

E-academic peer mentoring support for education students in an open distance learning ecosystem

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DECLARATION

I, Sonja van der Westhuizen, hereby confirm that the thesis titled “E-academic peer mentoring support for education students in an open distance learning ecosystem” is my own original work.

In addition, I declare that I have not previously in its entirety or in part, submitted this research for a qualification at any tertiary institution.

A handwritten signature in black ink, reading "Sonja van der Westhuizen". The signature is written in a cursive, flowing style.

Sonja van der Westhuizen

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Foremost, to my heavenly Father, who guided my fingers along the keyboard - every insight and thought was a blessing.

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ABSTRACT

Government's efforts to increase access to education opportunities by means of ODL, whether to remove the barriers associated with learning, or to address education system inequalities associated with apartheid South Africa, do not currently equate to student academic success. This is evident in the dropout rates of ODL students that continue to be higher than those of on-campus students. A lack of institutional support has been identified by research as a contributing factor to ODL student dropout. Tinto's Revised Model of Student Integration illustrates how the integration of students into higher education institutions' academic and social structures is dependent on the experience students have while interacting with these structures. However, ODL student support, determined from an institutional perspective, hinders the integration of the ODL students into the academic and social structures of the institution. To therefore translate equity of access to equitable success opportunities for ODL students, higher education institutions should rethink existing approaches to student support within the ODL environment to design support interventions directed purposefully at ODL student academic success.

The purpose of this study was to develop a multi-tiered e-academic peer mentoring support framework that may be embedded within an education ODL ecosystem to address ODL education students' academic and social support needs and concerns. To achieve this, the needs, and concerns of education ODL students were determined relating to the support services and resources that the case institution provides to facilitate engagement with the institution, successful completion of disciplinary modules, and connection between students, and the students and the module lecturer in the cohort. A proactive action research approach was chosen, and questionnaires and document analysis were identified as the best methods for data collection. The qualitative data – collected by multiple means – were examined and analysed by means of content and thematic analysis. Significant findings included that ODL students want to be treated the same and have the same benefits as their on-campus counterparts, that their comprehension of content is impeded by a lack of timely, frequent, clear and comprehensive communication of information, guidelines and instructions, that they require the unique circumstances that motivate them to study via ODL to be taken into consideration during course planning and design and that they experience feelings of isolation due to limited connection with their peers and the module lecturer. The corroborating evidence yielded by constant comparison of the data, informed the conceptualisation of a multi-tiered e-academic peer mentoring support framework.

A blueprint of the support framework is provided for the consideration of HEI faculties when conceptualising e-academic peer mentoring support frameworks within their own learning ecosystems.

Keywords: Open distance learning, learning ecosystems, e-academic peer mentoring, Higher Education, Tinto's Revised Model of Student Integration, student retention, drop-out, institutional support services and resources

OPSOMMING

Die regering se pogings om toegang tot onderwysgeleenthede deur Oop-Afstands-Leer (OAL) te bevorder, hetsy deur pogings om verbandhoudende onderrig- en leerhindernisse te verwyder, of om die apartheids-ongelykhede in die onderwysstelsel in Suid-Afrika aan te spreek, word tans nie in die akademiese sukses van OAL-studente weerspieël nie. Hierdie swakker prestasie blyk uit die hoër uitvalsifers van ODL-studente vergeleke met dié van studente op die kampus. Navorsing het bevind dat 'n gebrek aan institusionele ondersteuning 'n bydraende faktor tot die hoër uitvalkoers van ODL-studente is. Tinto se Hersiene Model van Studentenintegrasie illustreer studente aan hoëronderwysinstellings se afhanklikheid van akademiese en sosiale strukture en hulle ervarings gedurende die interaksie met hierdie strukture. Desnieteenstaande word die integrasie van OAL studente, vanuit 'n institusionele perspektief, benadeel in terme van die akademiese en sosiale strukture van die instellings. Om dus gelykheid tot toegang gelykstaande aan billike geleenthede tot sukses vir ODL-studente te maak, moet hoëronderwysinstellings herbesin oor bestaande benaderings tot studente-ondersteuning binne die ODL-omgewing deur die ontwerp van doelgerigte ondersteuningsintervensies om akademiese sukses van ODL-studente, te bevorder.

Die doel van hierdie studie was om 'n veelvlakkige e-akademiese eweknie-mentorskap ondersteuningsraamwerk te ontwikkel wat in 'n OAL-ekosisteem ingebed kan word, om OAL-onderwysstudente se akademiese en sosiale ondersteuningbehoefte en bekommernisse aan te spreek. Om hierdie doel te bereik, is OAL-onderwysstudente se behoeftes en bekommernisse bepaal soos dit verband hou met die gevallestudie-instelling se voorsiening van ondersteuningsdienste en hulpbronne om betrokkenheid by die institusie, suksesvolle voltooiing van dissiplinemodules, asook konnektiwiteit tussen studente, en studente en die mdouledosent van die kohort, te fasiliteer. 'n Pro-aktiewe aksienavorsingsbenadering is gevolg waar vraelyste en dokumentanalise die beste metodes was om data-insameling mee te doen. Die kwalitatiewe data – soos op veelvuldige wyses ingesamel – is deur middel van inhouds en tematiese analise ontleed om temas te identifiseer. Insiggewende bevindinge, insluitende dat OAL-studente dieselfde behandel wil word en dieselfde voordele as hulle op-kampus eweknieë, dat hulle begrip van die inhoud belemmer word as gevolg van 'n gebrek aan tydige, gereelde, duidelike en omvattende kommunikasie van inligting, riglyne en instruksies, dat hulle 'n behoefte het dat hulle unieke omstandighede wat as motivering dien om via OAL te studeer, in ag geneem moet word

gedurende programbeplanning en ontwerp, en dat hulle gevoelens van isolasie ervaar as gevolg van die beperkte konnektiwiteit met hulle eweknieë en die module-dosent.

'n Bloudruk van 'n ondersteuningsraamwerk word aan HOI-fakulteite wat e-akademiese eweknie-mentorskap ondersteuningsraamwerke oorweeg, binne hulle eie leer-ekosisteme voorsien.

Sleutelwoorde: Oop-afstandsleer, leer-ekosisteme, e-akademiese eweknie mentorskap, Hoëronderwys, Tinto se Hersiene Model van Studenteintegrasië, studenteretensie, uitval, institusionele ondersteuningsdienste en bronne

TABLE OF CONTENTS

DECLARATION.....	I
ACKNOWLEDGEMENT	II
ABSTRACT	III
OPSOMMING	V
LIST OF TABLES.....	XVII
LIST OF FIGURES	XVIII
LIST OF ACRONYMS	XX
TERMINOLOGY	XXIII
CHAPTER 1 INTRODUCTION AND BACKGROUND TO THE STUDY.....	1
1.1 Introduction and problem statement	1
1.2 Tinto’s Revised Model of Student Integration.....	1
1.2.1 Student integration into the Higher Education Institution community	3
1.2.2 Pre-entry attributes of students.....	3
1.2.3 Student experience of interactions with academic and social systems	4
1.3 Open Distance Learning (ODL) student retention.....	5
1.3.1 Student factors: ODL student integration into the Higher Education community.....	5
1.3.2 Environmental factors: Pre-entry attributes of ODL students	6
1.3.3 Course factors: ODL student experience of interactions with academic and social systems.....	7
1.4 Institutional support services and resources	8

1.4.1	Support services and resources that help students engage with the institution.....	9
1.4.2	Support services and resources that help students succeed in their studies	10
1.4.3	Support services and resources that help students connect with each other	10
1.5	Peer support: e-academic peer mentoring	11
1.6	Central theoretical statement and research questions.....	13
1.6.1	Purpose and objectives of the study	15
1.7	Literature review: ODL	15
1.7.1	Introduction	15
1.7.2	ODL within the South African context	16
1.7.3	Needs and concerns of ODL pre-service teachers	18
1.7.4	ODL within the case institution	22
1.7.5	Contextualisation.....	24
1.8	Research methodology.....	26
1.8.1	Research paradigm	26
1.8.2	Research design	27
1.8.3	Research approach	27
1.8.4	Participant selection	27
1.8.5	Data and document collection methods.....	28
1.8.5.1	Online questionnaires.....	28
1.8.5.2	Document analysis of academic peer mentor monthly recordkeeping sheets	29

1.8.6	Data analysis.....	29
1.8.6.1	Online questionnaires.....	29
1.8.6.2	Document analysis of academic peer mentor monthly recordkeeping sheets	30
1.9	Role of the researcher	31
1.10	Trustworthiness of the data	31
1.11	Ethical considerations	32
1. 12	Chapter division	32
CHAPTER 2	LITERATURE REVIEW: LEARNING ECOSYSTEMS AND MENTORING.....	35
2.1	Introduction	35
2.2	Tinto’s Revised Model of Student Integration.....	35
2.3	Ecosystems	36
2.3.1	Learning ecosystems	37
2.3.1.1	E-learning modalities.....	37
2.3.1.2	Biotic units in the ODL ecosystem	39
2.3.1.3	ODL ecosystem habitat	40
2.4	Mentoring.....	43
2.4.1	E-mentoring.....	44
2.5	E-mentoring support.....	45
2.5.1	Factors associated with the administrative component.....	45
2.5.2	Social factors.....	45
2.5.2.1	Mentee attributes	46

2.5.2.2	E-mentor attributes.....	46
2.5.2.3	Interaction in the group.....	47
2.5.2.3.1	One-on-one mentoring	48
2.5.2.3.2	Panel or committee mentoring.....	48
2.5.2.3.3	Peer mentoring.....	48
2.5.2.3.4	Group mentoring	49
2.5.3	Methodological component.....	50
2.5.3.1	Theoretical frameworks that organise mentoring	50
2.5.3.1.1	Developmental theoretical framework	50
2.5.3.1.2	Learning theoretical framework	52
2.5.3.1.3	Social theoretical framework	53
2.5.3.2	The purpose and tasks of e-mentors in an ODL ecosystem	54
2.5.3.2.1	E-mentor as intermediary between the module lecturer and ODL students	54
2.5.3.2.2	E-mentor as intermediary between course material and ODL students	56
2.5.3.2.3	E-mentor as intermediary between the technology and ODL students.....	57
2.5.3.2.4	E-mentor as intermediary between ODL students	57
2.5.3.3	Outcomes of e-mentoring for student mentees.....	58
2.6	Summary.....	59
CHAPTER 3	RESEARCH DESIGN AND METHODOLOGY	61
3.1	Introduction	61
3.2	Research paradigm	61

3.3	Research design	63
3.4	Research approach	70
3.5	Participant selection	71
3.6	Data and document collection methods.....	74
3.6.1	Online questionnaires.....	75
3.6.2	Document analysis of academic peer mentor monthly recordkeeping sheets	77
3.7	Data analysis.....	78
3.7.1	Online questionnaires.....	78
3.7.2	Document analysis of academic peer mentor monthly recordkeeping sheets	81
3.8	The role of the researcher	85
3.9	Trustworthiness of the data	86
3.10	Ethical considerations	88
3.11	Summary.....	89

CHAPTER 4 PRESENTATION, DISCUSSION AND INTERPRETATION OF EMPIRICAL RESULTS.....

4.1	Introduction	91
4.2	Part 1 - ODL Education Students: Support Services and Resources Questionnaire	92
4.2.1	Student profile	92
4.2.2	Engagement with the institution's support services and resources	93
4.2.2.1	Access to support services and resources	93
4.2.2.2	Nature of the support services and resources required	95

4.2.2.3	Consultation history with non-faculty institutional support services and resources	96
4.2.2.4	Additional institutional support services and resources required by education ODL students.....	99
4.2.3	Successful completion of disciplinary modules	112
4.2.3.1	Access to learning resources	112
4.2.3.2	Critical skills to succeed in an ODL environment	114
4.2.3.3	Communication with the module lecturer.....	115
4.2.3.4	Module lecturer feedback	115
4.2.3.5	Engagement with module content	117
4.2.3.6	Challenges in completing disciplinary modules.....	119
4.2.4	“Connection” between students, and the students and the module lecturer.....	130
4.2.4.2	Connection and interaction between students	131
4.2.4.3	Feelings of isolation in an ODL environment	132
4.3.	Part 2 - Student Support Services and Resources: Education ODL Module Lecturer Questionnaire.....	138
4.3.1	Engagement with the institution’s support services and resources	138
4.3.1.1	Access to support services and resources	139
4.3.1.2	Nature of the support services and resources required	139
4.3.2	Successful completion of disciplinary modules	141
4.3.2.1	Access to learning resources	141
4.3.2.2	Engagement with module content	141

4.3.2.3	Critical skills to succeed in an ODL environment	141
4.3.2.4	Communication with the module lecturer	142
4.3.3	“Connection” between students, and the students and the module lecturer	143
4.3.3.1	Connection between the module lecturer and students	143
4.3.3.2	Connection between students	143
4.3.3.3	Feelings of isolation in the ODL environment	144
4.4	Part 3: Thematic analysis of academic peer mentor recordkeeping sheets.....	144
4.4.1	Step 1: Broad classification of recordkeeping sheets in relation to the research questions	145
4.4.2	Step 2: Allocation of academic peer mentor purpose within broad classification pertaining to the research questions.....	146
4.4.2.1	Administrative purpose of academic peer mentors	148
4.4.2.2	Social purpose of academic peer mentors.....	149
4.4.2.3	Instructional purpose of academic peer mentors	150
4.4.2.4	Technological purpose of academic peer mentors	152
4.4.2.5	Communicative purpose of academic peer mentors	152
4.4.2.6	Informative purpose of academic peer mentors.....	153
4.4.3	Patterns and themes emerging from the purpose academic peer mentors fulfil	153
4.5	Summary.....	159
 CHAPTER 5 CONCEPTUALISING A MULTI-TIERED E-ACADEMIC PEER MENTORING SUPPORT FRAMEWORK IN AN EDUCATION ODL ECOSYSTEM		163

5.1	Introduction	163
5.2	Blueprint for the conceptualised support framework.....	163
5.3	E-academic peer mentoring framework environment.....	165
5.4	Stakeholders in the e-mentoring framework	166
5.5	Aims and objectives of the envisioned support framework within an Education ODL ecosystem	167
5.6	Digital infrastructure of the envisioned support framework	170
5.7	Components of the envisioned support framework	171
5.7.1	Administrative component	171
5.7.1.1	Recruitment, selection and appointment process	171
5.7.1.2	Training the e-academic peer mentors	172
5.7.2	Social component.....	172
5.7.2.1	Attributes of the education ODL students	172
5.7.2.2	Mentoring model	172
5.7.2.3	Attributes of the e-academic peer mentors	173
5.7.3	Methodological component.....	174
5.7.3.1	Objective 1	174
5.7.3.2	Objectives 2 and 3.....	175
5.7.3.3	Objective 4	176
5.8	Summary.....	176

CHAPTER 6 SUMMARY OF MAJOR FINDINGS, AREAS OF FURTHER RESEARCH AND CONCLUSIONS.....	178
6.1 Introduction	178
6.3 Summary of major findings	178
6.3.1 Review of scholarly literature.....	178
6.3.2 Empirical results.....	180
6.3.2.1 Research question 1	181
6.3.2.2 Research question 2	181
6.3.2.3 Research question 3	182
6.4 Contribution of the study.....	182
6.5 Limitations of the study	183
6.6 Recommendations for future studies	183
6.7 Conclusion.....	185
REFERENCES	186
ANNEXURES	204
ANNEXURE 1: SUPPORT AND RESOURCES: ODL EDUCATION STUDENTS QUESTIONNAIRE	204
ANNEXURE 2: SUPPORT SERVICES AND RESOURCES: EDUCATION ODL MODULE LECTURER QUESTIONNAIRE	216
ANNEXURE 3: ACADEMIC PEER MENTOR RECORDKEEPING SHEET	229

ANNEXURE 4: E-ACADEMIC PEER MENTORING SUPPORT STRUCTURE ODL ECOSYSTEM DIGITAL INFRASTRUCTURE E-TOOLS	230
ANNEXURE 5: TASKS OF THE E-ACADEMIC PEER MENTOR IN RELATION TO THE OBJECTIVES OF THE CONCEPTUALISED MULTI-TIERED E-ACADEMIC PEER MENTORING SUPPORT FRAMEWORK	238
ANNEXURE 6: ETHICAL CLEARANCE CERTIFICATE	242
ANNEXURE 7: LANGUAGE EDITOR CERTIFICATE.....	243

LIST OF TABLES

Table 1.1:	Enrolment and graduation rate of contact versus distance students.....	24
Table 3.1:	Academic peer mentors appointed per faculty	73
Table 3.2:	Results and calculation of question 4.5.....	80
Table 4.1:	Reasons for registering for an ODL course	93
Table 4.2:	Education ODL students' satisfaction with access to institutional support services and resources	94
Table 4.3:	Nature of support services and resources required by education ODL students.....	95
Table 4.4:	Education ODL students' consultation history with non-faculty related support services and resources	96
Table 4.5:	Education ODL students' information and computer literacy proficiency	113
Table 4.6:	Education ODL students' confidence in a digital environment	113
Table 4.7:	Benefits of engaging with fellow education ODL students	132
Table 4.8:	Document analysis classification codes	145
Table 4.9:	Purpose of academic peer mentor and student mentee activities and interactions	147
Table 4.10:	Recurring themes in academic peer mentor and student mentee activities and interactions.....	155

LIST OF FIGURES

Figure 1.1:	Tinto's Revised Model of Student Integration (Aljohani, 2016)	2
Figure 2.1:	Biotic units of an ODL ecosystem	40
Figure 3.1:	Steps of proactive action research	66
Figure 3.2:	Question 4.5 example	79
Figure 3.3:	Spreadsheet data without formatting.....	84
Figure 3.4:	Spreadsheet data with formatting	84
Figure 3.5:	Data life cycle	87
Figure 4.1:	Education ODL student use of the case institution's services and resources.....	94
Figure 4.2:	Education ODL student confidence to perform tasks in a digital environment.....	113
Figure 4.3:	Essential academic skills for academic success in ODL environment.....	114
Figure 4.4:	Preferred tools for communication with module lecturer.....	115
Figure 4.5:	Feelings of isolation in the ODL environment.....	133
Figure 4.6:	Document analysis broad categories	146
Figure 4.7:	Purpose of academic peer mentor and student mentee activities and interactions	148
Figure 5.1:	e-Academic peer mentoring support framework: A Blueprint	164
Figure 5.2:	Direct and indirect stakeholders in e-mentoring support framework	166
Figure 5.3:	The e-academic peer mentoring support structure situated within Tinto's Revised Model of Student Integration	169

Figure 5.4:	Education ODL ecosystem	170
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LIST OF ACRONYMS

BBA	Bachelor of Business Administration
BSc	Bachelor of Science
CESM	Classification of Educational Study Matter
COVID	Corona virus disease
CTL	Centre for Teaching and Learning
DHET	Department of Higher Education and Training
E-learning	Electronic learning
Email	Electronic mail
E-mentors	Electronic mentors
EMS	Economics and Management Sciences
ERL	Emergency remote learning
FYE	First-year Experience
HEI	Higher Education Institution
HS	Health Sciences
ICASA	Independent Communications Authority of South Africa
ICT	Information and Communications Technology
IOP	The institution's Operating Plan
IT	Information Technology
JISC	Joint Information Systems Committee

LMS	Learning Management System
NAS	Natural and Agricultural Sciences
NQF	National Qualifications Framework
NSFAS	National Student Financial Aid Scheme
NWU	North-West University
ODL	Open Distance Learning
PAIA	Promotion of Access to Information Act
PGCE	Postgraduate Certificate in Education
POPI	Protection of Personal Information Act
QC/QA	Continuous quality control and quality assurance
RDGC	Research Data Gatekeeper Committee
SADS	Student Academic Development and Support
SI	Supplemental Instruction
SMS	Short Message Service
SWOT	Strengths, Weaknesses, Opportunities, and Threats
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNISA	University of South Africa
UODL	Unit for Open Distance Learning
UFS	University of the Free State

UWC	University of the Western Cape
WIL	Work Integrated Learning
ZPD	Zone of Proximal Development

TERMINOLOGY

Action Learning

Action learning involves learning from others by working on real-life problems and sharing experiences (McGill & Beaty, 1995). Learning is a group effort and relies on social interaction to share experiences and learn from one another. Whether the goal of the learning focuses on issues relating to the group or individuals in the group, or a blend thereof, action learning involves “cycles of reflection and action to learn from experience” (Aubusson, Ewing & Hoban, 2009:14-15).

Adult learning theory

Adult learning theory relates to andragogy (the methods used to teach adults), self-directed learning (the adult takes responsibility for his or her learning and is therefore involved in the teaching and learning process), transformational learning theory (providing adult learners the opportunity to question their assumptions) (Massyn & Wilkinson, 2015:64) and situated cognition or “the importance of real life experiences in the learning process” (Merriam & Brockett, 2007:155, cited by Massyn & Wilkinson, 2015:64). Adult learning theory proposes that the way adults learn differs from that of children, since they have life experience and an existing knowledge framework. Adult learners are more motivated to learn than children because they understand why they are learning.

Electronic learning (e-learning)

According to Amin and Garg (2014:2681), there are several terms used for describing e-learning, or learning that is delivered online, via the Internet. These include distance education, computerised electronic learning, online learning, Internet learning, virtual learning, network learning, web-based learning, and multimedia-based learning. Sangrà, Vlachopoulos and Cabrera (2012:152) define e-learning as “an approach to teaching and learning, representing all or part of the educational model applied, that is based on the use of electronic media and devices as tools for improving access to training, communication and interaction and that facilitates the adoption of new ways of understanding and developing learning”. Ihlström and Westerlund (2013:8) summarise e-learning as learning that happens “through electronic media that aims to support the learning process.”

Van de Heyde and Siebrits (2019:1) define e-learning in an academic context as “the use of time- and space-independent application(s) designed to deliver multimedia content, such as assessments, discussions and communications to both academics and students” supported by “learning management systems (LMS) [and] other stand-alone software applications, or both in combination”.

Emergency remote learning (ERL)

The extraordinary circumstances caused by the Corona virus disease-pandemic (COVID-19) necessitated ERL to afford higher education institution (HEI) residential students that enrolled for in-person and on-campus instruction, the opportunity to continue their learning at a distance. ERL is an unplanned method that provides a temporary solution to continue teaching and learning activities for as long as it is not possible for lecturers and students to be in the same physical location. ERL learning is a temporary substitute for in-person learning and course material that was originally prepared for in-person instruction had to be redesigned for an online environment. Online learning implies courses that were purposefully designed and planned long in advance to be delivered online. Online learning depends on the seamless integration of technology to engage students in an interactive learning environment.

Kegan’s developmental stages

The stages (referred to as balances) associated with Robert Kegan’s Constructive Developmental Theory include the incorporative balance, the impulsive balance, the imperial balance, the interpersonal balance, the instructional balance, and the inter-individual balance. According to Kegan (1982:84), motivation toward development, originates from an individual’s “need to bring their organization into a coherence that can take account of the greater complexity with which they are faced”.

Levinson’s life stage theory

According to Daniel Levinson’s original theory dating to 1978, individuals grow through specific life stages “during which there are different crucial activities and psychological adjustments that must be completed” (Ornstein, Cron & Slocum, 1989:119).

Levinson identifies various stages which are related to an individual's biological age, viz. the childhood stage (individuals between the ages of 0 to 20 years of age), the early adulthood stage (individuals between the ages of 20 and 40 years of age), the middle adulthood stage (individuals between the age brackets of 40 to 60 years of age), and the late adulthood stage (individuals over the age of 60). These stages include early adulthood transitioning (happening around the ages of 17-22 years of age) where the individual transitions from home to start finding her own place in the world. This is followed by the individual entering the adult world at around the ages between 23 to 28 years, where the individual commits to a career and intimate relationships and develops her own sense of personal identity within these entities. Transitioning to her thirties happens at around the ages 29 to 33 years of age and is accompanied by the individual re-evaluating choices and adjusting her life based on what was accomplished during her twenties. During the settling down stage (between the ages of 34 and 39 years of age), the individual makes commitments to her career, family and community and sets out to accomplish professional and personal goals. Middle adulthood and transitioning to mid-life encompass questions on mortality and achievement and as the individual enters middle adulthood strives for greater stability. At later stages that follow, the individual raises questions about her life choices.

Social networks theory

A social network is a social structure that consists of people, groups and organisations that are connected and interdependent (Ferreira & Armagan, 2011:172). Social networks theory studies how the entities comprising the social structure interact within ego-centric, socio-centric, and open system networks.

Transformational learning

Transformative learning theory was developed by Jack Mezirow in 1978. The theory is based on the notion that learners have their own assumptions, expectations and beliefs that shape how they make sense of and view the world around them. Transformational learning is seen as an attempt to help learners transform their existing assumptions through, inter alia, problem-solving, and rational analytical processes to challenge their existing beliefs, followed by a critical reflection on how their existing reference frameworks are transformed (Colman, 2019).

CHAPTER 1 INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction and problem statement

Electronic learning (E-learning) is widely considered as the “future of education”. The Global e-Learning Market Analysis and Trends-report estimates that the online learning market will reach US\$331 billion by 2025 (Yu & Hu, 2016, 2 Sep.). Yet, despite the tremendous growth of online education and expansion of online learning programmes, Levy (2007:186, cited by Sorensen & Donovan, 2017:2019) indicates that “dropout rates from e-learning courses were documented around 25%-40% as compared to 10%-20% in on-campus courses”. The variation among online and face-to-face courses and the many variables that contribute to the effectiveness of online courses are named by Tinto (2014:6) as possible reasons why the retention rates for online students is on average lower than that of on-campus courses. Chang (2004b:75) agrees and states that it remains inconclusive whether online courses are as “effective as face-to-face courses in terms of achieving course completion rates”.

Mansfield, O'Leary and Webb (2011:4) propose that a student's dropping out of online education is a process rather than an event. It is a combination of, as well as the interaction between, numerous factors that contribute to whether a student completes, or does not complete an online course (Sorensen & Donovan, 2017:206-207). A better understanding of why students drop out, can lead to early intervention and anticipation of those students who are at risk and might require additional support (Sorensen & Donovan, 2017:207).

1.2 Tinto's Revised Model of Student Integration

There are various theoretical models¹ and empirical studies pertaining to the “student retention phenomenon and the most frequent factors that lead students to leave their study programs” (Aljohani, 2016:1). According to Aljohani (2016:17), Tinto's Revised Model of Student Integration “has been subjected to extensive testing and examination over the last four decades and has been cited in many studies investigating the attrition problem in which the constructs, hypotheses and postulations of the models were empirically used, tested and critiqued” (cf. Figure 1.1):

¹ A model can be defined as a “deliberate simplification of a phenomenon or a specific aspect of a phenomenon” (Nilsen, 2015:13). Whereas theories are explanatory and descriptive, models are descriptive.

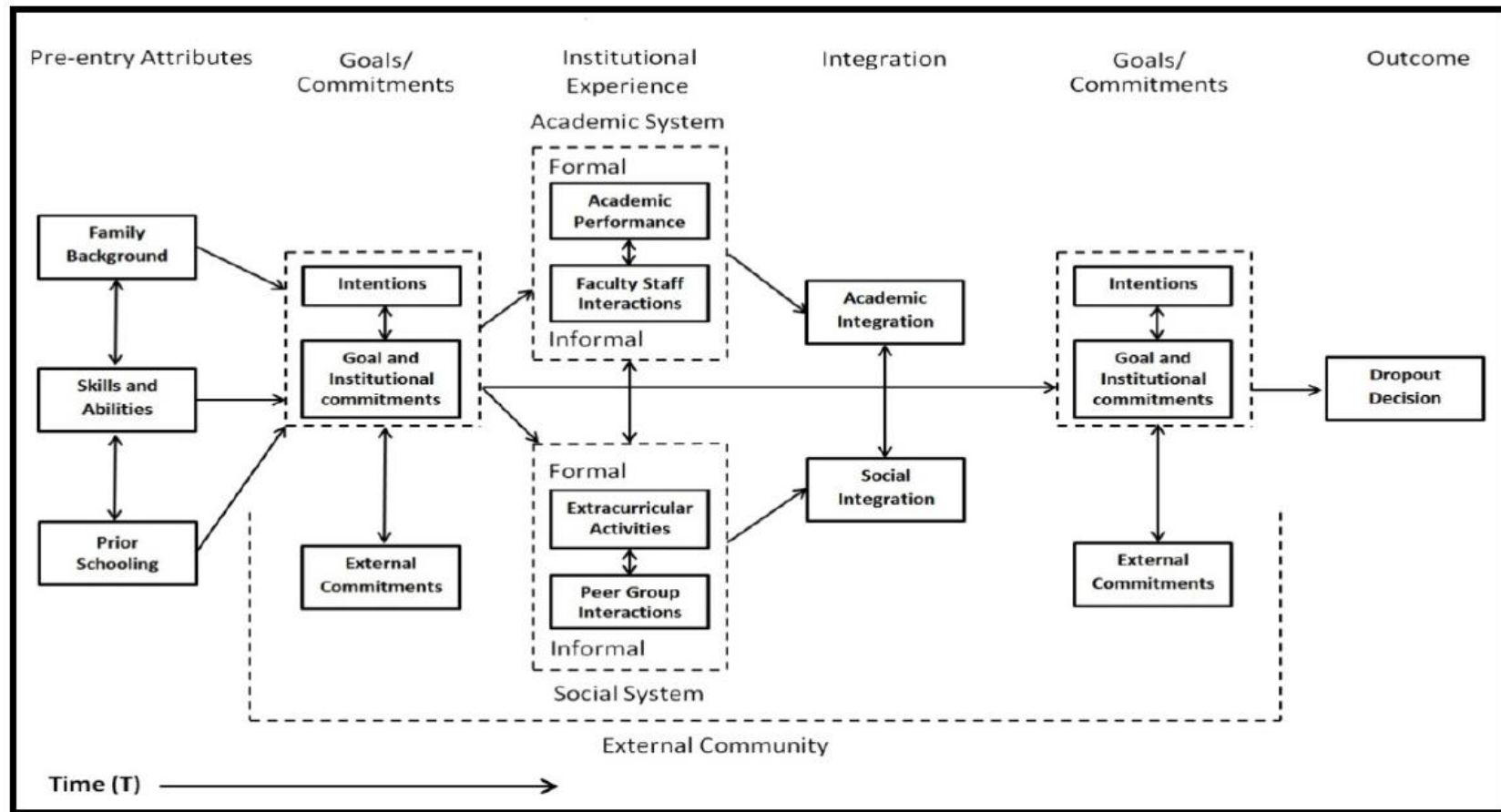


Figure 1.1: Tinto's Revised Model of Student Integration

1.2.1 Student integration into the Higher Education Institution community

Tinto's model recognises Van Gennep's work in the field of social anthropology, on the rites of passage in tribal societies, viz. separation, transition, and incorporation. He links these stages and describes them in terms of students as they progressively become incorporated into the community of the institution (Elkins *et al.*, 2000:252). In the first, or separation stage, the student disassociates with, and disconnects from, previous family and school communities and per implication, also the values, norms and behaviours associated with these, to start transitioning into the HEI environment. Once this happens, and as the student transitions to the new community, the student starts acquiring or adopting the new values, norms and behaviours associated with the new community (i.e., HEI). Once the student has navigated through these stages and managed to separate successfully from the "norms and behaviours of their old communities" (Aljohani, 2016:6), the student becomes fully integrated into the HEI community.

The model refers to integration in terms of two systems that are at play in HEIs, viz. an academic and a social system. According to Tinto (Elkins *et al.*, 2000:252), students need to be integrated into both the academic and social systems. Tinto's model further posits that students who become connected to the social and academic life of an institution, are more likely to remain enrolled at the institution.

1.2.2 Pre-entry attributes of students

The model further suggests that when students access the higher education community, they do so with a set of background characteristics. "These characteristics involve individual attitudes, pre-entry attributes and family background. Individual attitudes include gender, race, age and aptitude. Pre-entry attributes include characteristics such as qualifications and achievements. Family background characteristics include family education level, family expectations and family social status" (Chrysikos, Ahmed & Ward, 2017:100). These pre-entry attributes shape the goals and commitments of entering students (Pleitz, MacDougall, Terry, Buckley & Campbell, 2015:90). Nicpon, Huser, Blanks, Sollenberger, Befort and Kurpius (2006:345) refer to a "person-environment fit, where students' experiences in their social and academic environments are influenced by their individual attributes, dispositions, family background, and prior educational experiences". Tinto amended his 1975 model and the 1993 revised model also refers to students' commitments - family or work - as affecting the initial and progressive levels of the students' goals and commitments.

The model indicates that the goals and commitments of entering students will, however, be modified according to students' experience (and academic and social integration) (Aljohani, 2016).

1.2.3 Student experience of interactions with academic and social systems

According to Bitzer (2003:167) the model also posits “that the lower the degree of student social and intellectual integration into the academic and social communities in the institution, the greater the likelihood of student dropout and departure”. Tinto's model argues that the decision of a student to drop out, or no longer persist at the institution, is influenced by the interactions of the individual student and other members of the academic and social systems in the institution. In this regard Xu and Webber (2016) elaborate and add that “voluntary student departure [is] a process that occurs over a period of time due to the meanings that the student ascribes to his or her interactions with the academic and social dimensions of the college or university”. In other words, the integration of students into academic and social structures is dependent on the experience the student has while interacting with the academic and social structures.

Hence, should the student perceive his or her interactions in the institution's academic and social systems as positive, the student will experience a heightened commitment to complete his or her studies at the institution. However, “[i]n the event the student does not achieve adequate academic or social integration, he or she will most likely choose to leave and either attend another institution or opt out of higher education” or cease to engage and participate (Pleitz *et al.*, 2015:90). Negative experiences that hinder the integration of the student into the academic and social structures of the institution, may increase the possibility that the student will drop out or no longer persist in his or her studies (continued degree completion at any institution).

Furthermore, the motivation of students relating to “their goals, self-efficacy, sense of belonging, and perceptions of the curriculum” can either be “enhanced or diminished by student experiences in the institution” (Tinto, 2017:255). Tinto (2017:258) elaborates that “what is also required is that students come to see themselves as a member of a community of faculty, staff, and other students who value their participation that they matter and belong. The result is a bond, often expressed as a commitment, which serves to bind the individual to the group or community, even when challenges arise”. For this to happen, institutions need to realise that “without support to improve performance, [students] lose their motivation to persist and subsequently dropout” (Tinto, 2017:260).

This is especially true of new students as they transition into university and during their first year of study. Institutions therefore “have to monitor and frequently assess student first-year performance and provide academic, if not social, [early intervention] support when needed to help students succeed in the first-year” (Tinto, 2017:260).

Pleitz *et al.* (2015:89) indicate that “Tinto’s theory pertains to multiple post-secondary education institutions, notwithstanding size or type”. The model has been adopted and tested in varying HEI systems and environments, which contribute to its credibility and validity. HEI therefore need to recognise that “negative interactions within the academic and social” and a lack of “support to improve performance” influence students’ sense of belonging within the institution (Tinto, 2017:261).

1.3 Open Distance Learning (ODL) student retention

Lee and Choi (2011:604-614) undertook extensive research regarding retention in online courses and identified 70 dropout factors which they sorted into three categories, viz. student, environmental and course factors.

1.3.1 Student factors: ODL student integration into the Higher Education community

According to the University of Sydney (2015:16), students enrolled for the first time at university undergo a transitional period during their first semester at university. During this time, students form expectations of higher education and the new learning environment. Nicpon *et al.* (2006:346) refer to the first semester of enrolment in terms of the likelihood of students staying in college - stressing “the value of social integration [and] healthy coping skills”.

During their first year of study, students develop a basic or core knowledge framework, essential communication skills, analytical thought patterns and problem-solving techniques (University of Sydney, 2015:16). Some of the skills students need to develop as they transition into higher education, are effective time-management and goal setting skills, the ability to self-motivate and persevere, self-directed learning of new content and becoming familiar with, and navigating the institution’s Learning Management System (LMS) or any “[w]eb-based application that is used for educational purposes to disseminate multimedia resources, organise resources in a chronological manner, communicate with course participants and assess students competencies” (Van de Heyde & Siebrits, 2019:79; Wojciechowski & Palmer, 2005:2).

Open Distance Learning (ODL) students experience the same transitional period to adapt to tertiary education as their on-campus counterparts. Students are often drawn to ODL courses and e-learning because it allows them the flexibility to study, while fulfilling work and family commitments. These commitments contribute to the notable challenges ODL learners face due to the “nature of their mode of study, such as time management and self-directed learning, reading quickly with good comprehension, communicating effectively in writing, taking initiative in communicating with peers, and working collaboratively online in small and large groups” (ContactNorth, 2018:2).

When one considers these challenges against the profile of a successful ODL student (Michigan Virtual, 2017:5-6; Crawford, 2006:18-20, 53-56), it becomes clear that not all ODL students are prepared for online learning. When a student enrolls in an ODL course it is simply accepted or assumed that he or she has (a) good time management skills, (b) the ability to create and maintain a study schedule, (c) self-discipline to stick to a study schedule, (d) effective communication skills, (e) confidence to ask for help, (f) the ability to make contact with other students and the lecturer online, (g) independent study habits, (h) the ability to construct knowledge, (i) “complete assignments without direct supervision”, (j) self-motivate, (k) the desire to “learn skills and acquire knowledge”, (l) the ability to formulate short term and long term educational goals, (m) academic readiness which includes basic reading and writing literacy skills, and (n) digital literacy skills (Michigan Virtual, 2017:5-6).

The profile of a successful ODL student therefore implies certain essential skills, such as those referred to in the previous paragraph, to succeed academically in an online study environment (Michigan Virtual, 2017:5-6). Shea, Hayes, Smith, Vickers, Bidjerano, Pickett and Jian (2012:90) suggest the term “learning presence” to encompass all the above-mentioned traits of successful ODL students. Shea *et al.* (2012:90) further describe learner presence as the “metacognitive, motivational, and behavioural traits and activities that are under the control of successful online learners”.

1.3.2 Environmental factors: Pre-entry attributes of ODL students

ODL students are characteristically diverse. Those that have registered for an online course may include adult students that have not studied formally for a while, first generation adult students with work and family commitments or younger, first-time students that may need assistance to cope with the demands of online learning (ContactNorth, 2018:2).

For those already employed in the workplace, the changing demands of the 21st century workplace and industry imply that employees must continuously develop their skills and knowledge. Lifelong learning has become a reality, and often a necessity for many professionals (University of the Witwatersrand, 2018:4). This signifies an educational change where “the premise of lifelong learning shifts the focus of agency from institutions and instructors² towards learners and claims that individuals need to update and develop skills and capacities throughout their working lives, including re-entering educational processes in various phases of their [professional] lives” (Cendon, 2018 cited by Peters & Romero, 2019:1730).

ODL students also come from different socio-economic backgrounds. According to Pleitz *et al.* (2015:91-96), this may give rise to many students “entering college with either unknown or naïve expectations and, therefore, may be relying on false schemas to fill in the missing information”. While some ODL students may lack information, others may again lack computer and digital literacy skills. This may be because not all ODL students are equally resourced and because they may have experienced “differential access to computers and the Internet, with poorer groups in society and across nations having unequal access to the Internet” (Rohleder, Swartz, Bozalek, Carolissen & Leibowitz, 2008:139; Curran, 2001:126-127).

To develop these essential skills, “the critical nature of the first-year experience (FYE) has been recognised on campus with the development of support services specifically designed to meet this need” (ContactNorth, 2018:2). A lack of the necessary academic skills and access to core online support services and resources, are however not the only barriers that ODL students experience regarding their academic success. Capra (2011:288-289) notes that the very structure of ODL courses sometimes becomes a barrier to student success.

1.3.3 Course factors: ODL student experience of interactions with academic and social systems

A barrier caused by the structure of online courses, is that ODL students often feel isolated, disconnected and without a sense of community while studying, due to a lack of teaching presence (availability of, and access to the module lecturer) and interaction.

If the lecturer is absent, “the student may feel as if he/she is in it alone and believe they cannot or should not reach out to the instructor for support. The student’s ability to cope with the lack of

² The term instructor is like the term lecturer and is used to refer to an individual who teaches at a university.

an instructor may sometimes have a negative influence on their performance and/or motivation to continue their studies” (Sorensen & Donovan, 2017:217). Furthermore, “isolation resulting from insufficient academic and social support is the reason that distance learners may drop out” (ContactNorth, 2018:3). Sorensen and Donovan (2017:207) agree and indicate that there is a correlation between “students’ sense of belonging to a community, engagement and interactions” and academic success. Bangeni (2003:143) also highlights the importance of interaction, as it, according to her, affects “feelings, attitudes, interpersonal relationships as well as motivation. Interaction is important because it entails the provision of input, and because students get an opportunity to practice what they learn through output (i.e., their utterances), which is a necessary condition for learning to take place”.

Chang (2004b:75-76) advocates “building online learning communities as an effective instructional strategy to achieve learning outcomes”. According to Chang (2004b:75-76), the sense of belonging to an online learning community may:

- facilitate learning persistence and success,
- support ODL students to achieve “the same course completion rates” as their on-campus counterparts (Allen & Seaman, 2015:10), and
- contribute to higher student retention rates, grade point averages and student satisfaction (Sorensen & Donovan, 2017:207; Mathieson, 2010:4).

In addition to the drop-out factors identified by Lee and Choi (2011:604-614), Sorensen and Donovan (2017:215) emphasise that “[q]uality does not just equate to content and/or course design. There are students that take note of the level in support they receive and may factor this into what it means to receive a *quality education* [authors’ emphasis]”.

1.4 Institutional support services and resources

Sorensen and Donovan (2017:218) identify a lack of support as the main contributor to why online students drop out of their courses and suggest that (a) the institution’s retention interventions should be designed to “address factors other than academic performance as it cannot be assumed that all students drop out due to poor academic performance”, (b) “offer additional time management and organization coaching for students”, and (c) “ensure a higher level of support for students earlier in their programs and identify students at risk of dropping out early so intervention efforts can be put into place”.

This relates closely to Tinto's Theory of Student Attrition (2014:6) and his perception that "[f]or our part, we take on an obligation that calls for us to translate, as best we can, through our actions the promise access provides into a meaningful opportunity to complete our students to successfully complete their studies", and his summation that although most students need support during their time at university, it is not always clear when they need support (Tinto, 2014:16).

This is of further importance when Benedick's (2018) statement is considered: "Learning as an intrinsically human activity [that] needs to be supported in many places and in many ways". ContactNorth (2018:1) also emphasises the necessity of a supportive environment for ODL students: "Online support services for learners can be as important to their academic success as the actual teaching. Online students need access to more than course content and effective teaching. Online students need access to all the services available to on-campus students".

ContactNorth (2018:3-4) guidelines are invaluable on identifying the core online support services and resources, or all the measures taken by its parent institution to ensure student retention, to create a sense of belonging and increase throughput.

1.4.1 Support services and resources that help students engage with the institution

Kuh, Kinzie, Schuh and Whitt (2005, cited by Strydom & Mentz, 2010:3) indicate that "student engagement is defined in terms of two key components. The first is the amount of time and effort students spend on academic activities and other activities that lead to the experiences and outcomes that constitute student success". The second is the ways in which institutions allocate resources and organise learning opportunities and services to induce students to participate in and benefit from such activities. In other words, student engagement entails "what students do (the time and energy they devote to educationally purposive activities) and what institutions do (the extent to which they employ effective educational practices to induce students to do the right things)" (UFS, 2020).

According to Tinto (2014:6, 9), it is not necessarily interaction and engagement [between the student and the institution] that determine whether students dropout or not, but rather the "perceptions individuals derive from those interactions that underlie student decisions to dropout". Positive interactions and engagement contribute to student retention. This is resonated in the description of Tinto's Revised Student Integration model, as an "interactive model" which is "dynamic in so far as students' goals and intentions are continuously reshaped through interactions with the university and its academic and social structures" (Schreiber, Luescher-

Mamashela & Moja, 2014:v). In Tinto's model, he also links the "pre-entry attributes of a student to the institutional experience and ultimately to educational outcomes, student retention and success" (Schreiber *et al.*, 2014:v).

1.4.2 Support services and resources that help students succeed in their studies

Students may experience a sense of academic disconnect from the institution if they feel that their academic interests are not supported by the institution (Tinto, 2017:262). Building meaningful learning experiences in online environments are, however, more challenging in online courses and academic success in online education requires skills and resources (Tinto, 2014:11).

Students need to value the relevance of their studies. The perceptions students have relating to the relevance of their studies, mostly pertain to the quality of the curriculum, however, "[p]erceptions of the quality and relevance of the curriculum reflects a complex interplay among a variety of issues including faculty teaching methods, perceived institutional quality, and student learning style preferences and values" (Tinto, 2017:258).

1.4.3 Support services and resources that help students connect with each other

Tinto (2014:13) links persistence in higher education to networks of affiliation that binds students to each other and to the university: "Students who establish such networks, especially during the first-year, are more likely to stay in university than those who are unable to establish those connections".

However, as "institutions grapple with how to provide quality support to greater numbers of students" (ContactNorth, 2018:3) and, in consideration of the burden this place on ODL module lecturers, institutions may consider rethinking existing approaches to providing support within the ODL environment. One such approach is identified by the student participants of a study conducted by Peters and Romero (2019:1736) on student engagement in the continuum between formal and informal learning. Regarding learning strategies in developing valued academic practices, "[s]tudy participants also reported a need to develop peer-mentorship models in order to support those beginning the programme navigate an often-overwhelming process of initiating central learning processes" (Peters & Romero, 2019:1736). Tinto (2017:26) also refers to the helpful support that mentoring programmes may have, especially the social support it provides to first-generation students and students that have difficulty "managing the task of going to college". Nicpon *et al.* (2006:354) also found that "more peer support was significantly related to less

loneliness and more positive academic persistence decisions, but not to academic performance. Students were more likely to persist if they had lower levels of loneliness and felt as if they had both friend and family support”.

1.5 Peer support: e-academic peer mentoring

According to Bangeni (2003:149), ODL students “should not be made to feel that they are receiving services that are not equal to those received by residential students. This perception, it is believed, contributes to students’ deciding whether to continue with a programme, to drop-out, or to register with another institution”. Bangeni (2003:148) advocates relational support to come not only from those directly involved in instructional activities, but “from the institution as a whole” and highlights that ODL students “expect to be seen as human beings and adults who have their own problems in specific environments/contexts”. Furthermore, Bangeni (2003:149) notes that ODL students crave a humane connection, expect to be motivated and their morale to be uplifted.

Michigan Virtual (2017:4) proposes that mentors (a peer learning support initiative) are employed to provide that human connection for ODL students to enable them to establish relationships in an ODL environment. This may also enhance their social and academic integration into the tertiary community. Peer learning support initiatives aim to help students engage with the institution, succeed in their studies, and connect with each other. The structures put in place by peer learning support increase student learning because it provides opportunity for students to learn and/or support each other in a safe and trusting environment, under the guidance of a trained senior student (Makala, 2017:18). Supplemental Instruction (SI), tutorial programmes and mentoring are examples of such initiatives. At the case institution all these initiatives are made available to the benefit of full-time, on-campus students (Bangeni, 2003:149).

When the unique challenges and factors that influence ODL students’ academic success are considered, the question arises why peer learning support initiatives are not adapted, extended or directed with the specific needs of ODL students in mind? A case in point is the COVID-19 pandemic that “forced” many on-campus, residential students into an ODL environment. Students who did not choose ODL as a mode of delivery for their studies, had no choice but to study online to complete their academic year. This placed on-campus residential students in a situation where they *may* have experienced *some* of the same issues related to institutional support services and resources, as those experienced by ODL students. During this time, the academic peer mentors

at the case institution, who were used to supporting their peers on-campus and in-person, adjusted to providing peer academic and social support successfully in an online environment via WhatsApp, electronic mails (emails), video conferencing and phone calls. In support of the premise of this study, that “appropriate support to provide meaningful opportunity to succeed” (Tinto, 2014:13), may be provided by e-academic peer mentors, considering how on-campus students at the case institution were supported by academic peer mentors during the COVID-19 pandemic, should provide insight into how e-academic peer mentors can support education ODL students and their module lecturer.

