



TITLE: IMPACT OF STUDENT SUPPORT SERVICES ON ACADEMIC PERFORMANCE OF BACHELOR OF EDUCATION STUDENTS IN OPEN AND DISTANCE LEARNING (ODL) MODE: THE CASE OF BOTSWANA OPEN UNIVERSITY

*Submitted in partial fulfilment of the requirement for Degree of
Masters in Education – Higher Education*

By:

Student Number: 1819160

Supervisor: Dr Aparna Kadiyala

Faculty Name: Faculty of Health and Education

Department: Higher Education

APRIL 2021

TABLE OF CONTENTS

List of Tables	v
List of Figures	vi
List of Appendices	vii
Certification	viii
Copyright	ix
Declaration	x
Dedication	xi
Acknowledgement	xii
Abstract	xiii
Abbreviations	xiv
CHAPTER ONE	1
1.0 Introduction.....	1
1.1 Background of the study	4
1.2 Theoretical Framework.....	10
1.3 Research Problem	12
1.4 Objectives of the study	15
1.5 Research questions.....	15
1.6 Hypotheses.....	16
1.7 Purpose of the study.....	16
1.8 Justification of the study	17
1.9 Significance of the study	17
1.10 Brief research methodology	18
1.11 Limitations of the study	18
1.12 Outline of chapters.....	19
1.13 Conclusion	20
CHAPTER TWO	21
Literature review	21
2.0 Introduction.....	21
2.1 Student support services in Open and Distance Learning (ODL)	21
2.2 Demographic factors and academic performance.....	24
2.3 Discussion forums as a form of student support.....	26
2.4 Tutorial (face to face) session as a form of student support	28
2.5 Students' Support Services Perceptions	30
2.6 Summary of literature review	31

Research Methodology	32
3.0 Introduction.....	32
3.1 Research Paradigm and Orientation	32
3.2 Research Design	33
3.2.1 Description of site.....	33
3.2.2 Population of Study	34
3.2.3 Description of research instruments	35
3.2.4 Validity and reliability of the instrument	36
3.2.5 Ethical considerations.....	38
3.2.6 Data collection procedure	39
3.2.7 Data Preparation	39
3.3 Chapter Summary	41
CHAPTER 4.....	43
Analysis of data and interpretation of results	43
4.0 Introduction.....	43
4.1 Data presentation and analysis.....	43
4.1.1 Descriptive statistics	43
4.1.2 Data Analysis and interpretation of demographic factors and academic performance	47
4.1.3 Data Analysis and interpretation of participation on discussion forums and academic performance	53
4.1.4 Data Analysis and interpretation of tutorial attendance and academic performance 55	
4.1.5 Data Analysis and interpretation of students' support services perceptions and academic performance	56
4.2 Chapter summary.....	60
CHAPTER 5.....	61
Results Discussion and Recommendations	61
5.0 Introduction.....	61
5.1 Discussion for research question 1, hypothesis 1: Demographic factors and academic performance	61
5.2 Discussion for research question 2, hypothesis 2: Discussion forum participation and academic performance	63
5.3 Discussion for research question 3, hypothesis 3: Tutorial attendance and academic performance	64
5.4 Discussion for research question 4, hypothesis 4: Students' perceptions of the student support services.....	65

5.5	Conclusion from literature and empirical study	67
5.6	Educational Implications	68
5.7	Suggestions and Recommendations	69
5.8	Future Research Direction	70
References		71
Appendices		79

List of Tables

Table 3. 1 Pilot Reliability Coefficient of the Student Support Services Perceptions Questionnaire.....	37
Table 3. 2 The reliability analysis of the Student Support Services Perceptions Questionnaire	38
Table 3. 3 Hypothesis and types of statistical tests run.	41
Table 4. 1 Descriptive statistics by individual BEd programs.....	43
Table 4. 2 Demographic characteristics of respondents by gender	44
Table 4. 3 Age ranges of respondents	44
Table 4. 4 Employment status of respondents	45
Table 4. 5 Educational background (previous educational qualification) of respondents	45
Table 4. 6 BEd Students' background in ODL mode of education	47
Table 4. 7 Statistical comparison of the performance means by gender.	48
Table 4. 8 Statistical comparison of the population performance means by age categories. ..	49
Table 4. 9 Statistical comparison of individual BEd programs performance means by age category	49
Table 4. 10 Statistical comparison of the population performance means by employment status.....	50
Table 4. 11 Statistical comparison of individual BEd programs performance means by employment status.....	51
Table 4. 12 Statistical comparison of individual BEd programs performance means by previous level of educational qualification.	52
Table 4. 13 Pearson correlation test of the relationship between discussion forum participation and academic performance in all Bachelor of Education Programs	54

Table 4. 14 Pearson correlation test of the relationship between Discussion Forum Participation and Average academic Performance in individual Bachelor of Education Programs	54
Table 4. 15 Pearson correlation test of the relationship between tutorial attendance and academic performance of BEd students.....	55
Table 4. 16 Pearson correlation test of the relationship between Tutorial attendance and academic performance of students in individual Bachelor of Education Programs	56
Table 4. 17 Reliability Coefficient of the Students' Support Services Perceptions Instrument	57
Table 4. 18 Pearson correlation test of the relationship between Students' Support Services Perceptions and the academic performance in Bachelor of Education Program. .	57
Table 4. 19 Pearson correlation test of the relationship between Students' Perceptions of Student Support Services and their performance in all BEd Programs	58
Table 4. 20 Analysis of student perceptions of how BOU can better student support services to improve academic performance of the students.....	59

