in the ABET sector in South Africa still receive their education in physical classrooms face-to-face with a lack of technology support in their learning process.

Gaps in the existing literature allowed for formulating the problem statement and the outline of the main and sub-research questions and their associated aims and objectives. The definitions of key terms were also presented. The second and third parts of this research study highlighted the literature review, with the second part solely presenting theories that framed the study. At that, the FRAME model, Andragogy and Ubuntu are the three theories discussed, and part three weighed more into the review of relevant literature and included the descriptions of concepts related to m-learning. The fourth part outlined the structure of the research design and methodology. In this section, the focus was on the discussion of the interpretivist / constructivist paradigm, qualitative research approach, trustworthiness, and ethical considerations, and the fifth part presented the findings from the empirical research. The last part of this research study concludes and presents summaries, conclusions, and recommendations.

### 6.2.1 Summary of literature review

Chapter Two explored different theories for the theoretical framework underpinning this study and gave justification for using these theories. The FRAME model, Andragogy, and Ubuntu as theories provided a view through which to examine and frame the study and formed part of the literature review. The purpose of these theories served to review the literature on aspects related to and deemed relevant to m-learning. The existing gaps in learning for adult learners are not supported by technology for 4IR skills development. These gaps were identified through the reviews of these theories, thereby ensuring their importance and relevance in basing the phenomenon under study. The use of the FRAME model was justified to be appropriate in this study because this theory is directly linked to the use of mobile devices in the educational field and supports m-learning and its position (see Chapter 2 Section 2.3). Adult learners can use mobile devices to learn, and that means they can have access to the learning content at any time at any location they might find themselves. Koole and Ally (2006) define mobile devices in the educational field as distance learning tools. In the use of mobile devices, adult learners are not restricted to being at a particular place to learn, as happens in the face-to-face learning setup. The second theory, Andragogy, was viewed as relevant for this study because it explains how adult learners learn differently from children. In this way, Andragogy frames this study nicely as it is about adult learners and their education, learning processes where adult learners learn willingly with the purpose of being educated and stand a chance to secure jobs or start businesses.

Ubuntu was used as a third theory to underpin this study. It was used to support the other two theories, as it has features that explain the phenomenon under investigation well that adult learners, when using mobile devices to learn, ought to interact in a dignified and respectful way and, most importantly, support one another for the success of all. Learners who show Ubuntu personalities such as compassion, caring, sharing, and respect have a greater desire to learn and can positively influence learning outcomes (Lefa, 2015). Through Ubuntu, adult learners could support one another, and teachers could also support learners in different ways so that all can succeed. Moreover, the support structure entails taking responsibility from all in the teaching and learning process. Ubuntu also highlights social justice, where negative elements such as discriminating and marginalising others could be avoided and instead encourage equity and equality (Lefa, 2015), where adult learners could support one another in an online learning environment. Just like in the FRAME model, Ubuntu encourages collaborative work and networking. The FRAME model and Ubuntu explain the above well to show that teaching and learning are for the people and about the people who work together in the educational journey. The theoretical framework in Chapter 2 discusses these theories in detail.

Chapter three outlined the review of relevant scholarly literature focusing on different associated aspects of technology and adult education. This entailed the explanation of the concepts related to mobile technologies and m-learning. Literature regarding the history of educational technology was also reviewed and discussed in detail. The literature review indicated that adult learners, unlike children, come voluntarily to the learning process, and in this way, m-learning aligns well with their learning needs. M-learning is a subset of both e-learning and open and flexible learning that personalises the learning process (Conrad, 2014). It also encourages collaborative learning (Pinkwart et al., 2003) in classrooms (Perry, 2003) and in fieldwork (Chen et al., 2003), and because adult learners have life responsibilities, they need flexible learning. The identified research gaps and conclusions about m-learning for adult learners from the existing literature were drawn.

### 6.2.2 Summary of Empirical Study

This study used an interpretivist research paradigm, qualitative approach and phenomenology to explore the possibilities of m-learning for adult learners in the ABET sector. The qualitative design and nature of this study used individual, semi-structured, and focus-group interviews to gather data. In this regard, Chapter 4 Section 4.3.3 outlines reasons for analysing, storing and collecting data. The data collection process involved focus-group and individual interviews, which happened separately from one another, which caused the phenomenon to be explored at two different levels meant to confirm and validate the responses from participants. In this research study, twenty adult learners, five from each centre, and their four teachers, one from each centre, were included as the research sample. Adult learner participants needed to be registered learners learning at the ABET centre, which meant that these participants were exposed to some form of learning, and adult teacher participants had a range of experience teaching adult learners and managing the ABET centres. All participants were selected purposively based on the characteristics needed for the sample. Elements of trustworthiness such as confirmability, transferability, dependability and credibility were covered in detail in Chapter 4 Section 4.4. The address of ethical measures outlined in Chapter 4 Section 4.5 showed the principle of ethics to which the research study adhered. The research committee granted permission to have access to participants (cf. Appendix 1).

Chapter 5 outlined the research findings reported in themes and sub-themes that emerged from participants' responses. Interpretation and findings were made under the representation of each theme and sub-theme of the research. The focus of the first theme in Chapter 5 Section 5.4.1, under adult learner participants learning at the ABET centres, was on *identifiable knowledge and skills that adult learners need.* This theme was outlined under the three sub-themes: *knowledge and skills needed by adult learners for their livelihoods*, *knowledge and skills needed by adult learners to use their mobile phones* and *knowledge and skills needed by adult learners to learn through using mobile devices and technologies*. The FRAME model in Chapter 2 Section 2.3 underpinned this study by explaining how adult learners and their teachers could use mobile devices in teaching and learning. According to participants, there are expectations that upon completing ABET Level 4, some adult learners would be able to find jobs while some would still want to continue learning. Learning different skills or pursuing Grade 12 was also preferred by adult learners. The focus of the second theme was on *ways in*

*which mobile devices can be used to learn the needed knowledge and skills*, and its sub-themes were exploring different applications to learn via using mobile devices and accessing *a learning space* in Chapter 5 Section 5.4.1.2. The second theme highlights ways in which adult learners can use mobile devices such as smartphones and tablets to learn. These mobile devices are meant to quickly and conveniently promote access to the learning content. The third and last theme under this section, adult learner participants, *the advantages, and disadvantages of m-learning*, is outlined in Chapter 5 Section 5.4, and the revelation was that the disadvantages of m-learning, such as lack of internet connection or electricity, could be dealt with to make m-learning work.