In the case of peer mentoring, the mentors and their mentees are around the same age, although the mentor is typically further along in their shared academic field (University of South Alabama, 2017:5; Rodger & Tremblay, 2003:2-4), while the mentee is new to an experience. Since peer mentors have recently experienced the same academic adjustment and transitional issues experienced by their peers, they can share their experience and knowledge on how they managed to achieve academic success. With effective training, e-academic peer mentors can convey tacit knowledge within an online environment (Stromei, 2000:59) in support of ODL students. Tacit knowledge can be divided into two dimensions: a technical and a cognitive dimension. The technical dimension consists of “the knowledge of one’s experiences or skills, craft, and expertise otherwise known as ‘know-how’”, while the cognitive dimension refers to mental processes and intellect (Stromei, 2000:59). In addition to conveying tacit knowledge, electronic mentors (e-mentors) can also be the “online eyes and ears of the course instructor³” (Chang, 2004b:79). According to Chang (2004b:79) and Fong *et al.* (2012:307), they may also fulfil various purposes in an online learning environment, including:

- an *administrative purpose*: the e-academic peer mentor assists ODL students with enrolment, direct them to relevant support frameworks regarding course requirements, facilitate module lecturer information, maintain a module calendar, convey messages and reminders or make announcements regarding the module;
- a *communicative purpose*: the e-academic peer mentor facilitates communication between the ODL students and the module lecturer, initiate discussion topics and facilitate student-

³ Higher education courses often consist of modules or single components. These modules packed, or put together, then constitute a course. In this study instructor is referred to as module lecturer.

student interaction on LMS discussion forums, monitor the LMS chat to answer queries and meet virtually with ODL students in groups or on a one-on-one basis;

- *an informative purpose*: the e-academic peer mentor is knowledgeable about institutional and course policies, procedures and support resources and services;
- *a social purpose*: the e-academic peer mentor builds rapport with ODL students to establish trusting relationships in which ODL students can be motivated and encouraged to achieve course completion. This is accomplished by the mentor's interaction with ODL students to initiate and create an online learning environment that is welcoming and supportive;
- *an instructional⁴ purpose*: the e-academic peer mentor engages with the ODL students to create familiarity with online learning, monitor ODL students' online presence, track ODL students' academic progress, help ODL students acquire the academic processes, skills and strategies required to be successful in their studies and peer teach module content, and
- *a technological purpose*: the e-academic peer mentor familiarises ODL students with the institution's LMS, helps ODL students access and navigate the course platform and course resources (uploading and downloading of course material), develop ODL students' computer and digital literacy skills and their ability to communicate via chat and discussion boards.

1.6 Central theoretical statement and research questions

In consideration of the dropout rates among students in e-learning courses, the notable challenges ODL students face due to the nature of their mode of study and the institution's support services and resources that provide meaningful retention interventions, the following central theoretical statement has therefore been formulated for the study:

Embedding a multi-tiered e-academic peer mentoring support framework within an education ODL ecosystem may address the ODL education students' academic and social support needs and concerns.

⁴ The instructional purpose of academic peer mentors in this study refers to peer teaching. Peer teaching within the context of this study refers to a method "by which one student instructs another in material on which the first is an expert and the second is a novice" (Biggs, 2013).

Based on the central theoretical statement, the following research questions have been formulated:

1. What are the needs and concerns of education ODL students within an education ODL ecosystem relating to the support services and resources the case institution provides to facilitate:
 - 1.1 engagement with the institution;
 - 1.2 successful completion of disciplinary modules, and
 - 1.3 “connection” between students, and the students and the module lecturer in the cohort.
2. What is the perception of an education ODL module lecturer of education ODL students within an education ODL ecosystem relating to the support services and resources the case institution provides to facilitate:
 - 2.1 engagement with the institution;
 - 2.2 successful completion of disciplinary modules, and
 - 2.3 “connection” between students, and the students and the module lecturer in the cohort.
3. How can e-academic peer mentors provide academic and social support to education ODL students and their module lecturer within an education ODL ecosystem to facilitate:
 - 3.1 engagement with the institution;
 - 3.2 successful completion of disciplinary modules, and
 - 3.3 “connection” between students, and the students and the module lecturer in the cohort.

1.6.1 Purpose and objectives of the study

The purpose of this study is to develop a multi-tiered e-academic peer mentoring support framework that may be embedded within an education ODL ecosystem to address the ODL education students' academic and social support needs and concerns.

To achieve this, the objectives of the study include:

1. Determine the needs and concerns of education ODL students within an education ODL ecosystem relating to the support services and resources the case institution provides to facilitate engagement with the institution, successful completion of disciplinary modules, and connection between students, and the students and the module lecturer in the cohort.
2. Determine the perception of an education ODL module lecturer of the needs and concerns of education ODL students within an education ODL ecosystem relating to the support services and resources the case institution provides to facilitate engagement with the institution, successful completion of disciplinary modules, and connection between students, and the students and the module lecturer in the cohort.
3. Determine how e-academic peer mentors can provide academic and social support to education ODL students and their module lecturer within an education ODL ecosystem to facilitate engagement with the institution, successful completion of disciplinary modules, and connection between students, and the students and the module lecturer in the cohort.

1.7 Literature review: ODL

1.7.1 Introduction

Bozkurt (2019:261) defines distance education as “the methodology to teach and learn at a distance” with the term “open” referring to a “political policy and reflects a political vision” or a commitment that “removes any unnecessary barriers to access learning” (Commonwealth of Learning, 2020:4). Open learning is therefore “primarily a goal, or an educational policy” (Bozkurt, 2019:261) that contributes to social justice education by providing equitable access to quality education for diverse students (Hytten & Bettez, 2011:8-9; O'Rourke, 2009:6).

Open and distance learning (ODL) can be considered as “the provision of distance education opportunities to mitigate or remove barriers” to learning (Commonwealth of Learning, 2020:4).

This is reiterated by the United Nations Educational, Scientific and Cultural Organisation's (UNESCO, 2002:7) emphasis on ODL approaches that "focus on opening access to education and training provision, freeing learners from the constraints of time and place, and offering flexible learning opportunities to individuals and groups of learners".

Despite ODL as "a means of meeting the demand of mass education and access to a recognized qualification" (O'Rourke, 2009: 6) and, therefore, an increase in the number of students registering for ODL, the number of ODL students that persist in completing their qualifications, continues to be lower than that of contact students engaged in traditional, face-to-face modes of learning. Dropout, or the process in which a student simply drops out of the system completely before completing their studies or, in other words, simply ceases to engage, become inactive or passive within the system while continuing to be a registered student (Aydin, Öztürk, Büyükköse, Er & Sönmez, 2019:41), continues to be higher among ODL students in comparison to contact students engaged in traditional, face-to-face mode of learning (Netanda, Mamabolo & Themane, 2019:399). Netanda *et al.* (2019:400) state that the high student dropout rate and low participation, that characterise the South African higher education system, contribute to South African universities having the lowest overall graduate success rate globally.

Whereas initially student dropout was attributed to the "reflection of individual attributes, skills and motivation" (Tinto, 2006:2), retention studies and practices now acknowledge ODL students as individuals from different backgrounds. The understanding of student retention in ODL environments is now shaped to include cultural, social, and economic factors (Aydin *et al.*, 2019:41; Sorensen & Donovan, 2017:207; Lee & Choi, 2011:604-614; Tinto, 2006:3, 6). However, O'Rourke (2009:8) warns that "difference should not be equated to disadvantage, but rather to diversity which encompasses a range of learner characteristics, learning conditions and the barriers to learning that learners face and learning contexts". Taking these factors into account, student dropout and retention are therefore now recognised as problems "concerning both learners and institutions" (Aydin *et al.*, 2019:41).

1.7.2 ODL within the South African context

In answer to the social, economic, and transformative needs of post-apartheid South Africa, the Department of Higher Education and Training (DHET) has indicated that one of its obligations is "to increase access to educational opportunities for those who experience barriers to learning and for young people who are not in education, training or employment" (DHET, 2017:367). To

increase educational opportunities to potential students in areas of geographic isolation, with a lack of time for structured learning due to work or family obligations, experiencing financial constraints and past learning experiences that restricted accessibility and alienated learners, the DHET's Open Learning Policy for Post-School Education and Training adopted open learning. According to the policy, open learning is defined both independently from, and intertwined with, distance learning as "an educational approach which combines the principles of learner-centredness, lifelong learning, flexibility of learning provision, the removal of barriers to access learning, the recognition for credit of prior learning experience, the provision of learner support, the construction of learning programmes in the expectation that learners can succeed, and the maintenance of rigorous quality assurance over the design of learning materials and support systems" (DHET, 2017:367, 363). This educational approach is to increase access to education and training opportunities and construct "quality learning environments which take account of learners' context" (DHET, 2017:367).

This affirms the South African Government's and the DHET's commitment to expanded access to flexible and cost-effective education for everyone, while also considering Information and Communication Technology (ICT) availability and access in South Africa (DHET, 2017:371; Goodier, 2017). This echoes the various reasons why students may benefit from or choose to study by means of ODL (which is often closely related to the key characteristics of distance education) to obtain a formal qualification (Mills, Eyre & Harvey, 2005:44).

Within the context of the DHET's Open Learning Policy for Post-School Education and Training policy framework, open learning is "fundamentally about access and success, with flexibility of provision contributing to expanded access, and quality of provision contributing to improved student success. Its aim is that more learners should have better access to learning opportunities throughout their lives, including access to quality learning materials and learner support. It furthermore focuses on better throughput, and higher success rates" (DHET, 2017:373). References such as "learner support" and "better throughput and higher success rates" are especially relevant to this study since "[p]roviding students access without support is not opportunity. Without support, academic, social, and financial, too many students do not complete their programmes of study. It is my view that once an institution admits a student, it becomes obligated to provide, as best it can, the support needed to translate the opportunity access provides to success" (Tinto, 2014:6).

Better throughput and higher success rates which imply “substantial gains in student persistence and graduation” (Tinto, 2006:5) may however only truly be achieved when “institutions are able to translate what is known about student retention into forms of action” (Tinto, 2006:5). According to Tinto (2006:6), the first order of institutional action is to differentiate between an understanding of why students drop-out and what institutions can contribute to retain students and help them succeed academically. This is reiterated by the DHET’s (2014:6) observation that student attrition remains a problem despite efforts by higher education institutions to put different student support interventions in place.

Eminent studies’ research indicate factors affecting ODL students’ dropping-out or continuing with their studies, and while they continue to contribute to an enhanced understanding of ODL environments, Tinto (2006:6) cautions that “leaving is not the mirror image of staying [and while] it is one thing to understand why students leave; it is another to know what institutions can do to help students stay and succeed”. It is therefore the premise of this study to first understand the needs and concerns of ODL learners in terms of higher education institutions’ support services and resources in order to understand what may be done by higher education institutions to retain ODL students and decrease their dropout rates. This is reiterated by Makoe and Nsamba’s (2019:133) notion that “determining students’ services from an institutional perspective could render services inadequate because they do not meet students’ needs and expectations. As a result, the services provided are often unresponsive and inappropriate for students’ needs”. This is further emphasised by O’Rourke’s (2009:7) observation that there is often a sense that the institution as provider of distance education is too frequently at the centre, while the students find themselves at the margin. She cautions that institutions should be careful of developing programmes for ODL based on their definition or assumptions of a “typical” ODL student and what is perceived by the institution as “typical” ODL student needs (O’Rourke, 2009:7).

1.7.3 Needs and concerns of ODL pre-service teachers

Within this cohort, student factors (such as academic background, relevant experience, skills and psychological attributes such as grit, resilience and a growth mind-set), environmental factors (such as work commitment, family responsibilities and a supportive environment), and course factors (such as course design, teaching presence and instructional support, and interactions between the module lecturer and the student and the students among themselves) impact the needs and concerns of education ODL students (ContactNorth, 2018:2; Michigan Virtual, 2017;

Sorensen & Donovan, 2017:215; University of Sydney, 2015:16; Rohleder *et al.*, 2008; Crawford, 2006:18-20, 53-56; Wojciechowski & Palmer, 2005:2; Curran, 2001:126-127).

Makoe and Nsamba (2019:133) further emphasise that many students are simply “underprepared and come from poor communities and under-resourced schooling systems that did not prepare them adequately for higher education”, and that without receiving learner support from their institutions, a high number of these ODL students will fail.

O'Rourke (2009:11) also refers to ODL pre-service teachers' learning approaches or learning skills as an impacting factor on their needs and concerns. The ability to construct their own knowledge (Ihlström & Westerlund, 2013:8), take ownership of their learning and develop academic and digital literacy skills required of 21st century learners may further impact the needs and concerns of ODL pre-service teachers. The attitudes of pre-service teachers that receive online education are not only indicators “to estimate their behaviours towards the course” (Özcan, Gökçeşlan & Solmaz, 2016:32). Luckay and Collier-Reed (2012:635) argue that pre-service teachers develop their own implicit theories on teaching upon entering the online learning environments. During the programme, students are exposed to academic theories (expert theories). If a student accepts the explicit theories, they can grow. Cognitive dissonance however impacts on their development as teachers, since pre-service teachers “tend to rely on context to guide their teaching decisions” (Luckay & Collier-Reed, 2012:636). Pre-service teachers that are educated through a behaviourist tradition, in an ODL environment where technology is no more than a distribution platform (Ihlström & Westerlund, 2013:8), where the module lecturer is absent and encouragement of social interaction between the learners in the cohort is limited, are likely to reflect the way they were taught in the way they teach upon graduation (Luckay & Collier-Reed, 2012:636).

Another unique consideration to consider regarding the needs and concerns of education ODL students, pertains to “feelings of isolation and lack of support (technological, academic and/or social)” experienced by pre-service teachers in an online learning environment (Dyment, Downing & Budd, 2013:135). According to Dyment *et al.* (2013:135), these negative experiences contribute to the lower retention rate of pre-service teachers in an ODL environment. According to Bangeni (2003:144), ODL students have an appreciation for interaction with others during their study; “a desire stronger [especially] in the rural areas”. In her study, Bangeni (2003:144) indicates that ODL students value overall participation (the involvement of other learners) more than personal interaction and contribution. Clandinin, Schaefer, Long, Steeves, McKenzie-Robblee, Pinnegar

and Downey (2013:253) note that “recent studies have indicated that a significant number of new teachers leave the profession in their first five years due to feelings of isolation and lack of support”. In addition, Clandinin *et al.* (2013:253) propose that pre-service teachers develop their own professional learning networks (connectivism) during their studies to support them in their future teaching practice. This requires a high level of support to enable student-to-student interaction.

There are also indirect factors that may influence the needs and concerns of ODL pre-service teachers. O’Rourke (2009:6) refers to two “quite different paradigms for ODL that have affected the approach to meeting learning needs. One paradigm is that providing accessible education is a consumer service, operating on market principles that should generate profit for the provider. The other is that providing accessible education for all is essential for sustaining a just society”. To balance these opposing paradigms, regarding cost-effective ODL provision, may be challenging for ODL providers.

Considering that the national household internet usage was reported by the Independent Communications Authority of South Africa (ICASA, 2018:7) at 59.3%, Sarsar and Harmon (2018:68) suggest that education ODL module lecturers should be aware of pre-service teachers’ needs regarding access and the use of technology in education. How these needs are met within an ODL setting can be a challenge, because the continuously growing number of ODL students already place pressure on ODL module lecturers to convey content knowledge and competency, and the development of the computer and digital literacy skills of education ODL students (although paramount to their success in an ODL environment) adds to even more pressure on ODL module lecturers.

Tertiary institutions that continue to focus on technology as a productivity or information-access enhancer, will do so at the expense of using it to revolutionise pedagogy. This may be one of the reasons contributing to the “current disconnect between the potential for technology integration and the tensions surrounding its implementation” (Justus, 2017:10). This discontent implies that, despite the increased pedagogical benefits technological innovation offers, higher education has not yet been transformed by educational technology” (Justus, 2017:10). This is noteworthy because Ndlovu and Lawrence (2012:1) state that despite the South African government’s commitment to ICTs to strengthen teaching and learning, teachers are “still in the phase of using ICTs to merely transmit subject content, rather than utilize the technologies to enhance learning”. Should these practices be mirrored to ODL pre-service teachers, the concern is how the

integration of technology in schools can successfully be achieved as stipulated by government in the Whitepaper on e-Education (DoE, 2004), Guidelines for Teacher Training and Professional Development in ICT (DoE, 2007), the National Development Plan 2030 (RSA, 2012) and the Action Plan 2019: Towards the realisation of schooling by 2030 (DBE, 2015). Furthermore, where the focus is on content and the distribution thereof, learning becomes a passive activity, with ODL students merely learning from existing knowledge. Not only will this be mirrored in pre-service teachers' future teaching practices (Luckay & Collier-Reed, 2012:636), but passive learning in an online learning environment is "proven to cause *boredom* and disengagement among learners" (Ihlström & Westerlund, 2013:8).

Differential access to devices, data and connectivity, as well subsequent unequal opportunities to obtain the computer and digital skills required to operate ICTs, continues to widen the already existent digital divide in South Africa. The digital divide "refers to the gap that exists between those with ready access to information and communication technology (ICT) tools and those without such access or skills to enable access" (Naidoo & Raju, 2012:34). United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2002:7) refers to "paradoxical situations where those who have the greatest need of them: disadvantaged groups, rural communities, illiterate populations, or even entire countries do not have access to the tools which would enable them to become full-fledged members of the knowledge society". The digital divide was made more apparent when the COVID-19 pandemic necessitated emergency remote online learning. The students' access to and use of learning materials survey report 2020 (DHET, 2020:7-10) was administered five months into the national lockdown and reports that: only 58% of the 96% respondents that completed the survey, own laptops; 4% of students who do not own any devices, borrow devices from family members and friends to access and engage with their studies; 20% of the students are unable to charge their devices as needed, while only 50% of the respondents have appropriate network connection. Of the 89% of respondents that indicated that they own a smart phone, half of the students that use "a smart phone for academic purposes" observed that they find it "somewhat to very difficult" (DHET, 2020:7-10).

These are but a few of the factors HEI's must consider when regarding the needs and concerns of South African ODL pre-service teachers.

1.7.4 ODL within the case institution

The case institution's Teaching and Learning Strategy: 2016-2020 is inter alia shaped by "the contextual opportunities and challenges facing the South African higher education system. In terms of teaching and learning, it is particularly important to address challenges relating to the low overall participation rate, with sharp inequalities in terms of race and social class, high attrition and low completion rates, the need for curriculum reform, and poor articulation with other components of the postsecondary system" (NWU, 2016:6-7). In consideration of planning and policy documents, such as the "National Development Plan (2011), the White Paper for Post-School Education and Training (2014), the Policy for the Provision of Distance Education in South African Universities in the Context of an Integrated Post-School System (2014); the Policy Framework on Differentiation in the South African Post-School System (2014) and the draft National Qualifications Framework (NQF Articulation Policy, 2016)" (NWU, 2016:6-7) that signals government's intent to strengthen the contribution that the higher education system makes to national development, the case institution identifies "key initiatives to achieve this goal:

- An increase in the participation rate in public universities to 23% by 2030 from the rate of 19% in 2015.
- Better utilisation of the opportunities provided by open distance learning to expand the higher education system.
- Improvement of student throughput and retention rates, by enhancing the quality of undergraduate education, and strengthening the teaching competence of academic staff.
- Development of an integrated and articulated post-secondary system, in which universities provide appropriate articulation opportunities to students from the technical and vocational education and training (TVET) colleges and other colleges" (NWU, 2016:8).

To better utilise the opportunities provided by ODL to expand the higher education system, the case institution's Teaching and Learning Strategy: 2016-2020 stipulates that under distance education, a "commitment to pursue the ideals of open distance learning as far as possible, in order to enhance accessibility to education and training, by limiting or eliminating barriers such as the time, place and pace of learning" (NWU, 2016:8) is understood. Open distance learning is defined by the Teaching and Learning Strategy as a "delivery mode focusing on enhanced accessibility to education and training, limiting or eliminating barriers such as time, place and pace

of learning [...] promotes open distance learning by allowing students to enrol at any time, though they are subject to specific admission requirements as determined by the Institutional Admissions Committee, fixed dates for the commencement of academic programmes, a minimum and maximum duration for the completion of the programme, and specific assessment opportunities” (NWU, 2016:31).

To provide an increasing number of students access to quality education by means of open distance learning, the case institution established its Unit for Open Distance Learning (UODL) in 2012. Effective and continuous support, and the utilisation of appropriate technology, are efforts by the UODL aimed at eliminating the barriers caused by “time, place and pace of learning” (NWU, 2020).

The Unit for Open Distance Learning is situated on one of the case institution’s campuses and “provides service to approximately 30 000 students”, mainly from the Faculty of Education, Health Sciences, Arts and Theology with “numerous other programmes to be offered through distance learning soon, such as Bachelor of Science in Information Technology (BSc in IT), Bachelor of Business Administration (BBA) and post graduate diplomas in Management and Labour Law” (NWU, 2020). According to the case university’s Profile 2017/2018 report (NWU, 2018:11), more than 25 000 students out of a total of 27 00 students enrolled at the case university’s Unit for Open Distance Learning (UODL), were students enrolled at the Faculty of Education.

According to Classification of Educational Study Matter (CESM) data provided by Strategic Intelligence at the case institution, the enrolment and graduation rate of contact versus distance students at the Faculty of Education, is as follows (cf. Table 1.1):

Table 1.1: Enrolment and graduation rate of contact versus distance students

Contact versus distance enrolments at the case institution in the Faculty of Education		
Attendance mode	2017	2018
Contact Mode	6940	7524
Distance mode	20257	17213
Contact versus distance graduates at the case institution in the Faculty of Education		
Attendance mode	2017	2018
Contact Mode	1754	1876
Distance mode	5953	4620
Contact versus distance graduation rate at the case institution in the Faculty of Education		
Attendance mode	2017	2018
Contact Mode	25.28%	25.91%
Distance mode	29.39%	26.84%

1.7.5 Contextualisation

Subotzky and Prinsloo (2011:179, cited by Mittelmeier, Rogaten, Long, Dalu, Gunter, Prinsloo & Rienties, 2020:19) refer to the notion of clustering the factors that impact on ODL success “at three related levels: individual (academic and attitudinal attributes, access to resources, and other personal characteristics and circumstances), institutional (quality and relevance of academic, non-academic, and administrative services), and supra-institutional (macro-political and socio-economic factors)”. O’Rourke (2009:7) is in agreement and postulates that since “ODL was developed to serve learners who must overcome a range of challenges in order to obtain access to successful learning opportunities and has continued to evolve to meet multiple and more

diverse learning needs” the strategies “for meeting diverse learner needs are situated in materials development, learner support and responsive administration⁵”.

Tinto’s Revised Model of Student Integration (cf. Chapter 2) makes “explicit connections between the academic and social systems of the institution and the individuals who shaped those systems”. The “concept of integration and the patterns of interaction between the student and other members of the institution” (Tinto, 2006:2-3), is central to his model. He bodes the question how to make involvement (engagement, connection, integration) matter and how to make it matter in different settings and for differing students (Tinto, 2006:4).

Tinto’s concept of social and academic integration in enhancing ODL student persistence and retention underpins this study’s focus on student academic and social connection to the institution by studying the multi-layered needs and concerns of students regarding institutional support services and resources.

Tinto’s Revised Model of Student Integration is described as an “interactive model” that is “dynamic in so far as students’ goals and intentions are continuously reshaped through interactions with the university and its academic and social structures” (Schreiber *et al.*, 2014:v). This study is concerned with the needs and concerns of education ODL students and ODL module lecturers relating to the support services and resources that help students engage with the institution, succeed in their studies, and connect with each other.

Considering that

- (a) It is not necessarily interaction and engagement that determine whether students dropout or not, but rather the “perceptions individuals derive from those interactions that underlie student decisions to dropout” and that positive interactions and engagement contribute to student retention (Tinto, 2014:6, 9);

⁵ The term responsiveness is a prominent theme in public administration and refers to “the effort that is made by a government agency to provide helpful, expeditious service to the public” (Friedman, 2009). It refers to the “practice of ensuring that [an organisation, institution or] agency is accessible to clients”, that clients are “served helpfully and responsibly”, that the organisation, institution or agency “interact cooperatively and respectfully with clients” and “involve citizens in policy decision-making” (Friedman, 2009).

- (b) Building meaningful learning experiences in online environments are more challenging in online courses and that academic success in online education requires skills and resources (Tinto, 2014:11);
- (c) Persistence in higher education is linked to networks of affiliation that binds students to each other and to the university and that “[s]tudents who establish such networks, especially during the first-year, are more likely to stay in university than those who are unable to establish those connections” (Tinto, 2014:13), and
- (d) “Mere access to e-learning environments itself is insufficient to produce improved learning and greater educational achievement” (Kafai *et al.*, 2002, cited by Chang, 2004a:330).

The focus will be on incorporating e-academic peer mentoring within an education ODL ecosystem as an alternative (or additional) instructional strategy or approach for improving e-learning effectiveness. It is the premise of this study that developing a multi-tiered e-academic peer mentoring support framework that may be embedded within an education ODL ecosystem may address the ODL education students’ academic and social support needs and concerns.

1.8 Research methodology

1.8.1 Research paradigm

A paradigm can be described as a community of scientists sharing a particular way of thinking about solving the problems in their field (De Vos, Strydom, Fouché & Delport, 2011:41; Fossey, Harvey, Mcdermott & Davidson, 2002:718). According to the paradigm, the (a) philosophical assumptions about the nature of the social reality of what will be explored (ontology), (b) the nature of the knowledge, or how we know what we know, (c) the sources of knowledge and the reliability thereof (epistemology), (d) the value systems, ethics or valuation attributed to what is explored and what the researcher believes to be true (axiology) and (e) what the methods and procedures are that makes the specific exploration possible (methodology), are explored. This study is conceptualised within an interpretive paradigm because the aim is to understand “interpretations of the situation by the participants themselves, to understand their attitudes, behaviours and interactions” (Cohen, Manion & Morrison, 2018:20). In the attempt to uncover and interpret meaning “by seeing the world through the eyes of the participants, rather than as an outsider” (Cohen *et al.*, 2018:20), the researcher takes cognisance not to impose her own assumptions on the study.

1.8.2 Research design

The research design is the strategy utilised to carry out the research. Action research is defined by O'Connor (2017:21) as a “small-scale intervention in the functioning of the real world and a close examination of the effects of such an intervention”. This research originated as a form of self-reflective enquiry (Henry & Kemmis, 1985:1; Kemmis & McTaggart, 1988:5) on the challenges that education ODL students face at the case institution. Pro-active action – a research scenario where an action research problem is sought – allows the design of a study that aims to inform, influence and/or change existing practice (Koshy, Waterman & Koshy, 2011:1). The central theoretical statement that was formulated for this study, is a proactive attempt at conceptualising an intervention to address the ODL education students’ academic and social support needs and concerns.

1.8.3 Research approach

The research approach refers to the plans and the procedures of the research that will enable the research questions to be answered. Qualitative research is defined by Maree (2007:51) as a research methodology concerned with exploring the “why” questions which “underlie behavioural patterns within social and cultural contexts”. The qualitative approach is best when the researcher explores from a personal perspective, since it allows an opportunity to describe, within a naturalistic context, a phenomenon to gain understanding and empirical knowledge thereof.

The limited quantitative data that was obtained by the closed-ended (rating scales, dichotomous and multiple-choice) questions of the online questionnaire was “easier to analyse than data obtained from open [-ended] questions” (Maree, 2007:161). The responses were counted and then analysed by means of descriptive statistics (such as frequency, mean and weighted arithmetic mean $(\bar{x}) = \sum w_i x_i / \sum w_i$) (Kenney & Keeping, 1959:45).

1.8.4 Participant selection

Non-probability sampling was chosen for this study. This allowed the researcher to seek out education ODL students and education ODL module lecturers as the best sources of information for this study (O'Connor, 2017:22). Purposeful sampling is a non-random technique that is neither guided by underlying theories, nor prescriptive regarding a set number of participants. Additionally, education ODL students completing a literacy module (English, Afrikaans, or

Setswana) were selected to complete the online questionnaire. Participation was also not limited to a specific study level or area of specialisation.

Education ODL module lecturers, teaching literacy modules (English, Afrikaans, or Setswana) to the education ODL student participants selected for the study, were deemed the best sources of information required for the study and therefore purposively sought to participate in the study (O'Connor, 2017:22). Education ODL module lecturer participation was not limited to a specific study level and/or area of specialisation.

The academic peer mentor programme at the case institution is directed at on-campus residential students. The faculty specific academic peer mentors keep a monthly record of all their activities and interactions with student mentees. During the national lockdown, the academic peer mentors had to adapt to supporting student mentees (that were used to residential on-campus instruction) online via primarily WhatsApp and emails, video conferencing, as well as phone calls. Since it is an objective of this study to determine how e-academic peer mentors can provide academic and social support to education ODL students and their module lecturer within an education ODL ecosystem to facilitate engagement with the institution, successful completion of disciplinary modules, and connection between students, and the students and the module lecturer in the cohort, the academic peer mentor recordkeeping sheets were included for document analysis in this study.

1.8.5 Data and document collection methods

Questionnaires and document analysis were identified as the best ways to collect data to address the research questions formulated for this study.

1.8.5.1 Online questionnaires

McMillan and Schumacher (2014:5) define the questionnaire as “a written set of questions or statements that is used to assess attitudes, opinions, beliefs, and biographical information”. Using online questionnaires as a method to collect data, provided a practical approach to collect information from a fairly large number of geographically dispersed participants. Two separate questionnaires were developed – one to be completed by education ODL students, and one for education ODL module lecturers. Each questionnaire was developed in Google forms, contained collected data by means of open-ended and closed-ended (rating scales, dichotomous and multiple-choice) questions and consisted of four sections.

Education ODL students were invited via an announcement placed on the case institution's LMS. The invitation also provided a link to the online questionnaire which was made available for a period of two weeks. At the time that the online questionnaire was made available to education ODL students, the education ODL module lecturers for literacy were formally invited by email to participate in the study. The email also included a link to the online questionnaire, for those education ODL module lecturers who opted to participate in the study.

The academic peer mentor recordkeeping sheets, completed monthly by the academic peer mentors, were collected at the end of their appointment term, which runs from February to November. The recordkeeping sheets contain entries that specify among others, the date of the activity, the details of the student mentee, study level, module and faculty, the duration of the activity and the mode by means of which the activity occurred and the content (theme or topic) of the interaction (refer Annexure 3).

1.8.5.2 Document analysis of academic peer mentor monthly recordkeeping sheets

Bowen (2009:27) describes document analysis as an analytical method in qualitative research and a systematic procedure for reviewing and evaluating printed and electronic material. To identify possible patterns related to the support services and resources required by student mentees as the academic year progresses, document analysis was conducted with N=78 academic peer mentors' monthly recordkeeping sheets of academic peer mentor and student mentee activities and interactions (totalling 5 022 data entries) during the 2020 academic year.

1.8.6 Data analysis

Data analysis of the online questionnaires and academic peer mentor monthly recordkeeping sheets were conducted.

1.8.6.1 Online questionnaires

The qualitative data collected by both the Support Services and Resources: Education ODL Student Questionnaire and the Support Services and Resources: Education ODL Module Lecturer Questionnaire was examined and analysed utilizing content and thematic analysis to identify themes. Thematic analysis is considered a systematic approach to data analysis (O'Connor, 2017:27). Usually, it consists of a six-step process: familiarisation, coding, generating themes, reviewing themes, defining, and naming themes and writing up. This systematic approach to data

analysis made it possible to pinpoint and record recurring patterns in the data sets (cf. Chapter 3, point 3.7.1 for a detailed discussion of the analysis of the online questionnaires).

1.8.6.2 Document analysis of academic peer mentor monthly recordkeeping sheets

For the qualitative analysis and interpretation of the data gained by recordkeeping sheet entries, the researcher also relied on thematic analysis, which again supported systematic coding of the entries' data to develop a system of interwoven meanings that can also be visually presented. Confronted with the number of entries on the recordkeeping sheets, it was decided that a finer-grained analysis of the entries was called for. The first layer of analysis involved organising the data into three broad categories, namely engagement with the institution's support services and resources, successful completion of disciplinary modules and social connection between the academic peer mentor and the student mentee.

Once this activity was completed, Bangeni's (2003:182) support framework for distance students (where she highlights need for administrative, academic, and relational support), as well as Chang's (2004b:79) and Fong *et al.*'s. (2012:307) roles and functions of e-mentors (namely administrative, technological, communicative, informative, instructional, and social) were considered. The second layer of the document analysis involved organising the data pertaining to the purpose of the academic peer mentor/mentee interaction or activity, within the three broad categories (namely engagement with the institution's support services and resources, successful completion of disciplinary modules and social connection between the academic peer mentor and the student mentee). The third layer of the document analysis process focused on further refinement of the academic peer mentor purpose to identify eminent patterns and themes pertaining to the nature of the student mentee needs and concerns. Analysis was conducted in this manner to allow for multiple passes through the material before allocating and categorising the topic of the academic peer mentor/mentee activities (what the interaction or activity was about) (cf. Chapter 3, point 3.7.2 for a detailed discussion of the document analysis of the academic peer mentor monthly recordkeeping sheets).

The research is exploratory. Constant comparison, defined as the process "by which the properties and categories across data are compared continuously until no more variation occurs" (Glaser, 1996 cited by Cohen *et al.*, 2018:719), was used to report the core findings of the empirical results. Furthermore, having used multiple methods for data collection made it possible

to view the core findings of the study from at least two different points or resources (Flick, 2004:178).

1.9 Role of the researcher

During the planning stage of the research, questions were identified for the education ODL student and Support Services and Resources: Education ODL Module Lecturer Questionnaires which were then structured into sections pertaining to the research questions of the study. The questionnaires were prepared in Google forms and arrangements were made for participants to be invited and linked to the questionnaires. The participant responses to the questionnaire were downloaded to spreadsheets for analysis.

The academic peer mentor monthly recordkeeping sheets were collected, and the entries contained within them, transferred to a spreadsheet for analysis.

All the data for analysis were coded manually to draft conclusions. These conclusions enabled the development of a multi-tiered e-academic peer mentoring support framework within an education ODL ecosystem to address the ODL education students' academic support needs and concerns arising from the study.

1.10 Trustworthiness of the data

Qualitative research has to answer to the concepts of validity (if the explanations are true, accurate and correctly captured in order to show what actually is happening), reliability (if the results are consistent across investigations by different investigators in different circumstances) (Gibbs, 2007:91), credibility (an evaluation of whether the research findings is a true representation of the data collected from participants) (Korstjens & Moser, 2018:121), dependability (assessment of the quality of the integrated processes of data collection, data analysis and theory generation) (O'Connor, 2017:28), transferability (the degree to which the findings of the study can be transferred beyond the bounds of the project and the "stability of findings over time") (Jensen, 2008:886; Korstjens & Moser, 2018:121) and confirmability (the extent to which the findings of the research are supported by the data collected and confirmed by other researchers) (Korstjens & Moser, 2018:121).

Researcher error relating to accuracy of description and inferred meanings and omissions of data distorts analysis. To establish trustworthiness of the data, the findings were reported using the participants' descriptions where possible to illustrate how the study is grounded in the data

collected. The consistent use of codes was checked and re-checked. The researcher attempted accuracy of her description by data saturation and comprehensive sampling where applicable, as well as verifying her conclusions with that of other researchers (Bastalich, 2020).

To limit erroneous reporting of findings, analysis of the data was continuously subjected to continuous control and quality assurance, especially after data collection and entry. This allowed the opportunity “to monitor and maintain the quality of the data during the study” (DataONE, 2012). To further enhance trustworthiness, constant comparison (Cohen, *et al.*, 2018:719) was employed to present and discuss the data collected utilizing multiple methods to ensure the consistency of findings (Creswell, 2014:201).

1.11 Ethical considerations

As per institutional requirement, research at the case institution may not be conducted without Research Data Gatekeeper Committee (RDGC) approval and ethical clearance certificate (cf. Annexure 6) and an ethics and RDGC reference number. The RDGC granted permission for the study to be conducted at the case institution, and ethics and RDGC reference numbers were allocated to the study. In compliance with the Promotion of Access to Information Act 2 of 2000 (PAIA) and the Protection of Personal Information Act 4 of 2013 (POPI), no information was gathered that may lead to the identification of any participants. Where such information occurred in the recordkeeping entries made by academic peer mentors, it was immediately removed and a unique number allocated to the entry.

Participants could not access the various questionnaires without their informed consent, which also indicated that they understood the purpose of the study and the procedure for collecting the data. Invitations to partake in the study made it clear that participation is strictly voluntary and of their own volition and that choosing not to participate will in no way influence them. Decisions by those opting not to participate in the study, were respected and accepted.

1. 12 Chapter division

Chapter 1: Introduction and background to the study

This chapter outlines the research background on the institution’s support and services needs and concerns of ODL students and its effect on student drop-out against the backdrop of Tinto’s Revised Model of Student Integration. This is followed by formulating the central theoretical statement of the study and identifying the purpose and research questions relating to the study.

The chapter continues by contextualising ODL at the case institution and concludes with a summary of the methodology and methods of the study.

Chapter 2: Literature review: Learning ecosystems and mentoring

This chapter begins with Tinto's insights into the processes involved in supporting student academic success. The literature review that follows, focuses on e-mentoring support in ODL ecosystems. The chapter identifies the components pertaining to e-mentoring support frameworks in ODL ecosystems and concludes with an outline of e-mentors as intermediaries within the ODL ecosystem to support ODL students and their module lecturers.

Chapter 3: Research design and methodology

Chapter 3 focuses on the empirical research process of the study and offers an account of how the planning, conduct, validation and evaluation of the research within the methodological and ethical parameters relating to the study were approached. A description of the research paradigm from which the investigation was planned and conducted, is followed by explaining the research design and approach chosen to address the research questions. This chapter also contains the practicalities of the research to detail the rationale behind the choice of online questionnaires and document analysis, the qualitative instruments for the investigation, data analysis techniques, a description of the study population, and data gathering ethics.

Chapter 4: Presentation, discussion and interpretation of empirical results

This chapter presents, discusses, and interprets the core findings derived from the methods applied to gather and analyse the data. The chapter is divided into three sections. Part 1 presents, discusses, and interprets Support Services and Resources: Education ODL student Questionnaire findings. Part 2 presents, discusses, and interprets the findings of the Support Services and Resources: Education ODL module lecturer Questionnaire and Part 3 presents, discusses, and interprets the findings of the document analysis of the academic peer mentor recordkeeping sheets. Findings are grounded in scholarly literature, and the results of the empirical findings are compared to offer corroborating evidence from different points of view and resources.

Chapter 5: Conceptualising a multi-tiered e-academic peer mentoring support framework within an education ODL ecosystem

This chapter utilises the core findings derived from the methods applied to gather and analyse the data for the study and the literature review to conceptualise a multi-tiered e-academic peer mentoring support framework that may be embedded within an education ODL ecosystem to address ODL education students' academic and social support needs and concerns. This chapter illustrates how the envisioned multi-tiered e-academic peer mentoring support framework's aims and objectives are situated in Tinto's Revised Model of Student Integration. E-academic peer mentoring support is visualised as it pertains to the education ODL ecosystem. A visual blueprint of the envisioned support framework is provided, followed by a detailed description of the various support framework components depicted in the blueprint.

Chapter 6: Summary of results, areas of further study, recommendations and conclusion

This chapter focuses on the core findings of this study concerning the research questions to establish whether the study's objectives were achieved. The study's contribution is summarised, the limitations of the study addressed, and areas for future research highlighted before the chapter closes with concluding remarks.

CHAPTER 2 LITERATURE REVIEW: LEARNING ECOSYSTEMS AND MENTORING

2.1 Introduction

Chapter 2 provides a review of the scholarly literature related to learning ecosystems and mentoring. The various components about e-mentoring support within an ODL ecosystem follows. The chapter concludes with an overview of how mentors can function as intermediaries within the ODL ecosystem. Tinto's Revised Model of Student Integration provides the theoretical grounding to ensure that the envisioned support framework of this study, addresses ODL education students' academic and social support needs and concerns.

2.2 Tinto's Revised Model of Student Integration

Tinto's Revised Model of Student Integration provides practical insights into institutional structures and systems and the "decisions and actions that we can take to change institutional structures and systems" to change students' HEI-related experiences and outcomes (Perna, 2014:30). "Tinto's insights are derived from a theoretically-grounded understanding of the processes that produce college student success. As Tinto notes, the theory provides an underlying explanation for student behaviours and why particular policies, programmes and practices influence college student success" (Perna, 2014:30). Because Tinto's scholarship is theoretically grounded, it is also relevant in studying HEI student success in South Africa (Perna, 2014:30).

Student dropout and retention are presently recognised as problems "concerning both learners and institutions" (Aydin *et al.*, 2019:41; Tinto, 2006:2). Tinto (2017:254-255) emphasises that although the interests of the institution and the students are not the same, there are factors within the "capacity of the institution to influence". Tinto refers to "patterns of action that distinguish those universities that have improved their completion rates, especially among low-income students, and those that have not" (Tinto, 2014:5). He summarised what he has learned during the 40 years he has endeavoured to improve student success, in three lessons.

The first lesson to improve student success is that providing students access without *support* is not an opportunity (Tinto, 2014:6). The opportunity to enrol for HE should include longitudinal academic, financial, and social support to students as they progress to degree completion (Perna: 2014:31). In the second lesson Tinto (2014:6) suggested to improve student success, it is

essential that “the classroom experience is central to student success”. He poignantly reminds us that “the object of our work is not simply that students are retained, but that they learn while being retained. Student learning is the object of our work; retention is only the vehicle through which it occurs” (Tinto, 2014:6). Instead of focusing on degree completion, the “future economic and social well-being” resulting from learning (Perna, 2014:31) pertains specifically to South Africa as a developing country. In this regard, Tinto (2014:17-21) again refers to appropriate *learning supports* and “adopting pedagogical practices that actively engage students in learning” (Perna, 2014:31). Tinto’s third lesson Tinto highlights that good intention alone will not ensure student academic success and retention. According to Tinto (2014:6) student success “requires an intentional, structured and coherent set of policies and actions that coordinate the work of many programmes and people across campus; actions that are sustained and scaled up over time and to which resources are allocated”. In this regard, Perna (2014:32) refers to identifying and implementing “strategies for intentionally and systematically” achieving student success as a goal.

While keeping Tinto’s Revised Model of Student Integration and these lessons in mind, reference can also be made to Peters, Crawley and Brindley (2017:15): “While most post-secondary institutions have rushed to increase access to a more diverse student population by offering online courses and programs, many fewer have *re-designed* their student services for online accessibility. Consequently, many learners who are under-prepared and lack the skills to tackle the demands of online learning are left with minimal or *no support outside of teaching*, and online faculty are without referral points for online students who are struggling and unable to access campus-based services”.

This study, therefore, surmises that a multi-tiered e-academic peer mentoring support framework within an education ODL ecosystem may address the ODL education students’ academic and social support needs and concerns and therefore (a) may be considered as an action “that we can take to change institutional structures and systems” to change students’ HEI-related experiences and outcomes (Perna, 2014:30) and (b) that HEI that offer ODL, can re-design their ODL support services and resources to incorporate peer support.

2.3 Ecosystems

Ecosystems are natural occurrences in nature. Van de Heyde and Siebrits (2019:79) and Chang and Guetl (2007:241) view an ecosystem as a biological community or group of living organisms that live and interact with each other and with their physical environment. The components to the

ecosystem encompass biotic (biocenosis) and abiotic (biotope) components. These components are in an ecological relationship where the living organisms in the ecosystem are in a state of interdependence, while in a complex relationship with the physical environment.

Ecological relationships ensure that there is a balance between the biotic and abiotic components in the ecosystem. These relationships also contribute to the stability of the ecosystem because each member mutually supports the continued existence of the other members and the system itself (Van de Heyde & Siebrits, 2019:79). In such a state, the ecosystem thrives, implying that the organisms meet their core functions, in a physical environment suitable to carry out these functions.

The living organisms that interact with their environment constantly transform their physical environment, implying that the ecosystem is continuously evolving. When a natural phenomenon occurs, the physical environment changes, and the ecosystem's living organisms adapt to the constraints, and change. How does this apply to ODL? Using a biological metaphor “emphasise[s] themes of adaptability and evolution – [which are] necessary key features in the field of emerging learning technologies” (Van de Heyde & Siebrits, 2019:79).

2.3.1 Learning ecosystems

Learning, in terms of an ecosystem, can be described as an opportunity where the members of a learning community “benefit from each other's participation via symbiotic relationships” (Brindley, Blaschke & Walti, 2009:3). Uden, Wangsa and Damiani, (2007:114) translate e-learning as a “digital environment populated by a digital species which, like living species, interact, express an independent behaviour, and evolve”. However, for a learning ecosystem that has as its goal “to be a place for all types of learning to happen” (Benedicks, 2018), an understanding of e-learning modalities as enablers of, or barriers to, establishing learning ecosystems may be considered.

2.3.1.1 E-learning modalities

Van de Heyde and Siebrits (2019) define e-learning in an academic context as “the use of time- and space-independent application(s) designed to deliver multimedia content, such as assessments, discussions and communications to both academics and students” supported by “learning management systems (LMS) [and] other stand-alone software applications, or both in combination”. Associated with e-learning are four e-learning modalities: offline individualised self-paced e-learning, online individualised self-paced e-learning, synchronous group-based e-

learning and asynchronous group-based e-learning (Baraka, 2012:11). In the first two e-learning modalities (online and offline individualised, self-paced e-learning), students learn by themselves and at their own pace. In these two modalities, the only interaction occurs between the student and the learning resources. In these two modalities a lack of a sense of a learning community can be experienced by the students. This may be attributed to the passive nature of the interaction and is especially true in online learning environments where technology is no more than a distribution platform which “often limits the student to static folders with content to be downloaded” (Ihlström & Westerlund, 2013:8). A good example is the use of a LMS as a distribution platform for content.

Where there is a focus on technology as productivity or information-access enhancer, a strong lecturer presence or “the effort and activity around the design, facilitation, and direction of cognitive and social processes in learning communities for the purpose of realizing personally meaningful and educationally worthwhile learning” (Vaughan, Clampitt & Park, 2016:2), is absent. Referring to the Institutional Operating Plan (IOP) 2016-2020 White Paper University of the Western Cape (UWC), Van der Heyde and Siebrits (2019:79) quote as follows: “the use of technologies must be underpinned by pedagogical rationales which draw on their potential to transform learning and teaching, especially by facilitating the active participation of students”.

In contrast to learning in the first two e-learning modalities, where there is only the transmission of knowledge from the teacher to the student, the third and fourth e-learning modalities defined by Baraka (2012:11) as synchronous group-based e-learning and asynchronous group-based e-learning, are characterised by an active coordinated effort where students share learning resources, collaborate to complete tasks, exchange knowledge, solve problems and construct meaning. In these e-learning modalities the lecturer’s presence is enhanced and the “participants become meta-cognitively aware and are encouraged to assume increasing responsibility and control of their learning” (Vaughan *et al.*, 2016:3-6).