List of Figures

Figure 1. 1 The conceptual model for academic performance based on Astin's (1991) I-E-O Model	11
Figure 1. 2. Graphic representation of educational background of respondents	46
Figure 1. 3. Graphical presentation of frequency for student performance	53
Figure J5. 1 Graphical representation of number of respondents by program.....	92
Figure J5. 2 Graphic representation of respondents by gender.....	92
Figure J5. 3 Graphic representation of respondents by gender per program	93
Figure J5. 4 Graphical representation of respondents' age ranges	93
Figure J5. 5. Graphical representation of employment status of respondents	94

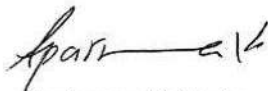
List of Appendices

Appendix A Botho University clearance and introductory letter	79
Appendix B Ministry of Tertiary Education Ethical clearance letter	80
Appendix C Botswana Open University ethical clearance letter	81
Appendix D Botswana Open University Regional Directors' permission letter	82
Appendix E Consent letter	83
Appendix F Students' Support Services Perceptions Questionnaire	85
Appendix G Data mining and documents analysis guiding tool.....	87
Appendix H Data preparation tool.....	88
Appendix I Questionnaire Variables Reliability Statistics	91
Appendix J Other supporting figures	92

Certification

CERTIFICATION

This is to certify that Ms Tendani Nkolo has made a submission of a thesis titled **“Impact of student support services on academic performance of Bachelor of Education students in Open and Distance Learning (ODL) mode: The case of Botswana Open University”** as a partial fulfilment of an awards for the Degree of Masters in Higher Education at Botho University. I have guided and supervised the candidate and vouch for the genuine work of her submission. No previous submissions of results embodied in this thesis have been made for any other degree or diploma.



Dr Aparna Kadiyala

(Supervisor)

Date :21st April 2021

Copyright

This is private work, and no part of it will be duplicated, distributed nor its content be commercially exploited in any form without prior permission from the author or Botho University.

Declaration

I hereby make a declaration that this thesis is my own individual work. There has never been submitted in whole or in part, in any previous applications for a degree, apart from where its clearly articulated otherwise therein referencing or acknowledging the sources used, other than that, the work presented is wholly my own.



Tendani Nkolo

Student ID: 1819160

Med-HE Student

Botho University

Dedication

I dedicate this study to my husband Kenneth Nkolo and my son Mopati for the incredible support, love and encouragement they have given me, and the sacrifices they have made to ensure I complete this study. I also dedicate this study to my Mum and Dad (Mr and Mrs Kgopolo) for always believing in my potential and always offering encouragement and support.

Acknowledgement

A special recognition goes to my Supervisor, Dr Aparna Kadiyala for the mentorship and belief in my potential. She offered me tremendous support, encouragement, and guidance to see this study to completion. She has been more than a supervisor to me and for this, I will forever be grateful.

Abstract

This study explores the impact of the Student Support Services (tutorial support and discussion forums), on the academic performance of Bachelor of Education (B,Ed) Programmes students, with specific focus on the 2019 Cohort. A quantitative descriptive and cross-sectional survey design was used to examine the impact of student support services, in the form of tutorial attendance and discussion forums, on the academic performance of Bachelor of Education students. A simple random sample of 101 students, representing 78.3% of the total population was used. The research instruments contain questionnaire on perceptions about student support services used to collect data. In addition, the data mining of existing systems and documents is used to collect information on student attendance, discussion forum participation and academic performance. The results of Z test and Analysis of Variance (ANOVA) indicates that gender and age in one programme Integrated Early Childhood Development programme shows statistical significance. The Pearson correlation results show no significance in discussion forum participation and academic performance. The results of Pearson correlations also showed that there is significant correlation between tutorial attendance and academic performance. The results of Pearson correlation show no correlation between academic performance and perceptions on students support services.

Institutions need to make consideration of factors that reflect significant relationship with academic performance when planning support services to meet the needs of its students and to enhance students' academic performance and subsequent transition through the system.

Key words: Open and Distance Learning, Student Support Services, Tutorial Attendance, Discussion Forum Participation, Academic Performance, Botswana Open University

Abbreviations

ANOVA – Analysis of Variance

BEd- IECD – Bachelor of Education- Integrated Early Childhood Develop

BEd- Primary – Bachelor of Education-Primary

BEd- SIE – Bachelor of Education- Special and Inclusive Education

BGCSE – Botswana General Certificate of Secondary Education

BNLS – Botswana National Library Services

BOU- Botswana Open University

HE – Higher Education

ICT- Information Communication and Technology

ITS – Information Technology Systems

ODL – Open and Distance Learning

SADC -Southern African Development Community

SPET – Special Protocols of Education and Training

SSS – Student Support Services

Symbols

μ – Population mean

N - Population size

CI – Confidence Interval for Mean

n - Sample size

α – Cronbach's alpha

df – degrees of freedom

MD – Mean Difference

p-value –Probability value

sig. - level pf significance

SD - Standard Deviation

SE – Standard Error

t – t-statistic

r – Pearson's product moment correlation coefficient

ρ -Pearson's correlation coefficient

Sig- Significance

Mean-Diff – MD – Mean Difference

SE – Standard Error

$\bar{x}$ - Mean of the sample

SEM – Standard error of mean

Φ_c - Cramér's Value

CHAPTER ONE

1.0 Introduction

The ever-increasing number of students enrolling for open and distance learning in many African countries are faced with a lot of challenges requiring student support; challenges that range from lack of national policy framework guiding Open and Distance Learning (ODL) education, to technological challenges, to limited qualified personnel and restrictive quality enhancement processes (Nankanja & Bisaso, 2011). Though Southern African Development Council (SADC) Protocols of Education and Training (SPET) echoed a need for the ability of Higher Education (HE) institutions to accommodate more people needing higher education by opening this ODL route; a move which has created an avenue for the growth of access to Higher Education and significant increase in the number of institutions from primary up through to tertiary (World Bank cited in Biao, 2012), many institutions especially in developing countries still battle with the meeting the demands of this education stream. The United Nations in Khumalo (2018) has also made an affirmation to this need by highlighting that:

“Higher education across the world is in a state of change, quickly shifting form being the privilege of an elite few to mass participation, providing equal access of affordable and quality university education for all women and men, which is a global goal for 2020” (Khumalo, 2018, p2).

Despite the ability of this mode of learning that provides a more feasible means for people to access higher education, it has its own share of challenges that affect its implementation and success (Chawingai & Zozie, 2016). Globally, Open and Distance Learning (ODL) Institutions produce less numbers of students who complete and graduate compared to those in face-to-face institutions (Simpson, 2003); and for most African Countries, this could be attributed to the shortcomings relating to the delivery of Student Support Services (SSS). The problem is exacerbated in developing countries like Botswana and other countries in the Sub-Saharan Africa where numerous students are still “disadvantaged and underprepared for distance education” (College of Learning, 2008, p80). This phenomenon has thus evoked vast interest for educationalists to study and seek

understanding the variables contributing to academic excellence in the Open and Distance Mode of Education.

Students who study through open and distance learning are confronted with learning circumstances totally different from the conventional schooling (Dontwi, Amahia, Chukwu, & Udombosu, 2010); as such, there is a need to explore and determine how these factors affect the academic performance students and to investigate the effectiveness of the support services put in place to address these needs. Some scholars have acknowledged students' demographics, socio-economic factors, family, and institutional factors as variables which contribute to the academic performance of students (Jayanthi, Balakrishnan, Lim, Latiff & Nasirudeen, 2014). To ensure that all students who study through ODL have an enduring learning experience and succeed, all educational systems need to have the Student Support Services (SSS) as one of its components as research has shown that when student needs are addressed effectively, their chances of persisting and successfully completing their studies increase (Ouma, 2019).

Institutions offering ODL are pressurised into maintaining the quality of education they deliver and student satisfaction for them to persist in the current competitive academic sphere. They need to uphold their primary responsibility of ensuring access and the quality of services provided, as such their effectiveness will depend on their ability to eliminate unnecessary and unjustifiable hindrances that may prevent learners from accessing or participating in it (Blessinger & Bliss, 2018) and as such, institutions are attempting to achieve this by having various student support services in place to address these challenges and enhance academic performance.

Until the advent of COVID-19 pandemic, Botswana Open University (BOU) Student Support Services included face-to-face tutorial sessions, provision of guidance and counselling, Information Communication, and Technology (ICT) support, Library services, and administrative services. The Student Support Services are a crossing point linking the institution and students as they avail the basic services necessary for bridging the gap created by the absence of an in-person educator. They form the backbone of an ODL educational system to compensate for the transactional distance that is bridged by the use of technology and various electronic and print media. This transactional distance has a negative effect on the teaching and learning process, as it contributes to students feeling isolated which may reduce motivation, engagement, and retention (Moore,1993); this has the likelihood of

leading to high dropout and failure rates (Frasaser & Killen, 2006). Similarly, Simpson (2003) posits that when institutions fail to provide the necessary support services it results in dissatisfaction among ODL students, which may subsequently result in students neglecting their studies.

Academic performance is often defined in the line with the attainment of short-term education/academic goals. This study will adopt a definition by Ballotpedia which defines academic performance as “the measurement of student achievement across various academic subjects” this study will utilise the final average marks in percentage (%) calculated from the marks of the various modules that each student was enrolled in under the three purposively selected Bachelor of Education programs during the semester that ran from July to November.

When factors affecting the performance of students within any educational system are assessed, two aspects are usually taken into consideration, the individual factors and the institutional factors. Individual factors are the personal characteristics likely to affect one’s academic performance and for purposes of this study, gender, age, employment status and educational background will be used. Those from the institution include (but not limited to) effectiveness of the student support services that are in place; and for this study, tutorial support in the context of ODL and online services (discussion forums) as forms of student support; whose impact has been explored. It is through what students expect and perceive from their experiences that the researcher understands the value of the support services required versus those offered.

Human Resource Development Council (HRDC) of Botswana (2016) defines the Student Support Services as services offered to students to facilitate and ease their transition from one level of education to the other in the quest to attain a specific qualification. This is possible through the responsiveness of the system or services to the students’ needs. For purposes of this study, the term student support services will specifically mean tutorials (face to face) support and technological support in the form of discussion forums, which are both intended to minimise transactional distance in learning. The study investigates their impact on the academic performance of Bachelor of Education (BEd) students studying through ODL Mode at Botswana Open University and further explore how the student’s demographics influence their performance.