Under adult teacher participants, three themes were generated. The first theme was the *identifiable knowledge and skills that adult learners need,* and the three sub-themes: *knowledge and skills needed by adult learners for their livelihoods*, *knowledge and skills needed to use mobile devices* and *knowledge and skills needed by adult teacher participants to teach through using mobile devices and technologies*. Under this theme, adult teacher participants indicated that adult learners need to learn about different skills on top of the general studies they are doing. The second theme was on *ways in which mobile devices can be used to teach the needed knowledge and skills* and had two sub-themes called *exploring different applications to teach via using mobile devices* and *access to teaching space*. Participants under this theme believed that mobile devices should be used in teaching and learning as they would be able to help adult learners with problems they encounter. Their stance was that mobile devices should be used in teaching and learning and that face-to-face learning is also needed for adult learners as they are viewed as learners who cannot depend solely on mobile devices. The last theme under adult teacher participants was on *the advantages and disadvantages of m-learning,* and Chapter 5 Section 5.4.2 presented all these themes and sub-themes.

The main findings in this research study showed similarities between findings from sixteen adult learner participants and their teachers with different findings from four adult learner participants. The two levels and instruments were needed to triangulate the findings. The nature of this study involved exploring the phenomenon at two levels: focus group interviews conducted with adult learner participants and individual interviews conducted with teachers of adult learners. Sixteen adult learner participants and their teachers revealed that adopting m-learning for adult learners in the ABET sector in South Africa is possible. These participants

also indicated their preference for mobile devices in teaching and learning. They posed different views in support of m-learning, such as the flexibility it can offer adult learners in their learning process, the fact that the learning content can be accessed at any time, anywhere, and the submission of assessments can be done online using devices. Adult teachers also indicated that the combination of m-learning and face-to-face learning can be ideal for adult learners because they would still need some form of support from meeting and interacting with peers and teachers. Importantly, exposing adult learners to m-learning also meant exposing them to online skills needed today.

Findings from the four adult learner participants were that mobile devices may not be ideal for educational purposes because people use them mainly for communication and socialising. This implies that these adult learner participants associate mobile devices with tools that can only be used for personal use, such as community, socialising and entertainment. From the findings, it was clear that all participants owned a mobile device and knew how to use it daily. Twenty of them indicated that m-learning has advantages and that, should it be adopted, it could solve some problems related to teaching and learning of adult learners. The ubiquity of mobile devices also meant that adult learners could get support from using them in their learning process, and these supported theories were used. In other words, the usage and availability of mobile devices could support and assist adult learners according to their learning needs. However, they could also help them to learn collaboratively. Through Ubuntu, adult learners are meant to support one another and get support from their teachers. For example, adult learners could provide moral support, encourage one another, and help each other with their academic performance, meaning that clever ones could support struggling ones (see Chapter 2 Section 2.5). Teachers also need to support their learners to ensure that they succeed. Adult learners voluntarily engage with the learning content at their convenience; this highlights Andragogy. Through Andragogy, adult learners engage in the learning process to gain new knowledge and skills, improve their lives or gain self-esteem or concepts, and prepare for their future by looking for employment. In their learning process, adult learners are meant to interact with mobile devices, content and one another, and the FRAME model is about this. That means that adult learners could access online information by using mobile devices and sharing that information.

## 6.3 Synthesis of research findings

The focus of this segment is to merge the research findings, similarities and contradictions between the literature review and the empirical findings presented in the preceding chapter. Six similarities are found between the literature review and the empirical findings. First is the summary of the similarities from the research findings, and second is the discussion of these similarities.

The first similarity is about adult education being exclusive to adults, and this was found in the literature that highlighted andragogy and the reasons why adults need education. The research findings confirmed this when adult learners stated that they did not want to be treated as children in their learning process. Teacher participants also confirmed the point by mentioning that they cannot teach adults as if they were children. The first similarity is highlighted in Chapter 2, Section 2.5 and Chapter 3, Section 3.2. The second similarity found in the literature was about adult learners and their teachers in the ABET sector in South Africa; at one level, they were still receiving education exclusively from the brick-and-mortar centres and not virtually (see Chapter 3 Section 3.2), and at another level, that meant that they were not using mobile devices in teaching and learning.  Findings confirmed this point when participants mentioned that the authority does not allow them to teach or learn virtually or use mobile devices in teaching and learning (see Chapter 5 Section 5.4). The third similarity between the literature and research findings indicated that adult learners drop out due to different challenges. According to Contreras-Villalobos, Lopez, Baleriola and Gonzalez (2023), adult learners drop out of their learning process due to poor attendance, family burdens and financial struggles. The fourth similarity was that using mobile devices in the ABET sector poses more advantages to help with these challenges and act as an alternative. Mobile devices, for example, could be used by adult learners to access online learning material and information instead of relying on physical libraries with limited resources to access information. The fifth similarity was about support in teaching and learning, and Ubuntu in the literature highlighted the aspect of support in teaching and learning. Then, the research findings highlighted how mobile devices could be used to support teaching and learning processes where adult learners could reach out to other learners or teach through platforms such as WhatsApp groups to seek help or explain the learning content or related matters. The sixth similarity was about the advantages and disadvantages of using mobile devices in teaching and learning.

At a second level, an outline of the similarities from the research findings follows. According to Chametzky (2014) and Rodrigues (2012), adult learners learn what they need to know and are responsible for their learning. Concerning this point, adult learner participants mentioned that they have reasons why they have decided to learn. They mentioned reasons such as wanting to have the Grade 12 certificate after completing ABET Level 4, starting their own businesses, and finding employment with the certificate they would get from their learning. The theory of Andragogy, the review of the literature and the empirical findings indicate that adult learners not only come to the learning process with an idea of what they want to learn but also self-manage their learning process. In this way, one adult learner participant mentioned that he balances his studies with other life responsibilities, such as working and being a committee member in at least two organisations within the community. Even adult teacher participants made it clear that they are not teaching children but adults, and their teaching style and how they treat their learners are different and relate to adult teaching and learning.

The second similarity, namely, the provision of adult education at the ABET centres, is face-to-face, with no use of mobile devices, which appears in Chapter 3 Section 3.2. Adult learners in the ABET sector in South Africa receive their education traditionally from brick-and-mortar centres, now called CLCs. These CLCs have smaller branches located in different locations to enable other learners to access education and are called satellites. The literature review matched the empirical findings as all adult teacher participants explained well that their learners, in order to receive education, must be registered and be able to attend classes at these centres. Teaching and learning at these centres do not integrate the use of any mobile devices and technologies. In fact, one adult teacher participant made it clear that using cell phones in classrooms was not allowed (see Chapter 5 Section 5.4). This restriction clearly indicates that the use of technology in teaching and learning in the ABET sector is non-existent or done informally at a minimal level. Consequently, the implication is that these adult learners are limited in how they can access the learning content.