Learning becomes interactive and is characterised by student engagement, participation and collaboration with peers and the module lecturer (Baraka, 2012:11). This is in line with the philosophical view of the constructivist learning theory that we learn and construct new knowledge “through our interaction with the environment, through real-life experiences and social interaction” (Ihlström & Westerlund, 2013:6). This implies “a shift in the balance of agency from teacher to student” (Peters & Romero, 2019:1731). The roles and responsibilities of the lecturer are shared by the participants who “can potentially lead to the creation of a learning-centred environment in

which everyone – not just the teacher [module lecturer] – contributes to one another’s growth and development” (Vaughan *et al.*, 2016:3-6). Learning now occurs in a learning community where all stakeholders are responsible for academic achievement (Chang, 2004b:75-76). This is echoed in Chang and Guetl’s (2007:241) description of the biotic units in the learning ecosystem as the learning community and its stakeholders (such as teachers or module lecturers, tutors, instructional designers, content providers, pedagogical experts, and students or learners).

2.3.1.2 Biotic units in the ODL ecosystem

Peters and Romero (2019:1732) refer to the components or biotic units in the learning ecosystem as “a set of contexts found in physical or virtual spaces that provide opportunities for learning”. Each set of contexts “is comprised of a unique configuration of activities, material resources, relationships, and the interactions that emerge from them” (Peters & Romero, 2019:1732). One unit is not more important than the other, but rather interact and relate. In agreement with Van de Heyde and Siebrits’ (2019:79) notion of mutual support within the system to ensure continued existence, (Patterson, 2004:63, 65) reiterates that an organism or unit must also be able to “adapt to” or “modify its environment and its community in a cooperative manner” and that “mutualism” or “cooperation for mutual benefit” has survival value: “survival of the fitting, not just the survival of the fittest” (Morgan, 1986:69-70, cited by Patterson, 2004:65).

The learning ecosystem also incorporates abiotic units, namely the (a) learning processes and learning utilities (such as learning media or content and pedagogical aspects, technology, and tools applied in traditional teaching methods), and (b) the learning environment.

Van de Heyde and Siebrits (2019:79-80) envision the biotic units or components of the ODL ecosystem as follows (cf. Figure 2.1):

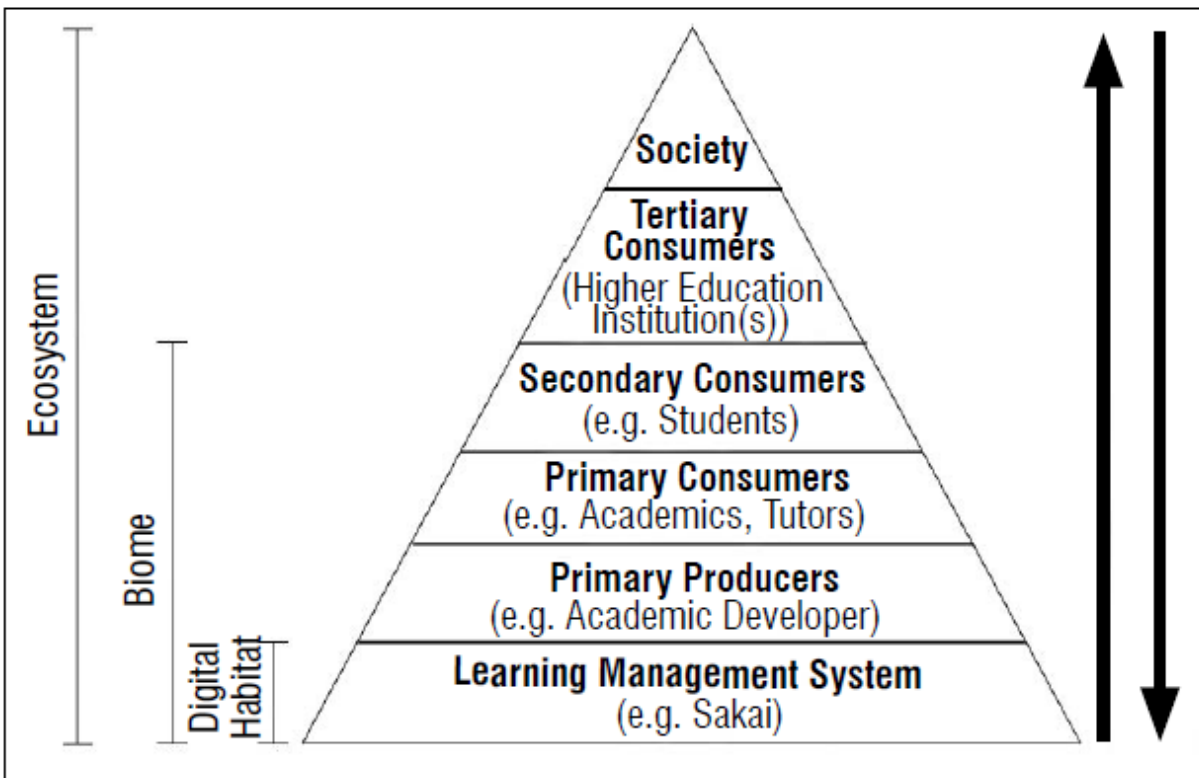


Figure 2.1: Biotic units of an ODL ecosystem

2.3.1.3 ODL ecosystem habitat

The ODL ecosystem encompasses a “combination of technologies and support resources available to help individuals learn within an environment” (Kelly, 2013, 18 Nov.). According to Van de Heyde and Siebrits (2019:82), the secondary (and in some cases also the primary) consumers of the ODL ecosystem “prefer an interactive and engaging experience and expect flexible and secure IT tools, systems and spaces to be available to them inside and outside the classroom”.

Within the ODL ecosystem, technology creates a habitat where individuals connect and access learning resources. In other words, the habitat of the ODL ecosystem is the available technology that becomes the place for a community to be experienced by learners. Van de Heyde and Siebrits (2019:80) agree that “community habitats include technology-based connections and places”. Chang (2004b:76) postulates that “building online learning communities is an effective instructional strategy to achieve learning outcomes”.

To establish stability within the digital learning ecosystem for all its organisms or members to thrive, support is needed to ensure balance “between the digital habitat and the rest of the biome” (Van de Heyde & Siebrits, 2019:82).

The primary producers (instructional designers) support the primary consumers (module lecturers) to translate pedagogy into ePedagogy (Van de Heyde & Siebrits, 2019:82) by empowering them to make effective use of the e-tools provided within the digital habitat. Where the institution’s LMS is the habitat of the ODL ecosystem, and the primary consumers are not supported, the e-tools made available by the LMS to enhance teaching and learning, may be underutilised by and/or not aligned with the learning and teaching methodology of the primary consumers (module lecturers). The same applies to the secondary consumers - if they have no or limited knowledge of computers, Internet technology, the e-tools made available by the institution’s LMS, or the ability to navigate the institution’s LMS effectively, the learning community may suffer.

However, “successful online learning demands much more of students than understanding how to navigate a learning management system (LMS)” (Peters *et al.*, 2017:2). Brindley (2014, cited by Peters *et al.*, 2017:2) states that “[h]elping students become autonomous self-regulated learners requires an explicit effort on the part of institutions to both understand the challenges presented by online learning and how they can help students develop the skills to meet them.” In other words, the ability of students to use technology (computer skills) to meet core functions in the ODL ecosystem, does not imply the necessary digital literacy skills required to carry out these functions.

Digital literacy is defined by Gilster (1997:1-2) as “the ability to understand and use information in multiple formats from a wide variety of sources when it is presented via computers”. Digital literacy comprises seven elements: ICT literacy, communication and collaboration, media literacy, information literacy, learning skills, digital scholarship and career and identity management (JISC, 2014).

When students enter the ODL ecosystem, they do so with a wide range of digital capabilities and varying degrees of confidence in using technology. However, even those students who are “confident and proficient users of social and digital media in their personal lives, need support using digital technologies effectively for learning” (JISC, 2014). ICT literacy will enable ODL students to adapt to the use of digital devices and applications.

Communication and collaboration in the ODL ecosystem imply the active use of synchronous and asynchronous tools made available by the digital habitat to establish engagement and interaction between the consumers of the ODL ecosystem.

Access to multimedia course material via the ODL ecosystem habitat may also be possible. Although multimedia provides a creative way to convey information, it implies critical “reading” or media literacy skills. Media literacy skills are also required by ODL students when the module lecturer requires video or other multi-media format assignments.

ODL students may be required to find additional academic resources outside of the ODL ecosystem habitat for their assignments. This process implies information literacy skills to include, for instance, accessing the institutional library’s digital resources or the Internet to locate information. The information that is available in various formats needs to be evaluated (implying decision-making skills), organised (implying problem-solving skills), used, and communicated (acquisition of knowledge). Information literacy skills further include understanding scholarly behaviour relating to academic integrity (for instance paraphrasing and referencing sources).

Being able to learn (study or acquire knowledge) effectively in ODL environments, implies specific learning skills, and ODL students need to adapt their existing study preferences to an ODL environment.

Peters and Romero (2019:1732) point out that the “majority of adult learning (75-80%) is social in nature and occurs informally”. Within the ODL ecosystem, technology creates a habitat where individuals connect and experience community. To capitalise on this, Siemens’ concept of connectivism is noteworthy. Connectivism is “a pedagogical approach that affords learners the ability to connect to each other via social networking or collaboration tools” (Baraka, 2012:20). Siemens’ viewpoint (Siemens, 2005) is that online learners seek and construct knowledge through interaction and dialogue. Against the backdrop of connectivism, Brindley *et al.* (2009:4) view group connectivity and learner-learner interaction as a four-stage continuum that includes (a) communication (learners talking and discussion), (b) collaboration (learners working together and sharing ideas and resources), (c) cooperation (learners “doing things together, but each with his or her own purpose”), and (d) community (learners with a common purpose). This enables students to acquire the skills to participate in future learning communities of common interest, social networks and group tasks (Baraka, 2012:20-21). This is linked to digital scholarship and career and identity management, which also has elements of digital literacies.

An understanding of the specialised nodes of “connected learning” or the information sources that are retrieved from “self, others and machines”, to create knowledge (Brindley *et al.*, 2009:3), may ensure that once ODL students enter the workplace, they understand that nurturing and maintaining these connections, allow new information to be continuously accessed and acquired. Such connections may contribute to future communities of practice or “emerging, evolving, and self-reproducing entities, which are distinct from and often extend beyond organizational structures, and have their own methods of organization, norms of behaviour, communication channels and history” (Ruane & Lee, 2016:83). Furthermore, the decision-making skills implied by an individual’s ability to distinguish between important and unimportant information (Siemens, 2005) and the ability to “see connections between fields, ideas and concepts” that is needed for learning (Baraka, 2012:21), may be established by developing the digital literacy skills of ODL students within the learning ecosystem.

Peters *et al.* (2017:2) emphasise the need for the support of ODL students in the ODL ecosystem: “It can be argued that the deliberate attention to providing support is even more critical to the success of online students than those on campus because of their greater diversity, greater need for self-management and technical self-efficacy, information literacy and the potentially isolating impact of the online learning environment”. To provide support, Vaughan *et al.* (2016) suggest that “peer mentoring support can help pre-service education students become more connected to the institution and their academic studies”.

2.4 Mentoring

A mentor is a person who helps another person to achieve something essential to them in a “learning relationship between two people in which the human qualities of trust, commitment, and emotional engagement are ever present” (Eleyan & Eleyan, 2011). According to Eleyan and Eleyan (2011), “[m]entoring is concerned with creating an informal environment in which one person [is] carefully encouraged discussing their needs and circumstances openly and in confidence with another person”.

Parsloe (University of Reading, 2020), describes mentoring as a process “to support and encourage people to manage their own learning in order that they may maximize their potential, develop their skills, improve their performance and become the person they want to be”. This process positions the mentored individual to manage their own learning, maximize their potential, develop their skills, improve their performance, ease through difficult transitions, build self-

confidence and self-esteem and progress to self-advocacy. This implies that the mentee's responsibility lies in growing and developing (University of Reading, 2020). Mentoring traditionally takes place in pairs consisting of an experienced individual transmitting knowledge to a less experienced colleague (Tynjälä, Pennanen, Markkanen, & Heikkinen, 2019:1) in a non-threatening, informal and non-directive manner (Thompson, Jeffries & Topping, 2010:311).

Considering the various descriptions of mentoring referred to in literature, it can be surmised that a mentor acts as a role model for another individual. The person acting as the mentor, is typically older or has more experience in the given field. Mentors enable mentees to complete tasks, reach goals, and adjust to new situations. Action words associated with mentors are enable, direct, empower, reassure, instruct, guide, help, and support.

2.4.1 E-mentoring

E-mentoring is also referred to as online mentoring, tele-mentoring, virtual mentoring, remote mentoring, and cyber mentoring (Thompson *et al.*, 2010:305). Thompson *et al.* (2010:205) define e-mentoring as “a relationship that is established between a more senior and/or experienced individual (mentor) and a lesser skilled or experienced individual (mentee or protégé), primarily using electronic communications, and is intended to develop and grow the skills, knowledge, confidence, and cultural understanding of the protégé to help him or her succeed”. Therefore, there must be mentee participation or involvement for e-mentoring to succeed (Eleyan & Eleyan, 2011). E-mentoring is different from advising, in the sense that mentoring is focused on creating a shared community where the sense of “we” is emphasised and developing ties are encouraged.

E-mentoring is useful where the mentor and the mentee do not find themselves in the same location and happens where the mentor and the mentee engage in and maintain a relationship by making use of online or social media and Internet technologies, for example WhatsApp, email, discussion boards, chat rooms, blogs, and Web-based video conferencing tools. Maintaining a nurturing relationship based on these communication technologies imply that “ICT literacy is one of the most important parts of an electronic mentoring relationship in any context, as participants in an e-mentoring process need to actively engage with different synchronous and asynchronous communication tools” (Tanis & Barker, 2017:138).

What makes e-mentoring invaluable, is that it “adds a human element” to online learning environments (Homitz & Berge, 2008:329).

2.5 E-mentoring support

Tynjälä *et al.* (2019:6) identify three interplaying and iterative components of successful e-mentoring support programmes, namely an administrative component (relating to institutional or organisational support), a social component (relating to interaction in the group and the attributes of the mentor and the group) and a methodological component (pertaining to how the group operates and what is done during mentoring sessions). Since these components do not function in isolation from one another, or in a linear manner, how the mentoring group operates and what is expected of the e-academic peer mentors during mentoring sessions (methodological component), for instance, relate to the interactions in the group and the attributes of the mentors and mentees (social components) and the other way around.

2.5.1 Factors associated with the administrative component

The roles and responsibilities of the stakeholders direct their involvement in the administrative component of e-mentoring support. Typical elements pertaining to the administrative component of e-mentoring support may, for instance, pertain to the recruitment, selection and appointment of mentors, their training (Williams & Kim, 2011:89; Muldoon, 2008:208), compensation and determining the mentor/mentee ratio (Mullinix, 2002:2-4).

Buy-in from stakeholders is critical to sustaining an e-mentoring support programme. The evidence collected by e-mentors on their activities and interactions with mentees can evaluate the e-mentoring programme. Because “the perceived benefits of mentoring programs relate to student well-being and academic success” (Fornari, Murray, Menzin, Woo, Clifton, Lombardi & Shelov, 2014), evaluation of these programs is often based on mentor and mentee satisfaction. However, evaluation may also include the mentee’s “perceived impact of the mentoring program” (Fornari *et al.*, 2014).

Chang (2004b:82) agrees that mentee feedback can be used to evaluate the e-mentors’ effectiveness in terms of “reasonable response time, valuable help, consistent feedback, comfortable relationship and recommendable work”.

2.5.2 Social factors

Mentee and e-mentee attributes, as well as group interaction, contribute to the success of e-mentoring support programmes.

2.5.2.1 Mentee attributes

Diverse ODL students enter the ODL ecosystem with various abilities, as well as varying degrees of confidence relating to the efficacies and skills required to succeed in an ODL environment (such as technology and digital literacy, work and study habits, learning style, time management, self-management, interest, motivation, reading and writing literacy) (Michigan Virtual, 2017; Peters *et al.*, 2017:2).

To understand the attributes of the mentees (ODL students) in the group, a readiness for ODL-rubric or needs survey, relating to ODL students' confidence in starting the course, adjusting to Higher Education and ODL, time management and communication skills, independent study habits, self-motivation, academic readiness and technological, digital and literacy skills may be considered (Michigan Virtual, 2017). In the case of this study, data collection via questionnaires and document analysis aimed to address the needs and concerns of education ODL students. Collecting data ensures that e-mentoring support programmes address the actual (not assumed) needs of ODL students.

2.5.2.2 E-mentor attributes

It is easier to build a relationship with or be inspired by someone who experienced what you are experiencing and succeeded. Therefore, recruiting e-mentors that can place themselves, figuratively speaking, in the shoes of ODL students, is essential. Senior students that have successfully completed the course may be more effective e-mentors since they have walked a mile in the shoes of the ODL students they will support and advocate for.

To be able to provide timely support to ODL students, e-mentors will be expected to apply certain skills (such as active listening skills, the ability to use a wide range of question techniques and positive and constructive responses) (Eleyan & Eleyan, 2011), and skills to function effectively in ODL ecosystems. These skills are especially prevalent to an ODL environment where discourse lacks social cues or “the social and non-verbal richness of face-to-face interaction” (Thompson, 2010:306).

Thompson (2010:306) organises e-mentors' skills into three categories:

- “Consulting and counselling: Listening, questioning, clarification, exemplification, summarizing, informing, challenging, giving feedback regarding aspirations, goals, methods, processes, systems, effects, reality checking, hidden agendas, unforeseen outcomes.
- Socio-emotional support: personal interest, empathy encouragement, support, praise, sustain confidence/morale, model steps to achievement, model coping, socialization into new culture.
- Goal setting and problem-solving: Identification of opportunities and problems, goals and timescales, brainstorm, consider, select, facilitate onward actions, [and] evaluate problem solution and goal attainment”.

To be able to support online students and bring a human aspect into the online world, the availability of the academic peer mentor, his or her ability to listen and not judge or evaluate the mentee, empathy, excellent verbal and written interpersonal, communication skills, conflict management and problem solving skills, the ability to function in a culturally diverse environment (Terrion & Leonard, 2007:152, 156, 159, 161), self-efficacy (Holt & Fifer, 2018:71) and technology skills (Rowland, 2012:231-232), are generally considered pre-requisites for effective mentors.

ODL students are diverse relating to age, background, and experience, implying that e-mentors must be enabled to facilitate intergenerational mentoring (Hatton-Yeo & Telfer, 2008:9). However, the skills, traits, and characteristics that e-mentors possess, will allow them to be critical partners in the biome’s biotic unit-team that consists of the primary producers (academic developers), primary consumers (module lecturers) and secondary consumers (ODL students).

2.5.2.3 Interaction in the group

There are various mentoring models to (a) *describe* the various mentoring relationships that can be established between mentors and mentees and (b) *guide the process* of mentoring within the particular mentoring relationship. The model or models chosen for the mentoring programme, depend on the dynamics of the institution or organisation where the mentoring will take place and the strategic goals of the mentoring programme. The chosen mentoring model provides the functional platform according to which mentor/mentee activities will take place. Tynjälä *et al.* (2019:4) warn that “regardless of whatever [mentoring] model is used, maintaining mentoring activities requires well-defined structures, coordination, and management”.

2.5.2.3.1 One-on-one mentoring

One-on-one mentoring (also referred to as dyads), is a top-down model where one senior mentor traditionally guides one junior mentee in a formal or informal relationship, according to a pre-assigned pairing or mentee self-selection of the mentor. The relationship between the mentor and mentee can span over decades or last for a limited period of time. One-on-one mentoring makes more personal discussions possible, while group mentoring allows a larger variety of different perspectives and new ideas to be shared. In a one-on-one mentoring model, the lack of mentors may constitute a challenge for mentees (Tynjälä *et al.*, 2019:4)

2.5.2.3.2 Panel or committee mentoring

Panel or committee mentoring (also referred to as multiple mentoring) implies that a junior individual within an organisation or institution, is assigned a panel of up to five mentors. This positions the mentee to access guidance from several experienced mentors with different roles within the institution – each with their perspectives and expertise (De Janasz & Sullivan, 2004:263-283). Closely related to multiple mentoring, is the concept of mentoring networks (also referred to as a constellation of mentors) that implies that “consideration is given to strategically establishing a diverse network of mentors (formal and informal) who may be drawn from many places (internal and external) and who serve in different roles so that multiple mentee needs are met. A functional mentoring relationship is based on a specific project or assignment where the mentee finds a mentor to support specific skills acquisition by the mentee (Michigan State University, 2021; Sorcinelli & Yun, 2007).

2.5.2.3.3 Peer mentoring

Peer mentoring usually takes place in a group setting and takes place where individuals at the same level of training or expertise are typically around the same age, share experiences, gain feedback from each other, and corroborate on projects or assignments. The peer mentor is recognised as an equal member of the group which encourages the individuals being mentored to feel safe and comfortable to open up and share challenges and ask questions (Tynjälä *et al.*, 2019:6). In such a setting, relationships among diverse individuals are fostered and camaraderie among the members of a community may develop (Jacelon, Zucker, Staccarini & Henneman, 2003:335-338).

A peer mentor can act as a friend, coach, companion, supporter, advisor, role model, and a person to talk to. Peer support groups are an example of peer mentoring. The added benefit of peer mentoring is that while the peer mentor is responsible for supporting others in, for instance, a social or academic setting, the peer mentor develops leadership skills. In such a setting, the fact that the mentor is consistently available. Furthermore, the mentor's attitude, connectedness, and motivations reflect positively in the adjustment and development of the mentee. Peer mentoring can be done one-on-one or within groups, in either face-to-face or virtual settings.

2.5.2.3.4 Group mentoring

Group mentoring requires a more senior person to engage with several junior individuals in a group setting. Group mentoring typically involves engaging in conversation to share tips, experiences and ideas in homogeneous or heterogeneous groups. Tynjälä *et al.* (2019:4) postulate that “sharing ideas seems to be easier in a heterogeneous group, whereas the development of sense of belonging takes less time in homogeneous groups”. However, notwithstanding the composition of the group, group-settings allow mentees to not only learn from the mentor, but also from each other. Group mentoring allows mentees to establish personal networks which, in the case of pre-service teachers contribute to future communities of practice or the ability to ask for help should they be confronted with challenges in the classroom.

Groups do not happen overnight and the relationship between the mentor and the mentees is not as close as in a one-on-one mentoring setting. In group mentoring the group usually has more input regarding the mentoring activities and structuring and organising the meetings. This involves the mentor facilitating a discussion in which the group decides at what time meetings shall take place for synchronous discussion, collaboratively lay down the ground rules for the group, and decide upon the themes for discussion and the order in which they need to be discussed (Tynjälä *et al.*, 2019:6).

Within an education context, the Finnish model of group mentoring is an exemplary example of peer-group mentoring that is “based on the constructivist theory of learning, the concept of autonomy in the teaching profession, peer learning, and narrative identity work” (Tynjälä *et al.*, 2019:2). In this model, the group typically has between four to eight members and meet once a month to discuss their “everyday work and work-related challenges” (Tynjälä *et al.*, 2019:2). The discussions are facilitated by a trained mentor (in the case of the Finnish model, an experienced teacher) and centred around establishing communities of practice, sharing knowledge and

experience to learn from each other (including sharing emotions related to challenging situations), developing skills and increasing the well-being, self-confidence and self-efficacy of newly qualified teachers as they enter the teaching profession.

2.5.3 Methodological component

The methodological component of e-mentoring support pertains to how mentoring operates within the support programme and what is done during mentoring sessions, in other words the modus operandi of mentoring within the support programme. These are important issues to consider since a lack of mentee engagement can be expected where clear goals and outcomes for the mentors and mentees have not been established and where there is no clear idea of the sessions to be incorporated in the mentoring scheme (Higher Education Academy, 2017:52). Furthermore, “[m]entoring programs and relationships designed to satisfy mentees’ needs and goals increase their probability of success by providing the right type of mentoring at the right time” (Dominguez & Hager, 2013:183).

2.5.3.1 Theoretical frameworks that organise mentoring

To allow for a more informed idea of how e-mentoring sessions can operate and what is to be done or achieved during mentoring sessions, one may refer to three primary theoretical frameworks for organising mentoring: developmental, learning and social theoretical frameworks (Domingues & Hager, 2013:172). According to Kivunja (2018:46), a “theoretical framework is a structure that summarizes concepts and theories” and “comprises the theories expressed by experts in the field”. These theoretical frameworks do not underpin the study. However, to (a) employ e-mentoring programmes as a “dynamic strategy to adapt to the changing Higher Education environment”, and (b) since the roles of the mentor and the mentee (how the e-mentoring group operates) may be influenced by these theoretical frameworks within a given mentoring programme, cognisance is given to these theoretical frameworks as per Domingues and Hager’s (2013:172, 174, 177, 181) advice.

2.5.3.1.1 Developmental theoretical framework

A developmental theoretical framework focuses on identifying life stages and relates to the foundational development theories of, for instance, Levinson’ Life Stage Theory, Kegan’s developmental stages and Van Gennep’s tri-part Rites of Passage.

According to Daniel Levinson's original Life Stage Theory (dating to 1978), individuals grow through specific life stages "during which there are different crucial activities and psychological adjustments that must be completed" (Ornstein *et al.*, 1989:119). Levinson identifies various stages which are related to an individual's biological age, namely the childhood stage (individuals between the ages of 0 to 20 years of age), the early adulthood stage (individuals between the ages of 20 and 40 years of age), the middle adulthood stage (individuals between the age brackets of 40 to 60 years of age), and the late adulthood stage (individuals over the age of 60). Since lifelong learning has become a reality, and often, a necessity for many professionals, these life stages are noteworthy. ODL students are diverse relating to age, background and experience, implying that e-mentors have to be able to facilitate intergenerational mentoring.

The developmental stages (referred to as balances) associated with Robert Kegan's Constructive Developmental Theory include the incorporative, impulsive, imperial, interpersonal, instructional and inter-individual balances. According to Kegan (1982:84), motivation toward development originates from an individual's "need to bring their organization into a coherence that can take account of the greater complexity with which they are faced".

Van Gennep observed the ritual ceremonies in a given society that are celebrated as an individual transitions from one status to another. He identified a universal structure, or "the process of transition" (Hockey, 2002:213) underlying rites of passage rituals, namely separation, transition and incorporation: "For groups, as well as individuals, life itself means to separate and to be reunited, to change form and condition, to die and to be reborn. It is to act and to cease, to wait and rest, and then to begin acting again, but in a different way" (Van Gennep, 1960:189).

How does this apply to an academic peer mentoring programme and the roles of the mentor and mentee? To plan for the support that should be provided to ODL students, it seems beneficial to take cognisance of whether mentees require different types of support at different times during their studies. If progression from dependence to independence (relating to Kegan's developmental stages) is expected of mentees, the mentor will be expected to provide different types of guidance at different stages. A mentoring support framework for first-year students, may be mindful of Van Gennep's notion of separation, transition and incorporation. In this case, the progression of the first-year student implies that the mentor will direct interactions and activities with mentees in the beginning, then co-direct activities and interactions with the mentees, until such time as the mentees become self-directed. By taking note of a developmental theoretical framework, the mentor can be trained to provide (just-in-time) guidance depending on the

developmental needs of the mentee and either act as a role-model, guide, or teacher (Domingues & Hager: 2013:177). To address the developmental support of ODL students as they transition into HE, the mentor's efforts may, for instance, be directed at increasing ODL students' sense of belonging.

2.5.3.1.2 Learning theoretical framework

A learning theoretical framework focuses on how learning is achieved, and the behaviour of the learners modified. Mentors may be expected to contribute to developing mentees' critical thinking processes and self-efficacy. This may imply that mentor's role may range from that of a guide or facilitator, to being a coach, teacher, or tutor, and that the role the mentee assumes, may be either active, reflective, or reactive (Domingues & Hager: 2013:177).

Mentoring underpinned by behaviourism, implies that the interactions and activities between the mentor and mentee will be directed and often be based on a reward system when a programme objective (such as skills development), is accomplished. Mentoring underpinned by a cognitivist learning theory, may include more flexible interactions and activities between the mentor and mentee. In this instance the focus is on the individual stages of the mentee's cognitive development and the mentors may therefore be expected to act as a tutor or a teacher, with knowledge transfer as their primary objective (Domingues & Hager: 2013:177).

Where mentoring is underpinned by action learning (learning from others by working on real-life problems and sharing experiences) (McGill & Beaty, 1995:21), the mentor will mostly act as facilitator. As mentees progress to independence and are incorporated into the HEI, they may be more confident in their social interactions and share experiences and learn from one another. Action learning involves "cycles of reflection and action to learn from experience" (Aubusson *et al.*, 2009:14-15), implying that the role of the mentees will be reflective as well as participative.

Since the members of heterogeneous groups may each have their assumptions, expectations and beliefs that shape how they make sense of, and view the world around them, the mentoring that happens may be underpinned by transformative learning theory. In such instances, the mentors' role may be to facilitate problem-solving and rational analytical processes to challenge and transform their mentees' existing beliefs and assumptions (Colman, 2019). The mentees' role will, in this instance, include critical reflection on how their existing reference frameworks are transformed (Colman, 2019).

2.5.3.1.3 Social theoretical framework

Peters and Romero (2019:1732) point out that the “majority of adult learning (75-80%) is social in nature and occurs informally”. A social theoretical framework thrives on communities, networking, and mutuality, and as it is related to social theories (for instance communities of practice, social networks and socialisation), may provide insight on mentee interaction within communities and social networks.

Mentoring underpinned by social theories benefits the individual and the organisation. Social networks theory, for instance, studies how the entities comprising the social structure interact within ego-centric, socio-centric and open system networks (Ferreira & Armagan, 2011:172). Since a social network is a social structure that consists of people, groups and organisations that are connected and interdependent, the mentor will facilitate multiple interactions and activities within a diversified mentor/mentee relationship.

Depending on the social theory underpinning the mentoring relationship, the mentee’s role may be that of an active or receptive “apprentice”, while the mentor serves as role-model (Domingues & Hager: 2013:177). The mentor/mentee relationship may be directed by the mentor at the onset. As the relationship develops, it may progress to the extent where it is co-directed by the mentor and the mentee until such time when the mentee becomes self-directed. If the objective of the mentoring relationship is to connect mentees with each other on an academic and social level, social networks and communities of practice theories come into play. The outcomes of the mentoring relationship in such instances, may pertain to mentee connectedness, the sharing of information by mentees and mentees’ commitment to the group.

It is important to carefully consider the multiple mentoring theoretical frameworks, since research shows that “mentoring programs and relationships designed to satisfy mentees’ needs and goals increase their probability of success by providing the right type of mentoring at the right time” (Domingues & Hager, 2013:183). These theoretical frameworks can be used as is, or in conjunction with one another (Domingues & Hager, 2013:171) to provide stakeholders with tools to establish how the group will operate and what is to be done and achieved during mentoring sessions.

2.5.3.2 The purpose and tasks of e-mentors in an ODL ecosystem

The role of the e-mentor is dependent on the context and stakeholder expectations. Within an HEI ODL environment, (Chang, 2004a:335) suggests that e-mentors “serve as intermediary”, liaison or go-between between the ODL student and the module lecturer, the ODL student and course material, the ODL student and the institution (linking the student to larger university ecosystem) and the ODL students themselves. Concerning the research questions posed in chapter 1, a discussion on e-mentors as intermediaries between the digital habitat and biomes and among the units in the biome (to contribute to the balance and stability of the learning ecosystem) follows.

2.5.3.2.1 E-mentor as intermediary between the module lecturer and ODL students

Chang (2004a:332) “identifies three major expectations concerning student satisfaction with e-learning: a) timely response time, b) sufficient supportiveness and c) comfortable relationships”. According to Chang (2004a:332), immediate feedback to promptly provide students with needed information, rated highest among these expectations. Sufficient supportiveness relates to the availability of the lecturer to answer students’ questions while comfortable relationships relate to students’ craving of a positive relationship with faculty and the students in the cohort (Chang, 2004a:332).

Unfortunately, according to Chang (2004a:332), these expectations are often not met satisfactorily in the online environment due to limited time availability of module lecturers. The role of the module lecturer as the subject matter expert entails presenting the module to students and answering questions related to module content. The module lecturer is also the course manager and computer technology consultant (Chang, 2004a:333). Module lecturers understand that “[i]nteractions between the faculty [module lecturer] and the [ODL] students will motivate learners to engage in tasks pedagogically and emotionally and facilitate socio-cultural and socio-cognitive environmental development” (Chang, 2004a:333) which contributes to the sense of connectedness students experience in the education ODL ecosystem.

Adding to the already comprehensive workload of online module lecturers are the implications that e-learning has on course design (Brindley *et al.*, 2009), since it is a course design that is the “critical factor in determining the quality, quantity and type of interactivity (learner interaction with content, instructors, or peers) in a course” (Vaill & Testori, 2012:111). Hence, adding to their burden is an:

understanding of how online learning supports the institution's mission, how to apply pedagogy of online education to the development and delivery of high quality courses, understanding the unique profile and needs of online learners, presenting an online course that focuses on student-centred teaching and learning, creating critical course content utilizing the learning management system, understanding and integrating effective community building components into the online course, constructing individual and collaborative assignments and assessments aimed at online students, demonstrating an effective understanding of online resources as well as relevant copyright and academic integrity concerns, effectively communicate with and deliver feedback to online students, recognize the unique challenges online teaching presents with regard to time management and working with students (Vaill & Testori, 2012:115).

The flexibility of ODL students' schedules and the fact that most students are accustomed to using technology on demand lead to "an expectation for 24/7 online access not only to their courses, but also to the services that support their success" (Peters *et al.*, 2017:3). This creates undue expectations regarding module lecturer availability to deliver timely and on demand feedback to ODL students. E-mentors can allow the accommodation of the diverse schedules, responsibilities and obligations that characterise online learners. This may contribute to alleviating the "perceived psychological distance (arising from the space and time separation between the student and the faculty [module lecturer]" (Chang, 2004a:331).

Even if the e-mentor and ODL module lecturer have periodic weekly meetings to discuss ODL student queries and the e-mentor then reports back to ODL students (which may imply a slower turn-around time in providing feedback), ODL students' frustration due to no feedback, or infrequent feedback by the module lecturer, can be addressed.

To allow the module lecturer more time to assume "regular teaching responsibilities" (Chang, 2004a:335), the e-mentor can:

- Answer ODL student enquiries not related to the module content.
- Facilitate communication between the ODL students and the module lecturer and ensure ODL students are aware of and understand the communication guidelines derived by the module lecturer.
- Convey messages and reminders (of due dates) or make announcements regarding the course on behalf of the module lecturer.

- Maintain an up-to-date module calendar at the direction of the module lecturer.
- Inform the module lecturer when ODL students are not completing course requirements.
- Support the module lecturer in her efforts to establish a welcoming, inviting and supportive ODL environment.

2.5.3.2.2 E-mentor as intermediary between course material and ODL students

Pleitz *et al.* (2015:90) refer to two distinct components of student expectations: “expectations for participating in educationally purposeful college activities [that] includes primarily academic dimensions such as experiences with faculty [module lecturer] and course learning. The second factor, campus environment expectations, includes elements primarily associated with becoming a more well-rounded student and focused on behaviours such as developing scholarly and expressive qualities, as well as developing an appreciation for human diversity” (Pleitz *et al.*, 2015:90).

Since e-mentors are senior students who have already successfully completed the module or course, they understand the content and how to comprehend the content. Module lecturers can employ e-mentors about the biotic and abiotic components associated with the ODL ecosystem to:

- Promptly respond to and provide just-in-time feedback relating to academic enquiries.
- Answer questions to clarify and peer teach module content to enhance ODL students’ comprehension of module content.
- Provide extra feedback and information consistent with the module lecturer’s comments.
- Peer review assignments according to module lecturer rubrics.
- Provide additional examples or demonstrations.
- Point out relationships among concepts.
- Initiate and facilitate interactions on discussion forums (i.e., formulate discussion topics, ask questions to explore concepts, provide feedback, guide reflection etc.).
- Encourage participation in group activities and promote collaboration among the peers in the group.
- Guide students to access additional resources to enhance their learning (Ruane & Lee, 2016:82; Chang, 2004a:335-336).

Relating to the abiotic units that the ODL ecosystem incorporates (such as learning processes and learning utilities), the e-mentor can:

- Develop ODL students' individual learning processes to help them become independent and self-directed.
- Guide students to establish learning goals.
- Familiarise ODL students with online learning (Iqbal, 2020:57-58).

2.5.3.2.3 E-mentor as intermediary between the technology and ODL students

Differential technology and computer literacy skills may also imply that the e-mentor becomes a “mediator” between the ODL student and technology. E-learning environments and the tools that come with it, provide meaningful learning opportunities (Ruane & Lee, 2016:82). However, the technological barriers associated with ODL may “hinder students' development of a social connectedness within the e-learning environment” (Chang, 2004b:331-332). The barriers caused by technological problems may reduce ODL students' participation in online activities.

In this regard, e-mentors can:

- Orientate and familiarise ODL students to the institution's LMS and address technological and computer literacy issues as they arise.
- Develop ODL students' technological and digital literacy skills.
- Monitor student participation in interactive activities.
- Monitor the LMS chat to respond to queries.
- Keep track of student attendance and progress on the LMS (Yamada, Goda, Saito, Matsuda, Kato & Miyagawa, 2011).

2.5.3.2.4 E-mentor as intermediary between ODL students

According to Schlosser and Anderson (1994, cited by Chang, 2004a:80), “due to pervasive low learner motivation and lack of community connectedness, low course completion rates (as low as 20%) have been associated with distance learning programs”. This is reiterated by Bangeni's (2003:144) research that indicates that students value overall participation (the involvement of other learners) more than personal interaction and contribution.

E-mentors can serve as learning community initiators and meet virtually with ODL students in groups or on a one-on-one basis to:

- Build rapport with students to establish trusting relationships in which ODL students can be motivated and encouraged to achieve course completion.
- Help ODL students overcome the feeling that they are “distant” by initiating interactions to get the “distant” students to participate.
- Establish a space dedicated to academic and social well-being, where ODL students can share experiences (and the emotions related to them) that may “contribute to coping abilities, general wellbeing and reducing stress” (Tynjälä *et al.*, 2019:7).

However, to sustain a digital relationship Tanis and Barker (2017:138) suggest that the mentor and mentee must have a clear understanding that:

- the lack of social cues associated with face-to-face communication may lead to misunderstandings in communication;
- building a relationship via ICTs happens at a slow pace;
- technological and written skills are required;
- information and digital literacy skills are required;
- there are privacy issues to consider, and
- hardware and software issues may hamper the communication process.

Despite these challenges, it is evident that e-mentors as mediators between the ODL students and the module lecturer, course material, technology and ODL students themselves may be beneficial to the academic and social integration of ODL students into the HEI ODL ecosystem.

2.5.3.3 Outcomes of e-mentoring for student mentees

ODL students have access to practical advice and experience-based knowledge and support from senior students who have managed to address the challenges that current students may face to complete the module or the course successfully. By engaging in academic and/or social discussions initiated and facilitated by the e-mentor, ODL students widen their network by connecting with other students. This creates a sense of belonging and helps ODL students overcome the perceived psychological distance that arises from the space and time separation between the student and the module lecturer, between the student and the institution and between the students themselves (Chang, 2004b:331). ODL students are encouraged to share academic

and social concerns and, in doing so, receive guidance to overcome challenges that may impede on their academic achievement and success. This empowers the ODL student with strategies to overcome such challenges in future. The ODL student's social and academic confidence is further boosted by the motivation and encouragement e-mentors provide.

Having access to a mentor can contribute to an ODL student's comprehension of content and help develop the key skills required to study content. In turn, this may reflect positively on their marks. The continuous effort of the e-mentor to enhance the ODL student's self-efficacy and self-advocacy makes it possible for the ODL student to take responsibility for their own learning. The guidance of the e-mentor also positions the ODL student to engage, participate and reflect more on learning activities, while being given the opportunity, through collaboration with others to co-construct (not just consume) knowledge. This also increases the communication, study and personal skills of the ODL student (Aston University, 2020).

2.6 Summary

In ODL environments, there is a relationship between participation, collaboration, community and networking, and student sense of belonging and academic success. ODL ecosystems may enhance students' sense of belonging to a learning community. The ODL ecosystem consists of biotic (the learning community and its stakeholders) and abiotic components (learning processes and learning communities). The biotic and abiotic units associated with the ODL ecosystem cannot function without a digital habitat. To establish stability within the ODL ecosystem, for all its organisms or members to thrive, ODL students require support. E-mentors may be employed as intermediaries between the ODL students and the module lecturer, module content, technology and ODL students themselves (contributing to the stability within the ODL ecosystem and ensuring a balance between the digital habitat and the biome of the ODL ecosystem).

ODL students' expectations include timely response times to their enquiries, sufficient supportiveness (especially in relation to the availability of the module lecturer), as well as positive relationships with the module lecturer and their peers. Unfortunately, due to the growing number of ODL students within modules and courses and time limitations, it is not always possible for the module lecturer to satisfy the expectations of ODL students.

E-mentors may also be utilised as peer teachers to help ODL students understand content and develop appropriate academic skills and techniques to study content. Since ODL students have differential technology and computer literacy skills, technology proficient e-mentors may serve to

break down the technology barriers ODL students experience. By being consistently present, the e-mentor can contribute to community connectedness within the ODL ecosystem by encouraging ODL students' discourse about learning activities. The e-mentor can facilitate rapport-building between ODL students to further contribute to ODL students' academic and social wellbeing.

CHAPTER 3 RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

Chapter 3 focuses on the empirical research process of the study and offers an account of how the researcher approached the planning, conduct, validation, and evaluation of the research within the methodological and ethical parameters relating to the study. A description of the research paradigm from which the investigation was planned and conducted, is followed by an explanation of the research design and approach chosen to address the research questions. This chapter also provides details on participant selection, data and document collection methods, data analysis, the role of the researcher, trustworthiness of the data and the ethical considerations pertaining to the study.

3.2 Research paradigm

A paradigm can be described as a community of scientists sharing a particular way of thinking about solving the problems in their field. A research paradigm is characterised by a worldview, system, framework or structure of the beliefs, ideas, values, assumptions and methods shared across a discipline by a community of scientists/researchers (De Vos *et al.*, 2011:407; Fossey *et al.*, 2002:718). The paradigm encompasses the nature of the research of a shared research culture to generate knowledge. “To ensure a strong research design, researchers must choose a research paradigm that is congruent with their beliefs about the nature of reality” (Mills, Bonner, & Francis, 2006:25). Two main paradigms that influence educational research are:

- Positivist paradigm: a scientific and objective paradigm employing quantitative methods and deductive methodologies in pursuit of verifying a theory or universal truth.
- Interpretive paradigm: a naturalistic and subjective paradigm lending itself to inductive methodologies to generate a theory.

Research in any given paradigm is conducted to acquire and communicate knowledge and can either start with an observation or a theory, a question to be answered or a hypothesis to be tested. The worldview that characterises the research paradigm, is informed by ontology, epistemology, axiology and methodology. The philosophical assumptions about (a) the nature of the social reality of what will be explored (ontology), (b) the nature of the knowledge, how we know what we know or the sources of knowledge and the reliability thereof (epistemology), (c) the value systems, ethics or valuation attributed to what is explored and what the researcher believes

to be true (axiology), and (d) what the methods and procedures are that makes the specific exploration possible (methodology), are considered based on the research paradigm.

Although the researcher understands that it is not necessary to remain “rigid to one paradigm [paradigmatic purity]” (Hartas, 2010:278), this study was conceptualised within an interpretive paradigm to understand human nature. This study is aimed at investigating the “interpretations of the situation by the participants themselves, to understand their attitudes, behaviours and interactions” (Cohen *et al.*, 2018:20).

Interpretive research is exploratory in nature. This study investigates education ODL students and their education module lecturer’s perception of the support services and resources offered by the institution to enhance student retention and sense of belonging (ContactNorth, 2018:3-4). The researcher was interested to learn whether ODL students’ “goals and intentions [attitudes, behaviours and interactions] are continuously reshaped through interactions with the university and its academic and social structures” (Tinto, 2017:258; Schreiber *et al.*, 2014:v). As an interpretivist researcher, the researcher was therefore concerned with the perceptions that the participants in the study derive from their interaction with the institution’s support services and resources and whether these interactions contribute to achieving academic goals and meaningful learning experiences within a learning community (Tinto, 2014:6, 9, 11, 13).

The research is further aimed at understanding what their experience is like and “attempts to unfold meanings as they are lived in everyday existence... trying to understand or comprehend meanings of human experience as it is lived” (Laverty, 2003:22). Interpretivists believe that reality is mind-dependent and a personal or social construct and their aim as researchers is to understand the world as others experience it. The ontological assumption of the researcher is multiple constructed realities, meaning that she believes that there are as many realities as there are people constructing them. This is aligned with the interpretivist assumption that reality is limited to context, space and time. This implies individual and group-based realities, although these are not to be generalised into one common reality.

As a research community, interpretivists share a relativist ontology based on their assumption that reality consists of an individual’s subjective experience of the external world (Thomas, 2010:292). They endeavour to understand the subjective world of the individual and their focus is characterised by a “concern with the individual” (Cohen *et al.*, 2018:19). This study aimed to understand the meanings and interpretations the research participants assign to the world (in the

case of this study, the ODL environment) around them: “objects, social settings, events and the behaviours of others, and how these understandings in turn define the settings” (O'Connor, 2017:18).

The epistemological belief that knowledge is subjective is reflected in the relativist ontological belief that reality is socially constructed and dependent on human minds. Interpretivists therefore share a transactional or subjectivist epistemology. This implies that interpretivists share a belief that there is no separation of subject and object (Cohen & Crabtree, 2006). Truth lies in the human experience and that which is perceived as true or false, is context dependent. Because individuals or groups are influenced by their values, social enquiry is considered by interpretivist researchers to be value laden. Within an interpretivist design, values are an integral part of social life. This extends to the belief that a group's or individual's values are not necessarily wrong, only different – hence the interpretivist epistemology or belief that the nature of knowledge is subjective.

Interpretivism stems from the idea that the social world is ontologically different from the natural world. In recognition that “human behaviour is intentional, that people interpret situations through their own eyes and act on those interpretations”, social scientists, unlike natural scientists, “set aside the search for universal statements or casual laws” (Cohen *et al.*, 2018:20). Instead, the methodology within interpretivist research culture is naturalistic (mostly qualitative in nature).

However, a single paradigm may offer several methodologies (or approaches to research) that the researcher may choose from to conduct systematic research. Interpretivists argue that there is no single correct or particular method to knowledge (Thomas, 2010:292): “What is taken to be valid or true is negotiated and there can be multiple, valid claims to knowledge” (Cohen & Crabtree, 2006). This is reiterated by this study's investigation of the needs and concerns related to the institution's support services and resources through both the lenses of education ODL students and their module lecturer. Since this study is conceptualised within an interpretivist paradigm, this study relies on naturalistic methods (such as online questionnaires and document analysis) (O'Connor, 2017:18-20) to gather data to develop a multi-tiered e-academic peer mentoring support framework within an education ODL ecosystem.

3.3 Research design

Cohen *et al.* (2018:173) define a research design as the plan or strategy chosen and drawn up by the researcher, to organise and carry out the research. Organising the research makes it possible for the researcher to incorporate the different components of the study in a logical way.

Having a coherent and logical research design makes the research practicable and ensures that the research questions can be addressed based on evidence.

Action research is a practice-based method centred on action and transformation. Although action research is used in designing studies that aim to inform, influence and/or change existing practice (Koshy *et al.*, 2011:1), it remains a “systematic process of inquiry and includes collecting, analysing and the interpretation of data” (Adu, 2016). The steps included in action research are (a) “identifying, examining, or generating a practical problem”, (b) “generating, implementing or validating a potential solution”, (c) “collecting data about a problem and/or solution”, (d) “analysing the data to arrive at findings” and (e) “creating a results-driven solution to address the problem” (Adu, 2016).