1.1 Background of the study

Globally, the introduction of Open and Distance Learning has led to a drastic improvement in access to higher education. This mode has more especially proven its convenience and a need for a paradigm shift in education today, when the whole world is faced with the Corona Virus Pandemic that has led to multiple challenges of access to the conventional education institutions. During the last decade, various countries have taken a move to adopt ODL as a feasible means to addressing the educational gaps and demand of higher education. Some institutions have shifted from being purely campus centred models to blended approaches to harness the opportunity presented by the global digitalisation that continues to evolve since the last century. Despite these efforts, a lot of people worldwide still have limited access to the educational opportunities, with the tertiary education participation trailing at 22.1% in Botswana (Botswana National Commission for UNESCO, 2018). The current COVID-19 pandemic has negatively impacted the higher education arena and as thus demands institutions to effectively implement interventions aimed at ensuring participation and successful completion of all eligible students.

1.1.1 Evolution of Open and Distance Learning Education in Botswana

For years, lifelong learning has continued to grow and is currently regarded as a necessity to socio-personal development (Ates & Alsal, 2012). In an endeavour to expand the literacy level of African Nations, various countries have taken a deliberate stand to expand structures and personnel to drive their aspirations. Careers that used to only require a diploma certificate nowadays require bachelor degree qualification due to their complex and demanding nature and the complexity of today's labour markets, as thus the role and importance of higher education institutions continues to grow significantly. However, studies have revealed that the conventional higher education system had lower expansion rates (Walt, Potgieter, & Wolhuter, 2014); as thus there was a need to introduce other means that can improve access and subsequently lead to an increase in enrolments at this level, hence the introduction of Distance Learning.

Botswana like any other nation across the world has seen the need to uphold the basic right to education for citizens and saw Open and Distance education as a viable avenue to exercise this. ODL offers an extended freedom of access that leads to increased opportunities for learning. This mode of education offers the flexibility for one to schedule their study time

and place to their convenience; this ensures that the studies fit around their regular responsibilities without compromising neither work nor family time. Enrolment can be at any institution, anywhere around the world, at a more reasonable cost than taking a full time on-campus degree. Though this mode of education has these advantages, it has its own challenges that range from the lack of peer interaction, limited student-tutor interaction and the high cost of developing instructional material, the need for flexibility in the student support services offered (Alraimi, Zo & Ciganek, 2015); these if not taken into consideration when planning programs to be offered through ODL can pose major challenges to students' academic performance. Other than these, there are other challenges that this mode of education battles to overcome, challenges like inadequate funding from government in some African countries, limited availability of personnel trained on ODL philosophies and principles, and the inadequate access and utilisation of ICT (Mathew & Illoanya, 2016).

Distance education in Botswana dates to 1962 in an attempt to address socio-economic problems, when primary school teachers corresponded with a college in Salisbury (current Harare) to obtain an Elementary Teaching Certificate in an effort to advance their professional qualifications (Kamau, 2009). This form of learning was supplemented with face-to-face tutorial and weekend radio broadcast as a form of support to the students. This initiative demonstrated the viability of the distance education delivery mode and as such the then leadership saw a window of opportunity in it. In 1986, Francistown College of Teacher Training was established to deliver education by distance learning as a government response to the challenge of shortage of teachers to meet the educational demand that was facing the country. The project ended in 1973 with over 700 graduates (Nhundu, Kamau & Thusoetsile cited in Kamau, 6 2006). It was the success of these initiatives that led to the formalisation of provision of distance education programs locally. The formal education system growth was slowed down around the 1980s following the economic recession; this quick change in the growth saw the development of the adult remedial education in several African countries. Like other African countries, Botswana Government took a deliberate move to advance adult education; a step which led to the establishment of the Non-Formal Education, which aimed at advancing the access to education for the greater Batswana, resulting in increased literacy level and the number of schooled persons locally (World Bank, 1988). This arrangement came with a reduced cost to the learner and the convenience of being able to acquire the knowledge, skills, and qualification which one could not acquire through the formal school (Tilak, 2009).

1.1.2 The journey to Botswana Open University

In 1977, the Ministry of Education established the Department of Non-Formal Education to take over the provision of distance education programs, however, this department was clouded by a lot of challenges ranging from the limited resources in terms of personnel, space, and budget; to lack of expertise in distance learning which hampered an effective response to the students' needs (Modesto & Gasha, 2017). In 1998, the Government took a calculated decision by an act of Parliament to ensure the participation of distance education in decision making by establishing Botswana College of Distance and Open Learning (BOCODOL) which started its operation in 2000. This move was strategical for socio-economic development as it extended formal education and entrepreneurial skills to the nationals who could not access Higher Education like out of school youth and other adults (Tau & Thusoetsile, 2006).

In 2008, Tertiary Education Policy recommended for the establish an institution in Botswana focusing on the “expansion and diversification of the distance education products and services in Botswana in order to improve access, equity and participation at tertiary level” (Modesto & Gatsha, 2017, p16); It was then that BOCODOL began its transition which led to the institution of Botswana Open University (BOU), the only standalone ODL University in Botswana, in 2018. The University has seen a transition from the original form of correspondence by post, the radio, and of recent to the interactive technological means via internet.

1.1.3 Defining Open and Distance Learning

According to UNESCO (2002), Open and Distance Learning (ODL) speaks to methods which aim at widening the accessibility of educational and training opportunities, by liberating individual students and groups from the restrictions of time and location, with its adaptable learning possibilities. It was initially known as Distance Learning, the name which emanated from the nature in which instruction was given through correspondence. This form of education was birthed from the Non-formal Educational System which came as a result of qualified candidates being unable to access higher education in the contemporary higher education system. Non-formal education came with a lot of flexibility and some bit of elimination of the teacher-controlled curriculum and learning environment (Biao, 2012). Students in this form of educational system prospered mostly through their own intrinsic

motivation rather than the extrinsic motivation commonly seen in the formal education system.