The third similarity, culminating from the literature and research findings, was that adult learners drop out of school due to different challenges. These challenges include adult learners' responsibilities, such as working or looking for employment, caring for family members, and being unmotivated. When pressured with these kinds of challenges, adult learners end up dropping out of their studies. Participants viewed using mobile devices in the ABET sector as

having more advantages to help with these challenges and as an alternative way to teach and learn. The fourth similarity is about how mobile technologies and applications could be used effectively, and this similarity is found in Chapters 2, 2.3, and 3, 3.4. The FRAME model indicates that learners interact with their devices and other learners in their learning process. It is indicated in the review of literature that m-learning is only possible because of mobile technologies and applications that also can make it possible for adult learners to "learn in ways that are easier, faster, more accurate, or less expensive" (Nye, 2007: 1). In Chapter 5, participants indicated that they could learn quickly through using their smartphones and having unlimited online resources.

The fifth similarity was about support in an Ubuntu way in teaching and learning, and the concept of Ubuntu to support teaching and learning, encourage respect and caring in the learning environment, highlighted in Chapter 2 Section 2.5. The research findings confirmed this aspect when participants mentioned that with mobile devices, they could have online support and interact with others through applications such as WhatsApp. That is, to seek help or support one another in a respectful Ubuntu way. In a nutshell, participants hope to get needed support and practise Ubuntu to succeed, should m-learning be adopted. Although the research findings and literature review confirm this similarity, this is not currently practised in some ways (Refer to the last contradiction of this study).

The last similarity is captured in Chapter 3, Section 3.6 and Chapter 5, Section 5.4.1.3 and 5.4.2.3, and it outlines the advantages and disadvantages of m-learning that are possible for adult learners. From the literature and the empirical research, the main advantages were that using mobile devices in teaching and learning could solve adult learners' challenges and support face-to-face learning. The literature revealed that mobile devices have small screens and keys that make it for learners to learn from, and the empirical study confirmed this when participants mentioned the small screens of mobile devices but also mentioned solutions that tablets could be better as they have bigger screens.

Two contradictions were found between the literature reviews and the empirical study in this research study. The first contradiction looked at what adult learners learn in their centres, looking at knowledge versus skills development and, respectively, theoretical versus practical learning or acquisition. This contradiction is found in Chapter 3, Section 3.2, which stipulates that the provision of adult education in South Africa is mainly associated with adult literacy

programmes rather than lifelong learning (McKay, 2012). This can be associated with the notion that their learning is predominantly just about reading and writing (or only about knowledge or theory acquisition). In contrast, participants in Chapter 5 indicated that, although most of what they learn is a theory, they also learn skills development such as Ancillary. They all indicated that the Ancillary subject had a practical component, where they practised how to care for patients (see Chapter 5 Section 5.4). ABET centres, especially those in the North West province, offer specialised skills development and training courses such as baking, bricklaying, carpentry, etc. These skills development and training courses are offered separately from the ABET Levels, ABET Level 1 to ABET Level 4 (See Chapter 5 Section 5.4).

The second and last contradiction in Chapter 2 Section 2.5 is about Ubuntu. According to Msila (2008:70), the components of Ubuntu, such as compassion, unselfishness, kindness, and respect, can contribute positively to creating an effective learning environment. In contrast, the empirical findings in Chapter 5 revealed that adult learner participants still learn in the traditional way that promotes competition among learners instead of compassion, use and collaboration in their learning journey. This means that Ubuntu principles were not fully included and practised in ABET teaching and learning.

The similarities and differences from the research findings revealed that adopting m-learning for adult learners in the ABET sector is possible. Exposing adult learners and teachers to online learning is possible, resulting in flexible learning and, importantly, online skills needed today.

## 6.4 Conclusions

This research study aimed to explore the possibilities of m-learning for adult learners in the ABET sector in South Africa. Findings from the empirical study revealed perspectives of adult learner participants and their teachers regarding the possibilities of m-learning for adult learners. Following this aim, the main research question was, "What are the possibilities of mobile learning for adult learners in Adult Basic Education and Training (ABET) in South Africa?" The following sub-questions supported the main research questions:

➤ Which knowledge and skills do adult learners need when using mobile devices for learning?

➤ How can the needed knowledge and skills be taught using m-learning?

➤ What are the advantages and disadvantages of teaching and learning for adult learners when using mobile devices?

➢  Which guidelines can be provided for m-learning in the ABET sector?

The sub-questions will be addressed before answering the main question of this research study.

### 6.4.1 RQ1 Which knowledge and skills do adult learners need when using mobile devices for learning?

The participants' experiences varied as they came from different ABET centres, including those offering ABET Levels and Grade 12 and those offering ABET Levels and skills development and training. Although their learning backgrounds differed based on the centre they teach and learn from, the revelation was that adult learners want to do Grade 12 after completing the ABET Level 4. They perceived the ABET Level 4 as inadequate to enable them to secure jobs, and what they learn in ABET Level 4 and Grade 12 is mostly theory. The participants indicated that skills developed and training are needed as learning different skills, such as bricklaying, motor-mechanic, farming, baking, business, and ICT skills, could afford them chances to find employment or to start their own businesses.

### 6.4.2 RQ2 How can the needed knowledge and skills be taught using m-learning?

Participants mentioned that mobile technologies such as YouTube, Facebook, Twitter, Google, and WhatsApp can be used in teaching and learning for adult learners. For the success of m-learning, participants also mentioned that they would need to be taught how to use their mobile devices for teaching and learning, including how to use applications found on their devices. Adult teacher participants and learners revealed that m-learning needed to be supported by face-to-face learning as some of the teaching and learning would need human support through interacting in a face-to-face environment. Four adult learner participants indicated their disfavour of using mobile devices to learn. Their base was that they are used to using their mobile devices for personal use, like socialising via social apps such as Facebook, Twitter, Instagram, WhatsApp, and so forth, or for communication like making and receiving calls – and not for teaching and learning. Four adult learner participants revealed that they do not see how the needed knowledge and skills could be taught using m-learning. All other adult learner participants indicated that the needed knowledge and skills could be taught using different

applications such as YouTube, where learners could watch videos repeatedly to learn and comprehend.

### 6.4.3 RQ3 What are the advantages and disadvantages of teaching and learning for adult learners when using mobile devices?