O'Connor (2017:21) describes action research as a “small-scale intervention in the functioning of the real world and a close examination of the effects of such an intervention”. It deviates from “spectator” or “ivory tower” research (Cohen *et al.*, 2018:440) in that it usually begins as a “form of self-reflective enquiry undertaken by participants to improve the quality of their educational practice” (Kemmis & McTaggart, 1988:5; Henry & Kemmis, 1985:1). Liu, Liu and Yin (2010:61) also refer to action research as “both self-reflective inquiry and inquiry-oriented practice”, and “both subjective and data-based”. Therefore, the nature of an action research problem is a problem identified in a natural setting (occurring within a specific environment), is specific and narrow in nature, and can be refined based on literature and on exploration of best practices (Adu, 2016). Action research “can be used in almost any setting where a problem involving people, tasks and procedures needs a solution, or where some change of feature results in a more desirable outcome” (Cohen *et al.*, 2018:440). In other words, action research is aimed at problem posing and problem solving with the objective of addressing practical problems to improve a professional practice (Cohen *et al.*, 2018:440; Adu, 2016).

This research originated from self-reflection. In her capacity as academic adviser at a HEI and coordinator of an academic peer mentor programme at the institution, the researcher understands the case institution’s commitment to student success, retention and success, advancement in creating an empowering and supporting learning experience for its students (NWU, 2017:5, 10). As part of the strategic plan, the University therefore invests in peer learning support programmes (such as Supplemental Instruction, mentoring and tutoring). To translate a commitment to equity of access and decrease student drop-out, especially among first-year students, factors other than academic performance that influence student success such as

student sense of belonging (NWU, 2017:5) and social integration (NWU, 2017:9) need to be acknowledged. In the case of this study, the researcher reflected on Tinto's Revised Model of Student Integration in the context of the limited number of ODL students seeking consultation with academic advisers, as well as limited peer learning support programmes specifically developed for, and directed at ODL students – despite the growing number of ODL students at the case institution. She set out to understand the unique challenges education ODL students face at the case institution and pondered the viability of e-academic peer mentoring support for ODL education students in an education ODL ecosystem to enhance their successful social and academic integration into higher education.

Therefore, this research is based on an investigation into the needs and concerns of education ODL students and their module lecturer at the case institution, to identify a practical solution to decrease education ODL student dropout. The Faculty of Education was chosen because most students enrolled for ODL courses at the case institution are within this faculty (cf. Chapter 1).

Action research was considered as the most viable design for the study. However, action research may include one of three processes, namely a reactive process (where the researcher encounters a research problem), an innovative process (where the researcher generates a research question) or a proactive process (where the researcher seeks for an action research problem) (Craig, 2009, cited by Adu, 2016). A proactive approach means to be prepared and ready by anticipating events or incidents before they happen. Proactive therefore implies taking action “by causing change and not only reacting to change when it happens” (Cambridge Dictionary, 2020). Being proactive also means that measures are taken in advance to ensure an outcome before it is anticipated.

Figure 3.1 (Sherman, Schmuck & Schmuck., 2004:Slide 28) gives an outline of the steps in the cyclical, iterative proactive action research process:

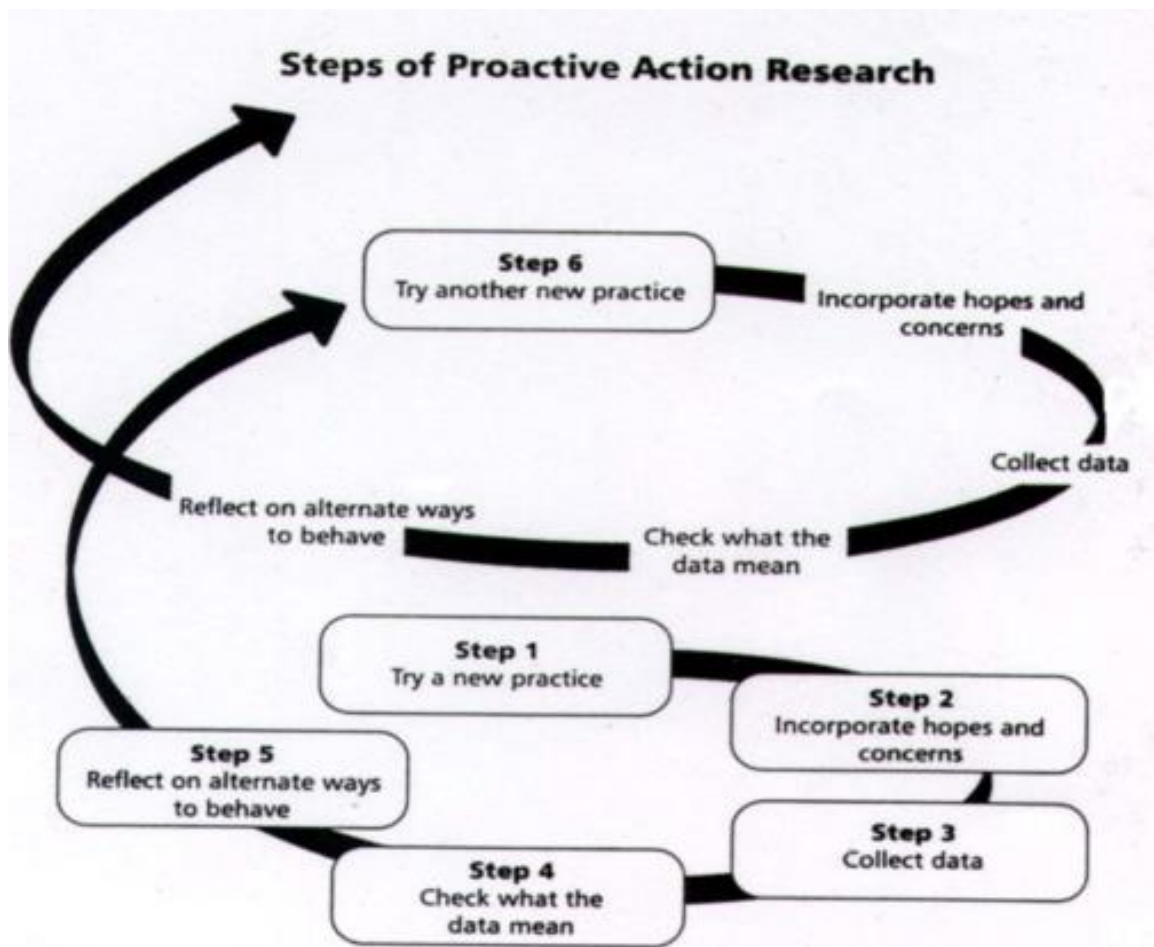


Figure 3.1: Steps of proactive action research

The steps in pro-active action research design for this study include:

Step 1: Seek an action research problem

- Consider the current practice at the case institution to support education ODL students and their module lecturer in general.

Step 2: Examine the action research problem

1. What are the needs and concerns of education ODL students within an education ODL ecosystem relating to the support services and resources the case institution provides to facilitate:
 - 1.1 engagement with the institution;

- 1.2 successful completion of disciplinary modules, and
- 1.3 “connection” between students, and the students and the module lecturer in the cohort.
2. What is the perception of an education ODL module lecturer of education ODL students within an education ODL ecosystem relating to the support services and resources the case institution provides to facilitate:
 - 2.1 engagement with the institution;
 - 2.2 successful completion of disciplinary modules, and
 - 2.3 “connection” between students, and the students and the module lecturer in the cohort.

Step 3: Collect data

- Collect data using a Support Services and Resources: Education ODL Student Questionnaire to determine the needs and concerns of education ODL students relating to the support services and resources the case institution provides to facilitate engagement with the institution, successful completion of disciplinary modules, and connection between students, and the students and the module lecturer in the cohort.
- Collect data utilizing a Support Services and Resources: Education ODL Module lecturer Questionnaire to determine the perception of an education ODL module lecturer of the needs and concerns of education ODL students relating to the support services and resources the case institution provides to facilitate engagement with the institution, successful completion of disciplinary modules, and connection between students, and between students and the module lecturer in the cohort.

Step 4: Check what the data means

- Content and thematic analysis of both the Support Services and Resources: Education ODL Student and the Support Services and Resources: Education ODL Module Lecturer Questionnaires to identify themes and patterns.



Step 5: Reflect on alternative ways to behave

- Embedding a multi-tiered e-academic peer mentoring support framework, within an education ODL ecosystem, may address the ODL education students' academic and social support needs and concerns.

Step 1: Seek an action research problem

- Consider how on-campus students at the case institution are supported by academic peer mentors to gain insight into how e-academic peer mentors may support education ODL students and their module lecturer.

Step 2: Examine the action research problem

- How do academic peer mentors provide academic and social support to on-campus students at the case institution?

Step 3: Collect data

- At the end of the 2020 academic year, all the monthly academic peer mentor recordkeeping sheets of academic peer mentor and student mentee activities and interactions were submitted to the case institution's LMS.

Step 4: Check what the data means

- Content and thematic analysis of the academic peer mentor recordkeeping sheets to identify themes and patterns of student mentees' needs and concerns.
- Compare the findings from the Support Services and Resources: Education ODL Student Questionnaire, Support Services and Resources: Education ODL Module Lecturer Questionnaire and the academic peer mentor recordkeeping sheets. Gain insight into how e-mentors can provide academic and social support to education ODL students and their module lecturer within an education ODL ecosystem to facilitate engagement with the institution, successful completion of disciplinary modules, and connection between students, and the students and the module lecturer in the cohort.



Step 5: Reflect on alternative ways to behave

- *Develop* a multi-tiered e-academic peer mentoring support framework that may be embedded within an education ODL disciplinary ecosystem to provide academic and social support to education ODL students.

With pro-active action research, the researcher hopes to:

- (a) Challenge existing concepts of quality and value (McIntosh, 2010:33). The researcher believes that the process of finding practical solutions to the challenges ODL students experience, should not be based on the institution's perceptions of such challenges, but on students' voice regarding actual needs and expectations. This study therefore poses the questions:
 - 1. What are the needs and concerns of education ODL students within an education ODL ecosystem, relating to the support services and resources the case institution provides to facilitate:
 - 1.1 engagement with the institution;
 - 1.2 successful completion of disciplinary modules, and
 - 1.3 "connection" between students, and the students and the module lecturer in the cohort.
 - 2. What is the perception of an education ODL module lecturer of the needs and concerns of education ODL students within an education ODL ecosystem relating to the support services and resources the case institution provides to facilitate:
 - 2.1 engagement with the institution;
 - 2.2 successful completion of disciplinary modules, and
 - 2.3 "connection" between students, and the students and the module lecturer in the cohort.

- (b) Explore and bridge the gap between research [theory] and practice (O'Connor, 2017:21; Somekh, 1995:340). Reference has been made to Tinto's Revised Model for Student Integration and the findings of eminent researchers and various policy documents that underpin the research. With action research, the gap will be further explored.
- (c) Change the status quo by finding practical solutions (Maree, 2007:12) to change and transform "practitioners, practices, their understanding of practices, and the conditions in which they practice" (Cohen *et al.*, 2018:440). In the context of this study, it refers to the limited access of ODL students to peer learning and poses the question:
 - 1. How can e-mentors provide academic and social support to education ODL students and their module lecturer within an education ODL ecosystem to facilitate:
 - 1.1 engagement with the institution;
 - 1.2 successful completion of disciplinary modules, and
 - 1.3 "connection" between students, and between students and the module lecturer in the cohort.
- (d) Bring about change for the better (McNiff, 2013:96), which in the case of this study refers to the central theoretical statement formulated for the study: *Embedding a multi-tiered e-academic peer mentoring support framework within an education ODL ecosystem may address the ODL education students' academic and social support needs and concerns*

With an understanding of the design of the research, the researcher set out to find, within the chosen paradigm, an approach to examine the research problem.

3.4 Research approach

The research approach refers to the plans and the procedures of the research that will enable the researcher to answer her research questions. Wellington (2015:11) warns that there is not just one "scientific method used in the sciences, that not all research in science is driven by hypothesis or experimental research employing control variables and that quantitative and scientific does not have the same meaning, which implies that rejecting a scientific method in research does not mean that quantitative approaches are not able to be used".

There are three main research approaches, viz. qualitative, quantitative and mixed methods. The criteria for selecting an approach depends on the questions to answer, the purpose of the research, the “researcher’s experience, skills, attitude [or] interest”, the resources at the researcher’s disposal, the “sensitivity of the issue” being researched, the “discipline of [the] study” and the “audience/consumer[s] of the study” (Grover, 2015:Slide 27).

The qualitative approach is best when the researcher explores from a personal perspective. Qualitative research focuses on the quality and depth of the information. Maree (2007:51) defines qualitative research as a research methodology concerned with exploring the “why” questions which “underlie behavioural patterns within social and cultural contexts”. The researcher’s observation of, and interaction with participants (in situ) describing their meaning and interpretations, lie at the core of qualitative research (Maree, 2007:51). It describes, within a naturalistic context, phenomena to gain understanding and empirical knowledge thereof. Maree (2007:51) further indicates that qualitative research allows for a subjective approach that focuses on the “uniqueness of each particular situation” that ties in with the researcher’s position and this study.

3.5 Participant selection

“Sampling refers to the process used to select a portion of the population for study” (Maree, 2007:79). Non-probability sampling was chosen since it “purposely seek[s] out participants that are deemed the best sources of information required” (O’Connor, 2017:22). O’Connor (2017:22) further states that purposeful sampling is the “deliberate choice of a participant due to the qualities the participant possesses” (O’Connor, 2017:22). This is a non-random technique to seek and select participants and since underlying theories do not guide the process, the researcher first reflected on the central theoretical statement formulated for the study, as well as the research questions, and then, based on a review of literature, decided what needed to be known to address the research questions. The researcher then set out to find willing participants, in the case of this study, education ODL students and an education ODL module lecturer that could contribute based on knowledge and experience of support services and resources within an ODL environment.

The non-random technique chosen is not prescriptive regarding a set number of participants. In the case of this study, a total of 220 students completing a literacy module (English, Afrikaans, or Setswana), chose to complete the online questionnaire. Of the participants that completed the questionnaire, n=83 (37.73%) are between the ages of 18 and 24 years, n=80 (36.36%) between

the ages of 25 and 34 years, n=39 (17.73%) between 35 and 44 years of age and n=18 (8.18%) participants indicated that they are older than 45 years of age. The participants were not limited to a specific phase of specialisation and n=94 (42.73%) indicated Senior Phase, n=32 (14.55%) Intermediate Phase and n=94 (42.73%) Foundation Phase as phase of specialisation.

Participation was also not limited to a specific study level and the participants consisted of n=70 (31.82%) first-year students, n=50 (22.73%) second-year students, n=45 (20.45%) third-year students and n=55 (25%) fourth-year students.

On-campus residential education students, who attend in-person lecturers presented on campus, were excluded from the study. These education students have access to the case institution's formal orientation and reception programme, several peer-assisted learning initiatives (among others, the academic peer mentoring programme directed at on-campus residential students), in-person engagement with their module lecturers and peers, on-campus data, connectivity and devices and physical access to support services and resources provided by the case institution. Furthermore, on-campus residential education students do not often experience the unique environmental, course and student factors challenging education ODL students (cf. Chapter 1).

Education ODL module lecturers, teaching literacy modules (English, Afrikaans, or Setswana) to the education ODL student participants selected for the study, were deemed the best sources of information required for the study and therefore purposively sought to participate in the study (O'Connor, 2017:22). Education ODL module lecturer participation was not limited to a specific study level and/or area of specialisation. Of the three in total, one education ODL module lecturer responded to an invitation to partake in the study. At the case institution, ODL module lecturers teaching literacy modules at the Faculty of Education, do so for between 250 and 300 students within a particular module. Education ODL module lecturer participation ensured a balanced review in terms of education ODL module lecturer/student ratio. Gaining insights of an experienced education ODL module lecturer contributes to a nonpartisan approach to address the research questions. Since the education ODL module lecturer is the subject and teaching expert and the foremost go-to person consulted by the education ODL students, her *perception* of the learning experience of education ODL students in totality may also be invaluable in identifying gaps and challenges related to institutional services and resources.

During their appointment, the N=74 faculty specific academic peer mentors kept a monthly record of all their activities and interactions with student mentees. Once the academic peer mentors

submitted their final recordkeeping sheets at the end of November, the collated recordkeeping entries were used for document analysis purposes.

A total of n=74 academic peer mentors were appointed across the three campuses of the case institution in the following faculties (cf. Table 3.1):

Table 3.1: Academic peer mentors appointed per faculty

Faculty	Academic peer mentors appointed
Faculty of Humanities	n=12
Faculty of Economics and Management Sciences (EMS)	n=17
Faculty of Natural and Agricultural Sciences (NAS)	n=11
Faculty of Health Sciences (HS)	n=10
Faculty of Education	n=17
Faculty of Theology	n=2
Faculty of Law	n=3
Faculty of Engineering	n=2

The academic peer mentors are appointed from February to November of the academic year. The national lockdown, however, had a major impact on the Academic Peer Mentor programme as a whole. Despite the challenges resulting from the COVID-19 pandemic, the lockdown and subsequent ERL that the case institution adopted to afford students the opportunity to complete the academic year, the academic peer mentors quickly adapted and continued supporting students via primarily WhatsApp and emails, video conferencing, as well as phone calls.

The academic peer mentor recordkeeping sheets recorded a total number of n=5 052 interactions and activities that took place between the academic peer mentor and student mentees. Since the academic peer mentor programme at the case institution is directed at on-campus residential students, pre-COVID academic peer mentor/student mentee interactions and activities in January (n=34), February (n=538) and March (n=686 activities), were conducted almost entirely by means of in-person meetings between academic peer mentors and their student mentees. However, the highest number of academic peer mentor and student mentee interactions and activities were recorded during April (n=759). This is noteworthy since student mentees that signed up for in-person on-campus classes suddenly had to adapt to online learning. The general confusion

experienced by residential on-campus students (used to in-person interaction with module lecturers and peers, unfamiliarity with online learning, the initial lack of access to relevant and applicable information and data, devices and connectivity, and the stress and anxiety of adapting to ODL) are reflected in the case institution's academic peer mentors' monthly record keeping of activities and interactions with student mentees. It may be surmised that education ODL students share these experiences as they adapt to ODL and Higher Education (cf. Chapter 1). The rest of the monthly activities and interactions between academic peer mentors and student mentees were also recorded during the lockdown and are as follows: May (n=493), June (n=460), July (n=172), August (n=295), September (n=522), October (n=628 activities), November (n=461) and December (n=4). Considering how the academic peer mentors supported on-campus students at the case institution during ERL may therefore provide invaluable insight to determine how e-academic peer mentors can provide academic and social support to education ODL students and their module lecturer within an education ODL ecosystem.

During their appointment in 2020, the academic peer mentors supported n=3 285 first-year students, n=580 second-year students, n=737 third-year students and n=164 fourth-year students. The academic peer mentors conducted their activities with student mentees via various delivery modes (such as WhatsApp (n=3 590), in person (n=865), video conferencing (n=570) and email (n=237), phone calls (n=100), Short Message Service (n=10), Google Drive (n=2) and LMS forums (n=1).

3.6 Data and document collection methods

The researcher decided on the best ways to collect data for her study and identified the following data collection methods as being appropriate for addressing the research questions formulated, namely questionnaires and document analysis.

This study was conducted over a 16-month period, during an action research project at the case institution. During step 3 of the first proactive action research cycle, data was collected by means of two separate online questionnaires (cf. Annexures 1 and 2) to:

- Determine the needs and concerns of education ODL students relating to the support services and resources the case institution provides to facilitate engagement with the institution, successful completion of disciplinary modules, and connection between students, and the students and the module lecturer in the cohort.
- Determine the perception of an education ODL module lecturer of the needs and concerns of education ODL students within an education ODL ecosystem relating to the support services and resources the case institution provides to facilitate engagement with the institution, successful completion of disciplinary modules, and connection between students, and the students and the module lecturer in the cohort.

To determine how e-academic peer mentors can provide academic and social support to education ODL students and their module lecturer within an education ODL ecosystem to facilitate engagement with the institution, successful completion of disciplinary modules, and connection between students, and the students and the module lecturer in the cohort, document analysis of the academic peer mentoring recordkeeping sheets⁶ (cf. Annexure 3) was conducted.

3.6.1 Online questionnaires

Employing online questionnaires seemed a practical approach to collect information from a fairly large number of geographical dispersed participants. McMillan and Schumacher (2014:5) define the questionnaire as “a written set of questions or statements that is used to assess attitudes, opinions, beliefs, and biographical information”. According to Cohen *et al.* (2018:475), there are several kinds of questions and response modes in questionnaires ranging from rating scale responses, multiple-choice and short answer questions to open-ended questions. Open-ended and closed-ended (rating scales, dichotomous and multiple-choice) questions were used (cf. Annexures 1 and 2).

⁶ The case institution’s academic peer mentor programme is directed at on-campus residential students. The COVID-19 pandemic “forced” many students into an ODL environment, where they experienced many of the same issues ODL students experience relating to the case institution’s support services and resources (cf. chapter 1). The researcher therefore deemed content analysis of the 5 022 data entries reflecting among other, the adjustment of residential on-campus students to ERL, relevant to the study to identify patterns related to the support services and resources required by student mentees as the academic year progressed.

Open-ended questionnaires are feasible in smaller-scale research projects and since they do not provide participants with a pre-determined set of answer choices, allow for honest, candid, authentic and free responses in the participants' own words. Cohen *et al.* (2018:475-476) refer to these types of responses as the “hallmarks of valid qualitative data [...] a window of opportunity for the respondent to shed light on an issue”. Less structured, qualitative, and word-based open-ended responses “invite an honest, [free,] personal comment from respondents” or “the ‘gems’ of information that otherwise might not be caught in the questionnaire” (Cohen *et al.*, 2018:475-476). In this research, open-ended questions were used to enable participants to identify, elaborate and explain to gain insight into participants' reality based on their diverse opinions, leading to the identification of new issues (O'Cathain & Thomas, 2004). Verbatim quotes were included in instances where open-ended questions were used.

Closed-ended questions are more structured, and the output consists of ticks, or numbers, which implies techniques associated with qualitative research. Highly structured closed-ended questions made it possible to provide response categories which “can generate frequencies of response amenable to statistical treatment and analysis” (Cohen *et al.*, 2018:476). Nominal data was collected by means of multiple-choice and dichotomous questions, while ordinal data was collected by rating scale questions. Two separate online questionnaires were developed with Google forms and organised into four sections.

- *section one* of each questionnaire collected background and demographic data on the participants;
- *section two* focused on collecting data related to education ODL student and module lecturer needs and concerns relating to engagement with the support services and resources provided by the institution (data relating to the administrative support services and resources the case institution provides such as registration and enrolment, bursaries, institutional and course policies, requirements and procedures, etc.);
- *section three* collected data related to education ODL student and module lecturer needs and concerns regarding the institution's support services and resources to complete disciplinary modules successfully (data relating to the academic support services and resources the case institution provides that facilitate the successful completion of disciplinary modules such as familiarity with online learning, engaging with content, navigating the course platform and

locating resources, interpretation of module lecturer feedback and announcements and the academic, digital and technological skills required to be successful in their studies), and

- *section four* collected data aimed at gaining insight into ODL education students' connection with peers and the module lecturer (data relating to support services and resources that help students connect within the education ODL ecosystem such as peer-assisted collaborative and cooperative learning in small groups, wikis, discussion forums, chat, blogs, virtual meeting rooms, etc.).

3.6.2 Document analysis of academic peer mentor monthly recordkeeping sheets

Bowen (2009:27) describes document analysis, as an analytical method in qualitative research and a systematic procedure for reviewing and evaluating printed and electronic material. By means of document analysis, data is examined and interpreted to “elicit meaning, gain understanding, and develop knowledge” (Bowen, 2009:27). Public records, personal documents and physical evidence (also referred to as artefacts) may be used while conducting document analysis.

To identify possible patterns related to the support services and resources required by on-campus residential student mentees as the academic year progressed, document analysis was conducted of N=78 faculty specific academic peer mentors' monthly recordkeeping sheets of academic peer mentor and student mentee activities and interactions during the 2020 academic year. The content analysis of the 5 022 data entries that reflected, among others, the adjustment of students to ERL, were deemed relevant to this study, to identify patterns related to the support services and resources required by students.

Document analysis has limitations. Creswell (2014:192) notes that the information contained in documents are often incomplete. This pertains to some incomplete academic peer mentor entries, for instance where an activity entry lacks the dates on which the activity took place, or the purpose of the activity. Some sheets were also completed inaccurately which may cause the analysis thereof to generate distorted information (Nhambura, 2020:108). In the case of this study, n=5 533 academic peer mentor and student mentee entries were originally captured in a spreadsheet for analysis. To establish the themes occurring in these entries, student mentee details (student number and details) were excluded from the analysis other than level of study.

Some of the recordkeeping sheets were incomplete regarding the datasets identified to be included for the document analysis (i.e., date, level of study, faculty and topic), while some entries pertain to the time academic peer mentors spent on personal administrative duties relating to the programme. To avoid distortion of the data, the incomplete entries and personal administration activities were removed, which left 5 022 academic peer mentor and student mentee activities for analysis.

3.7 Data analysis

Data analysis of the online questionnaires and academic peer mentor monthly recordkeeping sheets were conducted.

3.7.1 Online questionnaires

The qualitative data that was collected by both the Support Services and Resources: Education ODL Student Questionnaire and the Support Services and Resources: Education ODL Module lecturer Questionnaire, was examined and analysed by means of content and thematic analysis to identify patterns. Thematic analysis is considered a systematic approach to data analysis (O'Connor, 2017:27) and usually consists of a six-step process: familiarisation, coding, generating themes, reviewing themes, defining, and naming themes and writing up. Qualitative data analysis is not straightforward (Cohen, 2018:643), because findings are not presented according to a formula. Participants' qualitative responses are examined individually to identify "topics, ideas and patterns of meaning that came up repeatedly" (Caulfield, 2020). In other words, although time consuming and the fact that multiple passes through the material were necessary, thematic analysis made it possible to pinpoint, examine and record themes that occurred within the data she collected. These themes can best be described as patterns across the data sets and once these themes were established, the phenomena could be described within the context of the research question it is associated with.

A semantic approach was employed to analyse the "explicit content of the data" (Caulfield, 2020). To allow for flexibility and creativity, Gibbs (2007:40) notes that coding needs be done during the initial states of data analysis: "Codes form the focus for thinking [develop analytical thinking during data analysis] about the text and its interpretations" (Gibbs, 2007:40). This is a process to break large quantities of data up into smaller, more manageable segments (concept-driven coding). Repeating concepts, phrases or words are highlighted, allowing for a description and

categorisation of data to create a framework of thematic ideas by means of which patterns can be identified and analysed (O'Connor, 2017:26).

In the case of this study, the qualitative data for each dataset (per question) was colour coded according to recurring participant phrases and patterns and then allocated key subjects to group and organise the raw data (Maree, 2007:101). This allowed for an inductive approach in generating broader themes in which codes were combined. Thematic analysis allows for flexibility in the interpretation of data and by arranging the questionnaire in four sections allowed for a deductive approach in identifying preconceived themes based on an overview of literature against which the identified themes could be placed.

Since the questionnaires contain both qualitative and quantitative data, Gibbs's (2007:46) caution that the two approaches to coding (concept-driven and data-driven) are not exclusive, was adhered to. As anticipated, it was necessary for the researcher to "move backwards and forwards between the two" (Gibbs, 2007:46). The limited quantitative data that was obtained by the closed-ended (rating scales, dichotomous and multiple-choice) questions of the online questionnaire was "easier to analyse than data obtained from open [-ended] questions" (Maree, 2007:161). The responses were counted and then analysed by means of descriptive statistics (such as frequency, mean and weighted arithmetic mean ($\bar{x} = \sum w_i x_i / \sum w_i$) (Kenney & Keeping, 1959:45).

Figure 3.2 (cf. Annexure 1) illustrates the qualitative options that were, for instance, provided for the rating scale questions (such as not important, slightly important, moderately important, quite important and essential):

	Not important	Slightly important	Moderately important	Quite important	Essential
Communicating effectively and frequently with fellow students	☐	☐	☐	☐	☐

Figure 3.2: Question 4.5 example

To interpret the qualitative options, a numerical value was allocated to each of the options (for instance, not important = 1, slightly important = 2, moderately important = 3, quite important = 4 and essential = 5).

Because the frequency of the responses for each option was not distributed equally, the arithmetic mean cannot be used. Therefore, the weighted arithmetic mean $(\bar{x}) = \sum w_i x_i / \sum w_i$ is used. To illustrate, the results and calculation of weighted mean for question 4.5 (cf. Annexure 1) are tabulated below (cf. Table 3.2):

Table 3.2: Results and calculation of question 4.5

Qualitative option	Not important	Slightly important	Moderately important	Quite important	Essential	
Numerical value allocated to qualitative option (x_i)	1	2	3	4	5	
Frequency (w_i)	n=10	n=23	n=57	n=48	n=82	N=220
Sum product (x_i) and (w_i)	1 x 10 = 10	2 x 23 = 46	3 x 57 = 171	4 x 48 = 192	5 x 82 = 410	829
$\bar{x} = \sum w_i x_i / \sum w_i$						829/220 = 3.77

The weighted arithmetic mean of 3.77 lies between the numerical values of 3 and 4, but closer to 4. On the qualitative option scale, this implies the result is between the categories of moderately important and quite important, but closer to quite important.

The response data from the Support Services and Resources: Education ODL Student Questionnaire were downloaded in a spreadsheet created for the questionnaire. Separate spreadsheets were made for each section contained in the questionnaire and added separate sheets for each question in each section's spreadsheet. The first sheet in the various section spreadsheets contained all the participant responses for the specific section in columns, as well as information captured in the first section of the questionnaire.

The first sheet of the section 2-4 spreadsheets, therefore, each contained columns containing the unique number allocated to participants, a time stamp that indicated when the questionnaire was completed by the participant and biographical information (such as the age, phase of specialisation and current level of study of the participant). These sheets were dedicated to each question within the section spreadsheets and became the working sheets for the analysis of the responses.

At the onset (familiarisation phase) of the analysis of the Support Services and Resources: Education ODL student Questionnaire, while allocating each submission a unique number to ensure participant anonymity, it became apparent that of the initial $n=228$ responses, $n=8$ were repeat and duplicate submissions by $n=4$ participants. In order not to distort the findings, the repeat and duplicate submission were removed to retain only one submission per participant.

Due to the sample size of $N=1$ module lecturer participating to complete the Support Services and Resources: Education ODL Module Lecturer Questionnaire, analysis of the Support Services and Resources: Education ODL Module Lecturer Questionnaire was less time intensive. All the participant's responses were first downloaded in a spreadsheet created for the purpose. Analysis of the data involved providing an accurate written description of the module lecturer's responses to the questions according to the various sections of the questionnaire (cf. Chapter 4). The written description further made it possible to quote comments made by the participant directly.

3.7.2 Document analysis of academic peer mentor monthly recordkeeping sheets

Academic peer mentors are required to submit recordkeeping of their activities on a monthly basis. Once the final submissions were made at the end of November, document analysis of the academic peer mentor recordkeeping sheets of academic peer mentor and student mentee activities and interactions commenced.

For the qualitative analysis and interpretation of the data gained by recordkeeping sheet entries, thematic analysis was also used, which again supported systematic coding of the entries' data to develop a system of interwoven meanings that can also be visually presented. The thematic analysis process first involved organising the data into what was deemed "related to the central questions of the research." Due to the number of entries on the recordkeeping sheets, it became clear that a finer-grained analysis of the entries was called for.

The first layer of analysis involved organising the data into three broad categories, namely engagement with the institution's support services and resources, successful completion of disciplinary modules and social connection between the academic peer mentor and the student mentee (cf. Chapter 4, Table 4.8). These broad categories relate closely to the research questions of the study.

Once this activity was completed, Bangeni's (2003:182) support framework for distance students (where she highlights the need for administrative, academic and relational support), as well as Chang's (2004a:79) and Fong, Mansor, Zakaria, Sharif and Nordin's. (2012:307) roles and functions of e-mentors, to add a second layer of organisation to the data (cf. Chapter 4, Table 4.9), were considered. The second layer of the document analysis involved organising the data within the three broad categories according to the purpose of the academic peer mentor/mentee interaction or activity. For instance, an activity that pertains to student engagement with the institution's services and resources may have an administrative purpose (such as directing a student to a faculty adviser or a technological purpose, such as navigating the LMS). The categories identified by Chang (2004a:79) and Fong *et al.* (2012:307) were used to indicate the purpose served by e-mentors in an online environment, namely administrative, technological, communicative, informative, instructional and social.

Entries with an *administrative purpose* relate to the support academic peer mentors provided to address student mentees' enrolment inquiries, direct them to relevant support services regarding course requirements, facilitate module lecturer information, maintain a module calendar, and convey messages and reminders or make announcements regarding the course. Entries with a *communicative purpose* relate to academic peer mentor efforts to make students aware of communication guidelines and facilitate communication between the ODL students and the module lecturer. It also pertains to the initiation of discussion topics on the content, answering queries and meeting virtually with students in groups or on a one-on-one basis to support student mentees with assignments. Entries with an *informative purpose* relate to the academic peer mentors' knowledge of institutional policies and procedures or providing information sanctioned by the institution to the student mentees. Entries with a *social purpose* refer to academic peer mentors' effort to build rapport and supportive and trusting relationships with the student mentees to motivate and encourage them towards module completion. Entries with an *instructional purpose* refer to academic peer mentor effort to (a) develop the academic skills the student mentee require to be successful in their studies and (b) peer teach to help student mentees understand and comprehend module content better.

Entries with a technological purpose pertain to academic peer mentor efforts to familiarise students with navigating the case institution's LMS, finding resources and module material, and developing students' technological and digital literacy skills.

The third layer of the document analysis process focused on further refinement of the academic peer mentor purpose, to identify eminent patterns and themes pertaining to the nature of the student mentee needs and concerns enquires (cf. Chapter 4, Table 4.10). By analysing the data in this way, it was possible to make multiple passes through the material before categorising the topic of the academic peer mentor/mentee activities (what the interaction or activity was about). This allowed for a more penetrating analysis of the data and consistent themes to identify patterns (cf. Chapter 4).

The first step in the document analysis procedure was to collate N=78 academic peer mentor monthly sheets on a spreadsheet the researcher created. This monthly recordkeeping sheet requires the academic peer mentor to capture the following data once: name of the academic peer mentors and the faculty they are assigned to and the month in which they captured the data. Various columns on the digital recordkeeping sheet allowed the academic peer mentor to capture (a) the date of the academic peer mentor and student mentee activity, (b) the mentee student number and (c) contact details, (d) the module related to the enquiry, (e) mentee study level, (f) mode in which communication between the mentor and mentee took place, (g) the duration of the interaction and (h) the topic or theme of the activity (enquiry or interaction). For the purposes of this study, all the entries (n=5 052) were to be included for qualitative analysis to investigate emerging trends and patterns to inform her conceptualisation of a multi-tiered e-academic peer mentoring support framework within an education ODL ecosystem.

Columns and headings were created in the spreadsheet (similar to those in the recordkeeping sheets) and the following data transferred from each of the recordkeeping sheets: date when the activity took place, mentee study level, mentee faculty, mode in which interaction took place and the topic of the academic peer mentor/mentee activity/interaction.

The data were first manually quality controlled - except for the data contained in the *topic of interaction*-column. All this implies is that the dates, for instance, were formatted in the same way. Because of the number of entries contained in the sheets, the researcher reported on her findings according to month and an entry such as "9 April" or "9/4/2020" was changed to Apr-20.

This was repeated throughout on the spreadsheet. Academic peer mentors referring to Zoom or Teams as the mode in which an activity took place, were also consistently changed to Web-based video conferencing tools. Figure 3.3 illustrates entries captured before the data was formatted:

9/4/2020	2nd	Email	12:00-14:30	Assignment help
10/4/2020	2nd	Whatsapp	15:20-19:50	Assignment help and check
11/4/2020	2nd	Whatsapp	10:20-10:50	Assignment help
14/04/2020	3rd	Zoom	16:00-19:00	Zoom meeting about assignment changes
15/04/2020	2nd	Whatsapp	8:00-10:00	Check assignment
19/04/2020	3rd	Email	11:00-12:00	Check assignment
20/04/2020	3rd	Email	14:20-16:50	Help with assignment instruction

Figure 3.3: Spreadsheet data without formatting

Figure 3.4 illustrates entries after the data was formatted:

Apr-20	2nd	Email	12:00-14:30	Assignment help
Apr-20	2nd	Whatsapp	15:20-19:50	Assignment help and check
Apr-20	2nd	Whatsapp	10:20-10:50	Assignment help
Apr-20	3rd	Web-based video conferencing tools	16:00-19:00	Zoom meeting about assignment changes
Apr-20	2nd	Whatsapp	8:00-10:00	Check assignment
Apr-20	3rd	Email	11:00-12:00	Check assignment
Apr-20	3rd	Email	14:20-16:50	Help with assignment instruction

Figure 3.4: Spreadsheet data with formatting

The second step involved removing incomplete entries (entries not containing both a date and activity topic, which were considered essential for the thematic analysis of the academic peer mentor/student mentee activities). Of the original 5 533 academic peer mentor/student mentee activities, 5 052 academic peer mentor/student mentee activities remained for thematic analysis. Removing the above-mentioned entries was deemed necessary so as to not distort the results of the document analysis.

The research is exploratory, and a comparison of the data gathered by means of the two separate online questionnaires and the document analysis was possible (Gibbs, 2007:50). Constant comparison was used to present, discuss and interpret the results of the Support Services and Resources: Education ODL student and Education ODL Module lecturer Questionnaires and the academic peer mentor recordkeeping sheets (cf. Chapter 4).

Constant comparison refers to the process “by which the properties and categories across data are compared continuously until no more variation occurs” (Glaser, 1996 cited by Cohen *et al.*, 2018:719). When no more variation occurs, saturation⁷ is achieved. Constant comparison allows for data to be “compared across a range of situations, times and groups of people, and through a range of methods” (Cohen *et al.*, 2018:719), which resonates with the notion of triangulation.

According to Creswell and Miller (2000:127), “triangulation is a step taken by researchers employing only the researcher’s lens, and it is a systematic process of sorting through the data to find common themes or categories”. Using different methods (multiple methods) of data collection to formulate coherent themes and ensure the consistency of findings (Creswell, 2014:201), allows for the triangulation of data or the opportunity to “provide corroborating evidence” (Creswell & Miller, 2000:127). The findings of the research can therefore be viewed from at least two different points or resources (i.e., questionnaires and document analysis) (Flick, 2004:178), adding to the validity of the study (Creswell, 2014:201).

3.8 The role of the researcher

In qualitative research, the researcher is the instrument by means of which the data is collected. As a human instrument collecting data, the researcher is a full participant in the research activity and her perceptions will therefore become part of the study. The researcher therefore became a “co-creator of meaning” (O’Connor, 2017:27).

For this study, the researcher collected data by means of document analysis and online questionnaires. The researcher personally:

- prepared and structured the questions for the online questionnaires;
- conducted document analysis of the academic peer mentor activity sheets;
- coded and analysed the data from the document analysis and the online questionnaires, and
- presented, discussed and interpreted the results of this study.

⁷ Saturation is reached when “no new insights, properties, dimensions, relationships, codes or categories are produced, even when new data are added” (Cohen, *et al.*, 2018:720).

3.9 Trustworthiness of the data

Qualitative research must answer to the concepts of validity (if the explanations are true, accurate and correctly captured to show what actually is happening). According to Creswell and Miller (2000:126), “validity procedures” reflected by interpretive perspectives “present criteria with labels distinct from quantitative approaches, such as trustworthiness (i.e., credibility, transferability, dependability and confirmability), and authenticity (i.e., fairness, [which] enlarges personal constructions, leads to improved understanding of constructions of others, stimulates action, and empowers action)”.

Credibility refers to an evaluation of whether the research findings are a true representation of the data collected from participants (Korstjens & Moser, 2018:121). Dependability can be described as an assessment of the quality of the integrated processes of data collection, data analysis and theory generation (O'Connor, 2017:28). Transferability is the degree to which the findings of the study can be transferred beyond the bounds of the project and the “stability of findings over time” (Korstjens & Moser, 2018:121; Jensen, 2008:886). Confirmability refers to the extent to which the findings of the research are supported by the data collected and confirmed by other researchers (Korstjens & Moser, 2018:121). Reliability (if the results are consistent across investigations by different investigators in different circumstances) may also be added as criteria (Gibbs, 2007:91).

Paton (1980:229, cited by Creswell & Miller, 2000:125) advises qualitative researchers to return to their data “over and over again to see if the constructs, categories, explanations, and interpretations make sense”. To establish how “accurately participants’ realities have been represented in the final account” (Creswell & Miller, 2000:125), especially regarding the accuracy of participants’ inferred meaning, participant responses, the consistent use of codes and terminology and the accuracy of interpretations were checked and re-checked (Gibbs, 2007:97). Denzin (1989:83, cited by Creswell & Miller, 2000:128) refers to “thick descriptions [which] are deep, dense and detailed accounts” to “describe the setting, the participants, and the themes of a qualitative study” (Creswell & Miller, 2000:128). This enables the readers of participant narratives to share the experience of the participants more closely.

The researcher constantly and clearly demonstrates how her study is grounded in the data collected and interpreted to enhance trustworthiness. This is aligned with Angen (2000:391), who refers to interpretive research as “a chain of interpretations that must be documented in order for others to judge the trustworthiness of the meanings arrived at in the end [...] the written account

of the research must provide evidence of the thoroughness and comprehensiveness of the understandings used to form the resulting interpretations”. To ensure the consistency of the findings (Creswell, 2014:201), constant comparison (Cohen, *et al.*, 2018:719) was used to present, discuss, and interpret the collected data through multiple methods. This made it possible to “provide corroborating evidence” (Creswell & Miller, 2000:127) to further ensure trustworthiness of the data.

Analysis of all data was subjected to continuous quality control and quality assurance (QC/QA) to limit the erroneous reporting of findings. This process was deemed an essential strategy to “prevent errors from entering the dataset” (DataONE, 2012). QC/QA were implemented during the data life cycle, before data collection (to ensure the collection of quality data), during data collection and entry and after data collection and entry (“to monitor and maintain the quality of the data during the study”) (DataONE, 2012) (cf. Figure 3.5):

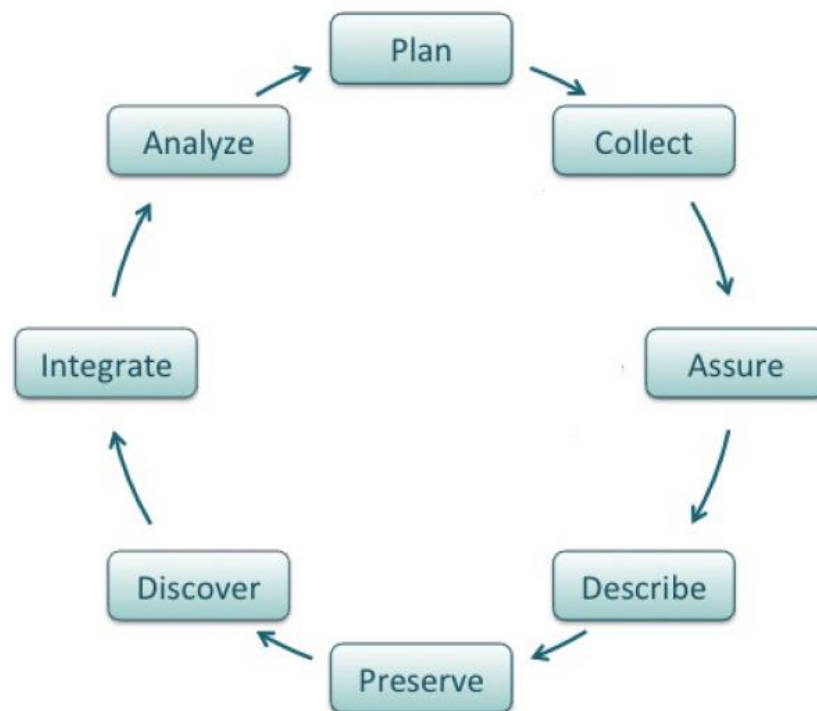


Figure 3.5: Data life cycle

After data collection, various spreadsheets for data analysis were created. To the best of her abilities, the researcher ensured that the data captured in the various spreadsheets were correct and accurate (free of mistyped data errors, double data entries and the omission of data). During

quantitative analysis, calculations were checked and re-checked to make sure erroneous values were not included in any findings (DataONE, 2012).

3.10 Ethical considerations

As per institutional requirement, research at the case institution may not be conducted without Research Data Gatekeeper Committee (RDGC) approval and ethical clearance certificate (cf. Annexure 6). Upon approval, an ethical clearance and RDGC reference number were allocated to the research. RDGC approval made it possible to invite education ODL students via an announcement placed by the WIL (Work Integrated Learning) manager on the case institution's LMS as an invitation to participate in the study. The invitation also included a link to the online questionnaire which was made available over a period of two weeks.

At the time that the online questionnaire was made available to education ODL students, education ODL module lecturers were formally invited by email to participate in the study. The email correspondence explained the purpose of the study and the procedures of the research process, which also included reference to what is expected of participants and what participants may expect regarding any risks involved.

In compliance with the Promotion of Access to Information Act 2 of 2000 (PAIA) and the Protection of Personal Information Act 4 of 2013 (POPI), it was clearly indicated to the potential participants how confidentiality and anonymity would be maintained and how their identity would be protected. To ensure that the privacy of participants was protected, no information was gathered that may lead to the identification of participants and no attempt made to disclose the identity of participants. One education ODL module lecturer responded and provided formal informed consent to partake in the study by ticking the declaration and consent box that allowed the education ODL module lecturer to complete the questionnaire.

The study also posed no (foreseeable) risk, either physical, psychological, emotional, social, legal or economic for any of the participants in this research and the study was therefore classified by the RDGC as a minimal risk research study.

Even though the topic of the research is not controversial and the information gathered by the document analysis and questionnaires is not regarded as sensitive, the participants, who are all adults and not considered a vulnerable research population, were made well aware that

participation in the study is strictly voluntary. It was also made explicitly clear to education ODL students that choosing not to participate in the study would not influence their academic results.

Informed consent or the “process in which the subject has an understanding of the research and its risks” (Shahnazarian *et al.*, 2017:3, cited by Nhambura, 2020:111) was obtained by participants by including a section in which the purpose of the research and the procedure for collecting the data was stated. Participants could not access the questionnaire without ticking their informed consent in the tick box that was provided for this purpose. Decisions by those opting not to participate in the study, were respected and accepted.

3.11 Summary

This study was conceptualised within an interpretive paradigm. The ontological assumption associated with this study is multiple constructed realities, meaning that there are as many realities as there are people constructing them. Therefore, the focus of this study is to understand the meanings and interpretations the research participants assign to the world (in the case of this study, the ODL environment) around them. Since this study is conceptualised within an interpretivist paradigm and shares the interpretivist epistemology (the belief that the nature of knowledge is subjective, and that what counts as truth in the interpretivist paradigm is context dependent), this study relies on naturalistic methods such as online questionnaires and document analysis to gather data.

A proactive action research approach was chosen for this study. This is in contrast with traditional research where a gap in literature is identified and a research problem then derived from that. Instead, in the case of this study, the researcher sought a problem, examined the problem through research to find a practical solution to the problem and developed an action plan based on empirical research results.

Non-probability sampling was employed to select participants to complete the Support Services and Resources: Education ODL student and Support Services and Resources: Education ODL Module Lecturer Questionnaires.

Different methods of data collection to formulate coherent themes were used. Document analysis of academic peer mentor recordkeeping sheets was conducted, and content/thematic analysis used to identify patterns across the data sets resulting from the questionnaires and the recordkeeping sheets. This made it possible to employ constant comparison of the data to ensure

the consistency of findings. To further add to the validity of the study, data analysis was subjected to continuous quality control and quality assurance to limit the erroneous presentation of findings. The research was conducted in compliance with the Promotion of Access to Information Act 2 of 2000 (PAIA) and the Protection of Personal Information Act 4 of 2013 (POPI) to ensure the confidentiality and anonymity of all participants.