Khumalo (2018) defines ODL as an educational system in which most of the instruction is delivered through electronic or print medium to students in the absence of the physical presence of the instructor. Students taking this mode of education interact with the instructor synchronously or asynchronously. In line with this, Siddiqui (2004) perceives Open Learning to be an educational intention that aims at providing education in a more flexible manner that considers students' geographical, social and time constraints, rather over those of the institution. In concurrence, Dontwi et al (2010, p61) define open learning as "an organised educational activity, based on the use of teaching materials, in which the constraints on the learners are minimised in terms of access, entry or time and place, pace, methods of study, or any combination of these". Blessinger and Bliss, (2018) further elaborates on this by discussing the openness of distance education as it relates to three dimensions; namely the spatial, temporal and process which form the basic foundation of ODL education. The spatial dimension referring to one's ability to access and fully participate in an educational program without being physically present at the institution offering the program by connecting to the resources through various means like computers, radio, smartphone, or internet. This aspect of education has removed geographical location as a barrier or constraint.

The temporal dimension relates to the ability of participants to access and participate in educational programs at any time convenient for them. Communication in this mode is mostly asynchronous so as to be convenient for those with time barriers and constraints; this is enhanced by relevant course design and technologies currently used in the educational environment. The process relates to the use of valid and reliable teaching approaches backed by learning theories with consideration to pedagogies necessary for ODL. Students have the freedom to choose courses and resources voluntarily to suit their needs. This system allows students to choose how and when they will take part as long as it is within the regulations guiding their studies, guided by the policies and standards in place (Blessinger & Bliss, 2018). There is a structure that guides the packaging and structure of content and its utilisation and continuous monitoring and evaluation for improvement to meet students' needs. Students assume the responsibility of engaging in transformative learning while the facilitator guides the learner to aid the learning process.

Sarmah and Des (2010) posit that the effectiveness of ODL depends on flexibility; allowing students to work at their place and time of convenience fitting their commitments like work, family and social life. The author points that ODL is all inclusive, where all students get the necessary materials required for their studies as per need; is supportive, where academic support is provided by qualified professionals who run tutorials, guide students, and give feedback; and should be more social, offering an opportunity for collaborative learning through tutorials, webinars, online conferencing, study networks and discussion forums.

It can be deduced that though various researchers have attempted to define ODL as highlighted above, many people have approached the definition from different angles. Some dominant characteristics have been identified in the definitions being that, there is provision of a learning opportunity by an accredited training institution offered to the a learner who is separated from the teacher by time and place; training is conducted via some media, it be print, and/or electronic, allowing for interaction between the tutor and the student; these can be complemented with occasional face –to –face contact sessions (College of Learning [COL], 2000). In contract to the conventional educational system, that usually takes place in a classroom setting, ODL is offered to students remotely. Shale posits that the need to view distance education as education occurring from a distance necessitates for the various processes of teaching and learning implemented in the conventional system of learning (face to face) to still constitute those processes of education when there is that physical separation of the teacher and the student (Chakuchichi, 2011). This view is supported by UNESCO (2014, p 62) stating that “in efforts to meet the new and changing demands for education and training, open and distance learning may be seen as an approach that is at least complementary and under certain circumstances, an appropriate substitute for the face-to-face methods.”

It is from these views that conclusion can be drawn, that distance learning shares the same goals with the conventional educational system but aiming to afford access to those restricted by time and place but willing to advance their studies. Biao (2012) concurs with this by pointing that this form of education may result in similar product as that produced through conventional educational system, and the main difference is the environment within which learning took place and the processes entailed. Instruction delivery in ODL comprises of a wide range of teaching strategies aimed at guiding students through the course content and facilitating the learning process. Instructors coach, mentor and monitor these activities to

enhance learner progress. Many students who prefer this form of learning are mature and have varied commitments which hinder their access to full time, face to face campus-based institutions (Khumalo, 2018). These challenges thus necessitate for support structures to be put in place to enhance their performance and facilitate their transition through the system.

1.1.4 Student Support Services at BOU

Botswana Open University has the Student Services Department which oversees all the various Student Support Services offered by the University, these services as the name implies are intended to enhance the performance and ultimate success of the students. The services include an institutional web site where official correspondences are made, an e-learning portal (student portal) where students can access course materials and interact with tutors and other learners; there is an institutional counsellor on campus who offers educational guidance and psychosocial support to students. The region has a library that has a partnership with Botswana National Library Services (BNLS) to offer extended support to students in the localities where there are Botswana National Library Services (BNLS). Each student has an individual official email address which is created on admission used for all official correspondences. There is a computer lab with a sitting capacity of 20 students that is open for students who require assistance with Information Communication and Technology (ICT) services. At the beginning of each semester, students are taken through an induction in an effort to introduce them to the University's processes, course logistics, and ODL mode.

BOU has two (2) yearlong Bachelor of Education programs that targets students who already have an equivalence of a Diploma qualification, which was initially offered through a blend of interactive online as well as the 6-hour tutorial (face-to-face contact) sessions per module per semester, conducted over the scheduled weekends. Face-to-face tutorial sessions for these programmes are conducted by part-time tutors who were also responsible for conducting Online Discussion Forums. These programmes were purposively selected for this study as they have been operation through blended mode for over a year and as thus can give a clear insight into the impact of the support services put in place on the academic performance to determine the effectiveness of these academic support services in Open and distance learning. Face-to-face contact sessions are voluntary and are intended to supplement individual learning by offering revisions, discussion platforms for topics already known by the learner. Its usefulness as a teaching approach in ODL has never been doubted (Clasquin,2012). The ultimate aim of contact sessions is to provide students with an

interaction opportunity to assist them in performing well in their studies (Fung & Carr, 2000; UNISA, 2008; Van, Zyl, & Spammer, 2013).