There were advantages and disadvantages of teaching and learning for adult learners when using mobile devices. According to participants, the advantage of using mobile devices in teaching and learning is that adult learners' learning could be simplified. Adult learners would not have to commute daily to the physical learning centres as some schoolwork could be done conveniently online. Daily commuting is tiring as learners have to carry bags full of books; it is time-consuming and costly. The disadvantage of m-learning was noted to be the interruption of teaching and learning that could be caused by the lack of electricity, network problems, and lack of skills in using mobile devices for teaching and learning. Although participants noted the disadvantages, sixteen learners had solutions to each challenge mentioned. For example, they mentioned that during the power cuts, learners and teachers should have power banks they could use to power their devices to learn, access information and be able to submit assignments online. In summary, there were more advantages and disadvantages of m-learning.

### 6.4.4 RQ4 Which guidelines can be provided about m-learning in the ABET sector?

It emerged from this study that adult learners and teachers in the ABET sector face challenges related to teaching and learning. As an alternative to face-to-face learning, the concept of m-learning was explored, and more importantly, adult learners and teachers were exposed to this concept. Based on the findings, along with the exposure to m-learning, the following guidelines are proposed:

➢ The ABET sector should offer skills development programmes and include them in the ABET Level 1 - 4 offering.

➢ Adult learners and teachers in the ABET should integrate and use mobile devices in teaching and learning. Adult learners and teachers in the ABET sector need to know about the advantages and disadvantages of m-learning so they can know how to use it well and optimally.

➢ For the success of m-learning, the ABET sector needs to make relevant tools and associated technologies available to teachers and learners. These might include relevant mobile devices, data or Wi-Fi tools and power banks.

➢ The ABET sector needs to explore integrating relevant applications and social media platforms in teaching and learning. These applications and social media platforms could promote communication, collaboration, deep learning, and the convenience of teaching and learning for adult learners at any time, anywhere.

➢ Adult learners and teachers need to be trained on how to do m-learning—using mobile devices, relevant applications, and social media platforms to teach and learn optimally.

➢ The current face-to-face learning in the ABET must be supported by mobile devices using blended learning. Blended learning could be piloted to allow innovations in the ABET sector and see if the new advances are working or not.

In conclusion, this paper addresses the main research question: W*hat are the possibilities of mobile learning for adult learners in Adult Basic Education and Training (ABET) in South Africa?* It was clear that m-learning has its advantages as well as challenges. The findings also indicated that m-learning alone might disadvantage some learners needing face-to-face human support, and a blended approach might be more desirable. During the interview process, the exposure part about what m-learning is all about made participants aware that, to a certain point, they have been using m-learning, although informally. Therefore, it was concluded that, with the needed support and training, m-learning is possible for adult learners in the ABET sector in South Africa. It is possible and preferred for various reasons: adults have life responsibilities; adults learn differently from children, can learn conveniently anywhere at any time, and can be supported by human beings and mobile devices. In this regard, the major contribution of this study was the exposure that adult and teacher participants within the ABET sector have about m-learning and how m-learning could support face-to-face learning.

## 6.5 Limitations

The big challenge of qualitative research studies is that they get criticised for relying on the researcher, and according to Noble and Smith (2015: 1), findings from qualitative research studies are "merely a collection of personal opinions subject to research bias". In this regard, the research findings depended on the researcher's perspectives; therefore, the implications are that all qualitative research studies have limitations. The limitation of this research study is that

it could only address some aspects of the possibilities of m-learning for adult learners in the ABET sector in South Africa. This research study included a limited number of adult learner participants and their teachers, and the results cannot be generalised. Another limitation is that this research study was only done at the public ABET centres, and private ABET centres were not included. However, despite these limitations, it is believed that the research processes adhered to ethical principles and that the research findings have value to be explored in the ABET sector or other similar contexts. Based on its limitations, this study offers an opportunity for further research on the possibilities of m-learning in the ABET sector. Furthermore, adult learners with disabilities were not included to pose their views because the intention was to get adult learners who were willing to participate at their convenience, and this limitation itself allowed further research.

The last limitation encountered is that not all five adult learner participants were available to participate in the second round of the focus-group interview since the recorder did not record the first round. Only four participants were available; luckily, the replacement was available and became the fifth participant in that group. This limitation was actually an opportunity because the four participants who were available during the first round of the interviews had the exposure part of what m-learning is and all about during the first and second rounds of the interviews. They could actively participate in the focus-group interviews by posing their views and helping the researcher clarify specific questions to the fifth new participant.

## 6.6 Recommendations

The individual interviews, which were in a semi-structured format, and the focus-group interviews yielded the research findings that the use of mobile devices in teaching and learning has the potential to help adult learners and their teachers in different ways, should m-learning be adopted in the ABET sector in South Africa. Therefore, based on the findings, this research study makes the following recommendations related to m-learning.

### 6.6.1 Recommendations for the Department of Higher Education and Training

- ➢ The DHET needs to explore ways m-learning could support face-to-face education in the ABET sector and include blended learning.
- ➢ For the possible adoption of m-learning, it is also recommended that the DHET provide training to adult teachers and their learners and necessary resources and tools such as mobile devices and Wi-Fi.

- ➢ Mobile devices for teaching and learning must be formally and legally recognised and backed up by a policy. Through m-learning, unauthorised websites and applications should be blocked and prohibited in order to protect learners.

- ➢ It is recommended that the DHET make applications specifically meant for education or call out for other bodies to help them with the creation of educational apps, and these would ease the concern of having to use applications known to be for socialising, such as Facebook, Twitter, and forth, for teaching and learning.

- ➢ The DHET should look at combining the academic learning done in the ABET Levels with skills development and training and not treat them as separate entities, as is the case now. For the possibility of m-learning for adult learners in the ABET sector, they should ensure that all ABET centres offer both academic learning and skills development.

### 6.6.2 Recommendation for the ABET managers and teachers

- ➢ Managers and teachers of the ABET sector should train their learners on how to use mobile devices for learning.

- ➢ They should provide human support in addition to mobile devices, and through the use of these devices, they are encouraged to do free online short courses or watch online videos and work together to share knowledge and skills on how best they can assist their learners about m-learning.

### 6.6.3 Recommendation for Adult Learners

- ➢ It is recommended that adult learners learn, during the well-planned training sessions, how to use mobile devices for learning using authorised apps and websites.

- ➢ For the success of m-learning, it is recommended that adult learners buy and have access to mobile devices to protect them from being stolen. They would also need to have a budget for stolen mobile device data and buy power banks that can be used during load-shedding or power cuts.

- ➢ It is also recommended that adult learners should have relevant tools, such as mobile devices, applications, data, and power banks for m-learning. Relevant tools for m-learning are meant to be inclusive to accommodate all learners with different abilities

and responsibilities. Having relevant tools for m-learning is meant to help adult learners with challenges they encounter that relate to their learning.