CHAPTER 4 PRESENTATION, DISCUSSION AND INTERPRETATION OF EMPIRICAL RESULTS

4.1 Introduction

This chapter presents, discusses, and interprets the core findings derived from the methods applied to gather and analyse the data. In this process, findings are grounded in the literature review preceding the study. The findings of the data that was collected by multiple methods, are compared to offer corroborating evidence from different points of view and resources.

To ensure sequence, the chapter is divided into 3 parts.

Part 1 presents, discusses, and interprets the findings of the Support Services and Resources: Education ODL student Questionnaire (cf. Annexure 1) as it pertains to research question one:

What are the needs and concerns of education ODL students within an education ODL ecosystem relating to the support services and resources the case institution provides to facilitate:

- 1.1 engagement with the institution;
- 1.2 successful completion of disciplinary modules, and
- 1.3 “connection” between students, and the students and the module lecturer in the cohort.

Part 2 presents, discusses, and interprets the findings of the Support Services and Resources: Education ODL Module Lecturer Questionnaire (cf. Annexure 2) as it pertains to research question two:

What is the perception of an education ODL module lecturer of education ODL students within an education ODL ecosystem relating to the support services and resources the case institution provides to facilitate:

- 2.1 engagement with the institution;
- 2.2 successful completion of disciplinary modules, and

2.3 “connection” between students, and the students and the module lecturer in the cohort.

Part 3 presents, discusses, and interprets the findings of the document analysis of the entries contained in the case institution’s academic peer mentor recordkeeping sheets (cf. Annexure 3) as it pertains to research question three:

How can e-academic peer mentors provide academic and social support to education ODL students and their module lecturer within an education ODL ecosystem to facilitate:

3.1 engagement with the institution;

3.2 successful completion of disciplinary modules, and

3.3 “connection” between students, and the students and the module lecturer in the cohort.

4.2 Part 1 - ODL Education Students: Support Services and Resources Questionnaire

4.2.1 Student profile

Participants were diverse in ages, level of study, phase of specialisation, as well as commitments prior to their registration for their ODL course. It is evident that most participants were in the age bracket below 34 years of age. This aligns with Massyn and Wilkinson’s (2015:62) observation that “more than 50% of students in higher education in South Africa are older than 23 years of age (legislative definition of a mature age learner in South Africa) with 80% of these students enrolled in undergraduate courses”. Participants that opted to complete the questionnaire were mostly in their first and fourth year of study.

A total number of n=108 (49.09%) of the participants indicated that they are first generation students. Most participants indicated that their main activity prior to registration for their ODL course was work (64.09%) or attending secondary school (23.18%). Participants who indicated that they were involved in “other” activities prior to their registration for the ODL course (12.73%) cited unemployment, pursuing non-degree qualifications, being full-time mothers or taking career breaks to raise children, taking care of elderly parents, and pursuing a gap year upon completion of Grade 12. Participants indicated that they have family commitments (67.27%) and work commitments (45.91%) in addition to their studies.

The responses as to why the participants chose to register for an ODL course are as follows (cf. Table 4.1):

Table 4.1: Reasons for registering for an ODL course

Distance from higher education institution	n = 34	15.45%
Family obligations	n = 16	7.27%
Flexibility	n = 52	23.64%
Financial considerations	n = 41	18.64%
Work obligations	n = 73	33.18%
Other	n = 4	1.82%

Financial considerations are highlighted by participants as one of the main reasons for registering for an ODL course, followed by the flexibility of ODL courses and geographical distance from the case institution. *Other reasons* why education ODL students registered for an ODL course are the personal need to develop through continuing education, the goal of pursuing a degree in education, fulfilling personal and life goals and the advantage of gaining work experience while studying.

4.2.2 Engagement with the institution's support services and resources

4.2.2.1 Access to support services and resources

Participants access their education ODL modules utilizing desktops (7.73%), laptops (70.45%), smart phones (18.64%) or tablets (3.18%). The internet is accessed from home (n=178), work (n=23), Internet Café, Wi-Fi hotspots or public/community/family members' or friends' Wi-Fi (n=17) and off-campus study centres (n=2). Participants (N=220) rated their ease of access to the case institution's support services and resources between good and excellent.

Participants rate their satisfaction with registration and enrolment, the application for funding, availability of, and access to the course and general institutional information as follows (cf. Table 4.2):

Table 4.2: Education ODL students' satisfaction with access to institutional support services and resources

Registration and Enrolment	3.30
Application for Funding	2.78
Availability of, and access to course information	3.58
Availability and access: case institution's information	3.54

Participants indicated that they frequently (32), quite often (n=46), often (n=92), seldom (n=36) or never (n=14) require institutional support (cf. Figure 4.1):

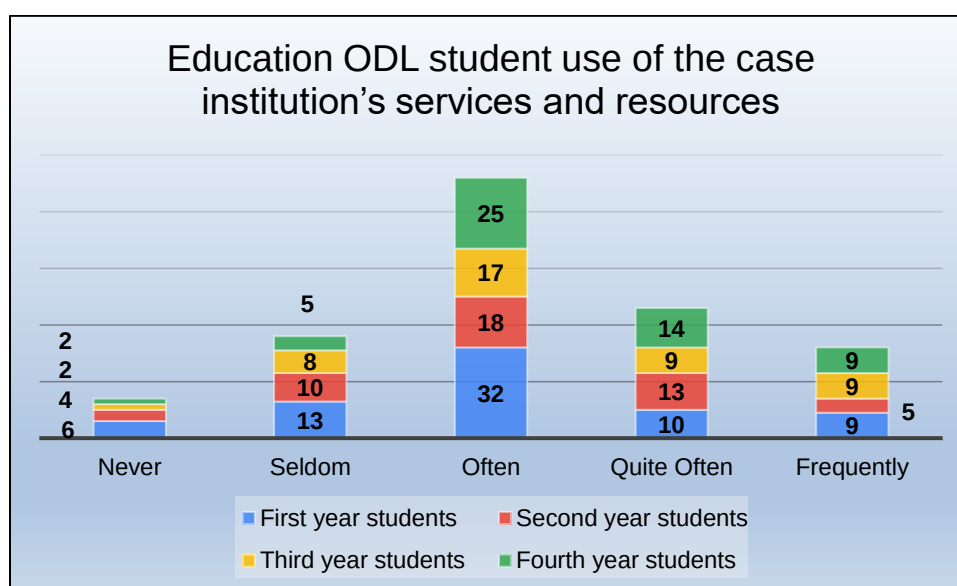


Figure 4.1: Education ODL student use of the case institution's services and resources

4.2.2.2 Nature of the support services and resources required

Only n=22 education ODL student participants consulted with a faculty adviser, academic adviser or career counsellor before registering for their ODL course. Education ODL students between the ages of 18 and 24 (37.73%) and 25 and 34 years of age (36.36%) regard the opportunities and initiatives offered by the Centre for Teaching and Learning: Student Academic Development and Support (CTL: SADS) more essential to enhance academic success than participants between the age of 35 and 44 (17.73%) and older than 45 years of age (8.18%).

The nature of the support services and resources required by education ODL student participants is summarised in Table 4.3:

Table 4.3: Nature of Support Services ODL students require

Academic support	n=122	Resources, study material & textbooks	35,25%
		Library	12,95%
		Lecturer	50,81%
		Student Academic Development and Support	1,63%
Administrative support	n=47	General	17,02%
		UODL Call Centre	23,40%
		Financial	25,53%
		Registration	34,04%
Technical support	n=22	General	14,28%
		LMS	71,42%
		Interactive whiteboard sessions	18,18%
ICT support	n=12	Devices	42,00%
		Data	48,00%

The nature of support that 3rd and fourth-year students require, centres mainly on Library Services and Information Technology Support Services. Participants in their first year seem to require support from Financial Services frequently, while second-year students require support from the Writing Centre more often than participants in other study levels.

4.2.2.3 Consultation history with non-faculty institutional support services and resources

The consultation history of N=220 education ODL student participants with non-faculty related institutional support services and resources are summarised in Table 4.4:

Table 4.4: Education ODL students' consultation history with non-faculty related support services and resources

		Participants with <i>no</i> consultation history with institutional support service and/or resource	Participants with prior consultation history with institutional support service and/or resource
CTL:SADS	First-year students	25.91%	5.91%
	Second-year students	18.64%	4.09%
	Third-year students	15%	5.45%
	Fourth-year students	21.36%	3.64%
		80.91%	19.09%
Student Counselling and Development	First-year students	30.91%	0.91%
	Second-year students	20.45%	2.27%
	Third-year students	19.09%	1.36%
	Fourth-year students	23.18%	1.82%
		93.64%	6.36%
Career Centre	First-year students	30%	1.82%
	Second-year students	20.91%	1.82%
	Third-year students	19.55%	0.91%
	Fourth-year students	23.64%	1.36%
		94.09%	5.91%
Faculty Advisers	First-year students	27.27%	4.55%
	Second-year students	18.64%	4.09%
	Third-year students	19.09%	1.36%
	Fourth-year students	22.73%	2.27%
		87.73%	12.27%

Financial Support Services	First-year students	21.82%	10%
	Second-year students	14.09%	8.64%
	Third-year students	12.27%	8.18%
	Fourth-year students	20.45%	4.55%
		68.64%	31.36%
Crisis Line	First-year students	31.36%	0.45%
	Second-year students	20.91%	1.82%
	Third-year students	20%	0.45%
	Fourth-year students	24.55%	0.45%
		96.82%	3.18%
Social Work Services	First-year students	30.91%	0.91%
	Second-year students	21.36%	1.36%
	Third-year students	20%	0.45%
	Fourth-year students	25%	0%
		97.27%	2.73%
HIV and AIDS Services	First-year students	31.82%	0%
	Second-year students	22.27%	0.45%
	Third-year students	20%	0.45%
	Fourth-year students	25%	0%
		99.09%	0.91%
Disability Rights Unit	First-year students	31.36%	0.45%
	Second-year students	21.82%	0.91%
	Third-year students	19.55%	0.91%
	Fourth-year students	24.55%	0.45%
		97.27%	2.73%
Library and Information Services	First-year students	21.82%	10%
	Second-year students	12.73%	10%
	Third-year students	8.64%	11.82%
	Fourth-year students	10.91%	14.09%

		54.09%	45.91%
Information technology (IT) Support Services	First-year students	25%	6.82%
	Second-year students	15.45%	7.27%
	Third-year students	11.82%	8.64%
	Fourth-year students	14.55%	10.45%
		66.82%	33.18%
Student Representative Council	First-year students	30.45%	1.36%
	Second-year students	21.36%	1.36%
	Third-year students	19.09%	1.36%
	Fourth-year students	25%	0%
		95.91%	4.09%
Writing Centre	First-year students	27.73%	4.09%
	Second-year students	16.82%	5.91%
	Third-year students	16.82%	3.64%
	Fourth-year students	21.82%	3.18%
		83.18%	16.82%
Unit for Open Distance Learning Call Centre	First-year students	10.91%	20.91%
	Second-year students	5.91%	16.82%
	Third-year students	5.91%	14.55%
	Fourth-year students	5.91%	19.09%
		28.64%	71.36%

Participants' consultations pertain mainly to the UODL Call Centre, Financial Services, Library and Information Services, Information Technology (IT) Support Services and the Admissions Office. Consultations of a technological nature centres mainly on using the case institution's LMS.

Education ODL students seem quite satisfied with access to institutional information, although a lower satisfaction rate is experienced on the availability of and access to Financial Support Services and the Admissions Office (registration and enrolment). This is noteworthy since it relates to Tinto's Revised Model of Student Integration that is described as an "interactive model" that is "dynamic in so far as students' goals and intentions are continuously reshaped through

interactions with the university and its academic and social structures” (Schreiber *et al.*, 2014:v) and the perceptions they have of these interactions (Tinto, 2014:6, 9).

Only a fifth of the participants (mainly first and third-year education ODL students) have had consultations with CTL: SADS. Less than a fifth of the participants have consulted Student Counselling and Development, Student Counselling and Development, the Crises line, Social Work Services, the Disability Rights Unit, Writing Centre, and the Student Representative Council.

4.2.2.4 Additional institutional support services and resources required by education ODL students

A total of n=24 participants are satisfied with the range of institutional support services and resources offered. Recommendations for additional institutional support services and resources to be made available can be grouped into two categories namely (a) access to the availability of feedback from and responsiveness of non-academic or non-faculty related support services and resources, and (b) access to the availability of feedback from and responsiveness of academic or faculty related support services and resources.

Concerning access to the availability of feedback from and responsiveness of non-academic or non-faculty related support services and resources, education ODL students’ recommendations seem to centre on administration, finances, admissions and registration and student counselling.

General administrative support services and resources

Participants (15%) require non-academic or non-faculty-related support services and resources to be more responsive. One of the participants suggested that the case institution provides a video call service (to ensure that their concerns are understood), coupled with a rating service (to make it possible for the institution to track its service record) (ODL-EDU-Q1-P219). Putting a human face to an enquiry creates a human connection and ODL students may feel that the person attending to the enquiry may feel more accountable or inclined to provide support. Education ODL student participants observed that they require all the support services and resources that the case institution provides to residential students to ensure their success.

Some of the responses included:

ODL-EDU-Q1-P2	List of services and their contact details sent with registration packet.
ODL-EDU-Q1-P135	I would like a call centre which one can call and be helped quicker as well as correctly.
ODL-EDU-Q1-P219	A video call service where I can speak to adviser face to face so I can see if they understand my concerns and with a rating required after the call if they answered your question/helped
ODL-EDU-Q1-P152	All services that the contact students have, to enable me to study effectively as I'm a distance student
ODL-EDU-Q1-P55	Not necessarily more, but rather more user friendly

Financial support services and resources

In consideration of the social, economic, and transformative needs of post-apartheid South Africa, the Department of Higher Education and Training (DHET) has indicated that one of its obligations is “to increase access to educational opportunities for those who experience barriers to learning and for young people who are not in education, training or employment” (DHET, 2017:367). To increase educational opportunities to potential students in areas of geographic isolation, with a lack of time for structured learning due to work or family obligations, experiencing financial constraints and past learning experiences that restricted accessibility and alienated learners, the DHET’s Open Learning Policy for Post-School Education and Training adopted open learning.

O’Rourke (2009:6) refers to two “quite different paradigms for ODL” that affect the approach to meeting learning needs - providing accessible education as a consumer service (operating on market principles to generate profit) or providing accessible education for all to “sustaining a just society”. The latter paradigm is aligned with Perna’s (2014:31) notion that the focus of HEI should not only be on degree completion but also on the “future economic and social well-being” resulting from learning.

The thematic analysis highlighted participants’ (21.25%) concern that in terms of financial support services and resources, they are not being treated the same as contact students. Here they highlighted, for instance, that family discounts are only extended to contact students, that merit

bursaries for academic achievement exclude ODL students and that there seems to be limited National Student Financial Aid Scheme (NSFAS) allowance for unemployed ODL students. One participant responded that: “I was told that we already pay less than on campus students” (ODL-EDU-Q1-P67), which excluded her from various benefits available to on-campus students.

Participants emphasised their financial struggles and a lack of bursaries to alleviate some of the financial challenges they experience. Financial considerations may relate to some participants’ concerns about being unable to afford data and devices. Since 80% of the participants access their studies from home, this is an understandable concern. The fact that a fifth of the students accesses their ODL modules by using their own, or a family member’s or a friend’s smart phone, does not align with the Department of Higher Education and Training’s (DHET) indication that one of its obligations is “to increase access to educational opportunities for those who experience barriers to learning and for young people who are not in education, training or employment”. Some of the students’ responses included:

ODL-EDU-Q1-P61	Financial Support: The university should take into consideration ODL that are unemployed. Not all of us can afford to buy ourselves data and devices. If the university does not try to support ODL students as they do Contact students, I will have to ask that I convert to being a Contact student.
ODL-EDU-Q1-P153	Family discount (available for contact students but not distance)
ODL-EDU-Q1-P194	Payment arrangements suitable for each individual
ODL-EDU-Q1-P224	Financial services, because a lot of students struggle to pay for their own studies and struggle to get bursaries to help.
ODL-EDU-Q1-P31	Merit bursary: I was told that ODL students do not qualify for it. I feel we might work something twice as hard as the contact students because we work and study and only once a week a contact session. I study with a study loan and if it means I get rewarded for my hard work and get money off, my study loan will be smaller and will ease the load when I need to start paying it back.

ODL-EDU-Q1-P34	Provide NSFAS allowance for unemployed ODL students, to at least cover data, Internet cafe and transport costs
ODL-EDU-Q1-P67	Firstly a bit more respect. It feels like we are being pushed aside and mistreated because we are not on campus students. Discount on our studies as well if we reach distinctions. I was told that we already pay less than on campus students so I can't receive discount on my studies for my good marks.
ODL-EDU-Q1-P57	Merit bursary, to help with financial stress and help acquiring devices, since a lot of ODL students use their phones as the main device to write test and do assignments on.

Admissions and registration processes

Participants' (6.25%) concerns about not knowing which modules to choose, or requiring more information on the available modules when they register (what the purpose of a specific module is and why it is mandatory to take certain modules) - or simply not knowing how things work as first-time HEI ODL students - indicate that education ODL students may be unaware of the wide range of support services and resources offered by the case institution. Students' responses included:

ODL-EDU-Q1-P76	How things work if you are first time student at the university
ODL-EDU-Q1-P225	More information about modules you have to choose to register
ODL-EDU-Q1-P117	How to know which modules to choose in the beginning of each semester or when registrations are required, as information regarding what the purpose of each module is and what it is about and why it is often mandatory to take is unavailable.

Student Counselling Services

Students are often drawn to ODL courses and e-learning because it allows them the flexibility to study, while fulfilling work and family commitments. However, ODL students experience the same

transitional period to adapt to tertiary education as their on-campus counterparts while finding and maintaining a balance between work, family, and study. The personal challenges they experience are evident in participants' (7.5%) concern about their emotional wellbeing. Student responses included:

ODL-EDU-Q1-P24	Student Counselling (Therapy)
ODL-EDU-Q1-P165	A student counsellor. As students we go through so much and we often have no one to talk to so I think a student counsellor would really be helpful to a lot of students.

In relation to access to, the availability of, feedback from and responsiveness of academic or faculty related support services and resources, education ODL students' (n=126) recommendations seem to centre on the student centres, interactive whiteboard and synchronous online class interactions, the curriculum, work-integrated learning, module schedules, calendars and due dates, module lecturer availability, feedback, responsiveness and communication, peer support and information and ICTs.

Study centres

Participant concerns (1.16%) centred on access to conveniently located study centres, the number of available study centres, and staff providing information at these centres.

Students' responses included:

ODL-EDU-Q1-P91	Assigned instructors and Admin support staff in each province to provide necessary face to face support when needed especially for students who work full-time and do not have the luxury of traveling to Potchefstroom
ODL-EDU-Q1-P73	More exam centres in rural west coast area
ODL-EDU-Q1-P161	You have an office in Windhoek, but I think the people there don't have much knowledge with regard to course modules. I did not have any idea of what modules I should complete for my course until I had access to efundi. I did not know that I can choose my modules, I was just registered for all. We sometimes have technological difficulties that takes too long to solve - I did not have access to efundi until 28 February 2020. The office personnel either needs more support from SA, or more skilled people should be appointed.

Study material

Participants (8%) highlighted frustration regarding access to study material. Their frustrations include not receiving textbooks on time (and why the case institution does not make an effort to deliver study material a few months in advance or rather prescribe e-books instead) and study material that is not made available on the case institution's LMS in advance so that they can prepare adequately. Due to the COVID-19 pandemic and national lock-down, the delivery of textbooks was interrupted and may have contributed to many ODL students feeling frustrated in this regard.

Participants indicated that they want the "resources that contact students also get" (cf. ODL-EDU-Q1-P95). Participants indicating the need to be treated in the same manner as their face-to-face counterparts, were reflected in a number ODL student responses. Participants' concerns in this regard align with Bangeni's (2003:149) observation that ODL students "should not be made to feel that they are receiving services that are not equal to those received by residential students". Tinto considers the variation among online and face-to-face courses as a possible reason why the retention rate for online students is on average lower than that of on-campus courses (Tinto, 2014:6).

Some of the students' responses include:

ODL-EDU-Q1-P92	EBooks would be helpful as students don't always receive their books in time and they struggle to do assignments and tests.
ODL-EDU-Q1-P99	I would recommend that study material be sent out a semester earlier in order to ensure that students have the required textbooks etc. to complete their assignments
ODL-EDU-Q1-P123	List of all required textbooks per subject, in order to determine if you have received what you should have.
ODL-EDU-Q1-P103	Better and quicker way of delivering books
ODL-EDU-Q1-P95	The resources that contact students also get, because sometimes as an ODL student it is difficult to get other external information on the internet.
ODL-EDU-Q1-P43	More recorded lectures
ODL-EDU-Q1-P158	PowerPoints made available beforehand not only when exams is on hand
ODL-EDU-Q1-P209	All lectures be made available, power point not helpful enough. We need to hear what the instructor explains.
ODL-EDU-Q1-P184	Upload all information on eFundi
ODL-EDU-Q1-P89	Instructors need to upload material well in advance for online students to prepare. We are not full time students and have work and family commitments. They treat us like we are full time students and can do tests and assignments in a short space of time.

Interactive whiteboard and synchronous, online class interaction

Participants (3.16%) indicated that they would benefit from more frequent and more prolonged online sessions to provide them an opportunity for in-depth engagement with content. Students' responses included:

ODL-EDU-Q1-P60	More online classes
ODL-EDU-Q1-P83	To have frequent online sessions to explain the material instead of just giving a briefing on efundi or doing the session after an assignment has been submitted.
ODL-EDU-Q1-P147	I just want to mention that it is not helpful to students when there are such limited whiteboard session. Sometimes instructors try to fit 80 to 90 slides in a 45 min session. It is unlikely that all can grasp such large quantities of work in such a short period. Many instructors are also concerned with their own studies and neglect the students. I have experience this so many times.

Curriculum

According to Tinto (2017:258), “[p]erceptions of the quality and relevance of the curriculum” reflects perceived institutional quality. This aligns with the DHET’s Open Learning Policy for Post-School Education and Training (DHET, 2017:363, 367) document’s emphasis on “the maintenance of rigorous quality assurance over the design of learning materials and support systems”. This is noteworthy in relation to one participant’s concern about module standards:

ODL-EDU-Q1-P68	There should be someone checking that all modules/faculties are running at the same standards.
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Work-integrated learning

Concerns related to work-integrated learning centre on administrative issues include:

ODL-EDU-Q1-P127	The WIL services whereby one will be able to choose their own school without having complications such as, the school not being informed of the placement and also Study material because study materials are not delivered on time to students and sometimes there are some that are actually missing.
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Schedules, calendars and due dates

Participants (3%) refer to the uncertainty caused by module calendars and schedules that are not published timeously to alert students to due dates. The participants again referred to having “the same time on assignments and equal support than on-campus students” (cf. ODL-EDU-Q1-P65). This is noteworthy because ODL students often have to balance work and family commitments with completing a formal online qualification which requires careful planning on the part of the ODL student. This aligns with Sorensen and Donovan’s (2017:218) suggestion that HEI invests in “additional time management and organization coaching for [ODL] students.” Students’ responses included:

ODL-EDU-Q1-P200	A Clear schedule so that we can make sure we are up to date. Because we are not in the lecture room, we have to go through the semester work on our own. It will be easier if you know by next week I should be done with this chapter.
ODL-EDU-Q1-P63	A consolidated calendar reflecting due dates for all modules. The service exists but not all instructors make use of it. It would really help as sometimes due dates are changed and it can be overwhelming to stay on top of changes while at work.
ODL-EDU-Q1-P70	I need more organisation. I need a calendar that clearly states when the semester starts and when exams start. I need the instructors to discuss due dates and not have all assignments or tests due for the same week.
ODL-EDU-Q1-P49	A set calendar for specific modules as the uncertainty of dates causes great anxiety among students and instructors do not communicate this information in a timely manner or cannot give us a specific answer or clear response. In some cases there has been no response from instructors or support services

Module lecturer availability, general feedback and responsiveness (10%) and communication of guidelines and instructions (3%)

The availability of module lecturers to offer support is of great concern to education ODL students. Their concerns range from a lack of clearly communicated assignment guidelines and instructions, to insufficient feedback and the responsiveness of module lecturers to student email enquiries.

The responses suggested that ODL students often feel in the dark and neglected due to a lack of feedback, while late feedback does not support them to learn from their mistakes. Participants therefore indicated that they value peer support in WhatsApp groups to get quick responses when module lecturers are unresponsive. The lack of support perceived by students is noteworthy when one considers that “learning is an intrinsically human activity that needs to be supported in many places and in many ways” (Benedicks, 2018). The student’s ability to cope with an absent module lecturer may sometimes negatively influence their performance and/or motivation to continue their studies (Sorensen & Donovan, 2017:215). This further aligns with one participant’s request to

“have a contact student for each module that can ask the instructor questions as we do assignments so that no delay can occur” (ODL-EDU-Q1-P101).

However, there are two sides to the feedback coin, and although the module lecturer’s challenges regarding availability and the provision of timely feedback are discussed in part 3 of this chapter, a better understanding of communication in an online environment may be called for. A study conducted at the University of South Africa (UNISA), relating to the fundamental aspects of student communication, and the relationship between the university in general and the student, found that “[m]ost research focused on a reductionist use of technology and pedagogy in the teaching and learning environment as opposed to a focus on the fundamental human relationship between the university and students” (Van Niekerk & Schmidt, 2016:197).

A lack of research on how communication works in the distance learning environment may contribute to the isolation of students and feelings of frustration that their learning is not only at a distance, but for all purposes distant (out of reach) (Van Niekerk & Schmidt (2016:198).

Communication and human connection cannot be replaced by publishing information on websites or learning management systems. Students may experience a sense of academic disconnect from the institution if they feel that their academic interests are not supported by the institution (Tinto, 2017:262). Students’ responses included:

ODL-EDU-Q1-P96	Assignment should be more clear, because off ODL it is difficult to understand what they expect and how we should do it.
ODL-EDU-Q1-P66	More guidance with assignments You do it and hope for the best Sometimes there is no feedback before the exam so you still don't know if you are on the right track
ODL-EDU-Q1-P65	The same time on assignments and equal support than on campus students
ODL-EDU-Q1-P44	I suggest the instructors to have admin personnel that can address issues that don't necessarily require the instructor's attention. That way the instructor can concentrate on educating and assessing.

ODL-EDU-Q1-P88	Face to face time with instructor or facilitator even on skype or zoom once of each module before examination time, so ask all the questions and understand where did you go wrong with you assignments because feedback does not explain.
ODL-EDU-Q1-P119	More availability from the lectures for questions regarding the module or work.
ODL-EDU-Q1-P139	Lectures being available at all time, extension on assignments. ODL students don't always have excess to internet, some notification/emails don't reach us in time. Traveling for examination facilities is costly and trying
ODL-EDU-Q1-P142	Access to speak to instructors because helpdesk doesn't answer phones or can't help you
ODL-EDU-Q1-P33	Feedback feedback feedback. The ODL students are always in the dark. We feel it's only the on campus students where effort is made for
ODL-EDU-Q1-P172	Quick feedback, it sometimes take long for us to know how we perform
ODL-EDU-Q1-P220	Answer emails and phones more frequently
ODL-EDU-Q1-P131	The support offered by NWU is great, it is just beyond functional. The call centre does not work at all as very little calls get answered or problems resolved and the email system neither. You only have certain people responding to email and inquiries. Some instructors do not even take pride in answering their emails on academic matters. Spending hours to resolve admin issues is not what ODL is supposed to be
ODL-EDU-Q1-P71	Quicker replies and clearer communication
ODL-EDU-Q1-P206	To be notified where we as students stands when it comes to assignments, we are always left in the dark and it takes up to weeks for a lecture to respond to emails. I would recommend by employing a person that only focus on emails and nothing else.
ODL-EDU-Q1-P26	More chat groups on other platforms because not everyone has a computer and we mostly communicate on WhatsApp

ODL-EDU-Q1-P16	WhatsApp groups with the instructor of each subject. Because they never answer their emails.
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Peer support

Participants (3%) suggested that there should be a go-between person between the students and the module lecturer to ensure timely feedback, that tutoring of content is provided, and that they can connect with fellow students. The need for peer support is highlighted in Peters and Romero's (2019:1736) research on student engagement in the continuum between formal and informal learning and reflected in their observation that "[s]tudy participants also reported a need to develop peer-mentorship models to support those beginning the programme navigate an often-overwhelming process of initiating central learning processes". This aligns with the Nicpon *et al.* (2006:354) statement that "more peer support was significantly related to less loneliness and more positive academic persistence decisions". Students' responses included:

ODL-EDU-Q1-P101	Have a contact student for each module that can ask the instructor questions as we do assignments so that no delay can occur
ODL-EDU-Q1-P190	The setting up of formal WhatsApp groups for distance learners to connect with each other
ODL-EDU-Q1-P226	Tutoring services to assist the learning as well as instructors.

ICTs

Differential access to devices, data, and connectivity, and the subsequent unequal opportunities to obtain the computer and digital skills required to operate ICTs continues to widen the digital divide already existing in South Africa. Participants (5.5%) need additional institutional support to acquire devices and data, and skills development relating to their use of the case institution's LMS. Students' responses included:

ODL-EDU-Q1-P85	R0,00 rated NWU site, Gadgets and transport allowance. Because Not Everyone Doing ODL Is Working And Can Afford To Satisfy Their Resources Or School Needs, Gadgets And Data Are Necessity Because Not Even A Smart Phone I could Afford Even A Data.
ODL-EDU-Q1-P104	Data to access information
ODL-EDU-Q1-P23	There are students that would need laptops. I bought myself one because I'm working. What about that student that does not have an income?
ODL-EDU-Q1-P198	To explain Efundi to 1 year students it took me a while to understand.
ODL-EDU-Q1-P69	A service that explains when and how instructors use e-fundi and if they don't

4.2.3 Successful completion of disciplinary modules

Questions were formulated in section three of the questionnaire to understand the academic support services and resources required by education ODL students to complete disciplinary modules successfully. Questions pertained to the academic support services and resources the case institution provides, that facilitate the successful completion of disciplinary modules (such as familiarity with online learning, engaging with content, navigating the course platform and resources, interpretation of module lecturer feedback and announcements, the academic processes, skills and strategies required to be successful in their studies, content-competency and the development of digital and technological skills).

4.2.3.1 Access to learning resources

Participants seem confident in their ability and proficiency to access course material, and rated their ability to access learning resources and content online and their information and computer literacy proficiency between acceptable and excellent (cf. Table 4.5):

Table 4.5: Education ODL students' information and computer literacy proficiency

To access learning resources and module content	2.14
Information literacy	2.36
Computer literacy	2.45

Participants also seem confident to perform tasks in a digital environment and to navigate course material online (cf. Table 4.6).

Table 4.6: Education ODL students' confidence in a digital environment

Performing tasks in a digital environment	2.23
Navigating course material online	2.16

Although a total number of n=80 participants seem very confident in performing tasks in a digital environment and navigating course material online, n=42 participants stated that they may require additional support to develop their technological skills: (cf. Figure 4.2):

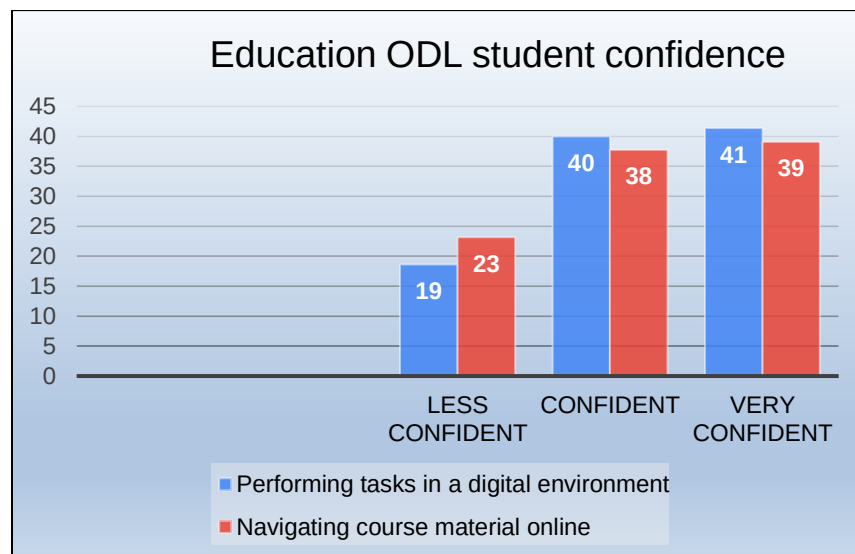


Figure 4.2: Education ODL student confidence to perform tasks in a digital environment

4.2.3.2 Critical skills to succeed in an ODL environment

Participants consider time management (n=173), developing independent study habits (n=158) and, especially, taking responsibility for their learning (n=174) as essential skills for their academic success and completion of disciplinary modules in an ODL environment. This is noteworthy because these skills imply “learning presence” which is described by Shea *et al.* (2012:90) as the “metacognitive, motivational, and behavioural traits and activities that are under the control of successful online learners”.

When a student enrolls in an ODL course it is simply accepted or assumed that he or she has (a) good time management skills, (b) the ability to create and maintain a study schedule, (c) self-discipline to stick to a study schedule, (d) effective communication skills, (e) confidence to ask for help, (f) the ability to make contact with other students and the lecturer online, (g) independent study habits, (h) the ability to construct knowledge, (i) “complete assignments without direct supervision”, (j) self-motivate, (k) the desire to “learn skills and acquire knowledge”, (l) the ability to formulate short term and long term educational goals, (m) academic readiness which includes essential reading and writing literacy skills, and (n) digital literacy skills (Michigan State University, 2021:5-6). However, the document analysis of the academic peer mentor recordkeeping sheets points to n=923 instances (cf. Point 4.4.2.3) where student mentees required support to develop their academic skills. An awareness among education ODL students of the skills that are important to their academic success, does not necessarily imply that they do not require support to develop academic skills (cf. Figure 4.3).

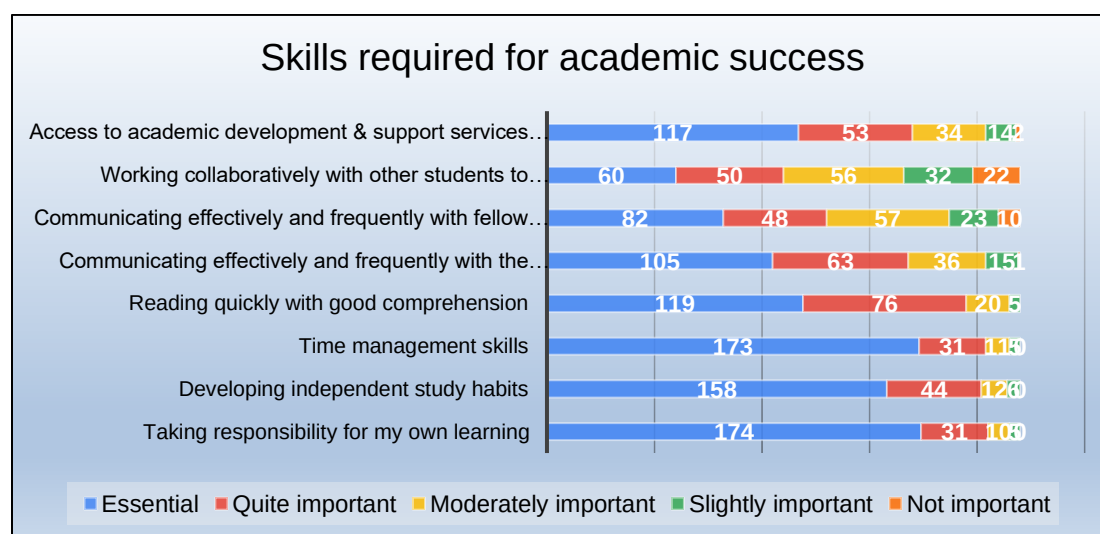


Figure 4.3: Essential academic skills for academic success in ODL environment

4.2.3.3 Communication with the module lecturer

Sixty-eight percent of the participants indicated that they prefer email to communicate with their module lecturers. Participants (24%) indicated a preference to communicate via WhatsApp with their module lecturers. In the case of the study their preference to communicate via e-mail with the module lecturer was in contrast to the module lecturer's perception that her students prefer WhatsApp to communicate with her. Participants' preferences regarding the e-tools they use to communicate with their module lecturer are as follows (cf. Figure 4.4):

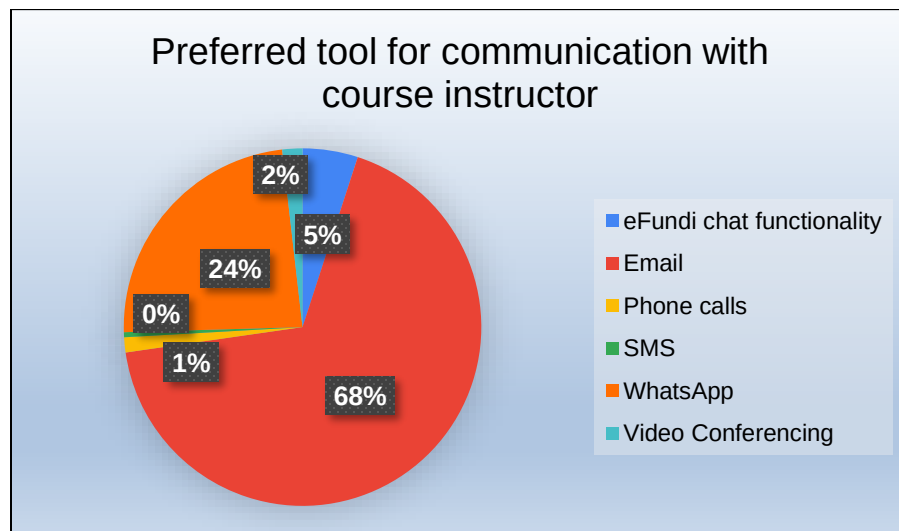


Figure 4.4: Preferred tools for communication with module lecturer

4.2.3.4 Module lecturer feedback

Participants (n=40) seemed to be extremely satisfied with the feedback provided by the lecturer. Participants' comments on how feedback may be improved upon, focussed primarily on a feedback turnaround time that is either too slow or too late (n=78), and not comprehensive, specific, or detailed (n=50) enough to learn from prior mistakes. Participants' concerns relating to feedback may be considered in relation to Sorensen and Donovan's (2017:215) postulation that if the module lecturer is absent, "the student may feel as if he/she is in it alone and believe they cannot or should not reach out to the instructor for support". This is also aligned with Bangeni's (2003:143) observation that interaction affects ODL students' "feelings, attitudes, interpersonal relationships as well as motivation". Students' responses related to feedback include:

ODL-EDU-Q1-P68	There should be a strict marking time/feedback deadline for each assessment. I waited 3 months for assignment 1 to come back for a module and by that time I had to then write my final assessment without feedback.
ODL-EDU-Q1-P131	Our assignments should be marked and feedback provided quicker. On campus students get feedback within a reasonable time. ODL feedback sometimes takes weeks while it is important to understand what mistakes have been made so that learning and improvement can take place. In many instances marks were only released 2 weeks before exams.
ODL-EDU-Q1-P176	Complete feedback in the specific given times. No broken promises please.
ODL-EDU-Q1-P8	Communicate when feedback will be available.
ODL-EDU-Q1-P200	I would like to receive feedback on the smaller test we do. Because then I can be more prepared for exams. Also if there can maybe be a video or podcast where the lecture talk about the tasks. Because most times I get my marks back and still don't know what I could have done better.
ODL-EDU-Q1-P195	Online tests seldom gave feedback in terms of what the correct answer was - this means that there was limited opportunity to learn from mistakes. Assignments and assessments had more detailed feedback but this came relatively late in the semester, again leaving little time/opportunity to identify weaknesses and learn from mistakes (e.g. before the next assignment was due).
ODL-EDU-Q1-P181	Some instructors have taken opportunity during a whiteboard session to reflect on common mistakes make in a previous task. This would be an acceptable mode of feedback if all instructors could do it.
ODL-EDU-Q1-P164	Provide feedback that is more personalized instead of using common feedback.
ODL-EDU-Q1-P117	More detailed responses/footnotes to assignment's question being wrong and videos/PowerPoint presentations of the assignments to explain what the instructors expected of the students, as many instructors give minimal feedback and students still don't understand why they got the marks that they did.

ODL-EDU-Q1-P49	By possible attaching a feedback sheet for feedback using different categories. Almost like a rubric, instead of only supplying a mark.
ODL-EDU-Q1-P41	More information when a rubric is given, not just a number for understanding or not. An explanation is also important. Some instructors take time out and give more of an explanation about what is lacking than others. Which I find useful.

4.2.3.5 Engagement with module content

More than half of the participants prefer course content presented via visual media, such as graphics and videos (54.36%), printed text (21.36%), and audio, such as podcasts and sound recordings (8.63%). Participants (n=16) indicated that they prefer module content to be presented synchronously via video conferencing tools such as Zoom or Microsoft Teams or live whiteboard sessions.

Participants (n=13) indicated their satisfaction with how they are learning (studying or comprehending) module content, while participants (n=17) indicated that mastering (learning or comprehending) module content is the responsibility of the individual student registered for the course. Participants observed that their performance in the module may be improved by timely, frequent, clear, and comprehensive communication of information guidelines and instructions (n=39) and sufficient explaining and organisation of content, timeously published module timeframes with achievable due dates (n=17). Students' responses included:

ODL-EDU-Q1-P89	Instructors need to send information well in advance. Not last minute.
ODL-EDU-Q1-P151	More frequent and thorough communication between instructors and students
ODL-EDU-Q1-P58	Providing proper feedback and encouraging the students
ODL-EDU-Q1-P190	an increase in feedback frequency and helpfulness
ODL-EDU-Q1-P195	Good feedback on assessments

ODL-EDU-Q1-P68	Clear instructions/guidelines/rubrics
ODL-EDU-Q1-P180	To keep in mind each ODL students has a different living environment and not just to expect we know everything and to give more clear instructions and guidance.
ODL-EDU-Q1-P92	Instructions should be done properly in an understanding way. Sometimes the instructions are vague and during an assignment additional instructions follow and students have to change some aspects they have completed which is frustrating.
ODL-EDU-Q1-P177	If the instructor addresses the different assessments at the beginning of the course it allows students to work more at their own pace and complete assessments in a time that is convenient for them. However, many instructors discuss assessments too close to the deadline date, which disadvantages those that want to get on top of their work at an earlier point in time.
ODL-EDU-Q1-P76	Due Dates of work given should not be too close to one another due to many having lots of modules
ODL-EDU-Q1-P168	Having time frames on how we need to go through our work and by when we needed to complete which study unit will help a lot to mastering content properly rather than having to rush through work of all the subjects because you are pressured by time.
ODL-EDU-Q1-P200	It will be easier if learners receive a schedule for each module. So that you know how many hours of work you should put in to stay up to date. It feels overwhelming if you have a semesters work to go through and you don't know if you are working fast enough. When in class you kind of know where you should be at because you are working with the lecture.

ODL students asked for consideration of their unique academic performance needs as ODL students (n=10). Participants refer to the challenges of balancing work, family, studying, and having personal time, which they understand requires effective time management skills. However, they perceived that these skills are rendered insignificant because due dates and deadlines for submitting assignments or assessments (in the various modules) are often too close together and subject to change. The observation by participants that they need their unique challenges as ODL students to be considered, is confirmed by Bangeni's (2003:148) indication that ODL students

“expect to be seen as human beings and adults who have their own problems in specific environments/contexts”.

Students’ responses included:

ODL-EDU-Q1-P95	Instructors need to be more considered when it comes to ODL students, more information and resources should be given to us.
ODL-EDU-Q1-P22	Lectures need to be more specific with assessments and keep in mind that the ODL students also have a work.
ODL-EDU-Q1-P149	Time duration, some assignments due during the day while I am at work
ODL-EDU-Q1-P218	Make ODL students just as important as contact students
ODL-EDU-Q1-P198	to take ODL student serious too

To support content-comprehension, 74% of the participants indicated they would benefit from opportunities and initiatives to develop their academic skills, strategies and processes, while 21.36% of the participants felt unsure and 4.43% of the participants indicated that they would not benefit at all from such opportunities and initiatives.

Participants n=145 (66%) indicated that they would benefit from peer-assisted learning programmes (such as Supplemental Instruction, tutoring or academic peer mentoring). Participants n=58 (26.36%) observed that they may benefit from such opportunities, participants n=17 (7.7%) doubt that such opportunities will benefit them.

4.2.3.6 Challenges in completing disciplinary modules

A total of n=80 participants described having sufficient time for their studies as their greatest challenge within the education ODL environment. A total of n=15 participants find it challenging to balance work, family, studying and personal time. A total of n=12 participants find due dates for submitting assignments or assessments that are too close together or that are often subject to change, especially challenging to manage their time effectively.

Students' responses included:

ODL-EDU-Q1-P186	Finding balance between work, family and my studies.
ODL-EDU-Q1-P157	Finding enough time to complete all tasks and to balance work, studies and personal life.
ODL-EDU-Q1-P40	Having to start early with assignments or start at all. Managing my time to work and not postponing.
ODL-EDU-Q1-P129	I sometimes struggle with my time management but that is my own fault
ODL-EDU-Q1-P91	Finding time to complete everything on time as the workload is a lot. I sometimes feel. That instructors forget that all students are not fresh out of high school with no responsibilities. We are always expected to manage time lines and adhere to deadlines but they cannot afford us the same.
ODL-EDU-Q1-P218	To much to do and not enough time
ODL-EDU-Q1-P168	Time, working through all the subjects content and getting the marks you want can be overwhelming. The greatest challenge I experience is stress for time and getting everything done in time.
ODL-EDU-Q1-P179	Constant due date changes on assignments
ODL-EDU-Q1-P124	Time. We sometimes receive all our assignments at once at are giving little time to complete it.
ODL-EDU-Q1-P176	Projects that need to be submitted on the same day
ODL-EDU-Q1-P3	Due dates for multiple subjects on the same dates or close to each other.

Further challenges are experienced due to a lack of module lecturer communication (n=16) and feedback (n=8), unclear guidelines and instructions (n=16), insufficient explaining of content (n=3), inconsistency (n=2), disorganised study content (n=3) and module lecturer unresponsiveness to render support (n=5). Student responses included:

ODL-EDU-Q1-P49	The lack of communication and response from the instructors.
ODL-EDU-Q1-P102	The lack of interaction between student and instructor is frustrating when studying
ODL-EDU-Q1-P2	Minimal communication with both instructors and students. And it's not for a lack of trying.
ODL-EDU-Q1-P144	Sometimes instructors take forever to get back to us.
ODL-EDU-Q1-P191	feedback is very slow or limited
ODL-EDU-Q1-P126	The instructors make it challenging. Not returning assignments with comments before a next one is due and thus me keeping repeating mistakes.
ODL-EDU-Q1-P119	The tasks at hand being unclear and struggling with resources to complete the task.
ODL-EDU-Q1-P203	Lack of consistency in learning materials, communication and deadlines.
ODL-EDU-Q1-P68	Modules do not have a similar outline/expectations. Some are unclear. There should be a set standard for all subjects.
ODL-EDU-Q1-P43	Not having clear instructions and not being able to get an answer straight away
ODL-EDU-Q1-P130	Lectures not explaining the current assignments very good and I have to think for myself what they actually want. Then getting bad marks because I did not understand what they wanted. I'm just a first-year student

ODL-EDU-Q1-P57	Explanation of course material, I mostly have to figure it out on my own.
ODL-EDU-Q1-P147	Some instructors do not know how to explain and teach module content especially in modules such as maths and physics.
ODL-EDU-Q1-P209	The lectures often speed through the lesson.
ODL-EDU-Q1-P219	The course content of all instructors are not organized and uploaded in time causing great distress and time consumption to find the proper information related to subject content
ODL-EDU-Q1-P15	Instructors not always willing to be helpful
ODL-EDU-Q1-P107	Neglect from the lectures to the ODL learners

Participants (n=13) found it difficult to complete their disciplinary modules without study material (textbooks that arrive late), while n=3 participants consider their study material to be insufficient to support their successful completion of disciplinary modules. Participants' responses included:

ODL-EDU-Q1-P161	Study material that is not delivered in time. In PGCE, we very often require subject-specific content, like maths. I have never taught before, so I do not know where to find this content. I would be great if we had access to that type of information as well.
ODL-EDU-Q1-P227	I got my study materials late and I struggle to cope with the assignments that I have to cope with.