The university continues to set up and enhance the efficiency of the existing support structures to enhance academic performance of its students and ensure that it meets its customers' expectations and remains reputable. The 2018/2019 BOU Report reported that the ODL provision index shows 64% achievement against a target of 75% to improve the overall efficiency of the university's systems and processes. Despite the crucial role played by the face-to-face tutorial sessions in ODL (Fung & Carr, 2010), Botswana Open University like many educational institutions, has seen an abrupt transition from blended online and face to face educational mode to a wholly online instruction due to COVID-19 National Protocols that require social distancing. The implementation has been overshadowed by numerous staff and students' complaints regarding the Information Technology Systems (ITS) and its usability in the teaching and learning process. The abrupt transition to online learning can be a challenge in the context where like many African countries, learners struggle with limited access to electronic devices, limited computer basic skills and inadequate usage of the available learning platforms (Shikulo & Lukhetho, 2020). As this technology sector in general is a relatively young discipline in developing countries, the standard of expertise and awareness in the fields is inadequate for a significant number of citizens. Users of these innovations, such as instructors, managers, and pupils, all have substantially low levels of expertise that do not favour the complete application of technology for education. This state, therefore, necessitates the need to evaluate the effectiveness of such support services in place by exploring their impact on the academic performance of BOU students studying in ODL mode to inform the necessary interventions to enhance student performance.

1.2 Theoretical Framework

The study uses the Alexander Astin's Input-Environment-Output model. It is one of the initial higher education models. This concept is shaped by the structure of the instruction, the learner-tutor interaction and the ability of the students to self-direct based on their individual characteristics. Three (3) factors from the Astin's (1991) I-E-O Model predicts students' academic performance are used to explain academic performance outcome. These factors namely, the students characteristics (age, gender, employment status and the previous educational background), and the student support services in the form of tutorial support

attendance, and discussion forums participation as independent variables, and how they interact with student academic performance as a dependent variable.

Giving students an opportunity to engage in sufficient dialogue to share with the instructor has been previously denied in distance learning, leaving some students lost in their studies; and of recent blending learning by offering online support and face to face (Tutorial) support has bridged this gap and offered hope those learners that experienced challenges interacting with content on their own. This is conceptualised through the application of Astin's (1991) I-E-O Model which is utilised in this study as presented in Figure 1.1.

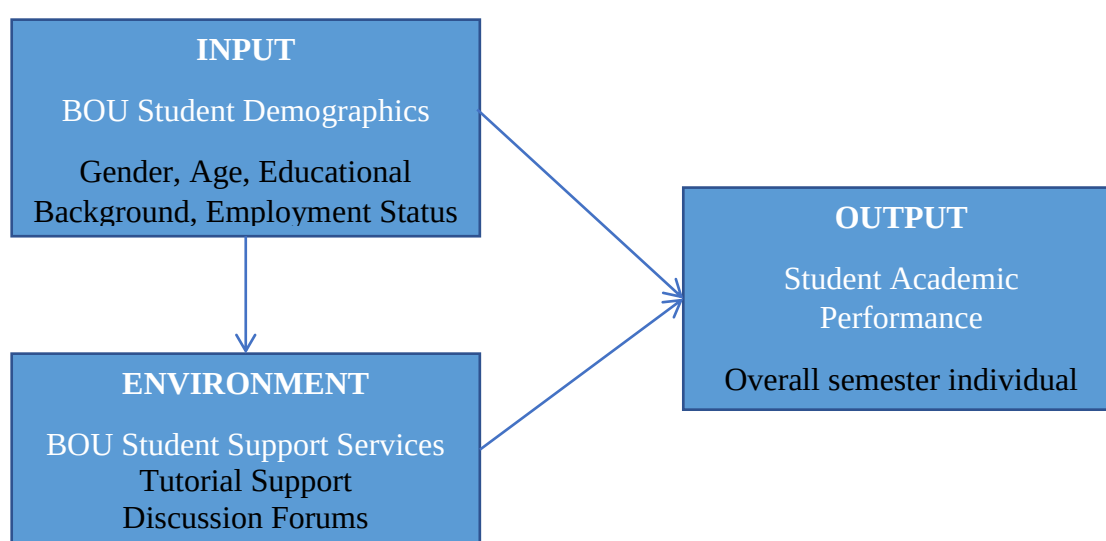


Figure 1. 1 The conceptual model for academic performance based on Astin's (1991) I-E-O Input model

Astin's conceptualization is selected due to its ability to allow for the examination of the influence of students' characteristics and students' attainment of learning outcomes which can be measured through academic performance, which are central to the present study. For maximum efficiency in the delivery of teaching programs, appropriate medium that depends on the different variables within the transactional environment (Kegaan, 1997), like the learner characteristics should be utilised to overcome transactional distance. Institutions need to provide appropriate opportunities for student-instructor dialogue together with appropriately structured instructional material if they are to better student performance (Strayhorn, 2008). This is usually challenging as the appropriateness of instructional materials will vary according to content, level of instruction, and learner characteristics. This can be demanding as such Instructors need to engage and deploy varied systematic skills to bridge this gap.