### 6.6.4 Recommendation for theory

➤ Based on the limitations of this study mentioned in Chapter 6 Section 6.5, it is recommended that other theories, such as the activity theory, be employed that align with different paradigms and approaches such as mixed-methods – for how they can yield different results.

## 6.7 Suggestions for further research

The empirical research done was limited to four public ABET centres with a total of twenty-four participants. As the focus was on the four public ABET centres, further studies could include ABET centres for learners with disabilities and private ones, and this provides the opportunity for a comparative study to compare issues and perspectives at these centres. Therefore, it is recommended that researchers carry out mixed-method research on the possibility of m-learning for adult learners in the context of South Africa to see if they could yield different results. In this regard, mixed research could provide exploratory data and intervention strategies. Further research studies could be carried out to include a larger sample of adult teachers, their learners, and the leadership of the ABET sector.

## 6.8 Conclusion

Adult learners need to acquire knowledge and learn about different skills that can help them to be educated individuals who can participate in the economic activities of South Africa – whether it be through securing themselves jobs or running their own businesses. The ABET sector in South Africa has a significant role in educating adult learners, who otherwise would still resort to old ways of learning. Their traditional way of receiving education must include integrating technology, such as using mobile devices in teaching and learning, which would benefit them by providing a convenient and flexible way of learning.

This qualitative research study used focus-group and individual interviews to collect data from twenty-four participants. Twenty were adult learner participants, and four were their teachers. Each set of five adult learner participants with one teacher came from different ABET centres - in the North West and Gauteng provinces in South Africa. Interviews were transcribed, and thematic data analysis was used to formulate themes and sub-themes, which helped write up

the findings. The findings indicated that m-learning could provide an alternative way of teaching and learning for adult learners, support face-to-face learning, and expose adult learners to online skills development needed today. Based on the findings, the unique contribution of this research study is that there is a need to integrate and use mobile devices in teaching and learning in the ABET sector with explicit knowledge of the advantages and disadvantages of using these devices. These mobile devices and other relevant technologies, such as applications, must be made available to adult learners and teachers and be trained on how to use them. With training on using mobile devices for teaching and learning, skills development programmes could be offered at all ABET Levels. Furthermore, specific recommendations and guidance were offered to the DHET leadership, adult teachers and managers, and adult learners in the ABET sector pertaining to the possible adoption of m-learning in the ABET sector.

Finally, it is only humane to afford individuals, including adult learners, a second chance in life to access education. The second chance for adult learners is to learn in a flexible way that embraces the integration of technology for a better future.

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# Appendices

## Appendix 1: Ethical clearance

**UNISA COLLEGE OF EDUCATION ETHICS REVIEW COMMITTEE**

Date: 2022/06/08

Ref: **2022/06/08/41541359/26/AM**
Name: Mr TWG Ditlhale
Student No.:41541359

Dear Mr TWG Ditlhale

**Decision:** Ethics Approval from
2022/06/08 to 2027/06/08

**Researcher(s):** Name: Mr TWG Ditlhale
E-mail address: 41541359@mylife.unisa.ac.za
Telephone: 0844233945

**Supervisor(s):** Name: Prof G. Van den Berg
E-mail address: vdberg@unisa.ac.za
Telephone: 012 429 4895

Name: Dr P K Mudau
E-mail address: mudaupk@unisa.ac.za
Telephone: 012 429 8898

**Title of research:**

**The possibilities of mobile learning for adult learners in the Adult Basic Education and Training sector in South Africa**

**Qualification:** PhD Open Distance Learning

Thank you for the application for research ethics clearance by the UNISA College of Education Ethics Review Committee for the above mentioned research. Ethics approval is granted for the period 2022/06/08 to 2027/06/08.

The **medium risk** application was reviewed by the Ethics Review Committee on 2022/06/08 in compliance with the UNISA Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.

The proposed research may now commence with the provisions that:
1. The researcher will ensure that the research project adheres to the relevant guidelines set out in the Unisa Covid-19 position statement on research ethics attached.

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www.unisa.ac.za

2. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.

3. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the UNISA College of Education Ethics Review Committee.

4. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.

5. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing.

6. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.

7. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data requires additional ethics clearance.

8. No field work activities may continue after the expiry date **2027/06/08**. Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

Note:

The reference number **2022/06/08/41541359/26/AM** should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.

Kind regards,

**Prof AT Motlhabane**
**CHAIRPERSON: CEDU RERC**
motlhat@unisa.ac.za

**Prof Mpine Makoe**
**ACTING EXECUTIVE DEAN**
qakisme@unisa.ac.za

Approved - decision template – updated 16 Feb 2017

# Appendix 2: Research permission

| To: | **Tumelo Ditlhale** | **UNISA Students** |
|---|---|---|
| From: | **Mr Clifford Wee** | **Principal: Gauteng CET College** |
| Date: | **25 July 2022** | |

**SUBJECT:** **REQUEST FOR PERMISSION TO CONDUCT RESEARCH TRANSITION FROM PUBLIC ADULT LEARNING CENTRES TO COMMUNITY LEARNING CENTRES**

Dear Tumelo Ditlhale

The above matter and your email dated 29 June 2022 refers.

We wish to indicate as follows:

1. The request to conduct research in our institution of learning is hereby granted.
2. We hope and trust that your efforts would contribute towards the development of our sector.
3. You are requested to liaise with Ms Matlhodi Lebodi on 010 900 1159 regarding the Community Learning Centre to be visited and the date, in order to notify the Centre Manager of your intention to visit the institution as well as the purpose thereof.

We trust that you will find the above in order. However, should you wish to discuss anything further to do with this matter please feel free to contact us.

Warm regards,

**Mr Clifford Wee**
**Principal: Gauteng CET College**

# Appendix 3A: Informed letter of consent to ABET principal

UNISA

PRELLER ST, MUCKLENEUK
PRETORIA
0002

07 May 2022

Request for permission to conduct research at <u>YOUR SCHOOL</u>

Dear Sir / Madam

I, <u>Tumelo Ditlhale,</u> am doing research under the supervision of <u>Professor Van der Berg</u> (vdberg@unisa.ac.za) and <u>Dr P.K. Mudau</u> (mudaupk@unisa.ac.za) in the Department of <u>Curriculum and Instructional Studies</u> towards PhD at the University of South Africa. As a student, I am required to do a research project and upon completing it successfully I will graduate.