ODL-EDU-Q1-P99	The greatest challenge is the delay in the study material. I understand that this year could have been affected by COVID19 for second semester study material, however, I only received my first semester material end of June and if it weren't for a student have the one textbook I would not have made it through my English. This is also a common problem for the last three years. The second semester material usually arrived in time, but not the first semester. Registration was also a stressful procedure as we are given a deadline which I submit well in advance, but then I only have correspondence near the end of February (once the semester has begun and assignments are due) that I was registered.
ODL-EDU-Q1-P153	Suitable learning material from some major subjects
ODL-EDU-Q1-P205	lack of content and extra explanations
ODL-EDU-Q1-P81	My greatest challenge would be not having enough recorded lectures of the course content; as well as sometimes not knowing where to seek help or guidance when experiencing a lack of understanding from tasks, activities, assignments, or general content of the course.
ODL-EDU-Q1-P33	To get much more info about the module. The learning material. I know its self-study but we don't always know what the instructors expect from us. If our material is correct

Participants pointed out they cannot complete disciplinary modules successfully without access to devices (n=2), connectivity (n=13), and data (n=4). Education ODL students' suggestion that institutional support is provided to fund devices, connectivity and data (n=10) is aligned with UNESCO's (2002:7) reference to "paradoxical situations where those who have the greatest need of them: disadvantaged groups, rural communities, illiterate populations, or even entire countries do not have access to the tools which would enable them to become full-fledged members of the knowledge society".

This aligns with Rohleder *et al.* (2008:139) and Curran's (2001:126-127) observation that in South Africa, students do not have equal access to resources (such as computer devices) and that they experience "differential access to computers and the Internet, with poorer groups in society and across nations having unequal access to the Internet". If the purpose of ODL is "the provision of distance education opportunities to mitigate or remove barriers" to learning (Commonwealth of

Learning, 2020), the significant financial implications for HEI funding students' data and devices cannot be denied. This does, however, not negate the fact that HEIs should be aware of ODL students' needs regarding access to devices (Sarsar & Harmon, 2018:68), as well as the competencies related to the use of these devices. Participants' responses relating to data and devices included:

ODL-EDU-Q1-P37	I have to borrow other people's laptop. If it's not available immediately I have to wait. And time is sometime not on my side
ODL-EDU-Q1-P57	Access to technology (laptop, Wi-Fi etc.)
ODL-EDU-Q1-P61	Using my mother's phone to complete assignments and write tests.
ODL-EDU-Q1-P64	The fact that most of the time I go to the internet café to do school work, its far and sometimes they are not working, and I struggle with money to buy data when I use my phone
ODL-EDU-Q1-P86	Internet connection and not having a laptop nor desktop to do assignments and projects makes life very difficult
ODL-EDU-Q1-P35	Network to access internet or being online as I stay in the rurals.
ODL-EDU-Q1-P214	Not having stable internet access
ODL-EDU-Q1-P172	Lack of data since a lot of things are done online
ODL-EDU-Q1-P163	Having To Access Information without Access Of Data Was Greatest Challenge

To overcome some of the challenges they experience to complete disciplinary modules, participants suggested the development of their academic skills (n=3), computer literacy (n=2) skills, as well as their ability to navigate the case institution's LMS (n=4). Participants' responses included:

ODL-EDU-Q1-P71	Taking notes or summarising
ODL-EDU-Q1-P108	The knowledge to use computer
ODL-EDU-Q1-P21	Explain to student how to access and upload material and where to find certain material especially with assignments and exams
ODL-EDU-Q1-P24	I have not experienced feelings of neglect in my ODL experience thus far. The only thing I would mention is the difficulty of accessing the internet because of limited funds to get data.

Other suggestions to mitigate some of the challenges ODL students experience relating to the successful completion of disciplinary modules, include the need for a more effective registration process (n=4). This aligns with Sorensen and Donovan's (2017:215) statement that "[q]uality does not equate to content and/or course design. Some students take note of the level in the support they receive and may factor this into what it means to receive a quality education". Participants' responses included:

ODL-EDU-Q1-P65	Attention to registration of the ODL student
ODL-EDU-Q1-P176	Study materials not arriving on time.
ODL-EDU-Q1-P164	Not all modules have all the information about the module. Some modules also lack learning material needed.

Kuh *et al.* (2005, cited by Strydom & Mentz, 2010:3) indicate that "[s]tudent engagement is defined in terms of two key components. The first is the amount of time and effort students spend on academic activities and other activities that lead to the experiences and outcomes that constitute student success. The second is how institutions allocate resources and organise learning opportunities and services to induce students to participate in and benefit from such activities". Therefore, student engagement entails the time and energy that students devote to their studies and refer to the effective practices of the institution (UFS, 2020).

This is noteworthy to consider when ODL students perceive the timely delivery of study material (n=19), providing ODL students with sufficient study material (n=3), ensuring ease of access to study material (n=18) and the provision of high-quality multimedia content (n=1) as challenges that impede their successful completion of disciplinary modules. Participants' responses included:

ODL-EDU-Q1-P32	Slides and recordings sometimes loaded late
ODL-EDU-Q1-P94	Some of the video recordings are of poor sound quality.
ODL-EDU-Q1-P127	Sometimes lectures thinks that we know everything and we can figure out ourselves when they send assignments that have no info as to what to do. And we end up giving the wrong content.

Students may experience a sense of academic disconnect from the institution if they feel that their academic interests are not supported (Tinto, 2017:262). This also aligns with Bangeni's (2003:149) notion that ODL students crave a humane connection. Therefore, it is noteworthy that the module lecturer's responsiveness to offer support (n=5) and the module lecturer's availability to communicate with ODL students (n=27) are considered essential by ODL students to ensure the successful completion of disciplinary modules.

Participants' responses included:

ODL-EDU-Q1-P81	Lecture availability - I often find that content of the course may be challenging to understand or fully grasp when there is no recorded lecture available.
ODL-EDU-Q1-P224	DEFINITELY communication. Sometimes us learners don't understand what the lecture want or mean in an assignment and we are not there to physically go talk to them and ask. Therefore we need to email them and they always say that they are too busy to go through their emails.
ODL-EDU-Q1-P151	There isn't enough communications between instructors and students, and study guides are most of the time incomplete and they refer to things that were discussed in

	contact classes and we as ODL students don't know what were discussed in those classes
ODL-EDU-Q1-P206	Responding to emails, and asking for assistance. ODL are never helpful and my experience with ODL has been a headache. I just wish I can be notified on a weekly basis of what is going on. This pandemic has been very difficult on all of us and it would be great to be notified about practicals, when the second semester starts and how it will work in the future.
ODL-EDU-Q1-P8	Yes, we feel lost and we don't know who to contact. It isn't as easy as to going to the instructor.

Tinto (2014:6) reminds us that the “the object of our work is not simply that students are retained, but that they learn while being retained”. Without providing students with sufficient, timely, constructive, clear, consistent and frequent feedback (n=38), ODL students are not provided with appropriate learning support (Tinto, 2014:17-21) and “pedagogical practices that actively engage students in learning” (Perna, 2014:31) are not adopted.

Students’ responses included:

ODL-EDU-Q1-P2	We have little interaction with our instructors so if they could give more comprehensive feedback on our assignments that would be helpful. Simply returning the assignment to us with a mark attached and NO indication of where these marks came from and what we did wrong makes trying to improve the quality of your work a real guessing game.
ODL-EDU-Q1-P98	The need for connection and follow up to tests/assignments. Why certain marks were given etc.
ODL-EDU-Q1-P177	Timely feedback. Sitting waiting months for our assessment results just to receive a mark with no feedback or marked transcript is highly frustrating and does not aid our preparation for subsequent assessments or exams.
ODL-EDU-Q1-P88	To make feedback deadlines available for students then they don't have to ask everyone, fellow students or instructor with 1000 emails or WhatsApp. Instructors have to have consented deadlines for feedback as students have deadlines to submit

ODL-EDU-Q1-P55	Opportunity to ask questions on something not understood
ODL-EDU-Q1-P192	The need for whiteboard sessions and contact with instructors is often overlooked. Instructors often assume we have all we need and we understand but they forget that we have little contact with them and thus are often unsure. This causes confusion and misunderstandings in assignments.

Peters *et al.* (2017:15) remind us that “[w]hile most post-secondary institutions have rushed to increase access to a more diverse student population by offering online courses and programs”, not all institutions have re-designed their student services with the needs and concerns of a diverse ODL student population in mind. O’Rourke (2009:7) agrees and states that “ODL was developed to serve learners who must overcome a range of challenges to obtain access to successful learning opportunities”.

To ensure that ODL students complete disciplinary modules, ODL has to continuously “evolve to meet multiple and more diverse learning needs” (O’Rourke, 2009:7) and construct “quality learning environments which take account of learners’ context” (Goodier, 2017). In this regard, participants (n=71) indicated the need for their unique needs as ODL students to be considered to ensure their academic success. Participants’ responses included:

ODL-EDU-Q1-P156	That some of us are working, with families and other responsibilities
ODL-EDU-Q1-P228	The financial allowances we struggle when we have to get our allowances and we do not get taxi fee allowance like the institution said we would, sometimes we have money left from our fees but we do not get it and we are struggling we don't have laptops
ODL-EDU-Q1-P73	That some students work in the week so do not always have the time to hand in projects in the work week
ODL-EDU-Q1-P203	Our ability to drop things at a moment's notice to address a quick assignment or class. Our time isn't as flexible and we all have different schedules, hence the choice to complete distance learning.

ODL-EDU-Q1-P115	We chose ODL for a reason. Most of us have a full-time job and have very little time for studies. Instructors have to give assignments and test well in advance in order for us to plan accordingly.
ODL-EDU-Q1-P129	The different ages and skills of the students
ODL-EDU-Q1-P16	Instructors do not take into consideration that ODL students have full time jobs. Our one instructor 'forgot' to give us 5 assignments in one subject and she gave us 1 week to complete all 5 assignments.
ODL-EDU-Q1-P23	The fact that we are distant students and we need things to be attended to timeously to cause less panic and stress.
ODL-EDU-Q1-P168	In my opinion a planner/schedule, even though we work on our own time and pace and some subjects do provide planners on what to expect, I feel it is sometimes overlooked that we ODL students also need a time frame on how fast we need to go through all our work.
ODL-EDU-Q1-P62	Deadlines are put too close together

The DHET's Open Learning Policy for Post-School Education and Training defines open learning both independently from and intertwined with, distance learning as an educational approach that, among others, provides learner support (DHET, 2017:363, 367). This aligns with the notion that "[o]nline support services for learners can be as important to their academic success as the actual teaching. Online students need access to more than course content and effective teaching. Online students need access to all the services available to on-campus students" (ContactNorth, 2018:1). Perna (2014:31) agrees with the statement that the opportunity to enrol for HE should include longitudinal academic, financial, and social support to students as they progress to (and to ensure that they progress to) degree completion. However, participants (n=9) raised concerns about the discrepancies they perceive to exist between the support services and resources provided to ODL students and contact students. Participant responses included:

ODL-EDU-Q1-P142	Instructors see the contact students' assignments more important than ODL students. Even if it's the same work. They get marked assignments way before us, and they get more information about exam scopes
ODL-EDU-Q1-P121	That we too are paying students!!! We too deserve the service (of instructors) that we are paying for.
ODL-EDU-Q1-P45	We get last preference, on campus students get first preference.
ODL-EDU-Q1-P162	To get more access to information given in contact classes
ODL-EDU-Q1-P181	Providing detailed and timely information and feedback on questions. There is often a feeling under ODL students that the marking of our assignments aren't as "important" as those of contact students. One might say that we often feel that we come second. It might be good practice in advising ODL students of the procedures at the university.
ODL-EDU-Q1-P96	We don't always know how to do the work because there is no one to "help" us like with the contact students.

4.2.4 “Connection” between students, and the students and the module lecturer

Questions were formulated in section four to contribute to understanding the academic support services and resources Open Distance Learning education students require to connect with fellow students and their module lecturer.

4.2.4.1 Connection and interaction with the module lecturer

In response to whether participants experienced a personal connection with their module lecturer, participants (n=77) responded positively, while participants (n=143) indicated that they feel no personal relationship with their module lecturers.

According to participants (n=67), their ODL courses foster minimal interaction with their module lecturers, while participants (n=40) responded to the contrary. According to participants (n=16)

interaction with module lecturers varies from module to module and interaction happens mostly via email (n=31), the LMS (n=8), or during interactive whiteboard sessions (n=13).

4.2.4.2 Connection and interaction between students

Participants n=99 (45%) indicated no personal connection with fellow ODL students, n=57 (25.90%) felt somewhat of a personal connection, while n=64 (29.09%) experience a connection with fellow students in the cohort. This is noteworthy considering Tinto's (2014:13) observation that persistence in higher education is linked to networks of affiliation that binds students to each other and to the university: "Students who establish such networks, especially during the first-year, are more likely to stay in university than those who are unable to establish those connections".

Participant (N=220) responses to three separate rating scale questions yielded similar results. In each instance, the weighted arithmetic means of responses (cf. Chapter 3, Table 3.2) was between the numerical values of 3 and 4. On the qualitative option scale, this implied that when being asked how satisfied the participants were with the amount of interaction they have with fellow students, the result was between the categories of *moderately to quite satisfied* (3.51). In response to how important participants consider communicating effectively and frequently with peers for academic success (3.77) and working collaboratively with peers to complete tasks (3.43), the results were between the categories *moderately important and quite important*.

Participants were prompted on the benefits of engaging with their peers, and although many participants are undecided whether (a) working with fellow students on projects, assignments and presentations, (b) asking questions to and engaging in discussion with fellow students, and (c) peer teaching and learning initiatives may be beneficial to their academic success, most participants responded positively. These responses correlate with participants' previous indication that they are *moderately to quite satisfied* with their interaction with fellow students. Participants who see no benefit in engaging with their peers align with the responses of participants who experience no feelings of isolation in the ODL environment (cf. Point 4.2.4.3): "I thrive in solitude, and don't prefer group interactions. I focus better when I know it all depends on me and the choices I make for my studying journey" (ODL-EDU-Q1-P24), "If you choose ODL it is for the reason that you can't or don't have time to collaborate with other students" (ODL-EDU-Q1-P142) and "I love working on my own due to the fact that I am extremely busy and an introvert" (ODL-EDU-Q1-P123) (cf. Table 4.7):

Table 4.7: Benefits of engaging with fellow education ODL students

	No	Yes	Maybe
Working with fellow students on projects, assignments and presentations	n=73	n=77	n=70
Asking questions to, and engaging in discussion with fellow students	n=21	n=145	n=54
Peer teaching and learning initiatives	n=45	n=101	n=74

4.2.4.3 Feelings of isolation in an ODL environment

Tinto's Revised Model of Student Integration suggests that when students access the higher education community, they do so with a set of background characteristics: "These characteristics involve individual attitudes, pre-entry attributes and family background. Individual attitudes include gender, race, age and aptitude. Pre-entry attributes include characteristics such as qualifications and achievements. Family background characteristics include family education level, family expectations and family social status" (Chrysikos *et al.*, 2017:100). Nicpon *et al.* (2006:345) refer to a "person-environment fit where students' experiences in their social and academic environments are influenced by their individual attributes, dispositions, family background, and prior educational experiences". The "person-environment fit" is noteworthy since it may contribute to participants' feelings of isolation in the ODL environment (cf. Figure 4.5):

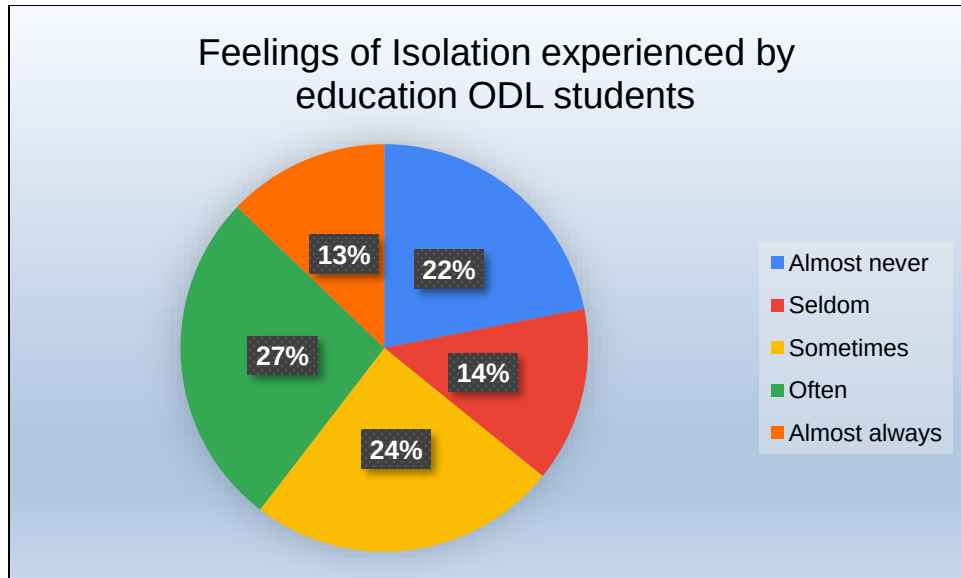


Figure 4.5: Feelings of isolation in the ODL environment

The participants that indicated that they *almost never* (22%) or *seldom* (14%) experience feelings of isolation implied that they:

- prefer working on their own (n=14);
- understand that ODL implies independent learning (n=20);
- have adequate access to other education ODL students via WhatsApp or other communication platforms such as the LMS chat functionality, other peer support groups, or family members also studying via ODL (n=23), and
- sufficient access to module lecturers and everything they need to complete the course via the LMS (n=1).

However, participants (n=8) that indicated that they *seldom* experience feelings of isolation, hinted to a lack of peer and module lecturer support and communication.

It may be surmised that not all ODL students are underprepared or under-resourced for ODL (Makoe & Nsamba, 2019:133). This affirms the South African Government's and the DHET's commitment to expanded access to flexible and cost-effective education for everyone, while considering ICT availability and access in South Africa (DHET, 2017:371; Goodier, 2017). This further aligns with O'Rourke's (2009:8) observation that "difference [between student backgrounds] should not be equated to disadvantage, but rather to diversity which encompasses

a range of learner characteristics, learning conditions and the barriers to learning that learners face and learning contexts.”

ODL students’ learning approaches or learning skills (O’Rourke (2009:11), their ability to construct their knowledge (Ihlström & Westerlund, 2013:8), take ownership of their learning and their digital literacy skills proficiency, contribute to their “learning presence” (Shea *et al.*, 2012:90) which may also alleviate feelings of isolation in the ODL environment.

Participants’ responses included:

ODL-EDU-Q1-P24	I thrive in solitude, and don't prefer group interactions. I focus better when I know it all depends on me and the choices I make for my studying journey.
ODL-EDU-Q1-P157	I prefer working independently and at my own time and pace. I enjoy the flexibility of working at hours that suit me whether it is at midnight or 03:00 in the morning when everyone else is asleep.
ODL-EDU-Q1-P142	If you choose ODL it is for a reason that you can't or don't have time to collaborate with other students
ODL-EDU-Q1-P8	We have WhatsApp groups to assist us... and we can email the instructor, some of them are extremely helpful. I enjoy studying without the pressure of other students.
ODL-EDU-Q1-P176	The chat rooms and WhatsApp groups are there to solve that
ODL-EDU-Q1-P12	The instructor in each contact class tries to involve the students in the lectures as much as possible.
ODL-EDU-Q1-P152	Because anything expected from me are available on efundi
ODL-EDU-Q1-P11	We have come to know fellow classmates and communicate frequently with each other.
ODL-EDU-Q1-P49	I have 2 friends that also studies through NWU. We support on another and I am part of a few NWU student groups
ODL-EDU-Q1-P153	My brother is also an ODL student so I am not affected greatly

ODL-EDU-Q1-P215	Sometimes ODL students do not benefit like contact students
ODL-EDU-Q1-P173	Isolation from lectures yes

Participants (24%) who *sometimes feel isolated* contribute their feelings mainly to a lack of support in general (n=9), a lack of support from module lecturers (n=14), peers (n=7) or the case institution's support services and resources (n=1). Participants (n=3) regarded a lack of access to study material to cause feelings of isolation. Participants further indicated that the nature of ODL (n=2), a personal preference to work alone (n=1), and only reaching out to peers when they absolutely have to (n=3) as factors that may contribute to their feeling isolated. Although they can communicate via WhatsApp, a lack of data (n=1), a preference not to connect via the app (n=1), not having WhatsApp groups for all their modules (n=2) and superficial communication on the app (n=1) further contribute to participants' feelings of isolation. This is noteworthy because Dymont *et al.* (2013:135) warn that "feelings of isolation and lack of support (technological, academic and/or social)" experienced by pre-service teachers in an online learning environment, contribute to the lower retention rate of pre-service teachers in an ODL environment. Participants' responses included:

ODL-EDU-Q1-P88	In the beginning you feel lost, as you go on and find things it start to be clearer and you begin understand. I think more support in the beginning of any module is the most important to make a success of it
ODL-EDU-Q1-P11	Sometimes you are limited to your resources and then you feel isolated
ODL-EDU-Q1-P46	I am only student doing B. Ed senior phase
ODL-EDU-Q1-P121	A result of being ignored by instructors and lack of care attitude - not alone from a peer perspective, this is ODL after all.
ODL-EDU-Q1-P81	Often it may be challenging to understand what is expected of me when completing tasks, activities and assignments. Sometimes I also may find understanding certain topics of my course content also quite challenging. It is in times like these where I definitely feel some sort of overwhelmed and isolated feeling as a distance learner as I often don't know where to seek help or guidance.

ODL-EDU-Q1-P131	Semester programmes do not take into consideration that ODL students work in the day and have limited time during the week. To have all 4 subject assignments completed within 6 weeks of opening the learning platforms does not make sense as all have a 60 - 80 hour requirement to master the content. This creates a rushed and unplanned environment for studying and not all content can be mastered. This rushed approach to completing assignment does not promote a learning culture within the student.
ODL-EDU-Q1-P178	When they give assignments and portfolios without explaining further on what needs to be done.
ODL-EDU-Q1-P35	Being far from others, not able to get ideas and opinions of peers
ODL-EDU-Q1-P219	I do not get the support I need from the UODL department regarding technical and logistical aspects
ODL-EDU-Q1-P207	Sometimes you do not have required resources
ODL-EDU-Q1-P209	We come from different backgrounds and culture.
ODL-EDU-Q1-P86	WhatsApp groups makes it easier but the problem starts when you don't have data for WhatsApp

Subotzky and Prinsloo (2011:179, cited by Mittelmeier *et al.*, 2019:19) cluster the factors that impact on ODL success “at three related levels: individual (academic and attitudinal attributes, access to resources, and other personal characteristics and circumstances), institutional (quality and relevance of academic, non-academic, and administrative services), and supra-institutional (macro-political and socio-economic factors)”. These clusters are evident in the responses of participants who *often feel* (27%) or *almost always* (13%) feel isolated in the ODL environment. Participants contributed their experience to the lack of support from and interaction and connection with peers (n=16) and module lecturers (n=41), a lack of data (n=2), language barriers (n=1), the nature of ODL (n=8), their age (n=1) and the lack of support provided by the case institution (n=2). Participants’ responses included:

ODL-EDU-Q1-P226	It becomes very difficult sometimes to even have some fellow student who you can brainstorm a solution finding strategy to a task, or discussion session before writing an exam
ODL-EDU-Q1-P16	Instructors do not care about ODL students. We received an email from one instructor that ODL students are a waste of time. This was sent to us when we requested feedback on assignments. We are a group of students that work together. But the instructors do not care to communicate with us in a proper manner. This highly unprofessional. And it make us feel neglected as students.
ODL-EDU-Q1-P67	I feel the instructors see ODL students as a burden.
ODL-EDU-Q1-P198	I feel isolated because I haven't get all my study materials, and during my assignment I used google to get information but we pay a lord of money to study
ODL-EDU-Q1-P127	especially when other content is written in Afrikaans. And there is no alternative for English. Even in WhatsApp groups other students asking questions in Afrikaans knowing that others student don't understand.
ODL-EDU-Q1-P140	It's hard not to think about the university experience that I'm missing
ODL-EDU-Q1-P41	As an older student and with limited technical knowhow, one does not know the students of the area one is in. The only time one sees them is either at IWB session and see if any of them will be pleased and open to a study group or when one writes exams - no chance of getting to know someone then, but the chance is taken. I have made friends with students in other provinces and we help each other out that way. (WhatsApp groups)
ODL-EDU-Q1-P108	Help desk people they make you feel stupid or not good enough to study or something is wrong with you.
ODL-EDU-Q1-P70	I have not had a platform where I can meet people studying the same degree as me that lives in my town. When we get to the exam venue it would make everyone a lot less stressed if we actually know the other people's names.
ODL-EDU-Q1-P83	There's no interaction the way there is at campus and it's frustrating as we can't just go to friends or instructors whenever we want to
ODL-EDU-Q1-P161	If you do not do group work in the modules, there is no other way for you to get connected to other students. It would be great if the local office have a list of people per course, there just might be someone you know that you can contact. They can even host meetings where students can come and meet fellow students

	and raise concerns, so you can identify common problems and sort them out at once instead of dealing with one student at a time.
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For ODL students “Mere access to e-learning environments itself is insufficient to produce improved learning and greater educational achievement” (Kafai *et al.*, 2002, cited by Chang, 2004b:330). A lack of community negatively influences ODL students’ performance and motivation to complete their studies (Sorensen & Donovan, 2017:215).

Bangeni (2003:143) also states that interaction between students in the ODL environment affects their motivation, feelings, and attitudes. To ensure that ODL students do not feel isolated, but rather experience a sense of belonging, Chang (2004a:75-76) suggests building online learning communities. These communities can support ODL students to achieve “the same course completion rates” as their on-campus counterparts (Allen & Seaman, 2015:10), and contribute to higher student retention rates, grade point averages and student satisfaction (Sorensen & Donovan, 2017:207; Mathieson, 2010:4).

4.3. Part 2 - Student Support Services and Resources: Education ODL Module Lecturer Questionnaire

The module lecturer teaches a Literacy module to education ODL students. The participant chose not to reveal further information regarding the level she teaches or whether her reference to “Literacy” refers to English, Afrikaans, or Setswana literacy modules. Her experience of teaching an ODL module is unpleasant even though she understands that ODL implies a different approach to teaching.

4.3.1 Engagement with the institution’s support services and resources

Vaill and Testori (2012:111) state that ODL module lecturers need appropriate institutional support since online learning course design adds to the already comprehensive workload of ODL module lecturers (Brindley *et al.*, 2009). However, the education ODL module lecturer described her personal engagement with the case institution’s support services and resources as negative, especially with regards to the support she receives from the case institution’s CTL.

4.3.1.1 Access to support services and resources

The module lecturer indicated that she often has to provide administrative and organisational information and support to education ODL students - information not relating to module content or teaching and learning. It is the perception of the module lecturer that a lack of adequate institutional support services and resources and/or a lack of access by education ODL students to institutional services and resources, may place education ODL module lecturers like herself, in the unfortunate position of becoming “nannies” to their students. They are placed in this position by incorrect registrations, marks, and students’ inability to manage work and study.

This impacts negatively on the module lecturer and she described the situation as exhausting. She also referred to the toxicity of the environment she performs her duties in.

Bangeni (2003:143) reiterates by advocating that relational support should not only come from those directly involved in instructional activities, but “from the institution as a whole”. The fact that the module instructor needs to provide administrative and organisational support to her students, that is not related to teaching or learning, is time consuming and “exhausting”. This aligns with the findings of Van Niekerk and Schmidt (2016:198) that “ineffective communication by the institution inundates module lecturers with student requests and enquiries for support, which are sometimes also irrelevant to their field of expertise”.

Based on the education ODL module lecturer’s experience of having to often provide administrative and organisational support to her students, she perceived that education ODL students may (a) have limited awareness of, and/or (b) experience limitations relating to ease of access to the support services and resources made available by the case institution.

4.3.1.2 Nature of the support services and resources required

The module lecturer’s perception is that enhanced awareness of the case institution’s support services and resources among education ODL students may impact their learning experience positively but will do so only if the support offered is discipline specific and not generic in nature. The education ODL module lecturer’s concern is as follows: “The main issue is that the case institution’s support is generic; for some aspects this does work (e.g., financial; counselling). But for academic specific aspects a generic approach is useless. The call centre is just an answering service - no support; you are referred from A to B to C, etc.”

The module lecturer's perception that although a generic approach may work for certain support services such as Financial Services, the same does not apply to, for instance, student academic development and support. This is reiterated by Makoe and Nsamba's (2019:133) notion that "determining students' services from an institutional perspective could render services inadequate because they do not meet students' needs and expectations. As a result, the services provided are often unresponsive and inappropriate for students' needs". A generic approach to student support also reminds of O'Rourke's (2009:7) observation that such an approach "puts ODL providers at the centre and the students at the margin."

O'Rourke (2009:7) also cautions that institutions should be careful of developing programmes for ODL based on their definition or "assumptions of a 'typical' ODL student and what is perceived by the institution as 'typical' ODL student needs".

The module lecturer elaborated by pointing out that referring students who cannot write to the Writing Centre, will not necessarily benefit the student. She further indicated that as an experienced module lecturer and subject expert and the foremost go-to reference point for her students, she is better positioned to point out specific areas where the case institution's support services and resources are required by her students. This may be why the ODL module lecturer indicated that she has neither referred education ODL students to Student Academic Development and Support, nor the Writing Lab. She affirmed that she has referred students to the Unit for Open Distance Learning Call Centre, Financial Support Services, and Information Technology (IT) Support Services. She further indicated that she has never referred students to Student Counselling and Development, Career Centre, Faculty Advisers, the Crises Line, Social Work Services, HIV and AIDS Services, Disability Rights Unit or the Student Representative Council.

The module lecturer recommend that, based on her personal experience, there should be a more coordinated approach regarding education ODL student support. The case institution's student support services and resources stakeholders can benefit from having close working relationships with module lecturers, since they have a better understanding of the type, and areas of support, required by their students. Such a relationship implies a collaborative and coordinated approach, which may enhance the ODL module lecturer's confidence in referring students for academic support "outside" the faculty. For example, an ODL module lecturer may recognise that a student has a particular reading or writing problem. As the module lecturer indicated, simply referring the student to the case institution's support service and resource dedicated to reading or writing

development, may not benefit if a generic approach or “one size fits all” approach is followed. The lack of communication and cooperation between the module lecturer and student support service and resources, do not benefit ODL students with particular needs.

4.3.2 Successful completion of disciplinary modules

4.3.2.1 Access to learning resources

The module lecturer’s perception is that the computer and digital literacy skills proficiency of education ODL students need to be developed for them to access and navigate course material successfully. This aligns with Rohleder *et al.*’s (2008:139) and Curran’s (2001:126-127) observation that although online learning environments provide access to meaningful learning experiences, it must be kept in mind that ODL students had differential access to computers before entering HEI. Extending, for instance, the FYE to ODL students may ensure that the necessary computer and digital literacy skills are developed.

4.3.2.2 Engagement with module content

The ODL module lecturer raised concerns about the education ODL students’ lack of reading ability and a “drive-through” approach to their studies in the ODL environment. Her perception is that many students are only interested in passing, not learning. The module lecturer’s perception is reiterated by Tinto’s (2017:256) statement that students’ motivation for post-secondary education may focus on extrinsic benefits (such as furthering one’s education to enhance job opportunities, promotion, and income) or because of the intrinsic benefits it holds (such as learning, personal development, and scholarly fellowship).

4.3.2.3 Critical skills to succeed in an ODL environment

The education ODL module lecturer agreed with education ODL students regarding the essential skills they required to ensure their academic success:

- Taking responsibility for their learning.
- Developing independent study habits.
- Time management skills.

- Reading quickly and with good comprehension.
- Communicating effectively and frequently with fellow students and the module lecturer.

In her opinion, working collaboratively with other students to complete tasks and access to academic development and support services, are essential. The ODL module lecturer considers computer and information science and reading literacy skills, critical for education ODL students to succeed in an online learning environment.

The module lecturer believes that opportunities and initiatives to develop the academic skills, strategies, processes, and techniques (i.e., note-making, time management, goal setting, learning strategies, etc.) of ODL students may be beneficial to their academic achievement. The ODL module lecturer indicated that she is aware of peer-assisted learning and support programmes (such as Supplemental Instruction, tutoring and academic peer mentoring) to support students. She indicated that she was not using any peer-assisted learning and support programmes within the modules she teaches. However, she indicated that she believes employing such programmes within her modules, may be beneficial to her and her students. When asked to consider what the institution, faculty or student academic support services can do to increase the quality of the ODL students' academic experience, she replied as follows: "Provide specific support related to the modules - no generic "Helpline" stuff".

4.3.2.4 Communication with the module lecturer

Other than the student participants' indication that they prefer email to communicate with the module lecturer, the module lecturer's perception was that students prefer to communicate via WhatsApp with her. Chang (2004b:332) refers to the time constraints online module lecturers experience and attending to WhatsApp (the time spend to check messages from students, to retrieve messages in a linear thread or attending to the messages of multiple groups) and email messages may take away some of a module lecturer's productive (teaching) time.

4.3.3 “Connection” between students, and the students and the module lecturer

4.3.3.1 Connection between the module lecturer and students

The module lecturer indicated no personal connection with her students and attributed this to the group’s size. This is at odds with the “comfortable” or favorable relationship with faculty that Chang (2004b:332) identifies as an expectation of students in an ODL environment.

4.3.3.2 Connection between students

The module lecturer agreed that personal connections and social engagements between ODL students might contribute to a sense of belonging within the learning community and substantiated her observation as follows: “Once again the WhatsApp groups showed cohesion and students supporting one another”. According to her experience, communication between her students mostly takes place via WhatsApp.

She observed that face-to-face and in-person interaction between the students seldom happens unless ODL students see each other at the centres. She further commented that since the students are scattered all over the country, they have minimal opportunities to get to know each other.

The ODL module lecturer indicated that she believes that her students will benefit from interacting and engaging more with their peers: “They learn more from their classmates than from the lecturer”. In alignment with Vygotsky’s zone of proximal development (ZPD), the module lecturer indicated that she further believes that ODL students will benefit from the peer support of more capable, discipline specific senior ODL students. She noted that since these students have already completed the module, they can associate with her current students’ frustrations. According to the module lecturer, she could most definitely benefit from the support of senior ODL students in the modules she teaches. She responded to being asked about the teaching and learning aspects she thinks senior ODL students could support her with as follows: “General repetitive queries related to: ‘I just want to make sure - is this what we should do’; or to clarify instructions given by lecturer”.

She further responded positively when asked if the support of senior ODL students may facilitate better communication and engagement between herself and her students, among the students themselves and the students and the case institution’s support services and resources: “they

could be the go-between to lighten the answering of repetitive questions and providing good practice guidance related to the specific module”.

4.3.3.3 Feelings of isolation in the ODL environment

The ODL module lecturer’s perception is that students’ feelings of isolation during their studies may be attributed to them not getting the help they need. This aligns with Chang’s (2004b:332) observation that students expect “sufficient supportiveness” in an ODL environment, which also refers to the availability of the module lecturer to answer students’ questions. However, the flexibility that ODL students value regarding when they attend to their studies and their ability to use technology on demand, may lead to the expectation that since the course is available 24/7, the module lecturer should also be available 24/7 (Peters *et al.*, 2017:3). The ODL students may perceive the module lecturer as distant if their enquiries are not attended to immediately, which again may, unfortunately, contribute to ODL students’ feelings of isolation.

4.4 Part 3: Thematic analysis of academic peer mentor recordkeeping sheets

The COVID (Corona virus disease) -19 pandemic “forced” many on-campus, residential students into an ODL environment to complete their academic year. Students who did not choose ODL as a mode of delivery for their studies, had no choice but to study online to complete their academic year. This placed on-campus residential students in a situation where they *may* have experienced *some* of the same issues related to institutional support services and resources, as those experienced by ODL students. In support of the premise of this study, namely that “appropriate support to provide meaningful opportunity to succeed” (Tinto, 2014:13), may be provided by e-academic peer mentors, considering how academic peer mentors supported on-campus students at the case institution during the COVID-19 pandemic, may provide insight into how e-academic peer mentors may support education ODL students and their module lecturer (cf. Chapter 1).

Of the original academic peer mentor recordkeeping sheet entries (n=5 533) captured by the seventy eight academic peer mentors, entries (n=5 052) pertained to academic peer mentor and student mentee activities and interactions. These n=5 052 entries were thematically organised once all data pertaining to administrative recordkeeping by the academic peer mentors and incomplete data (specifically entries not containing both a date and activity topic) were removed during the familiarisation with the data-phase. This was necessary in order not to distort the results of the document analysis.

The thematic analysis of the academic peer mentor recordkeeping data consisted of three steps.

4.4.1 Step 1: Broad classification of recordkeeping sheets in relation to the research questions

Concerning the research questions, the academic peer mentor and student mentee activities were first classified according to the following broad classification codes: engagement with the case institution's support services and resources, the successful completion of disciplinary modules, and connection between the academic peer mentor and the student mentee(s). According to these broad classification codes, the number of monthly academic peer mentor/student mentee activities is as follows (cf. Table 4.8):

Table 4.8: Document analysis classification codes

Date	Social connection between the academic peer mentor and the student mentee	Engagement with the case institution's support services and resources	Successful completion of disciplinary modules	Total
Jan-20	0	14	20	34
Feb-20	43	184	311	538
Mar-20	83	82	521	686
Apr-20	154	129	476	759
May-20	120	70	303	493
Jun-20	95	74	291	460
Jul-20	35	48	89	172
Aug-20	40	97	158	295
Sep-20	86	108	328	522
Oct-20	76	92	460	628
Nov-20	66	61	334	461
Dec-20	2	2	0	4
	800	961	3 291	5 052

When illustrated graphically (cf. Figure 4.6) it is clearly visible that activities related to the successful completion of disciplinary modules received priority:

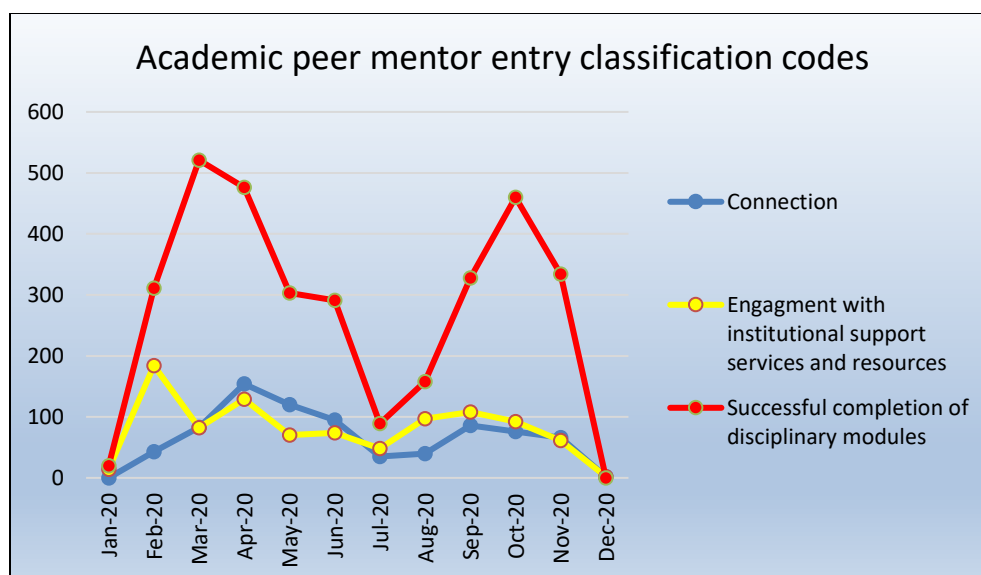


Figure 4.6: Document analysis broad categories

The indication that activities related to the successful completion of disciplinary modules received priority, is corroborated by the findings of the Support Services and Resources: Education ODL student Support Questionnaire's results (cf. 4.2) that indicate that the nature of the support most required by ODL students, relates to academic support. The module lecturer also observed that ODL students most value getting a passing mark during their studies. These findings are further aligned with Pleitz *et al.*'s (2015:90) observation that students expect "to participate in educationally purposeful college activities [that] includes primarily academic dimensions such as experiences with faculty and course learning".

Academic peer mentor and student mentee interaction and activities about the successful completion of disciplinary modules, are followed by activities related to student mentee engagement with the case institution's support services and resources, which in turn is followed very closely with activities associated with establishing a social connection between the academic peer mentors and the student mentees. This is noteworthy since the Support Services and Resources: Education ODL Student Questionnaire reveals the same ranking regarding the nature of the case institution's support services and resources required by ODL students (cf. 4.2).

4.4.2 Step 2: Allocation of academic peer mentor purpose within broad classification pertaining to the research questions

Once the data entries were arranged according to a broad classification (relating to the research questions), the data was in the second place allocated a purpose (about the role or function of

the academic peer mentor) within these broad classifications (i.e., an activity that pertains to student engagement with the case institution's services and resources may have an administrative purpose, such as directing a student to a faculty adviser or a technological purpose, such as navigating the LMS). Chang (2004a:79) and Fong *et al.*'s (2012:307) (cf. chapter 1) indication of the various purposes e-mentors may further fulfil in an online environment were used. These purposes are administrative (ADM), communicative (COM), informative (INF), instructional (INST), social (SOC) or technological (TECH). Activities with an instructional value rated the highest (n=2 173) and activities with an informative purpose, the lowest (n=78) (cf. Table 4.9):

Table 4.9: Purpose of academic peer mentor and student mentee activities and interactions

Date	ADM	COM	INF	INST	SOC	TECH	Total
Jan-20	4	14	1	5	0	10	34
Feb-20	127	43	2	258	44	64	538
Mar-20	56	96	8	408	84	34	686
Apr-20	77	167	12	286	153	64	759
May-20	45	102	4	195	120	27	493
Jun-20	50	89	8	187	95	31	460
Jul-20	39	16	0	66	35	16	172
Aug-20	74	39	18	108	39	17	295
Sep-20	85	115	14	177	85	46	522
Oct-20	67	122	7	294	76	62	628
Nov-20	46	118	4	189	65	39	461
Dec-20	2	0	0	0	2	0	4
	670	921	78	2 173	796	410	5 048

When illustrated graphically (cf. Figure 4.7) it is clearly visible that activities with an instructional purpose⁸ received priority:

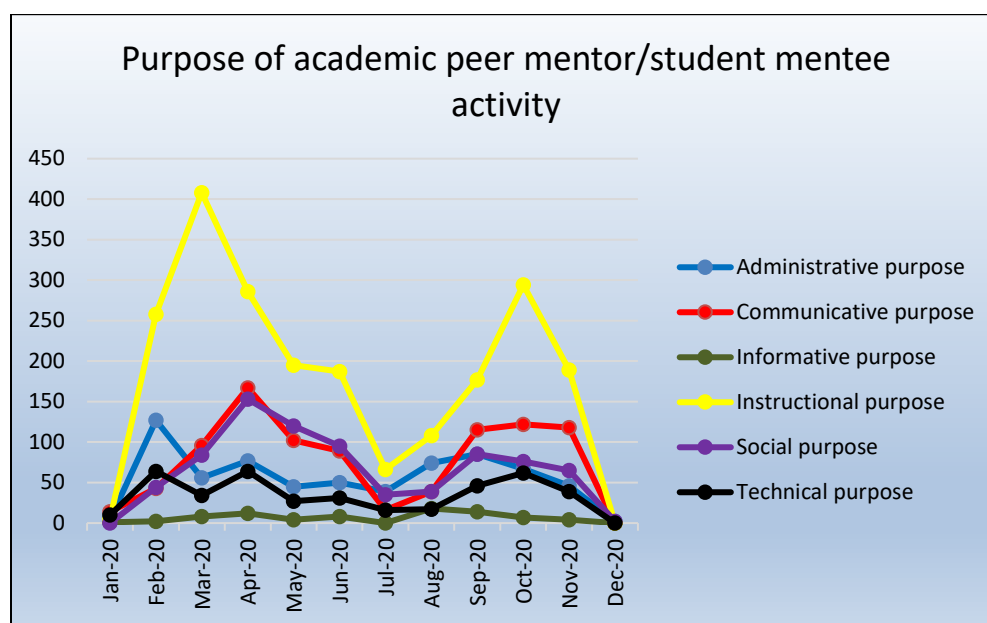


Figure 4.7: Purpose of academic peer mentor and student mentee activities and interactions

4.4.2.1 Administrative purpose of academic peer mentors

According to the Cambridge Dictionary (2020), administrative relates to the arrangements and work that is needed to control the operation of a plan or organisation. The term administrative further refers to direction/directional (serving or intended to direct something) and regulation (serving or intending to regulate something).

⁸ In the context of this study, the *instructional purpose* of academic peer mentors refers to all activities the academic peer mentor engages the student mentee in to help create student mentee familiarity with online learning, where the academic peer mentor monitors ODL students' online presence or tracks ODL students' academic progress, interprets and explains instructor feedback and announcements to student mentees, helps students mentees acquire the academic processes, skills and strategies required to be successful in their studies, and where academic peer mentors peer teach module content to assist ODL students' comprehension of module content.

In this study, academic peer mentor administrative purpose relating to student mentee engagement with the case institution, pertains primarily to directing student mentees to relevant support services and resources. Analysis of the academic peer mentor recordkeeping sheets reveals that, about the administrative purpose academic peer mentors fulfil, enquiries centred on the purpose of the academic peer mentor programme, the critical requirements, and credits associated with specific courses and modules (registration and enrolment) and bursary applications and appeals.

The administrative purpose of academic peer mentors relating to the successful completion of disciplinary modules by student mentees centers on conveying messages to facilitate module lecturer information and making announcements or reminding students of deadlines as per the module calendar. Analysis of the academic peer mentor recordkeeping sheets further reveals that academic peer mentors were also involved in finding the contact details of module lecturers and mentoring students on how to approach (and effectively communicate with) module lecturers. The need for effective communication between students and module lecturers has also been revealed as a central theme emerging from the Support Services and Resources: Education ODL Student Questionnaire results.

4.4.2.2 Social purpose of academic peer mentors

The social purpose academic peer mentors fulfil is based on the belief that the total wellbeing of the student mentee attributes to academic success. The social purpose of academic peer mentors includes establishing trusting relationships with student mentees. This allows the student mentee to open up and talk to the academic peer mentor about any aspect that may impede on their academic success. This also allows the academic peer mentor to encourage and motivate the student mentee towards course completion. The academic peer mentors are not counsellors or advisers, and direct the student to professional services where necessary and stay in touch with the student mentee to ensure the student mentee follows through to receive the help and support they need.

Analysis of the academic peer mentor recordkeeping activities reveal a steady increase in students seeking out academic peer mentors after registration. This peaks by the end of the first quarter to about the end of the second quarter of the academic year (March – June). It seems that student mentees again seek social connection with a peer during August and September.