i) Environment

The conceptualisation of environmental factors is adopted as per Astin's (1991) model and available literature on student support. Student Support is defined as academic support services (in this regard tutorial support and discussion forums) intended to minimise transactional distance in learning and their impact on the academic performance of Bachelor of Education (BEd) students studying through ODL Mode. The student learning environment at BOU is not restricted to the conventional classroom activities, and any consideration of the student learning support that does not overtly recognize or acknowledge this will be restricted.

ii) Output

Educational goals should be determined, against which progress, and achievement can be measured. Our conventional educational system teaches students to be dependent in the school system; as such it is not surprising that a lot of adult learners are not prepared for self-directed learning. These students who transition to ODL Mode of learning thus need extra support to be able to perform well in the ODL educational system. Keegan, (1997), concurs with this by stating that learner autonomy does not mean that all adult learners are at a state of readiness for fully self-directed learning, as such, instructors have an obligation to help these adult learners to acquire necessary skills to become autonomous students, this thus justifies why the student support services are critical to the students who study through ODL Mode.

1.3 Research Problem

Open and distance learning is emerging as a more convenient mode of education that appeals to many institutions. Globally, distance learning institutions are experiencing a challenge to change their policies to be accommodative the rising number of students and the needs of open and distance students (Robert, 2014). Additively, COVID-19 pandemic has now come as another major challenge causing the biggest disruption in the educational systems history, with approximately 1.6 billion students in over 190 countries affected (UNESCO, 2020), with the disruption of educational institutions and other learning spaces affecting 94% of the student population worldwide, and up to 99% in countries with low and lower middle incomes. This crisis exacerbates pre-existing inequalities in educational systems by lowering the chances of the many disadvantaged students to continue their learning due to the socio-economic effects of the pandemic alone, roughly 23.8 million more

people are estimated to drop out of school or not have access to school in the next year (UNESCO, 2020). This state therefore calls on all institutions to reinforce the available learner support systems to see how they can be best utilised to address the inevitable. Responsively, the world has seen a stimulation of innovations on teaching strategies within the educational sector aimed at promoting the continuity of education and training ranging from take-home packages to online services with the aid of governments and partners around the world, like UNESCO, in promoting continuity of education.

Like in other training institutions, Botswana Open University has been forced to implement more feasible means of ensuring continuity of teaching and learning amid COVID-19 pandemic, and one way of ensuring this was through the shift of its support services to 100% online, as for a very long time it has been more dominated by face-to-face tutorial support. Though online learning proves to be the most feasible mode of teaching and learning during such a time, its full implementation within the educational arena, without careful planning, can lead to further marginalization of candidates who are already disadvantaged (Brown & Czerniewicz, 2010) hence affecting their performance and subsequent progression through the system. Botswana Open University has been maintaining a high completion rates (BOU, 2019) with demonstrated high attendance rates of face-to-face tutorial, a complete switch from a more face-to-face dominated mode of support can come as a challenge as it offers a different experience to students more especially in countries like Botswana where there is still evident digital divide.

Botswana Open University face-to-face tutorial attendance has been observed to be higher; but despite the recorded satisfactory attendance which can go to as high as 80% attendance (BOU, Tutorial attendance records, 2019); there is a raising global concern over the possibility of cessation of the face-to-face tutorial sessions (UNESCO, 2020), which for long have formed a major support structure for BOU students; who mostly reside in areas that have limited internet connectivity and some being technologically challenged (BOU, 2017) to function effectively in wholly online environments to enhance their academic performance. This high attendance rates possibly reflects BOU learners' preference for face-to-face contact session which may be attributed to the difficulty in changing the mindset from conventional classroom teaching-learning to self-learning (Lukwekwe, 2015); and the communication history rooted in the peoples' beliefs that inform communication, information sharing and ultimately education. Beliefs like the traditional Setswana saying "Mafoko a mathong" which translates to "words are from what you observe" leads to people believing that face-to-face

interaction is more effective than interaction through other various media forms. There is also a common perception that generally Batswana have a poor reading culture (Seretse, 2007; Commeiras & Mazile, 2011) leading to the assumption that if one cannot read for leisure, it will make it challenging for them to be self-driven to read educational materials. Ruterana (2021) and Ouma (2019) concur with this by attributing this common phenomenon, which they say exists in most African countries to the colonial and post-colonial education systems' reliance on verbal communication; contrarily, some researchers like Nkuyubwatsi, (2016) have attributed this to the limited access to resources which limit people's exposure to reading materials ultimately leading to poor reading habits.

Access to online innovations is often primarily dictated by one's ability to afford it and as most of ODL students are essentially poor to average wage earners, therefore they are at a disadvantage of obtaining access to and utilising the resources due to their excessive high costs. This arrangement thus impacts negatively on those students who are inconvenienced by internet connectivity and those with limited skills to facilitate their participation in the forums which thus pose a challenge to their learning as many used to depend much on face-to-face interaction offered by the tutorials. Though a number of studies have found online discussions to be more beneficial (Appanna, 2008; Kassymova, Issaliyeva, & Aigerim, 2019), some students have demonstrated preference for face-to-face interactions with instructor and peers (Kadagidze, 2014). Concern is raised by the broad gap between those who have access to the new technologies and those without which constitutes one of the main problems of technology-enhanced learning. Even though current generation of students have a lot of online and social media experience, the odds cannot be overlooked, considering the calibre of students admitted at BOU. In concurrence, Ouma (2019) elucidates that "learner support challenges should be treated as 'loose ends' in the university system that needs tightening".