Therefore, we are inviting you to participate in a study entitled: <u>The possibilities of mobile learning for adult learners in the Adult Basic Education and Training sector in South Africa.</u>

The aim of the study is to have views about your educator and learners on how they view mobile learning and if they would consider mobile learning as a new way of learning.

Your school has been selected because it has educators who teach learners today in the technological era.

The study is planned to entail the focus group interviews with five adult learners followed by semi-structured interviews with one teacher from your school.

The benefits of this study are to have an idea if mobile learning is possible for adult learners in the ABET sector.

There are no potential risks envisioned.

There will be no reimbursement or any incentives for participation in the research.

Feedback procedure will entail writing a feedback letter.

Yours sincerely

(Mr. T Ditlhale)

# Appendix 3B: Informed letter of consent to learner participant

UNISA
PRELLER ST, MUCKLENEUK
PRETORIA
0002

07 May 2022

DEAR PROSPECTIVE PARTICIPANT

My name is <u>Tumelo Ditlhale</u> and I am doing research under the supervision of <u>Professor Van den Berg</u> (vdberg@unisa.ac.za) and <u>Dr P.K. Mudau</u> (mudaupk@unisa.ac.za) in the Department of Curriculum and Instructional Studies towards PhD at the University of South Africa. As a student, I am required to do a research project and upon completing it successfully I will graduate. Therefore, we are inviting you to participate in a study entitled: <u>The possibilities of mobile learning for adult learners in the Adult Basic Education and Training sector in South Africa.</u>

WHAT IS THE PURPOSE OF THE STUDY?
This study is expected to collect important information about the views of students on how they view mobile learning.

WHY AM I BEING INVITED TO PARTICIPATE?
You are invited to participate because we believe that you could provide us with an important information therefore contributing positively towards the research.
I obtained your contact details from your school/unit. There is a total number of 5 participants, and you will be one of them.

WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?
Your actual role in the study will be to answer questions posed to you. The study involves audio taping with the focus group and semi-structured interviews. The following are examples of questions to be asked:

- Identify knowledge and skills needed by adult learners.
- Explore ways in which m-learning can be used to teach the needed knowledge and skills.
- Identify the advantages and disadvantages of teaching skills to adult learners using m-learning.
- Provide guidelines for m-learning in the ABET sector.

The expected duration to participate will depend on your available time and therefore can be segmented.

CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?

Participating in this study is voluntary and you are under no obligation to consent to participation.  If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent as an adult. You are free to withdraw at any time and without giving a reason.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

Possible participation of you will not only help the research project to be completed but will also benefit directly or indirectly adult learners in the ABET sector. That is, adult learners will know about mobile learning and its benefits.

ARE THERE ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE RESEARCH PROJECT?

There are no foreseeable risks in you participating in the project as questions to be asked are not personal.

WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?

You have the right to insist that your name not be recorded anywhere and that no one, apart from the researcher and identified members of the research team, will know about your involvement in this research (this measure refers to confidentiality) OR Your name will not be recorded anywhere and no one will be able to connect you to the answers you give (this

<u>measure refers to anonymity)</u>. Your answers will be given a code number or a pseudonym and you will be referred to in this way in the data, any publications, or other research reporting methods such as conference proceedings <u>(this measure refers to confidentiality)</u>.

There will be no an external coder / transcriber to access your information. Your answers may be reviewed by people responsible for making sure that research is done properly, including members of the Research Ethics Review Committee. Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records.

Information that you will convey may anonymously be used for other purposes, such as a research report, journal articles and/or conference proceedings. That is, your privacy will be protected in any publication of the information. For example, a report of the study may be submitted for publication, but individual participants will not be identifiable in such a report.

HOW WILL THE RESEARCHER(S) PROTECT THE SECURITY OF DATA?

Hard copies of your answers will be stored by the researcher for a period of five years in a locked cupboard/filing cabinet at my residential place for future research or academic purposes. Electronic information will be stored on a password protected computer. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable. Later on, when data is no longer needed, it will be destroyed. For example, hard copies will be shredded and/or electronic copies will be permanently deleted from the hard drive of the computer through the use of a relevant software programme.

WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

There will be no payment or any incentives for participating in the study.

HAS THE STUDY RECEIVED ETHICS APPROVAL?

This study has received written approval from the Research Ethics Review Committee of Unisa. A copy of the approval letter can be obtained from the researcher if you so wish.

HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH?

If you would like to be informed of the final research findings, please contact <u>Tumelo Ditlhale</u> on 0844233945 or email 41541359@mylife.unisa.ac.za.  The findings are accessible after a period of one year for a five years period.

Should you require any further information or want to contact the researcher about any aspect of this study, please use the above contact details provided.

Should you have concerns about the way in which the research has been conducted, you may contact my supervisor Professor Van den Berg on 012 429 4895 and on vdberg@unisa.ac.za.

Thank you for taking time to read this information sheet and for participating in this study.

Thank you,

(Mr. T. Ditlhale)

# Appendix 4: Consent letter (Reply slip)

CONSENT/ASSENT TO PARTICIPATE IN THIS STUDY (Return slip)

I, _____ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.

I agree to the recording of the interview

I have received a signed copy of the informed consent agreement.

Participant Name & Surname (please print) _____

_____          _____
Participant Signature                                     Date

Researcher's Name & Surname (please print) _____

_____          _____
Researcher's signature                                    Date

# Appendix 5: Focus group interviews

Interview questions for adult learners

ABET centre:

Number of years in the ABET centre: _____

Level: _____

Number of learners: _____

Number of teachers teaching you: _____

Focus group question

1. What is your understanding of what mobile learning i?

2. What is your experience of using mobile learning in your studies?

3. Can you tell me about technological tools you use at the centre to do your learning activities?

4. Can mobile devices be used in learning...what do you think about that?

5. How can mobile learning be used to help you with your learning journey?

6. Do you use your mobile devices to learn? If yes, how do you use them to learn?

# Appendix 6: Individual semi-structured interviews

Interview questions for teachers of adult learners?

ABET centre:

Number of years in the ABET centre: _____

Department: _____

Number of adult learners you teach: _____

Number of teachers teaching at each level: _____

Semi-structure question

1. What is your understanding of technology use in your teaching and learning?

2. What is understanding of integration of technology in teaching and learning

3. What is your understanding of mobile learning?

4. How can mobile learning support your teaching to achieve the learning goals/objectives?

5. What is your experience in using mobile learning tools and resources in education?

6. How does your learners use technology or mobile devices to communication, teaching and learning matters in your class?