This may be attributed to students seeking motivation and encouragement as they start preparing for final assessment. This aligns with Tinto's Theory of Student Attrition (2014:6, 17) and his summation that although most students need support during their time spent at university, it is not always clear when they need support.

Patterns emerge once the social purpose of the academic peer mentors to establish a connection with the student mentee, is analysed. These patterns align with Bangeni's (2003:144) observation that ODL students have an appreciation for interaction with others during the course of their study, "a desire stronger [especially] in the rural areas". It is noteworthy that although many connections related to the wellbeing of student mentees seem general in nature, the second most connections were made with regards to personal and confidential matters the student mentees discussed with the academic peer mentors. The trusting relationship between the academic peer mentor and the student mentee allows "sharing emotions related to challenging situations" in confidence (Tynjälä *et al.*, 2019:2) and became spaces dedicated to academic and social well-being, where the act of sharing became a mechanism contributing "to coping abilities, general wellbeing and reducing stress" (Tynjälä *et al.*, 2019:7). The Support Services and Resources: Education ODL Student Questionnaire reiterates that many participants experience feelings of isolation in the ODL environment (cf. 4.2).

Other emerging patterns related to the social nature of academic peer mentor and student mentee interaction, involved motivation and encouragement, discussing relationships, adjusting to ERL and the lockdown, as well as stress, anxiety, and pressure. Nicpon *et al.* (2006:354) found that "more peer support was significantly related to less loneliness and more positive academic persistence decisions" and that "students were more likely to persist if they had lower levels of loneliness and felt as if they had both friend and family support".

4.4.2.3 Instructional purpose of academic peer mentors

The instructional purpose of the academic peer mentor focuses first on developing the academic processes, skills and strategies of student mentees. This is aligned with Pleitz *et al.*'s (2015:90) comment that the expectations of a student also includes "becoming a more well-rounded student [and] focused on behaviours such as developing scholarly and expressive qualities, as well as developing an appreciation for human diversity."

Academic peer mentor support to develop the skills student mentees need to learn or study content, pertains mainly to academic writing, planning and goal setting, note-making, referencing, study methods, test and exam preparation, and time management.

This is also evident from the Support Services and Resources: Education ODL Student Questionnaire where 74% of the total participants indicated that they would benefit from opportunities and initiatives to develop their academic skills, strategies and processes. This aligns with Tinto's (2014:11) comments that meaningful learning experiences and academic success in online environments require resources and skills. The focus of student mentee skills development should not only focus on the more obvious computer and digital literacy skills they need to access in the online learning environment, but also the "behind the scenes" skills, such adjusting their study habits for an online environment. This is aligned with Chang's (2004b:335-336) and Ruane and Lee's (2016:82) research that mentors can direct and develop students' individual learning processes so students may become independent learners and guide students to establish learning goals.

When SI and tutoring are provided by the case institution in a specific module, the academic peer mentor will refer the student to either of these peer learning support programs. If SI or tutoring is not available, the academic peer mentor may assist the student with the comprehension of content. The instructional purpose of academic peer mentors is reiterated by the fact that only 7.7% of the education ODL student participants indicated that they would *not* benefit from peer support to comprehend content.

Their instructional purpose also includes interpreting module lecturer feedback and providing peer review feedback to student mentees. This is consistent with Chang (2004b:335-336) and Ruane and Lee's (2016:82) suggestion that mentors can provide extra feedback and information consistent with the module lecturer's comments.

It is noteworthy that academic peer mentor and student mentee activities and interactions pertaining to the successful completion of disciplinary modules and activities, spike during the month of March, and after a steady decline stays consistent during May and June. After the student break, there is again a rise in the number of activities and interactions pertaining to the instructional purpose of academic peer mentors, which again peaks in October. The peak months coincide with when exams take place at the case institution. Interactions of instructional purpose of academic peer mentors total n=923 activities.

4.2.4.4 Technological purpose of academic peer mentors

Regarding technological enquiries, the purpose academic peer mentors fulfil may be either administrative or instructional:

- Administrative: Academic peer mentors may attend to a student mentee's enquiry by simply referring them to the appropriate support services and resources.
- Instructional: Academic peer mentors may provide technological instruction to students in order for a student mentee to successfully complete a disciplinary module. This may, for instance, include technological instruction on how create a video, infographic or Podcast for an assignment.

The technological purpose that academic peer mentors could fulfill was especially evident in February, April and October. This is noteworthy since first-year students who signed up for in-person, on campus instruction had very little time before the national lockdown to become familiar with the case institution's LMS.

The technological purpose of academic peer mentors (relating to the successful completion of disciplinary modules by student mentees) centred on the use of software packages, ranging from downloading MS Word to complete assignments, to creating videos and graphics for assignments.

Finding and downloading additional sources on the Internet also required much attention which aligns with Chang's (2004b:335-336) and Ruane and Lee's (2016:82) observation that mentors can guide students to access additional resources to enhance their learning. Many students left their textbooks at their residencies when they returned home due to the national lockdown. Van der Heyde and Siebrits (2019:79) and Wojciechowski and Palmer (2005:2) comment that navigating a LMS or any web-based application (that is employed for educational purposes) includes more than just accessing module content – it also involves the ability to “disseminate multimedia resources, organise resources in a chronological manner, communicate with course participants and assess students competencies.”

4.4.2.5 Communicative purpose of academic peer mentors

The communicative purpose that academic peer mentors at the case institution fulfil, pertains mostly to the successful completion of disciplinary modules by students. It centres mostly on the establishment of communication between the student mentees and module lecturers, discussions

about module content and responding to inquiries about assignments. This includes clarifying and explaining how to complete assignments effectively, understanding the guidelines associated with assignments, as well as peer review feedback on completed assignments. The ODL module lecturer reiterates that she will benefit from the help of senior students as (a) “go-betweens” to attend to general repetitive queries related to: “I just want to make sure - is this what we should do”; clarity of instructions given by lecturer”, to (b) facilitate better communication and engagement between herself and her students, as well as (c) providing “good practice guidance related to the specific module”.

4.4.2.6 Informative purpose of academic peer mentors

Academic peer mentors provided knowledgeable answers to all student mentee questions pertaining to the case institution’s policies and procedures.

Although low compared to the other purposes they fulfil, their informative purpose holds steady throughout the year, with a slight peak in August. Regarding the informative purpose academic peer mentors fulfil relating student mentee engagement with the institution’s services and resources, students mostly required ERL information.

4.4.3 Patterns and themes emerging from the purpose academic peer mentors fulfil

The third step was to identify patterns and themes that emerged within the broad classification of an academic peer mentor, and student mentee activities (regarding the research questions) in relation to the purpose the academic peer mentors fulfil. Further refinement pertains to the nature of the student mentees’ needs and concerns.

Activities of a social nature between academic peer mentors and their student mentees focused mostly on the social wellbeing of the student mentees (n=160). Interactions of a personal and confidential nature (n=138), for motivational purposes (n=85), to discuss relationship issues (n=57) and student mentee stress and anxiety (n=41), emerged as patterns.

Academic peer mentors’ administrative purpose to support student mentee engagement with the case institutions’ support services and resources indicated that academic peer mentors mainly directed students to Financial Services (n=82) and the Admissions Office (n=111). The academic peer mentors also informed students on the case institution’s ERL procedures (n=74). The

enquiries they attended to often involved a need for technological assistance, especially regarding the navigation of the case institution's LMS (n=227).

Concerning the successful completion of disciplinary modules, the administrative purpose of the academic peer mentors included making announcements on the case institution's LMS and providing the contact details of the module lecturers and advice on how to approach and communicate with the module lecturers. The academic peer mentors communicated frequently with student mentees regarding the completion of assignments (n=475), to provide peer review feedback (n=150) and to explain assignment guidelines (n=79). The instructional purpose of the academic peer mentors included developing the academic skills of student mentees (n=1 240) (such as note-takingtaking skills, memory rehearsal strategies and study skills) and providing module specific peer teaching (n=923). The academic peer mentors also provided student mentees with technological support relating to their successful completion of disciplinary modules, with specific reference to the technological skills required to access additional sources.

Patterns that emerged from the thematic analysis of student mentees' needs and concerns, are summarised in Table 4.10 below:

Table 4.10: Recurring themes in academic peer mentor and student mentee activities and interactions

Classification	Purpose of academic peer mentor/student mentee activity	Theme	Entry frequency related to theme
Connection between the academic peer mentor and the student mentee(s)	Social purpose	Academic progress and achievement - Check in (Reflection, feedback, discussion, Q&A)	134
		Wellbeing - Adjustment to online learning - Check in (Reflection, feedback, discussion, Q&A)	64
		Wellbeing - Balancing academics and social life - Check in (Reflection, feedback, discussion, Q&A)	19
		Wellbeing - General - Check-in (Reflection, feedback, discussion, Q&A)	160
		Wellbeing - Confidential and personal matter discussion	138
		Wellbeing - COVID and the lockdown - Check in (Reflection, feedback, discussion, Q&A)	14
		Wellbeing - Motivation - Check in (Reflection, feedback, discussion, Q&A)	85
		Wellbeing - Overcoming challenges - Check in (Reflection, feedback, discussion, Q&A)	12
		Wellbeing - Personal finance management/budgeting - Check in (Reflection, feedback, discussion, Q&A)	8
		Wellbeing - Relationships - Check in (Reflection, feedback, discussion, Q&A)	57
		Wellbeing - Self-discipline - Check in (Reflection, feedback, discussion, Q&A)	12
		Wellbeing - Setting up a study environment - Check in (Reflection, feedback, discussion, Q&A)	5
		Wellbeing - Stress, anxiety and pressure - Check in (Reflection, feedback, discussion, Q&A)	41
		Wellbeing - Time management - Check in (Reflection, feedback, discussion, Q&A)	6
Engagement with the case institution's support services and resources	Administrative purpose	Academic peer mentoring programme	104
		Registration	38
		Application - Residencies - Accommodation	14
		Career centre	8
		Courses and module - Criteria, requirements and credits	111
		Data, devices and permits	57

		Financial support services	13
		Financial support services - Bursaries - Applications, availability, appeals	15
		Financial support services - NSFAS - Applications, availability, appeals	67
		Reading Lab	11
		SI	15
		Student surveys	9
		Textbooks	25
		THUSO	6
		Transfer - Between campuses/universities	2
		Tutorial programme	23
		UODL	3
		Writing Centre	6
		Yearbooks	3
	Informative purpose	ERL related information	74
	Technological purpose	DIY	6
		Library services	59
		LMS - first-year Navigator	10
		LMS - Assignment submission	20
		LMS - Blogging	8
		LMS - Marks - Retrieval of	4
		LMS - Navigation	80
		LMS - Online quizzes	62
		LMS - Password change	7
		LMS - Time tables, due dates and test and exam schedules	24

Successful completion of disciplinary modules		LMS - Zero-rated connectivity	6
		LMS - Turnitin	6
	Administrative purpose	Academic peer mentoring programme	14
		Assignment support - Announcements	23
		Contact details - Module lecturer - How to approach and communicate (marks, submissions, tests, assignments)	33
	Communicative purpose	Academic support	124
		Assignment support	475
		Assignment support - APM peer review feedback	150
		Assignment support - Guidelines	79
		Assignment support - Q&A, reflection, discussion and follow-up	17
		Modules - Orientation to, discussion of, Q&A, feedback and reflection	31
		Study unit(s) - Orientation to, discussion of, Q&A, feedback and reflection	36
	Instructional purpose	Academic skills development	69
		Academic skills development - Academic writing	121
		Academic skills development - Adjustment to Higher Education	56
		Academic skills development - Assessment	14
		Academic skills development - Avoiding plagiarism	12
		Academic skills development - Case studies	3
		Academic skills development - Developing a growth-mind-set	14
		Academic skills development - Effective group work and communication skills	14
		Academic skills development - Memory rehearsal strategies	7
		Academic skills development - Note-making and summaries	49
		Academic skills development - Paraphrasing	7
		Academic skills development - Planning and goal setting	86

		Academic skills development - Portfolio	25
		Academic skills development - Reading strategies (SQR3)	13
		Academic skills development - Referencing	154
		Academic skills development - Research methodology	30
		Academic skills development - Self-directed learning	12
		Academic skills development - Study methods	145
		Academic skills development - Test/Exam preparation	231
		Academic skills development - Time management	178
		Academic support	923
	Technological purpose	Academic skills development - Computer skills	3
		Assignment support	14
		Assignment support - Finding additional sources	56
		Software	25

4.5 Summary

The education ODL student participants are diverse in age, study level, specialisation, and commitments outside of their studies. Participants in their first year of study more frequently require the case institution's support services and resources. This aligns with the academic peer mentor recordkeeping sheets that indicate that first-year students seek academic peer mentor support the most.

Financial considerations are highlighted by the ODL student participants as a reason for registering for an ODL course. This may be attributed to the fact that 75% of the participants have family commitments and may also relate to their concerns regarding the cost of data to access their studies. It is sobering to realise that a fifth of the ODL students can only access their studies via mobile device. The effort of completing assignments on a mobile device must be a frustrating and time-consuming experience. This aligns with the academic peer mentor recordkeeping sheet entries pertaining to directing student mentees in their quest for data and devices.

Access by the ODL student participants to the case institutions administrative support services and resources, centres mostly on support from the UODL Call Centre, Financial Services and Admissions Office. This aligns with the academic peer mentor recordkeeping sheets that indicate many student referrals to Financial Services and the Admissions Office. Although the education ODL students seem satisfied with their ease of access to these support services, they seem to be less satisfied with the support rendered by these entities.

Very few ODL student participants consulted faculty advisers concerning module and course selection, which may indicate that they are unaware of such support. This may also be why the module lecturer feels exhausted to attend to ODL student enquiries that does not pertain to her teaching activities. The module lecturer indicated that she often refers students to Financial Services, the Admissions Office and the UODL Call Centre. This also supports her observation that students have a slight awareness of the range of support services and resources that the case institution offers, and that ODL students may not be as fluent regarding their ease of access to institutional support services and resources as they believe. The mostly positive experience of ODL students relating to their engagement with the case institution's support services and resources, is at odds with the negative experience of the ODL module lecturer in her engagement with the case institution's support services and resources.

The observation of the ODL module lecturer that ODL students' computer and digital literacy skills need attention and development, is at odds with ODL students' confidence in their computer and digital literacy skills proficiency. The academic peer mentor recordkeeping sheets reveal that the academic peer mentors engage with several students to develop the technical skills of students – including guidance and instruction on the use of software, searching for additional resources on the Internet or the databases provided by the case institution's Library Services, as well as navigating the case institution's LMS.

Although not emerging as a concern among the ODL students, the reading literacy skills of education ODL students are of special concern to the module lecturer.

The module lecturer and two thirds of the education ODL student participants agreed that ODL students may benefit from opportunities to develop their academic skills, strategies and processes. However, the consultation history of education ODL students with academic advisers proves otherwise. This again may relate to the module lecturer's point that the institution provides generic support services and resources that do not contribute to students' positive learning experiences – hence her reluctance to refer her students for academic advising.

The academic peer mentor recordkeeping sheets revealed that the academic peer mentors are highly involved in developing student mentees' academic skills and processes (for instance academic writing, planning and goal setting, note-taking, referencing, study methods, test and exam preparation and time management skills).

Access to study material (specifically having textbooks delivered on time) causes concern among ODL student participants. The situation is amplified by study material that is sometimes not uploaded to the case-institution's LMS on time or uploaded too late for them to prepare adequately. They also stated that module calendars and schedules are often not published in advance to allow them to plan and prepare according to due dates. ODL students also ask that their unique needs be considered, namely effectively balancing work, family, and study commitments.

Module lecturer support (i.e., the availability of module lecturers, clearly communicated guidelines and instructions and feedback) is of further concern to ODL students.

The use of WhatsApp among education ODL students to provide peer support is emphasised by both the ODL students and the module lecturer. In the case of the academic peer mentors who provided support to students during the national lockdown, an analysis of the recordkeeping sheets revealed that the interaction between the academic peer mentors and the student mentees happened primarily via WhatsApp.

Participants are also concerned with the slow turnaround time of feedback and that it is not specific and detailed enough to allow them to learn from prior mistakes. They observed that their comprehension of content is impeded by the lack of timely, frequent, clear and comprehensive communication of information, guidelines and instructions, sufficient explaining and organisation of content, timely published module timeframes with achievable due dates and the consideration of ODL student needs. The academic peer mentor recordkeeping sheets also indicated a high level of communicative support to student mentees to help clarify and explain how to complete assignments, interpret assignment guidelines, and provide peer review feedback on assignments.

Education ODL students consider taking responsibility for their learning and developing independent study habits critical to their success in the ODL environment, which is at odds with the perception of the module lecturer that ODL students have a drive-through approach to learning that involves passing and not learning.

The ODL student participants reported no personal connection with their module lecturers and observed that their courses offer limited opportunities for interaction and engagement with their peers on learning activities. This may be why almost two-thirds of the ODL student participants indicated that they could benefit from peer support programmes. This is also reflected by the academic peer mentor recordkeeping sheets that showed that students registered at the Faculty of Education are among the faculties that seek academic peer mentoring support the most. The module lecturer also reported no personal connection with the education ODL students because of the group's size and agreed that she could benefit from employing peer support programmes.

Although half of the student participants observed no personal connection with their peers in the cohort, they indicated their satisfaction with their interaction with their peers when the opportunity to do so, arose. Education ODL student participants considered the ability to communicate effectively, and working collaboratively with peers to complete tasks, important. The module lecturer agreed that peers working collaboratively on tasks are essential.

Education ODL student participants that experienced isolation in the ODL environment, attributed it to feeling neglected, family and work commitments, not being able to socialise with peers due to the nature of ODL and limited support from the institution. The module lecturer attributed feelings of isolation among education ODL students to them not getting the help they need. She agreed with the education ODL students that personal connection and social engagement between students might contribute to students' sense of belonging. The academic peer mentor recordkeeping sheets revealed that the students sought connection with the academic peer mentors, especially during the second and third quarters of the academic year. These connections mostly centred on the general wellbeing of the student mentees, but connections that involved motivation and encouragement, relationships, adjustment and stress, and anxiety also occurred frequently.

Numerous ODL student participants remarked that they want to be treated the same as or have the same benefits as their on-campus counterparts.

To address the social and academic needs and concerns of education ODL students at the case institution, chapter 5 focuses on the conceptualisation of a multi-tiered e-academic peer mentoring support framework within an education ODL ecosystem. Extending academic peer mentoring support to education ODL students and education ODL module lecturers, to alleviate the fact that “many learners who are under-prepared and lack the skills to tackle the demands of online learning, are left with minimal or no support outside of teaching, and online faculty [who] are without referral points for online students who are struggling and unable to access campus-based services” (Peters *et al.*, 2017:15).

CHAPTER 5 CONCEPTUALISING A MULTI-TIERED E-ACADEMIC PEER MENTORING SUPPORT FRAMEWORK IN AN EDUCATION ODL ECOSYSTEM

5.1 Introduction

Within the context of this study, the envisioned multi-tiered e-academic peer mentoring support framework in an education ODL ecosystem evolved from an exploratory, problem identification and intervention development phase. In relation to the research questions, the exploratory phase of this study entailed a needs assessment (cf. Chapter 3) and dissemination of results (cf. Chapter 4). During the problem identification phase of this study, the results of the data analysis were prioritised and determinants for the envisioned intervention identified (cf. Chapter 2).

Chapter 5 focuses on the intervention development phase, where the researcher conceptualises and describes the envisioned e-peer mentoring support framework.

5.2 Blueprint for the conceptualised support framework

The blueprint of the envisioned support framework illustrates all the phases pertaining to the development of the conceptualised multi-tiered e-academic peer mentoring support framework within an education ODL ecosystem. To inform their decisions, HEI faculties considering multi-tiered e-academic peer mentoring support frameworks for their students, may refer to the blueprint developed for this study (cf. Figure 5.1):

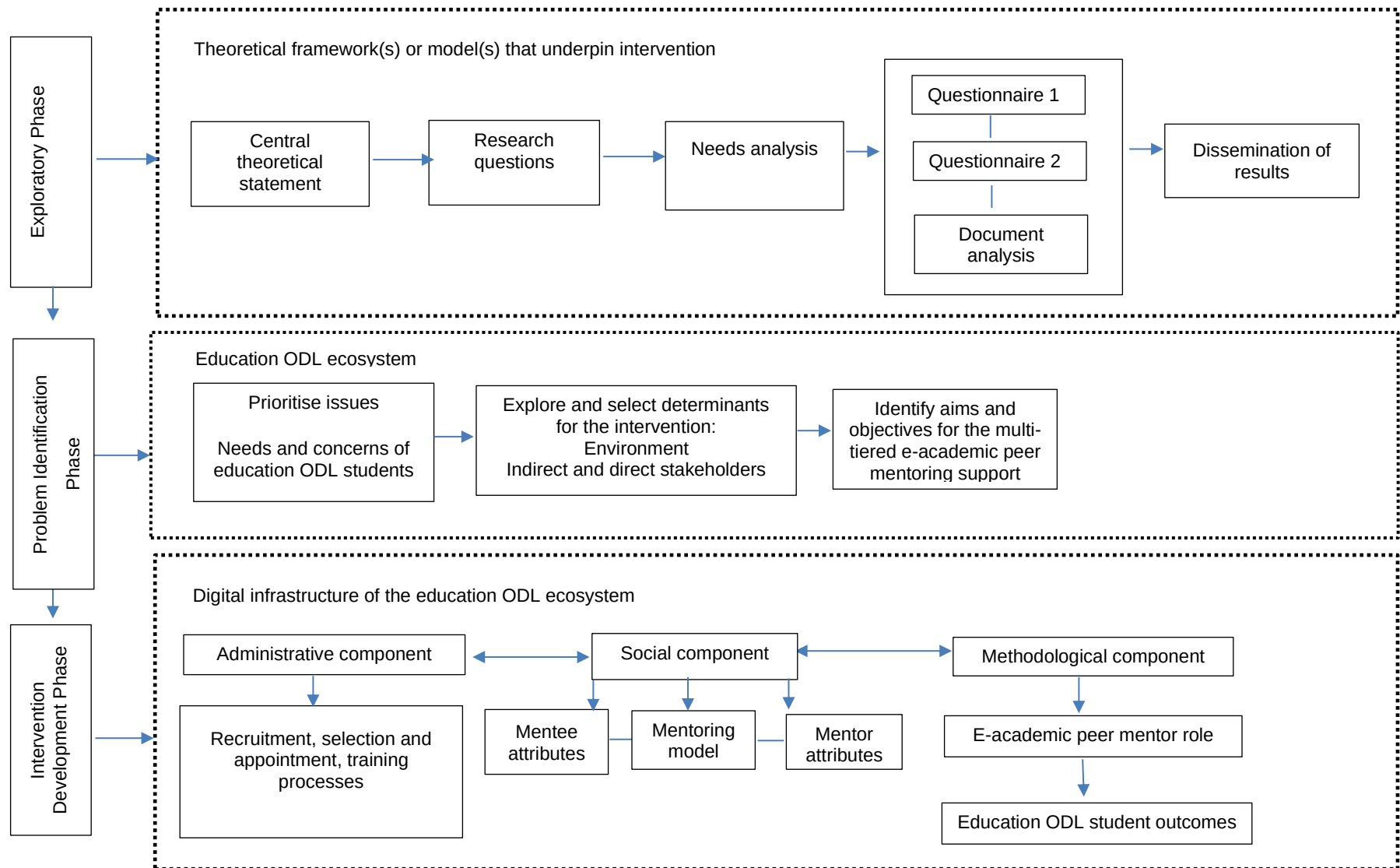


Figure 5.1: e-Academic peer mentoring support framework: A Blueprint

5.3 E-academic peer mentoring framework environment

The World Economic Forum Report on the Future of Jobs and Skills in Africa (2017:3-6) indicates that “enrolment at secondary level drops to 50% and only 7% of young people are enrolled in tertiary education”. The small percentage that enrolls in tertiary education often experience a mismatch between the skills expected of them in a tertiary environment and the skills they were taught in school (Stevenson & O’Keefe, 2011). School education tends to focus on teachers “teaching the syllabuses, rather than teaching skills” and is not adequately designed as a preparation for university (Browning & Sheffield, 2008). Many students are therefore simply “underprepared” or “come from poor communities and under-resourced schooling systems that did not prepare them adequately for higher education” (Makoe & Nsamba, 2019:133).

Sorensen and Donovan (2017:218) recommend that higher education interventions should “ensure a higher level of support for first-year students earlier in their programs and identify students at risk of dropping out early”. However, it is also essential that ODL students have “access to more than course content and effective teaching” (ContactNorth, 2018). To ensure that ODL students are provided the opportunity to succeed, they need access to “a wide range of support services that help them to engage with their institution and module lecturers, succeed in their studies, connect with each other, and make a successful transition to the workplace” – which essentially implies that ODL students “need access to all the services available to on-campus students” (ContactNorth, 2018).

The case institution is committed to equity of access, retention, student success, and success advancement by creating an empowering and supporting learning experience for its students (NWU, 2017:5, 10). However, to translate the commitment the case institution makes to equity of access and to decrease student dropout, (especially among first-year students), factors other than academic performance that influence student success, such as sense of belonging and social integration (NWU, 2017:5, 9) are acknowledged by the case institution.

In planning the research, consideration was given to the case university’s Profile 2017/2018 that reports (NWU, 2018:11) that more than 25 000 students out of a total of 27 00 students enrolled at the case institution’s Unit for Open Distance Learning (UODL), are students enrolled at the Faculty of Education.

The Fact Sheet of the case institution's Faculty of Education indicates that of the total number of students registered at the faculty (n=30 828), n=24 130 are ODL students (NWU, 2020). The empirical study was therefore directed at HEI education ODL students.

5.4 Stakeholders in the e-mentoring framework

The **direct**⁹, **indirect**¹⁰, **primary**¹¹ and **secondary**¹² stakeholders of the envisioned e-academic peer mentor support framework are identified as follows (cf. Figure 5.2):

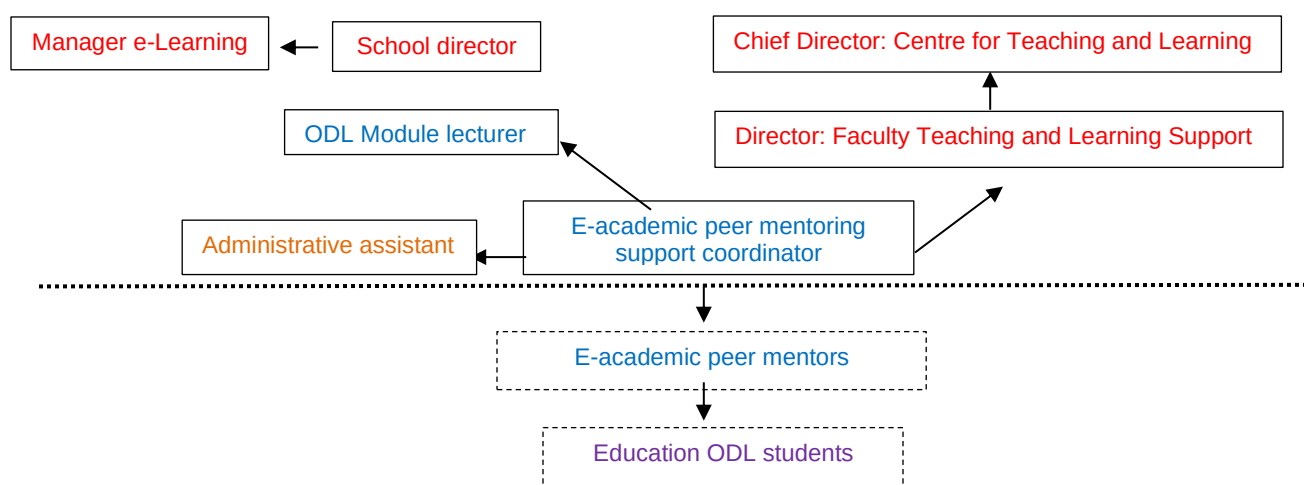


Figure 5.2: Direct and indirect stakeholders in e-mentoring support framework

Based on the empirical results of this study and its focus on the needs and concerns of education ODL students, the conceptualised support framework focuses on the e-academic peer mentors as direct stakeholders, and the education ODL students as primary stakeholders thereof.

⁹ Direct stakeholders are involved in the day-to-day activities and processes of a programme.

¹⁰ Indirect stakeholders pay attention to the programme's outcomes, not the processes involved.

¹¹ Primary stakeholders are directly affected by the outcomes of the programme.

¹² Secondary stakeholders contribute to the programme on a lower and more general level, for instance to complete administrative processes.

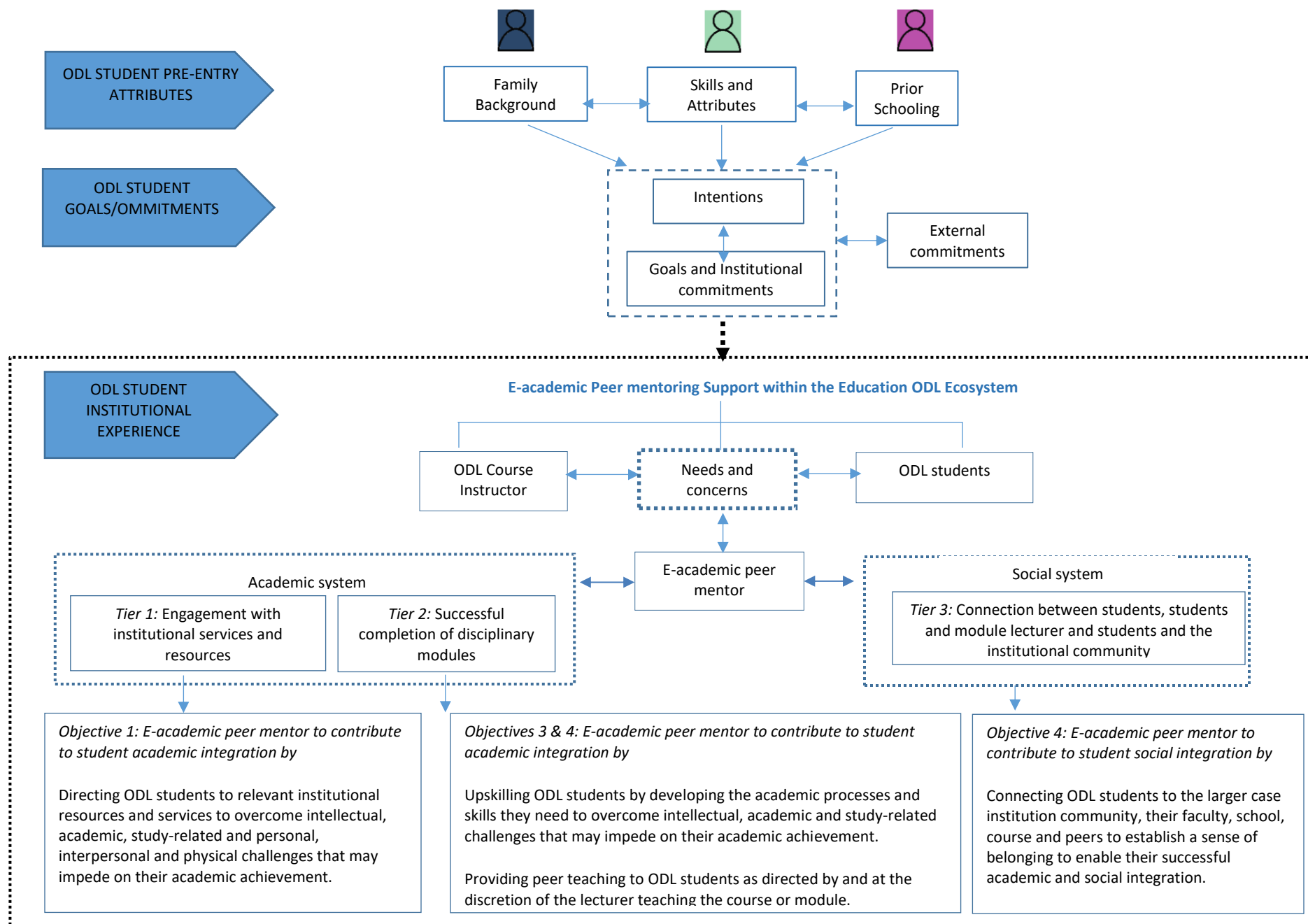
5.5 Aims and objectives of the envisioned support framework within an Education ODL ecosystem

Underpinned by Tinto's Revised Model for Student Integration, the aim of the envisioned multi-tiered e-academic peer mentoring support framework within an education ODL ecosystem, is to increase the motivation of education ODL students towards course completion (student retention and decreased dropout rates) by enhancing their institutional experience positively to support their social and academic integration at the case institution. The multiple tiers associated with the conceptualised framework pertains to education ODL students' engagement with institutional services and resources, successful completion of disciplinary modules, and connection between students.

The core findings relating to the social and academic needs and concerns of the education ODL students were identified (cf. chapter 4) to ensure that the ODL education students' academic and social support needs and concerns are addressed by the envisioned e-academic peer mentoring support framework within the education ODL ecosystem:

- *Objective 1:* Direct ODL students to relevant institutional resources and services to overcome intellectual, academic, study-related and personal, interpersonal and physical challenges that may impede on their academic achievement.
- *Objective 2:* Upskill ODL students by developing the academic processes and skills they need to overcome intellectual, academic, and study-related challenges that may impede on their academic achievement.
- *Objective 3:* Provide peer teaching to ODL students as directed by and at the discretion of the lecturers teaching the course or module.
- *Objective 4:* Connect ODL students to the larger case institution community, their faculty, school, course and peers to establish a sense of belonging to enable their successful academic and social integration.

The objectives of the conceptualised e-academic support framework within the education ODL ecosystem in relation to the larger HEI ecosystem as depicted by Tinto's Revised Model of Student Integration is illustrated as follows (cf. Figure 5.3):



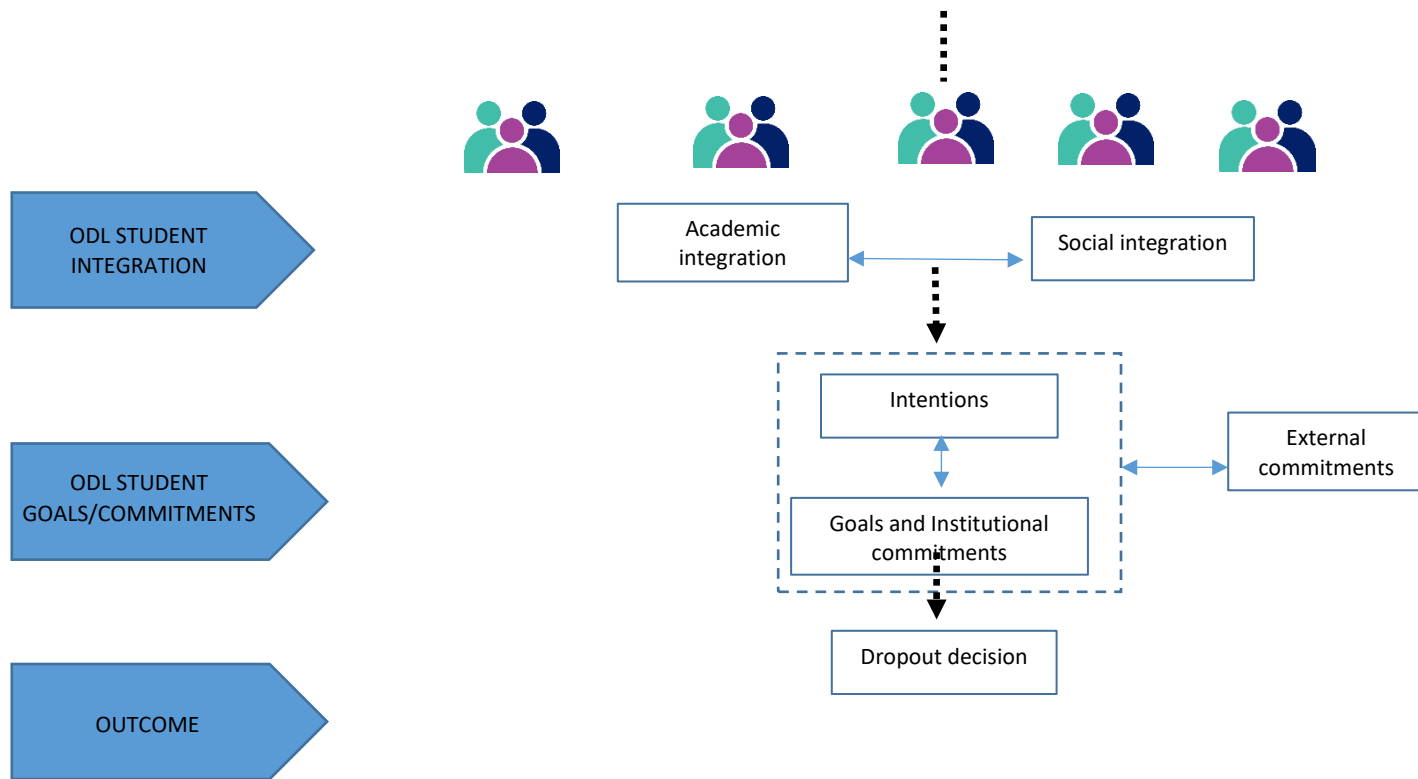


Figure 5.3: The e-academic peer mentoring support structure situated within Tinto's Revised Model of Student Integration

5.6 Digital infrastructure of the envisioned support framework

The e-academic peer mentoring framework is envisioned within the education ODL ecosystem as follows (cf. Figure 5.4):

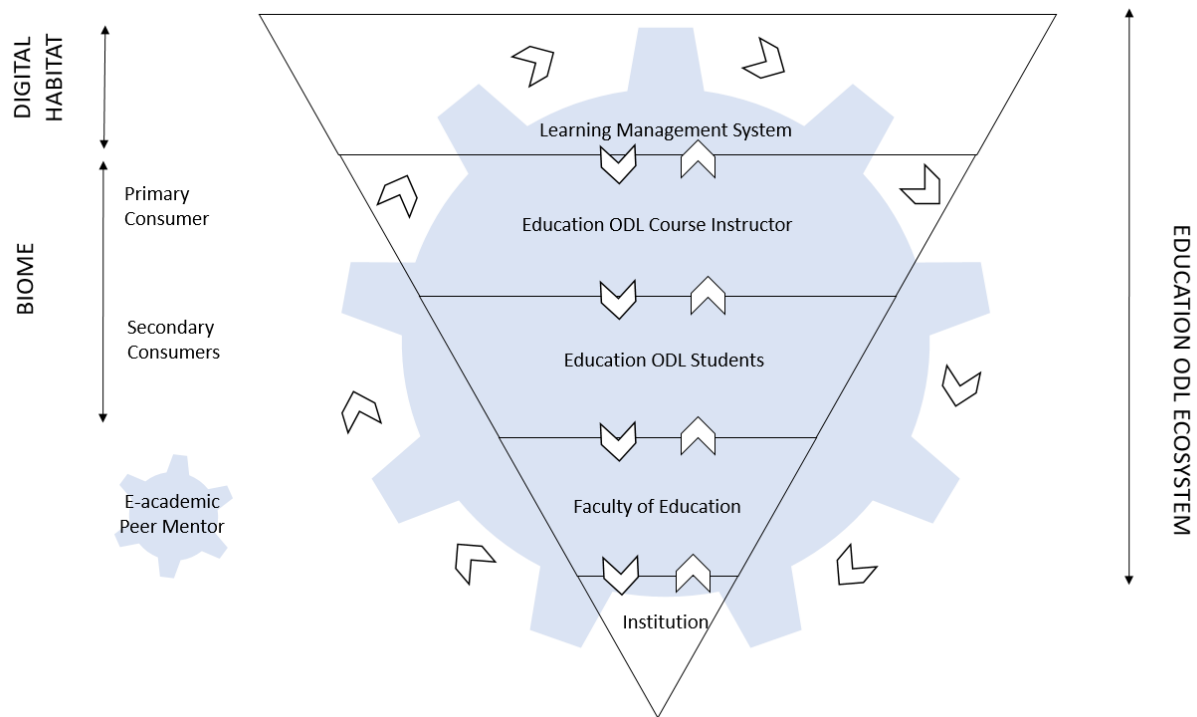


Figure 5.4: Education ODL ecosystem

It has been established that the ODL ecosystem encompasses a combination of technologies and support services to aid ODL students' learning. Each component associated with the envisioned support structure within the education ODL ecosystem is underpinned by what is made possible by the case-institution's digital infrastructure. Therefore, it is essential to consider the available technology at the onset of conceptualising an e-academic peer mentoring framework.

The digital habitat for the envisioned e-academic peer mentoring support structure is primarily the case institution's LMS but will also incorporate applications that are (a) supported by the case institutions Information Technology Support Service, (b) freely available or (c) preferred by students.

The e-academic peer mentors will employ these real-time or synchronous communication tools (such as instant messaging via, for instance, WhatsApp, Web video conferencing, and virtual meeting rooms) and passive or asynchronous communication tools (such as email, discussion forums, and blogs) to interact with and support education ODL students.

In relation to the objectives of the envisioned support structure, the e-tools provided by the case-institution's LMS, and the freely available applications (that was referred to by ODL students during the empirical study) were identified and their features considered. This made it possible to establish (a) how the available e-tools can enable the e-academic peer mentors to fulfil their roles and responsibilities, (b) if use of the e-tool requires input from the module lecturer, (c) what implications the use of the e-tool has for the students, and (d) the outcomes that may be achieved by using the e-tool (cf. Annexure 4 for a complete list of the e-tools provided by the case-institution's LMS and other available applications and how it could be employed in the conceptualised e-academic peer mentoring support framework).

5.7 Components of the envisioned support framework

The administrative, social, and methodological components of the support framework are dependent on the aims and objectives of the conceptualised multi-tiered e-academic peer mentoring support framework and the digital infrastructure provided by the case institution.

5.7.1 Administrative component

The administrative component refers to the organisational or institutional support provided for the conceptualised multi-tiered e-academic peer mentoring support framework and pertains mainly to the support coordinator in collaboration with the module lecturer.

5.7.1.1 Recruitment, selection and appointment process

With the aims and objectives of the support framework in place, the selection criteria for e-academic peer mentors can be finalised. Final year education ODL students, who have already completed the education module successfully, are recruited as e-academic peer mentors and will be formally invited to apply as e-academic peer mentor via an announcement placed on the case institution's LMS. Should the module lecturer be so inclined, applications from graduate education ODL students or undergraduate students she chooses to nominate, may also be included.

All prospective e-academic peer mentors are to apply via a formal application process to allow the module lecturer to select the most suitable candidates to be interviewed to enhance equity and transparency. Depending on the context, the support coordinator or other identified stakeholder, can be responsible for budget related issues, the contractual appointment and remuneration of the e-academic peer mentors.

The job description of the e-academic peer mentors is also the product of collaboration between the module lecturer and applicable stakeholders.

5.7.1.2 Training the e-academic peer mentors

Training of the e-academic peer mentors is a collaborative effort between the module lecturer and stakeholders to ensure that a generic approach to ODL student support is not followed. Training may be either a once-off event or include various structured training sessions related to the education ODL students' needs and concerns as they progress through the academic year. Training may, for instance, also address the development of the relational skills of the e-academic peer mentors and what is expected of them in terms of recordkeeping.

5.7.2 Social component

5.7.2.1 Attributes of the education ODL students

The attributes of the education ODL students were established by an analysis of the empirical results of this study (cf. Chapter 4).

5.7.2.2 Mentoring model

It has been shown by the study that some education ODL students prefer the independence that ODL provides. Education ODL students can be made aware of e-academic peer mentoring support, but other than when the module lecturer expects education ODL students to work in groups or participate in discussions (and where the e-mentor acts as guide or facilitator), education ODL student participation in e-academic peer mentoring support needs to be strictly voluntary and student needs-based. The drawback of such an approach may manifest in limited interest in the e-academic peer mentoring support but may alleviate the perception that participating will add to the workload of the education ODL students.

The e-academic peer mentors are to be senior education ODL students that have already successfully completed the module. It is of importance to note that 'senior' in the context of this particular support framework refers to knowledge and subject experience seniority. The education ODL students are diverse in many ways, including age. It may be that a more mature education ODL student will be guided by a younger ODL student that has successfully completed the module.

The envisioned support framework incorporates elements from both peer mentoring and group mentoring models (cf. Chapter2).

In relation to objective 1, e-mentoring will be mostly on a one-on-one basis to provide just-in-time, needs-driven support. Concerning objectives 2 and 3, e-mentoring will be either on a one-on-one basis or take place in homogenous/heterogeneous groups to provide formal or informal, experienced based support.

In relation to objective 4, it is envisioned that e-mentoring will be Informal and take place in mostly homogeneous groups where there is an emphasis on learning from the group and establishing personal networks for future communities of practice.

5.7.2.3 Attributes of the e-academic peer mentors

The e-academic peer mentors must be successful academically and have the emotional intelligence to facilitate intergenerational learning (Generations X, Y and Z). The case institution's student body is characterised by students with diverse backgrounds, cultures, ages and experiences. The e-academic peer mentor, within an education ODL ecosystem, needs to be sensitive and alert to the cultural assumptions they make and the beliefs, values and the prejudices they hold, since it may inform their behaviour and conversation/interaction with the education ODL students. The e-academic peer mentors therefore need to demonstrate good interpersonal and communication skills, be sensible, responsible, confident, reliable, punctual and accountable, be self-motivated, have a positive-attitude, display strong time management and organisational skills, be approachable, easy to relate to, accessible and non-judgemental, have troubleshooting skills and the ability to take initiative and have the ability to act independently. The e-academic peer mentors must also be able to distinguish when they can support an education ODL student and when it will be in the best interest of the ODL student to be referred to the module lecturer or relevant support services and resources at the case institution.

In relation to objective 1, it is envisioned that the e-academic peer mentor will act as knowledgeable guide. This requires the e-academic peer mentor to be confident in his or her knowledge of the case institution's support services and resources and policies and procedures. To achieve this objective, critical thinking and trouble shooting skills are important attributes associated with the e-academic peer mentor.

In relation to objectives 2 and 3, the e-academic peer mentors will need to act as a role-model, peer teacher and facilitator. This implies that the e-academic peer mentor has communication, interpersonal, organisational and time management skills, comprehensive understanding and prior knowledge of the module, is accountable to both students and the module lecturer and committed to the academic success of the education ODL students.

In relation to objective 4, mentoring will be informal and take place in primarily homogeneous groups where there is an emphasis on learning from the group and establishing personal networks for future communities of practice. This will ensure that education ODL students become progressively more self-aware and connected to a learning community. The education ODL student will further benefit from peer learning, peer support and collaborative learning for knowledge construction. To achieve this objective, facilitation skills and established academic and social networks of their own, are required of the e-academic peer mentor.

5.7.3 Methodological component

The objectives of the conceptualised multi-tiered e-academic peer mentoring support framework are derived from the academic and social needs and concerns of the education ODL students. To establish what will happen during e-academic peer mentor and ODL student interactions (mentoring sessions), the specific roles (purposes) and responsibilities (tasks) of the e-academic peer mentors, in relation to the support framework's objectives, are defined next.

5.7.3.1 Objective 1

To direct education ODL students to relevant institutional resources and services to overcome intellectual, academic, study-related, and personal, interpersonal, and physical challenges that may impede on their academic achievement, the e-academic peer mentor fulfilled an administrative, technical, communicative and informative purpose.

The results of the document analysis of the academic peer mentoring recordkeeping sheets (cf. Figures 4.7 and 4.8), indicated that education ODL students may require specific types of e-academic mentoring at certain times. According to the results of the empirical study, it is to be expected that as education ODL students transition into the HEI ODL environment, e-mentoring activities pertaining to objective 1 of the support framework will feature more prominently (when education ODL students experience feelings of separation, dependence, and isolation). It is further expected that e-academic peer mentoring activities relating to objective 1, will peak at intervals during the academic calendar (cf. Annexure 5 for the tasks of the e-academic peer mentor in relation to objective 1).

The outcome of objective 1 is that education ODL students have access to practical and experienced-based knowledge, advice, guidance, and support relating to any institutional, technological, social and academic needs and concerns they may have right from the onset of their academic year.

5.7.3.2 Objectives 2 and 3

To (a) develop the academic processes and skills ODL students need to overcome intellectual, academic and study-related challenges and to (b) provide peer teaching to education ODL students as directed by and at the discretion of the lecturers teaching the course or module, the e-academic peer mentor fulfils a technical, communicative and instructional purpose (cf. Annexure 5 for the tasks of the e-academic peer mentor concerning objectives 2 and 3).

As ODL students start transitioning and adjusting to ODL, objectives 2 and 3 relate more to the individual stages of the students' cognitive development and knowledge transfer from the e-academic peer mentor as peer teacher or more knowledgeable other.

The outcomes for the education ODL students in relation to objectives 2 and 3 are the development of their critical thinking, problem solving and academic skills, and their rational analytical processes to comprehend, learn and reflect on module content. Their literacy proficiency (development of learning skills, information literacy and media literacy skills, as well as their communication and collaboration skills) is increased and they start benefitting from peer support and collaborative learning.

5.7.3.3 Objective 4

To connect education ODL students to the larger case institution community, their faculty, school, course and peers to establish a sense of belonging to enable their successful academic integration, the e-academic peer mentor fulfils a social and communicative purpose (cf. Annexure 5 for the tasks of the e-academic peer mentor in relation to objective 4).

Objective 4 is aimed at facilitating the ego-centric, socio-centric and open system network interactions of education ODL students as they progress to self-directedness and independence.

The outcomes for the education ODL students about objective 4 are self-awareness, connectedness to a learning community, autonomy, and self-efficacy. The education ODL student benefits from the value of peer learning, peer support and collaborative learning for knowledge construction. The education ODL students are progressing towards digital scholarship and begin to establish learning networks to support them during the next levels of their study.

5.8 Summary

The blueprint refers to various phases (and the stages within each phase) associated with this study, informed conceptualisation of the multi-tiered e-academic peer mentoring support framework within an education ODL ecosystem.

The three tiers of the e-academic peer mentoring support framework, namely engagement with institutional services and resources, successful completion of disciplinary modules and connection between students (also related to the research questions formulated for this study) are situated within Tinto's model. It is further illustrated how the objectives of the conceptualised support framework (based on the core findings of the study), ties in with the institutional experience students have in relation to a positive social and academic integration into the HEI.

The conceptualised multi-tiered e-academic peer mentoring support framework, within an education ODL ecosystem, depends on the case institution's digital infrastructure. The envisioned activities and interactions of the e-academic peer mentors with the education ODL students and their module lecturer will be made possible by various e-tools within the digital habitat of the education ODL ecosystem.

The chapter concludes with discussing the iterative administrative, social and methodological components to provide insight into the *modus operandi* of the conceptualised multi-tiered e-academic peer mentoring support framework.

CHAPTER 6 SUMMARY OF MAJOR FINDINGS, AREAS OF FURTHER RESEARCH AND CONCLUSIONS

6.1 Introduction

This study proposed that a multi-tiered e-academic peer mentoring support framework with an education ODL ecosystem may address the social and academic needs and concerns of education ODL students. Chapter 6 focuses on the core findings of this study in relation to the research questions to establish whether the study's objectives were achieved. The contribution of the study is summarised, and the limitations of the study addressed. The researcher also highlights areas for future research before concluding.

6.2 Background to this study

The researcher has experienced distance learning on various occasions and this study originated from an understanding of the value of distance education as well as a self-reflection on the professional practices of the researcher within a HEI. In her capacity as academic adviser (providing academic support and development opportunities to undergraduate contact students), the researcher reflected on her very limited consultation history with ODL students, and the viability of peer learning support opportunities specifically designed for and directed at the growing number of ODL students at the case institution. The researcher directed her efforts at the Faculty of Education because most of the ODL students at the case institution, are enrolled at the Faculty of Education.

6.3 Summary of major findings

6.3.1 Review of scholarly literature

In exploring literature, the researcher concluded the following:

In answer to the social, economic and transformative needs of post-apartheid South Africa, the Department of Higher Education and Training (DHET) has indicated that one of its obligations is “to increase access to educational opportunities for those who experience barriers to learning and for young people who are not in education, training or employment” (DHET, 2017:367).

The DHET's Open Learning Policy for Post-School Education and Training policy framework emphasises access for more learners to (a) flexible learning opportunities, (b) quality learning materials and (c) *learner support*. (DHET, 2017:373). Government's efforts to increase access to education opportunities by means of utilizing ODL, whether in an effort attempt to remove the barriers associated with learning, or to address education system inequalities associated with apartheid South Africa, does not equate to student academic success. A lack of support has been identified by research as the main primary contributor to why ODL students drop out of their courses (Aydin et al., 2019:41; Sorensen & Donovan, 2017:207-208; Lee & Choi, 2011:604-614; Nicpon et al., 2006:354; Tinto, 2006:3, 6; Bangeni, 2003:148).

To equalise the opportunity for ODL students to be successful, Tinto's Revised Model of Student Integration cautions institutions to realise that ODL students' background pre-entry attributes will reflect differently in their commitment to their studies and while most ODL students may experience a high level of motivation at first, "without support to improve performance [students] may lose their motivation to persist and subsequently dropout" (Tinto, 2017:260). Tinto's model argues that the decision of a student to drop out, or no longer persist at the institution, is influenced by the interactions of the individual student and other members of the academic and social systems in the institution. Hence, should the student perceive his or her interactions in the institution's academic and social systems as positive, the student will experience a heightened commitment to complete his or her studies at the institution. ODL student support determined from an institutional perspective and based on the institution's perception of a "typical" ODL student, not only render these student support services unresponsive and inadequate (Makoe & Nsamba, 2019:133; Peters *et al.*, 2017:15; Naidoo & Raju, 2012:34; O'Rourke, 2009:7 #135), but also hinder the integration of the ODL student into the academic and social structures of the institution (Pleitz *et al.*, 2015:90).

Further exploration revealed the case institution's commitment to student success, retention and success advancement in creating an empowering and supporting learning experience for its students (NWU, 2017:5,10). To translate its commitment to equity of access and to decrease student dropout, especially among first-year students, the case institution acknowledges factors other than academic performance that influence student success, such as student sense of belonging (NWU, 2017:5) and social integration (NWU, 2017:9).

In lieu of case institutional support services and resources that offer equitable access and success opportunity for all its students (notwithstanding the model of delivery model) the researcher

considered how the existing academic peer mentoring support programme directed at contact students may be adapted to support ODL students. A case in point was the extraordinary circumstances of the COVID-19 pandemic which required that the academic peer mentoring programme at the case institution adapt to an ERL environment.

ERL is an unplanned method and temporary substitute to continue teaching and learning activities for as long as it is not possible for lecturers and students to be in the same physical location. For instance, course material originally prepared for face-to-face instruction was transformed for an online environment with limited integration of technology for the sake of student engagement and participation. In other words, ERL made online individualised self-paced e-learning, with an emphasis on interaction between the learner and the learning resources, possible. ERL was concerned with affording contact students the opportunity to continue their studies for as long as the pandemic made it impossible for in-person learning to continue on-campus.

Online learning on the other hand implies courses that were purposefully designed and planned long in advance to be delivered online. The ODL student chooses to sign up for learning to be delivered in this modality. Much thought and advance planning provides opportunities for synchronous and asynchronous interaction to enable learning characterised by learner engagement, participation, and collaboration with peers and the module lecturer (Baraka, 2012:11).

The researcher, therefore surmised that adapting existing support services and resources specifically developed for contact students to support ODL students may not be responsive and adequate to address the academic and social needs and concerns of diverse ODL students (Makoe & Nsamba, 2019:133; Peters *et al.*, 2017:15; Naidoo & Raju, 2012:34; O'Rourke, 2009:7). Hence, the researcher set out to conceptualise a multi-tiered e-academic peer mentoring support framework within an education ODL ecosystem support framework that may address the academic and social needs and concerns of education ODL students.

6.3.2 Empirical results

To conceptualise a multi-tiered e-academic peer mentoring support framework within an education ODL ecosystem support framework based on the actual academic and social needs and concerns of education ODL students, the researcher employed multiple methods

(questionnaires and document analysis) to address the research questions formulated for this study. The core findings in relation to the research questions are as follows:

6.3.2.1 Research question 1

What are the needs and concerns of education ODL students within an education ODL ecosystem relating to the support services and resources the case institution provides to facilitate:

- 1.1. engagement with the institution;
- 1.2. successful completion of disciplinary modules, and
- 1.3. “connection” between students, and the students and the module lecturer in the cohort.

Significant themes emerging from the Support Services and Resources: Education ODL Student Questionnaire are that not all students have access to suitable devices to engage effectively and efficiently with ODL. Students rely on their module lecturer for support unrelated to module content, not because they experience challenges to access institutional support services and resources, but because (a) they are not always satisfied with the support they receive and (b) because it seems that they are unaware of the wide range of institutional support services and resources at their disposal. Timely access to study material and textbooks and timely communication and feedback impede comprehension of content. The students raise concerns that their unique circumstances, that motivated them to register for ODL, are not considered. The late publication of module schedule and due dates for assignments and assessments that are not evenly spread and often too close together, makes balancing work, family and study challenging. The students also perceive that they are not treated, valued and rewarded for their efforts as their on-campus counterparts. This perception and their indication that they experience no personal connection with their module lecturer and very limited connection with their peers, contribute to feelings of isolation.

6.3.2.2 Research question 2

What is the perception of an education ODL module lecturer of education ODL students within an education ODL ecosystem relating to the support services and resources the case institution provides to facilitate:

- 2.1. engagement with the institution;
- 2.2. successful completion of disciplinary modules, and
- 2.3. “connection” between students, and the students and the module lecturer in the cohort.

The most significant findings revealed by the Support Services and Resources: Education ODL Module Lecturer Questionnaire are that the education ODL module lecturer (a) is inundated with student enquiries that do not pertain to her teaching activities, (b) perceives that generic support services and resources may not contribute to the positive learning experiences of ODL students, (c) is concerned with ODL students’ focus on passing instead of learning, (d) observes no personal connection with her students and (e) attributes ODL students’ feelings of isolation to them not receiving the support they need.

6.3.2.3 Research question 3

How can e-academic peer mentors provide academic and social support to education ODL students and their module lecturer within an education ODL ecosystem to facilitate:

- 3.1. engagement with the institution;
- 3.2. successful completion of disciplinary modules, and
- 3.3. “connection” between students, and the students and the module lecturer in the cohort.

The most significant findings revealed by an analysis of the academic peer mentor recordkeeping sheets are that student mentees often require direction to institutional support services and resources, development of their technological and academic skills, peer teaching and peer review of assignments and social support from academic peer mentors at specific intervals during the academic year.

6.4 Contribution of the study

Based on a review of scholarly literature and the findings of the empirical study findings, the researcher conceptualised a multi-tiered e-academic peer mentoring support framework that can be embedded within an education ODL ecosystem to address the academic needs and concerns of education ODL students.

The researcher provided a blueprint that HEI faculties may consider when conceptualising multi-tiered e-academic peer mentoring support frameworks for their students.

The study contributes to an awareness of the real-life academic achievement barriers experienced by education ODL students and ODL module lecturers. Awareness of the actual academic and social needs and concerns of education ODL students, may inform institutional action and strategies in supporting ODL students, while in the process also addressing the pressures ODL module lecturers' experience.

6.5 Limitations of the study

Cohen *et al.* (2018:3) refer to the planning and conduct of educational research as “an art, an iterative and negotiated process and one in which there are typically trade-offs between what one would like to do and what is actually possible”.

Only one education ODL module lecturer (specialising in education ODL Literacy modules) responded to an invitation to partake in the study. The perceptions of the ODL module lecturer provided insight from a teaching perspective and it was possible to compare her responses with that of the ODL students. Although the module lecturer's contribution therefore allowed findings of the study to be viewed from at least two different points and contributed to provide corroborating evidence, this study could have benefitted from the insights of more than one lecturer involved in teaching ODL literacy modules.

The academic peer mentor recordkeeping sheets pertains to a peer support programme directed at on-campus, residential students. However, the fact that academic peer mentors had to adapt their support to ERL adds valuable insight, especially related to student mentee concerns as they adapted to online learning.

The scope of this study did not allow for a third sequence in the research cycle, which is embedding a multi-tiered e-academic peer mentoring support framework within an education ODL ecosystem to address the ODL education students' academic and social support needs and concerns.

6.6 Recommendations for future studies

The input of UODL Call Centre operators may be a valuable source of information pertaining to the type of enquiries education ODL students have. Similarly, a Strengths, Weaknesses,

Opportunities and Threats (SWOT) analysis of what education ODL student's enquiries via the UODL Call Centre reveal, may enhance the type of support provided to ODL students, the manner in which it is delivered and the timeliness of providing the support. Having an institutional point of view on the support services and resources provided to ODL students will benefit future ODL student support frameworks.

The scope of the research does not include embedding the conceptualised support framework and observing the effect it has on student academic and social integration into the HE community, academic performance, pass rate, retention and throughput. Depending on the variables, future research may include the development of instruments to measure the effect of e-academic peer mentoring on ODL student retention and academic achievement. The short-term effect of one-on-one and group mentoring on student academic performance may include examining assessment results pre- and post-mentoring (simple frequency and percentage analysis). Impact studies may include determining the influence of e-mentoring on students' academic performance. The effect of mentoring may also include comparing the retention and throughput rates of students that received e-academic peer mentoring with students that did not receive mentoring. Future collaborative action research (participatory action research) to reflect on the effectiveness of the conceptualised support framework may inform new research.

Should multi-tiered e-academic peer mentoring support frameworks in education ODL ecosystems become practice, recommendation for future studies may include (a) establishing whether mentoring as a process strengthens the professional identity of pre-service teachers and (b) if mentor intervention to develop collaborative skills better prepare ODL pre-service teachers for collegiality in the workplace.

Further studies may also include establishing whether being exposed to the mentoring process as pre-service teachers, may encourage education ODL students to, once they enter the profession, seek mentors to (a) support their transitioning from the HEI "classroom" to the school classroom, and (b) if this may contribute to teacher attrition. Future studies may further include investigating whether establishing pre-service teacher learning networks, contribute to future communities of practice in the profession and if so, in what way longitudinal learning networks c Regarding the benefit of establishing social networks and connectivism, the researcher recommends that further studies include the viability of including pre-service teachers in discipline-specific communities of practice to extend their social connectedness outside the

confines of the HEI ecosystem (i.e., connecting pre-service teachers to alumni for insight and support).

The multi-tiered e-academic peer mentoring support framework envisioned by the researcher is flexible enough to be applied in other ecosystems. However, within an education ODL ecosystem, the support framework may be expanded to include students from various specialization phases to share work-integrated learning experiences with students they would not otherwise have met. Future studies may consist of whether the focus in such groups remains on content or shifts to a discussion on pedagogy. Future studies may also pertain to multi-tiered e-academic peer mentoring support frameworks for disabled and differently-abled education ODL students.

6.7 Conclusion

Open learning is considered to be “fundamentally about access and success” (DHET, 2017:373), yet the ODL student dropout rate continues to be higher than that of on-campus students. It may then be surmised that access to ODL does not currently equate to student academic success.

There is no doubt that all higher education institution students, should be provided equal opportunity to succeed, notwithstanding the mode in which the learning is delivered. Equal opportunity to succeed includes providing the same level of support to all students within the institution.

This study is the result of careful consideration of education ODL students’ academic and social needs and concerns to (a) rethink existing approaches to student support at the case institution and (b) design a meaningful support and retention intervention - e-academic peer mentoring support for education students in an open distance learning ecosystem – that is directed purposefully at ODL student academic success.

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ANNEXURES

ANNEXURE 1: SUPPORT AND RESOURCES: ODL EDUCATION STUDENTS QUESTIONNAIRE

Please take some time to read the information presented here, which will explain the details of this study which forms part of the fulfilment of the requirements for the degree Philosophiae Doctor (PhD) in Curriculum Studies at the Faculty of Education at the [Case Institution name] (Ethics reference no: NWU-00909-19-A2; NWU RDGC reference no: NWU-GK-2019_058).

The purpose of this study, is to investigate the needs and concerns of Open Distance Learning (ODL) education students, related to the case institution's support and resources that facilitates engagement with the institution, successful completion of disciplinary modules and connection between students.

Completing this questionnaire is completely voluntary and participants are free to decline to participate or to withdraw from the study at any point, even if they agreed to take part initially. This is a minimal risk study and does NOT collect sensitive data. Participants do NOT personally identify themselves in any way and during data analysis, each completed questionnaire will receive a unique identifier.

The online questionnaire is organised into four sections and will take approximately eight minutes to complete.

Thank you for your invaluable contribution to this study.

*** Required**

I hereby give informed consent to take part in this research study. *

☐ Yes

Please note that you are unable to complete the questionnaire without ticking the box to indicate your informed consent.

Section 1: Background information

1.1 Please indicate your age. * *Mark only one oval.*

- ☐ Between 18 and 24 years of age
- ☐ Between 25 and 34 years of age
- ☐ Between 35 and 44 years of age
- ☐ Older than 45 years of age

1.2 Please indicate your phase of specialisation * *Mark only one oval.*

- ☐ Foundation Phase Teaching
- ☐ Intermediate Phase Teaching
- ☐ Senior Phase Teaching

1.3 What is the current year of your study? * *Mark only one oval.*

- ☐ I am a first-year student
- ☐ I am a second-year student
- ☐ I am a third-year student
- ☐ I am a fourth-year student

1.4 What was your main activity prior to registration for this ODL course? * *Mark only one oval.*

- ☐ School ☐ Work ☐ Other

1.4.1 Please elaborate if you selected "Other" to question 1.4.

1.5 Do you have family obligations or responsibilities that impact your studies? * *Mark only one oval.*

- ☐ Yes
- ☐ No

1.5.1 Please elaborate if you answered "Yes" to question 1.5.

1.6 Do you have work obligations or responsibilities that impact your studies? ** Mark only one oval.*

☐ Yes

☐ No

1.6.1 Please elaborate if you answered "Yes" to question 1.6.

1.7 Indicate why you chose to register for an ODL course. ** Mark only one oval.*

☐ Flexibility

☐ Family obligations

☐ Work obligations

☐ Distance from higher education institution

☐ Financial considerations

☐ Other

1.7.1 Please elaborate if "Other" reasons influenced your decision to register for an ODL course.

1.8 Are you a first-generation student (first in your family to attend university)? ** Mark only one oval.*

☐ Yes

☐ No

Section 2: Engagement with the institution's support services and resources

Access to support services and resources

2.1 What device do you use to access your studies? * *Mark only one oval.*

- ☐ Desktop
- ☐ Laptop
- ☐ Tablet
- ☐ Phone

2.2 Where do you mainly access the Internet for your studies? * *Mark only one oval.*

- ☐ Home
- ☐ Work
- ☐ Internet Café
- ☐ Off-campus study centres
- ☐ Other

2.2.1 Please elaborate if you selected "Other" in answering question 3.2.

2.3 How would you rate your ease of access to the case institution's support services and resources?

Excellent Good Acceptable Poor

- ☐
- ☐
- ☐
- ☐

2.4 How would you rate your online experience of the following: *

Mark only one oval per

	Not at all satisfied	Slightly satisfied	Moderately satisfied	Quite satisfied	Extremely satisfied
Registration and enrolment	☐	☐	☐	☐	☐
Application for funding	☐	☐	☐	☐	☐
Availability and access to course information	☐	☐	☐	☐	☐
Availability and access to institutional information	☐	☐	☐	☐	☐

2.5 How often do you require the case institution's support services and resources? * *Mark only one oval.*

	1	2	3	4	5	
Never	☐	☐	☐	☐	☐	Frequently

Nature of support services and resources required

2.6 Did you have a one-on-one interview with a lecturer, faculty adviser, academic adviser or career counsellor prior to your registration for this course? * *Mark only one oval.*

☐ Yes

☐ No

2.7 Do you think that that the development and support initiatives offered by the Centre for Teaching and Learning: Student Academic Development and Support (CTL: SADS) are essential to your academic success? * *Mark only one oval.*

☐ Yes

☐ No

2.8 What is the nature of the support services and resources you mostly require? *

Consultation history with institutional support services and resources

- 2.9 Have you ever consulted with any of the following support services and resources offered by the case institution? *

Mark only one oval per row.

	Yes	No
Student Academic Development and Support	☐	☐
Student Counselling and Development	☐	☐
Career Centre	☐	☐
Faculty Advisers	☐	☐
Financial Support Services	☐	☐
Crisis Line	☐	☐
Social Work Services	☐	☐
HIV and AIDS Services	☐	☐
Disability Rights Unit	☐	☐
Library and Information Services	☐	☐
Information technology (IT) Support Services	☐	☐
Student Representative Council	☐	☐
Writing Centre	☐	☐
Unit for Open Distance Learning Call Centre	☐	☐

Additional support services and resources

- 2.10 What additional institutional support services and resources would you recommend to be made available to ODL education students and why would you do so? *

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Section 3: Successful completion of disciplinary modules

Your answers will contribute towards and understanding of the academic support services and resources education ODL students require to complete modules successfully.

Information and computer literacy proficiency

3.1 How would you rate your: *

Mark only one oval per row.

	Excellent	Good	Acceptable	Poor	Bad
Computer literacy and proficiency	☐	☐	☐	☐	☐
Information literacy	☐	☐	☐	☐	☐
Ease of access to learning resources or module content	☐	☐	☐	☐	☐

3.2 How confident are you to perform tasks in a digital environment? * *Mark only one oval.*

	1	2	3	4	5	
Not at all confident	☐	☐	☐	☐	☐	Extremely confident

3.3 How satisfied are you with your ability to navigate the course material online? * *Mark only one oval.*

	1	2	3	4	5	
Not at all satisfied	☐	☐	☐	☐	☐	Extremely satisfied

Critical skills for academic success in an ODL environment

3.4 How important do you consider the following skills for your academic success in an ODL environment *

Mark only one oval per

	Not important	Slightly important	Moderately important	Quite important	Essential
Taking responsibility for my own learning	☐	☐	☐	☐	☐
Developing independent study habits	☐	☐	☐	☐	☐
Time management skills	☐	☐	☐	☐	☐
Reading quickly with good comprehension	☐	☐	☐	☐	☐
Communicating effectively and frequently with the lecturer	☐	☐	☐	☐	☐
Access to academic development and support services and resources	☐	☐	☐	☐	☐

Communication with the module lecturer

3.5 What tool do you prefer for communication your module lecturer? * *Mark only one oval.*

- ☐ Email
- ☐ Phone calls
- ☐ SMS
- ☐ WhatsApp
- ☐ eFundi chat functionality
- ☐ Zoom or Skype (or similar video conferencing tool)

3.6 How satisfied are you with feedback on the learning tasks and activities you perform online? * *Mark only one oval.*

1 2 3 4 5

Not at all satisfied ☐ ☐ ☐ ☐ ☐ Extremely satisfied

3.6.1 How may feedback be improved upon within the ODL environment?

Engagement with module content

3.7 Which format for presenting module content do you prefer? * *Mark only one oval.*

- ☐ Visual media (i.e., graphics and videos)
- ☐ Printed text
- ☐ Audio (i.e., podcasts and sound recordings)
- ☐ Internet
- ☐ Interactive learning material (i.e., animations and simulations)
- ☐ Other

3.7.1 What "other" formats for presenting course content would you recommend for ODL environments?

3.8 In your opinion, how can the comprehension of content in an ODL environment be improved upon? *

3.9 In your opinion, what aspects regarding the learning needs of ODL students are sometimes neglected or overlooked? *

3.10 Would opportunities and initiatives to develop your academic skills benefit your academic achievement (i.e., note-making, time management, goal setting, learning strategies, computer literacy etc.)? * *Mark only one oval.*

☐ Yes

☐ No

☐ Maybe

3.11 Would you benefit from opportunities and initiatives to develop your comprehension of content by peer-assisted learning and support programs* such as Supplemental Instruction, tutoring and academic peer mentoring? *A peer-assisted learning and support programme employs dedicated, senior students who have already completed a module successfully. * *Mark only one oval.*

☐ Yes

☐ No

☐ Maybe

3.12 What do you consider to be challenges to academic success in an ODL environment? *

3.13 What recommendations do you offer to overcome these challenges?

Section 4: Connection between students and the students and the module lecturer

Your answers will contribute towards and understanding of the academic support services and resources education ODL students require with fellow students.

Connection and interaction with the module lecturer

4.1 Do you feel a personal connection with your module lecturers? * *Mark only one oval.*

☐ Yes

☐ No

4.2 To which extent does your ODL course foster interaction with your module lecturer? *

Connection with and interaction between students

4.3 Do you feel a personal connection with your fellow students? * *Mark only one oval.*

No Maybe Yes

No personal connection ☐ ☐ ☐ Strong personal connection

4.4 How satisfied are you with the amount of interaction with fellow students? * *Mark only one oval.*

1 2 3 4 5

Not at all satisfied ☐ ☐ ☐ ☐ ☐ Extremely satisfied

4.5 How important do you consider the following for your academic success in an ODL environment *

Mark only one oval per

	Not important	Slightly important	Moderately important	Quite important	Essential
Communicating effectively and frequently with fellow students	☐	☐	☐	☐	☐
Working collaboratively with other students to complete tasks	☐	☐	☐	☐	☐

4.6 In your opinion, would you benefit from *

Mark only one oval per row.

	Yes	No	Maybe
Working with fellow students on projects, assignments and presentations	☐	☐	☐
Asking questions to, and engaging in discussion with fellow students	☐	☐	☐
Peer teaching and learning initiatives	☐	☐	☐

4.7 Do you sometimes experience feelings of isolation within the ODL environment? * Mark only one oval.

	1	2	3	4	5	
Almost never	☐	☐	☐	☐	☐	Almost always

4.7.1 Please elaborate on your answer. *

Thank you for your invaluable contribution.

ANNEXURE 2: SUPPORT SERVICES AND RESOURCES: EDUCATION ODL MODULE LECTURER QUESTIONNAIRE

Please take some time to read the information presented here, which will explain the details of this study which forms part of the fulfilment of the requirements for the degree Philosophiae Doctor (PhD) in Curriculum Studies at the Faculty of Education at the [Case Institution name] (Ethics reference no: NWU-00909-19-A2; NWU RDGC reference no: NWU-GK-2019_058).

Promotor: Prof. Carisma Nel (North-West University: Faculty of Education, Building B6, Room 102, Potchefstroom. Contact number: 018 285 2639).

The purpose of this study, is to investigate the needs and concerns of Open Distance Learning (ODL) education students, related to the case institution's support and resources that facilitates engagement with the institution, successful completion of disciplinary modules and connection between students. Your insights regarding support services and resources facilitating Education ODL student engagement with the institution, successful completion of disciplinary modules and connection to peers, are invaluable.

Completing this questionnaire is completely voluntary and participants are free to decline to participate, or to withdraw from the study at any point, even if they agreed to take part initially. This is a minimal risk study and does not collect sensitive data. The online questionnaire consists of four sections and will take approximately fifteen minutes to complete.

Thank you for your participation.

* Required

☐ Yes

Please note that you are unable to complete the questionnaire without ticking the box to indicate your informed consent.

Section 1: Background

- 1.1 Kindly indicate the module you teach within the second year Foundation Phase ODL ecosystem *

- 1.2 Please elaborate on your experience as education ODL module lecturer. *

- 1.3 How would you define ODL? *

Section 2: Education ODL module lecturer engagement with the case institution's support services and resources

The purpose of this section is to investigate the needs and concerns of education ODL students related to the case institution's support and resources that facilitated engagement with the institution. Your answers will contribute towards and understanding of the case institution's support services and resources education ODL students require to engage with the case institution.

- 2.1 What are your expectations, as education ODL module lecturer, of the case institution's student support services and resources? *

- 2.2 How frequently do you provide administrative, directional and organisational information and support to your Education ODL students (information not relating to module content or teaching and learning)? *

Check all that apply.

- ☐ Never
☐ Rarely
☐ Often

- 2.2.1 Please elaborate on the type of administrative, directional and organisational support you are requested to provide to students. *

- 2.3 Please indicate how providing support not related to module content or teaching and learning, impact you as an ODL module lecturer. *

- 2.4 How aware do you think education ODL students are of the case institution's student support services and resources? * *Check all that apply.*

- ☐ Not at all aware
☐ Slightly aware
☐ Extremely aware

- 2.4.1 How would you rate education ODL student proficiency in the following: *

Mark only one oval per row.

	Excellent	Acceptable	Limited
Ease of access to the case institution's support services and resources?	☐	☐	☐

- 2.5 Do you think that a better awareness among education ODL students regarding the case institution's support services and resources may impact their learning experience? *

Mark only one oval.

- ☐ Yes
- ☐ No
- ☐ Maybe

- 2.5.1 Kindly elaborate on your answer to question 2.5. *

- 2.6 Have you ever referred education ODL students to any of the following the case institution's student support services and resources? *

Mark only one oval per row.

	Yes	No
Student Academic Development and Support	☐	☐
Student Counselling and Development	☐	☐
Career Centre	☐	☐
Faculty Advisers	☐	☐
Financial Support Services	☐	☐
Crisis Line	☐	☐
Social Work Services	☐	☐
HIV and AIDS Services	☐	☐
Disability Rights Unit	☐	☐
Library and Information Services	☐	☐
Information Technology (IT) Support Services	☐	☐
Student Representative Council	☐	☐
Writing Centre	☐	☐
Unit for Open Distance Learning Call Centre	☐	☐

2.7 Please indicate, and elaborate on your frustrations and concerns regarding the case institution's support services and resources provided to education ODL students. *

- 2.8 Based on your personal experience, which aspects of education ODL student support service and resources do you recommend to be approved upon, or provided additionally? Kindly elaborate. *

Section 3: Education ODL student engagement with module content

The purpose of section three is to investigate the needs and concerns of education ODL students relating to the case institution's student support services and resources that facilitate the successful completion of disciplinary modules. Your answers will contribute towards and understanding of the academic support services and resources education ODL students require to complete modules successfully.

- 3.1 What obstacles or challenges do you experience regarding the engagement of education students with module content in the ODL environment? *

- 3.2 In your opinion, how can education ODL students' engagement with module content be improved upon? *

- 3.3 How would you rate education ODL student proficiency in the following: *

Mark only one oval per row.

	Excellent	Acceptable	Limited
Computer literacy and proficiency	☐	☐	☐
Information literacy	☐	☐	☐

- 3.3 How would you rate education ODL student proficiency in the following: *

Mark only one oval per row.

	Excellent	Acceptable	Limited
Ease of access to learning resources or module content	☐	☐	☐

- 3.4 In your experience, how confident are education ODL students to navigate course material online? *

Check all that apply.

- ☐ Not at all confident
☐ Confident
☐ Extremely confident

- 3.5 In your opinion, how important do you consider the following for education ODL student academic success? *

Mark only one oval per row.

	Not important	Quite important	Essential
Taking responsibility for their learning	☐	☐	☐
Developing independent study habits	☐	☐	☐
Time management skills	☐	☐	☐
Reading quickly with good comprehension	☐	☐	☐
Communicating effectively and frequently with the lecturer	☐	☐	☐
Communicating effectively and frequently with fellow students	☐	☐	☐
Working collaboratively with other students to complete tasks	☐	☐	☐
Access to academic development and support services and resources	☐	☐	☐

- 3.6 What do you consider as critical skills required by ODL to succeed in an ODL environment? *

- 3.7 In your opinion, would opportunities and initiatives to develop the academic skills, strategies, processes and techniques (i.e., note-making, time management, goal setting, learning strategies etc.) of education ODL students be beneficial to their academic achievement? * *Check all that apply.*

- ☐ Yes
☐ No
☐ Maybe

- 3.8 Are you aware of the availability of peer-assisted learning and support programmes*, such as Supplemental Instruction, tutoring and academic peer mentoring? (*A peer-assisted learning and support programme employs dedicated, senior students who have already completed a module successfully. They support students in their comprehension of content or train them with the academic skills required to comprehend content). *

Check all that apply.

- ☐ Yes
☐ No

- 3.9 Are you currently making use of peer-assisted learning and support programmes within your module? *

Check all that apply.

- ☐ Yes
☐ No

- 3.10 If you are not employing peer-assisted learning and support programmes within your programme, do you think that doing so may be beneficial to you and your students? *

Check all that apply.

- ☐ Yes
☐ No
☐ Maybe
☐ I already make use of peer-assisted learning and support programmes

3.10.1 Kindly elaborate on your response to question 3.10. *

3.11 In your opinion, what can the institution, faculty or student academic support services do to increase the quality of education ODL students' academic experience? *

3.12 Do you feel a personal connection with your education ODL students? *

Check all that apply.

☐ Yes

☐ No

3.12.1 Kindly elaborate on your response to question 3.12. *

3.13 In your experience, what tool is most preferred by education ODL students in communicating with the module lecturer? *

Check all that apply.

☐ Email

☐ Phone calls

☐ SMS

☐ WhatsApp

☐ eFundi chat

Zoom or Skype (or similar video conferencing tool)

Section 4: Education ODL student engagement with peers

The purpose of section four is to investigate the needs and concerns of education ODL students relating to the case institution's support services and resources that facilitate connection between students. Your answers will contribute towards and understanding of the academic support services and resources education ODL students require to connect, engage, interact and collaborate with each other.

- 4.1 Do you think education ODL students may experience feelings of isolation during the course of their studies? Please elaborate on your answer. *

- 4.2 In your opinion, do you think that personal connections and social engagements between education ODL students may contribute to a sense of belonging within the learning community? *

Check all that apply.

- ☐ Yes
☐ No
☐ Maybe

- 4.2.1 Kindly elaborate on your response to question 4.2. *

- 4.3 How do your education ODL students mostly interact with their fellow students? *

Check all that apply.

- ☐ Online discussion forums on eFundi
- ☐ Blogs made available on eFundi
- ☐ Online conferencing tools
- ☐ Google docs
- ☐ Google classroom
- ☐ eFundi Wikis
- ☐ Email
- ☐ Phone
- ☐ WhatsApp
- ☐ Other

4.4 In your opinion, how often do education ODL students interact with fellow students in the module? * *Mark only one oval.*

- ☐ Frequently
- ☐ Seldom
- ☐ Never

4.4.1 Please elaborate if you selected "other" in question 4.3. *

4.5 In your opinion, would education ODL students benefit from interaction with peers? * *Mark only one oval.*

- ☐ Yes
- ☐ No
- ☐ Maybe

4.5.1 Please elaborate on your answer to question 4.5. *

4.6 In your opinion, do you think education ODL students can benefit for the peer support of senior ODL students who already completed a module? * *Mark only one oval.*

- ☐ Yes
- ☐ No
- ☐ Maybe

4.6.1. Please elaborate on your answer to question 4.6. *

4.7. Would you benefit from senior education ODL students in facilitating your module? * *Mark only one oval.*

- ☐ Yes
- ☐ No
- ☐ Maybe

4.8. With what teaching and learning aspects do you think senior education ODL students can support you in your course? *

4.9 Do you think that the support of senior ODL students may facilitate better communication and engagement between you, the lecturer and the students, between the students themselves and the students and the case institution's support services and resources? * *Mark only one oval.*

- ☐ Yes
- ☐ No
- ☐ Maybe

4.9.1 Kindly elaborate on your answer in 4.9. *

4.10 In your experience, what do education ODL students value most during the course of their study? *

4.11 What overall recommendations would you offer to enhance the learning experience of education ODL students? *

Thank you for your insights and valuable contribution.

ANNEXURE 3: ACADEMIC PEER MENTOR RECORDKEEPING SHEET

Academic Peer Mentor _____

Month _____/2020

Faculty

Campus

	Date	Mentee surname & initials	Student no.	Mentee contact details (email or telephone)	Module/ School/ Faculty	Level of study	Mode	Time Spend From	Time spend To	Topic
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
16										
17										
18										

ANNEXURE 4: E-ACADEMIC PEER MENTORING SUPPORT STRUCTURE ODL ECOSYSTEM DIGITAL INFRASTRUCTURE E-TOOLS

Institution's LMS tools for communication and collaboration

e-Tool	Key features	Education ODL student function	Module lecturer function	E-academic peer mentor function
Chat Room Tool.	Real-time, text only tool Synchronous, unstructured conversations Default room and other multiple rooms can be set up Messages can be archived for reference	Attend and participate during drop-in discussions on upcoming assignments, module lecturer feedback etc. Attend informal “coffee-break” chats centred on student wellbeing. Participate in discussions of pre-defined topics (such as, time-management, goal setting, study methods etc.) Co-negotiate chat discussion schedule and topics for discussion with e-academic peer mentor and module lecturer.	Module lecturer creates communication strategy guidelines. Co-negotiate chat discussion schedule and topics for discussion with e-academic peer mentor and education ODL students.	Co-negotiate chat discussion schedule and topics for discussion with module lecturer and education ODL students. Initiates drop-in chat discussion. Monitors chat rooms and answers queries. Provides bite-sized, on-demand support and guidance. Are consistently available to provide feedback.

Announcement Tool	Delivery of messages to entire class or groups within the class. Email notification can be sent to make students aware of new announcements.	Module lecturer and student communication.	Module lecturer direction an input.	Conveys messages. Posts reminders (of due dates) or other time-critical information. Makes announcements.
Messages Tool	Internal module site messaging tool. Send and receive private messages to members enrolled in the module site.	Education ODL student can communicate privately with e-academic peer mentor on academic and/or social issues.	Module lecturer direction an input.	Provides on-demand support, feedback and guidance. Makes module lecturer aware of challenges the education ODL students may experience. Engages with students on one-on-one basis. Answers questions not related to module content and provides direction to applicable institutional support services and resources.

Calendar Tool	Schedule events in calendar format.	Students have access to important course information and due dates of assessments and assignments.	Module lecturer direction an input.	Maintains up-to-date course calendar by posting assessment and assignment due dates. Makes module lecturer aware of clashes or discord experienced by the education ODL students for module lecturer intervention. Supports students to merge all module calendars into their My Workspace Schedule.
Wiki Tool	Collaborative text-based group work. Create, share and edit information and created online materials. Module repository.	Opportunity for collaborative text-based group work. Contribute to build module repository.	At module lecturer's requests, the e-mentor may provide peer feedback on these projects. Provides rubric(s).	Monitors individual student participation in these collaborative projects to alert the module lecturer in advance should there be students that are not pulling their weight or disharmony in a group. Peer reviews assignments before it is submitted by education ODL students. Facilitates building of module repository and encourages education ODL students to share additional resources with other students (enhances sense of community among students).

Discussion Forums	Unlimited number of discussion forums possible. Interactions can be assigned a value and sent to Gradebook with comments. Can be released according to dates. Participation level can be determined.	Comprehension. Learn from peers. Get to know peers. Receive e-mail notifications for new forum postings and of responses to conversations they posted.	Identifies pre-activities, post-activities, weekly topics and concepts to be discussed.	Initiates discussion topics and facilitates or moderates student-student interaction on the LMS discussion forums. Facilitates and monitors discussions. Assists education ODL students with the comprehension of module content. Engages with the students on pre-activities or post-assignment discussions. Initiates discussions of a social nature in a separate discussion forum where students can get to know each other and share in a conversation of a more social nature.
Statistics tool		Education ODL students at risk of dropping out are pro-actively supported.	Provides access and instruction.	Track students' access and progress. Monitors education ODL students' online presence (who logs on and the frequency of these logons).

				Alerts the module lecturer timeously of students not participating and at possible risk of dropping out. Follows-up with priority students after assignment and assessment results become available.
Assignment and assessment tools	Allows creating, distributing, collecting and grading of assignments. Create and administer tests.	Technological skills development.	Provides clear instruction for assignments and assessments. May enable peer review by e-academic peer mentor.	Assist education ODL students in accessing assignments and assessments. Develop the technological abilities of students to upload (text-based, video and audio) assignments to the case institution's LMS. Pro-actively explains to students what to expect (i.e., time limitations) from the Tests and Quizzes on the LMS and how to prepare for online quizzes. Communicates with module lecturer where completion of Tests and Quizzes are interrupted because of power outages.
Blog	Provides a journal of what students have learned and	Useful reflection tool.	Module lecturer decides who can read blogs.	Monitors to track student academic and social progress.

	would like to know more about (learning diary).		Module lecturer asks students to reflect on their progress.	
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Other available e-tools for interaction and communication

Web video conferencing tools (for instance Microsoft Teams or Zoom)	Synchronous communication. Setting up break-out rooms for small group discussion.	Opportunity to ask questions and interact face-to-face with e-academic peer mentor and peers.	Considers the cost of data and make sure all module or content related meetings are recorded and made available on the LMS module site for all students to access.	Face-to-face one-on-one meetings or group meetings depending on student need. Initiates a more personal connection with and between the education ODL students. Facilitates a discussion on a topic (for instance to negotiate action plans with the students, help them set goals or share tips on time management) and then give students opportunity to have a discussion in smaller groups (break-out rooms) before again convening with the rest of the group to share findings. Chats and interacts socially with education ODL students.
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Short videos or audio recordings	Embedded within a module site.	Connect and engage with e-academic peer mentor in more personal manner. Triggers topics for further interaction and discussion. Accessed at convenience and/or also more than once.	Requests short video on, for instance, tips to study online, manage time, adjust to ODL, navigate the module site LMS, what to expect from the e-academic peer mentor etc.	Engages with students in various formats. Gives e-academic peer mentor a “voice” and “face”.
Google docs	Collaborative text-based group work. Create, share and edit content online.	Opportunity for collaborative text-based group work.	At module lecturer's requests, the e-mentor may provide peer feedback on these projects. Provides rubric(s).	Monitors individual student participation in these collaborative projects to alert the module lecturer in advance should there be students that are not pulling their weight or disharmony in a group. Peer reviews assignments before it is submitted by education ODL students.
WhatsApp groups	Instant messaging.	Immediate feedback. Sense of community. Exchange of information.	Instructs the creation of WhatsApp group(s) for module to encourage collaboration, manage large class, distribute information etc.	Monitors and answers queries. Provides bite-sized, on-demand support and guidance. Are consistently available to provide feedback.

				Facilitates or moderates student-student interaction. Facilitates and monitors discussions. Assists education ODL students with the comprehension of module content. Mediates communication between module lecture and education ODL students and alerts the module lecturer for feedback intervention. Conveys messages and makes announcement. Posts reminders (of due dates) or other time-critical information.
Email	Asynchronous messaging	Quick turn-around time on queries.	Module lecturer direction an input.	Facilitate communication between the ODL students and the module lecturer. Answers queries not related to module content.

ANNEXURE 5: TASKS OF THE E-ACADEMIC PEER MENTOR IN RELATION TO THE OBJECTIVES OF THE CONCEPTUALISED MULTI-TIERED E-ACADEMIC PEER MENTORING SUPPORT FRAMEWORK

Objective 1	Objectives 2 and 3	Objective 4
To achieve objective 1, the tasks of the e-academic peer mentor are as follows:	To achieve objectives 2 & 3, the tasks of the e-academic peer mentor are as follows:	To achieve objective 4, the tasks of the e-academic peer mentor are as follows:
Initiate a welcoming, inviting and supportive online learning environment by being accessible and consistently available.	Respond to students' questions concerning module content.	Initiate interactions among education ODL students and between ODL students and the case institution.
Build rapport with students to establish trusting relationships in which ODL students can be motivated and encouraged to achieve course completion.	Clarify ambiguity concerning module assignments and grading criteria.	Monitor blogs to track student academic progress and social wellbeing.
Attend to education ODL student enquiries.	Support education ODL students to access their formative assessment marks.	Initiate discussions of a social nature in a separate discussion forum where students can get to know each other and share in a conversation of a more social nature (of to share emotions related to challenging situations).

Refer/direct to, and/or provide information and contact details of relevant institutional support service and resource (i.e., UODL Call Centre, Financial Services, Admissions Office, Faculty adviser etc.	Keep track of education ODL student's attendance and use of the case institution's LMS.	Help students establish study groups.
Follow-up if student has been supported.	Explain the advantages of participation in collaborative learning activities	Encourage students to share knowledge and experience to learn from each other.
Inform on institutional and course policies and procedures.	Share personal experiences and insights relating to interaction, collaboration, engagement and participation.	
Convey messages by the module lecturer.	Guide education ODL students to establish academic goals and plans to achieve their goals.	
Introduce education ODL students to module calendar to enhance their awareness of due dates relating to assignments and assessment.	Monitor individual education ODL student participation collaborative projects.	
Maintain and up-to-date module calendar.	Alert the module lecturer to any education ODL student concerns relating to module content. Connect education ODL students with the module lecturer timeously	

Remind students of due dates for assessments and assignments.	Peer review education ODL student assignments before submitting them according to rubrics provided by the module lecturer for this purpose.	
Introduce education ODL students to the communication strategy devised by the module lecturer and education ODL students can access and use various communication channels.	Peer teach module content when requested by the module lecturer or education ODL students.	
Facilitate communication between the ODL students and the module lecturer.	Initiate and facilitate in-depth discussion and interaction and participation in discussion forums (for instance to clarify concepts related to the course content or engage education ODL students in pre-activities or post-assignment discussions.	
Familiarize education ODL students with the institutions' LMS and help them access and navigate the module platform and resources.	Develop the academic skills of education ODL students (for instance note-making and memory rehearsal skills) to help them become self-directed and independent learners.	
Support the module lecturer in orientating education ODL students to the module.	Develop the skills education ODL students require to find peer reviewed additional resources (for instance	

	how to access the library's online catalogues and full-text databases).	
Ensure education ODL students have clear expectations of what to expect from the e-academic peer mentor.	When necessary interpret module lecturer feedback, announcements, guidelines and instructions.	
Assist students in accessing assignments and assessments.		
Develop the technical abilities of students to upload assignments to the case institution's LMS.		
Explain to students what to expect from the case institution's LMS assessment tools (for instance how to prepare for online quizzes or what to do in case there are power outages that interrupt the completion of tests and quizzes).		

ANNEXURE 6: ETHICAL CLEARANCE CERTIFICATE



30 August 2019

To Whom It May Concern

I hereby confirm that the ethics application, as stated below, was approved at the Ethics Committee meeting of the Faculty of Education of 21 August 2019.

Ethics number: NWU-00909-19-A2

Project head: Prof C Nel

Project team: S van der Westhuizen; Dr E Marais

Title: E-academic peer mentoring support for education students in an open distance learning ecosystem

Period: 21 August 2019 – 21 August 2020

Clearance given for only one year. Extension can be requested after a year.

Risk level: Low

Should you have further enquiries in this regard, you are welcome to contact Prof Jako Olivier at 018 285 2078 or by email at Jako.Olivier@nwu.ac.za or Ms Erna Greyling at 018 299 4656 or by email at Erna.Greyling@nwu.ac.za.

Yours sincerely



Prof J Olivier
Chair Edu-REC

ANNEXURE 7: LANGUAGE EDITOR CERTIFICATE



To whom it may concern

This letter is to confirm that Ms Sonja van der Westhuizen submitted her PhD thesis to me for proofreading and bibliographic control, according to the prerequisites of the North-West University. I hereby confirm that the document has been thoroughly checked for grammatical and stylistic errors. The reference list and in-text citations have been checked and formatted per the requirements of the NWU Harvard referencing style.

Regards

A handwritten signature in black ink, which appears to read "Kirchner van Deventer", is positioned above a horizontal line.

Kirchner van Deventer

29 March 2021