7. How can mobile learning help your learners to learn differently?

8. How can you use the knowledge in mobile use to enhance your learning?

# Appendix 7A:  Focus-group interviews transcription

**The researcher**: What are you learning here in ABET Level 4?

**Participant 3**: We are doing Health Care, English, Social Science, Maths, Setswana, and Ancillary. I thought that I was going to do what I was learning in high school but here we do different things. For example, we were not doing Ancillary in high school.

**Participant 2**: We call what we learn here learning arears and not subjects.

**Participant 5**: True, we are doing learning areas here and not subjects as they call them in school.

**The researcher**: What made you to come and learn here?

**Participant 1:** I am here because of age. I was doing Grade 8 at high school and did repeat it twice and then I was no longer allowed to continue there.

**Participant 3**: I didn't want to stay at home and do nothing. I want to succeed in life and own things such as houses and cars. That is why I decided to come and learn here.

**Participant 4**: I am here because I learn differently from others. I am a slow learner and here I get a chance to learn at my own pace, unlike in the mainstream schools.

**Participant 6**: The reason why I am here is because at high school they pushed me and said that I was old to be there. I was told that I can come here to do ABET Level 4 and that it is equivalent to matric because I want to have matric.

**The researcher**: What are your plans with ABET Level 4?

**Participant 7**: I am undecided as to what to do upon completing my ABET Level 4.

**The researcher**: Why some learners drop-out and leave their studies?

**Participant 9**: Unlike in schools, some learners were happy that coming here meant that they will no longer wear school uniform and attend classes every day. They were happy. Unfortunately, that is not the case, and they are not coping and end up dropping.

**Participant 10**: I think some learners did not want to study. It seems they were pushed.

**The researcher**: Do you have a smart-phone, and if so, how do you use it (Participant 15)?

**Participant 15**: I have a phone, let me take it out so that you can tell me if it is a smart-phone or not… I use it to make and receive calls and to also google for some information.

**The researcher**: Do you know what is mobile learning?

**Participant 6**: What is that?

**Participant 8**: I think it is learning using phones or learning online.

**Participant 14**: It is like online school or learning using social media and applications.

**Participant 20**: I think mobile learning is an education that one gets from lorries that travel around to different places. For example, similar to lorries travelling from one clinic to another people informing people about different diseases.

**The researcher**: What are advantages of mobile learning?

**Participant 16**: The advantages of mobile learning would be not coming to school everyday nor carry a school bag full of books because I'd be able to learn from home using my mobile phone.

**Participant 12**: It is easy and convenient to use and would save us money.

**The researcher**: What are disadvantages of mobile learning?

**Participant 11**: Using mobile phones would cause to sleep instead of doing some schoolwork.

**Participant 13**: One's schoolwork would be affected should one lose his or her phone.

**Participant 16**: The disadvantage of mobile learning would be network problems associated with using mobile phones and power cuts or power banks running out of power.

**The researcher**: In your school, if they were to adopt m-learning, do you think it was going to work?

**Participant 17**: Yes, it was going to work. Writing notes is tiring.

**Participant 18**: It is best for mobile learning to come; it will sort out our issues.

**The researcher**: If m-learning was to be adopted, would you need to know how to use your phone?

**Participant 19**: I think some people do not know how to use YouTube and they would need to know and be shown how it works.

**The researcher**: Any addition or subtraction

**Participant 11**: I don't want to comment much about mobile learning because I prefer face-to-face learning. Mobile learning should not be compulsory for us. I don't want any form of learning on my phone.

**Participant 16**: Should mobile learning come; it would help a lot. It would help learners who are working and those who are shy to come to school because they'd be using mobile phones at their private places at any time.

# Appendix 7B: Individual semi-structured interviews transcription

**The researcher**: Please briefly tell me about yourself.

**Participant 21**: My name is xxx, I am a lecturer here at xxx community learning centre. I generally teach mathematics and ICT but here I teach maths literacy. I am easy going, orator and dedicated to my work. I believe in life-long learning.

**The researcher**: Does the term ABET still applicable?

**Participant 21**: ABET has been repelled. It was ABET before, then AET and now we have CET Colleges, with Community Learning Centres falling under one college. There are only nine colleges across the country, and the Community Learning Centres or centres are the delivery sites. Each college has a principal, finance, corporate, academic staff, etc. and where we are now is a site / centre.

**The researcher**: So, when you say there are nine colleges across the country, does it mean that each province has a college?

**Participant 21**: Yes. Nine colleges with centres and big centres have 'wings" called satellites. Lineage would start with the Department of Higher Education, then Colleges, then Centres / Sites, and then Satellites.

**The researcher**: Why did you choose to work in the ABET sector rather than in the mainstream?

**Participant 21**: I came here looking for a job to come and teach a skill, computer skill. At that time, we could teach without a professional qualification just with Matric certificate. Initially, I volunteered and worked with the centre manager in the office then later I started teaching mathematics because I have background in mathematics from the degree of Bachelor of Science that I did and dropped out from.

**The researcher**: can you tell me about learners here and their levels?

**Participant 21**: We have different kinds of adult learners. The young adults and old adults. The young ones are like your typical 18-year-olds in behaviour. Teaching them is like teaching high school learners, its like their parents just sent them here and they do not know what they want. You know, their behaviour of disrupting classes and those laughs in class. Although they are 18 years, they qualify as adults to be here and not all of them misbehave. The ones that

behave well are those that they realise that they have missed the opportunity at the mainstream schools because they fell pregnant, or referred here, or dismissed due to older age in the mainstream schools. They are dedicated and know what they want. Then we have older adults, and they are dedicated a lot. The older ones do not live with parents, they are parents themselves. They have responsibilities hence they are dedicated a lot. They also learn from the young adults because these young ones are fresh from school. Last year I had a 57-year-old who did ABET Level 4 and helped me to keep order in class and passed.

**The researcher**: Do you know what is mobile learning?

**Participant 21**: I am not sure what it is. I will make a guess. I think it is learning through the use of ICT like learning wherever you are. I think mobile learning goes with cellular…smartphones and stuff like that.


**The researcher**: Do you want to participate?

**Participant 22**: Yes, I would like to participate and will give you my number should you want to reach out to me later. Let me tell you about myself. I am one of the lecturers here and I teach Life Orientation since 2013 and started teaching Travel and Tourism since 2021. I teach Life Orientation because it is compulsory and the reason why I teach Travel and Tourism is because our learners do not know about different areas and travel attractions. These are adult learners and must know about different locations and where they come from.

**The researcher**: But Mam, I have to interview you. Laughs.

**Participant 22**: Laughs. Oh ok.

**The researcher**: Can you tell me about the learners you teach?

**Participant 22**: Some learners here come from poor backgrounds, and one has to be patient when talking to them. You cannot use harsh words because already they have some difficulties they endure in their lives. Talk to them like a friend of theirs. They are adults themselves and can tell you what is right or wrong. You need to talk to them by showing respect and love because we do not want them to leave us.

**The researcher**: Can anyone teach adult learners?

**Participant 22**: No! Teaching adult learners is not for everyone. This is a calling because others say teaching adults is a waste of time.

**The researcher**: Are you using any form technology when teaching these adults?

**Participant 22**: No. We are just using papers and you write them notes on the board. Then you give them some to go and read at home. Sometimes we just tell them to go search for some information from the library. That is where they can also find help.

**The researcher**: Can you tell me about challenges these learners experience?

**Participant 22**: These learners do not have resources and we organise resources for them. For example, during the investigation projects in class, a lecturer would have to organise resources and help these learners on how to do research i.e., getting information for them and this is a challenge we have. Another problem we have is the use of board and chalk everyday and means that we have to write and wipe all the time and that is not good at all because other learners have asthma problems, and it affects them. Other learners are meant to share textbooks because we don't have enough here. Learners who are given textbooks don't bring them to class and it is a challenge because now I have to write on a board.

**The researcher**: Do you know what is mobile learning?

**Participant 22:** No. What is that?


**The researcher**: Why you chose to come and teach here than at the mainstream education?

**Participant 23**: Education was not my chosen career. I came here by default. I graduated with the degree in Political Sciences as it is what I have studied. So, it was this thing of not finding employment and I was trying this and that and when the opportunity presented itself, I grabbed it with both hands and told myself that I will see what happens. Now I enjoy teaching adults very much, it is my passion now.

**The researcher**: Does your teaching prepare adult learners for the world of work?

**Participant 23**: I teach English here and with English they struggle. You'd find me trying to reset a test for them. Some people want these learners to be taught in their mother tongue but where will that take them to? Just within the borders of South Africa? We cannot get rid of

English. English is an international language and teaching them English is in actual fact about preparing them for the world of work.

**The researcher**: What do you use your phone for?

**Participant 23**: I use it for chatting and for Facebook. I am not into Instagram and those things. Otherwise, I use it when teaching my learners because with the ABET Level 4s, I use it to remind them with something, if need be, over the WhatsApp group we have. Like reminding them with where to focus pertaining to certain sections for a test, I would then use WhatsApp.

**The researcher**: So, what do adult learners use their mobile phones for?

**Participant 23**: They use them for research and when they get stuck with spelling, I tell them to turn to Google. They don't want to buy hard copies of dictionaries and I tell them to use Google because Google cannot lie.

**The researcher**: Do you know what is meant by mobile learning?

**Participant 23**: According to me, it is about using phones. You can teach learners using WhatsApp. When I created a WhatsApp group, I was not aware that I was I was doing mobile learning. I thought I was just helping.


**The researcher**: How do you define this centre?

**Participant 24**: This is a centre for the disabled people, and it is also an ABET centre. It has different sections like at the university where you find different faculties, and we also do skills development here. We also do ABET Level 1 to 4.

**The researcher**: What are the disabled learners do here?

**Participant 24**: There are those who are doing skills development programmes, especially those who are not academically gifted. Others are doing the ABET Levels. We also cater for learners who dropped out school due to substance abuse like using drugs and are older i.e., over the age of 18 because they cannot get back to mainstream education.

**The researcher**: How do you then identify learners needing to do ABET Levels versus those needing to do skills development?

**Participant 24**: We interview our learners, and we also start them at ABET Level 1to see what they are capable of doing. Our school is inclusive, and it means that we accommodate all kinds of learners.

**The researcher**: Do you know what is meant by mobile learning?

**Participant 24**: No. I have never done it. Mobile learning…is it not when travelling to a certain place in a car and teach?

# Appendix 8: Interview hand-out / notes
**Definition of key concepts**

**Learning**

Learning is a process of making changes in one's thinking, knowing, doing and feeling (Baatjes and Baatjes, 2008: 6). This learning process allows learners to get new knowledge and skills or even expand insights and understanding on their already acquired facts.

**Face-to-face learning**

Face-to-face is an instructional method where course content and learning material are taught in person to a group of people (Tophat, 2021). In a face-to-face session, learners and their facilitators get together in a live meeting at the same place thereby encouraging the sharing of knowledge (Acheampong, 2021).

**Mobile learning**

Mobile learning "is a new way to access learning content via mobile devices" (Priscila, 2020). It can also be defined as the provision of education where palmtop or handheld devices are used (Traxler, 2005: 262). Through mobile technologies, learners can access education from anywhere at anytime just because "the core characteristics of mobile learning are ubiquitous, interactive, collaborative and instant information" (Ozdamli & Cavus, 2011: 937).

**Mobile devices**

Mobile devices are electronic devices such as cell-phones and computers that are portable, handheld and wireless. Just like computers, mobile devices can do anything without complications relating to emails, internet access, data transmission, and so forth (Bicen & Kocakoyun, 2013: 756).

**Mobile technologies**

Mobile technologies include electronic devices that are portable and very much linked to the user's mobility in using them. It consists of the communication networks called wireless technologies that are typified by internet – enabled devices such as watches, tablets and smartphones (IBM, 2021).

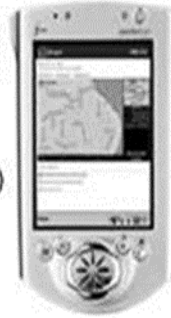Laptop with Wireless Modem

Wireless Web Phone

Handheld PDA

Palm PDA (Compaq iPAQ)

Tablet PC

Smart Phone

PDA Phone

Auto PC

Etutorial.org



Study.com (2022)

Fern, D (2015) https://digital.gov/2015/08/14/what-is-mobile-device-compatibility-testing/



Uswitch.com

# Appendix 9:  Proof of editing

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Date: 14/11/2023

Dear Sir/Madam

This letter is to certify that I, Sarah Louise Cornelius, of Regcor Enterprises Pty Ltd, have completed the initial editing of the dissertation on *The possibilities of mobile learning for adult learners in the Adult Basic Education and Training sector in South Africa* by Tumelo Warren Gobusamang Ditlhale.

I have ten years of experience in the field, having worked on multiple doctorates. Currently, I am a member of the Professional Editor's Guild (PEG).

Any changes done to the document after the editing process does not reflect the editing services provided. The onus is on the student to ensure the document is fully corrected before final submission, even if that requires multiple edits.

*Kind Regards*

*Sarah Louise Cornelius*

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# Appendix 10: Turn it in report

**Document Viewer**

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