The question that therefore remains is how effective this innovation will be in contributing towards academic performance of BOU students, and to answer this question, it is necessary to measure how effective face-to-face tutorial support attendance and discussion forum participation have been in enhancing academic performance. This can be known by answering the question "What is the impact of these support services (measured through face-to-face tutorial attendance and discussion forum participation) on academic performance"? Knowing the answer to this question will help the university to make informed decisions about these support services, ensuring that no student is left behind.

1.4 Objectives of the study

The aim of the study is:

To explore the impact of the Student Support Services (tutorial attendance and participation on discussion forums), on the academic performance of Bachelor of Education (BEd) students studying through Open and Distance learning.

To realise this aim, the following objectives have been formulated:

1. To determine the difference in academic performance based on the demographic factors (gender, age, employment status and educational background) of Bachelor of Education learners studying through ODL at Botswana Open University.
2. To find out the relationship between participation on discussion forum and academic performance of learners studying through ODL at Botswana Open University
3. To determine the relationship between tutorial attendance and academic performance of learners studying through ODL at Botswana Open University
4. To determine the relationship between students' perceptions regarding the student support services and the academic performance of learners studying through ODL at Botswana Open University

1.5 Research questions

1. Is there any significant difference in mean scores of learners' academic performance based on the demographic factors (gender, age, employment status and educational background) of Bachelor of Education learners studying through ODL at Botswana Open University?
2. What is the relationship between participation on discussion forums and academic performance of learners studying through ODL at Botswana Open University?
3. What is the relationship between tutorial attendance and academic performance of learners studying through ODL at Botswana Open University?

4. Is there any relationship between the Students' Perceptions of the Student Support Services and the academic performance of Bachelor of Education learners studying through ODL mode at Botswana Open University?

1.6 Hypotheses

H0₁: There is no significant difference in mean scores of academic performances based on the demographic factors (gender, age, employment status and educational background) of Bachelor of Education learners studying through ODL at Botswana Open University.

HA₁: There is significant difference in mean scores of academic performances based on the demographic factors (gender, age, employment status and educational background) of Bachelor of Education learners studying through ODL at Botswana Open University.

H0₂: There is no significant relationship between participation in discussion forums and academic performance of learners studying through ODL at Botswana Open University?

HA₂: There is a significant relationship between participation in discussion forums and academic performance of learners studying through ODL at Botswana Open University?

H0₃: There is no significant relationship between tutorial attendance and academic performance of learners studying through ODL at Botswana Open University

HA₃: There is a significant relationship between the frequency of tutorial attendance and academic performance in ODL of learners studying through ODL at Botswana Open University.

H0₄: There is no significant relationship between the Students' perceptions of the Support Services and the academic performance of Bachelor of Education learners studying through ODL mode at Botswana Open University.

HA₄: There is significant relationship between the Students' perceptions of the Support Services and the academic performance of Bachelor of Education learners studying through ODL mode at Botswana Open University.

1.7 Purpose of the study

The study investigated how student support services influence academic performance of Bachelor of Education students studying through Open and Distance Learning Mode at Botswana Open University by determining the impact of student support services in the form

face-to-face tutorial attendance and discussion forums participation, on academic performance of students studying through ODL mode; the findings of which can be used to inform policy.

1.8 Justification of the study

Botswana Open University is the only standalone Open and Distance Learning University in Botswana. This puts the institution at a greater advantage of attracting good students due to its affordability and its recognition as a part-government institution. Because to its teething challenges, it is also evident that if other equally affordable opportunities were to present themselves, BOU will face a tough competition due to its limited diversity of programs and lose many of its students to the competitors; based on this, the university needs to consider the impact of its support structures on the academic performance of its students in order to take the necessary step to find remedial actions and enhance academic performance which subsequently leads to academic success and higher student retention rate.

Though tutorial services and discussion forums constitute important aspects of student support services, their impact on academic performance is unknown. When impact of the support services is established, it becomes easier to develop ways of addressing or enhancing them for better performance. Poor academic performance or high failure rates may result in unacceptable levels of attrition, reduced graduate throughput and increased cost of education (Jayanthi et al, 2014), that can ultimately result in reduced lack of interest from prospective students looking for higher education qualifications and also have a negative impact on the university's ranking. It is therefore important to identify and understand these various variables which contribute to academic performance so as to inform the support structures put in place to enhance students' academic support e.g. tutoring support; a move which has potential to even enhance the quality of BOU Learners.

1.9 Significance of the study

This study brings significant contribution in promoting effective support systems and enhancing learner performance for students studying through ODL Mode. The study will further provide insight into the effectiveness of the explored support services and motivate students towards their use for better academic performance, as well as help the institution and course instructors to develop and implement more relevant support services to ODL students at BOU. By understanding how the demographic factors impact on academic performance,

instructors are better placed to respond effectively to the individual learners needs in the teaching/learning arena, which can impact positively on the students' performance.

A review of literature indicates that very limited research has been conducted in the context of performance in Open and Distance Learning in the Institutions of Higher Learning in Botswana. This study will therefore fill this literature gap. The study will further contribute towards quality assurance in ODL theory examination of the impact of student support services on academic performance of ODL students. Though several studies have described the importance of Student Support Services and its role in Open and Distance Learning, this study will offer preliminary information about an area that has not been investigated in the context of Botswana. Understanding the impact of the present day ODL support systems will also allow other upcoming ODL universities or those in the process of converting to blended learning, to embark on the necessary steps to ensure better performance of students in their ODL programs. Moreover, the results of this study will help to develop insight on why some students perform well in comparison to others which can help the university to design and implement relevant policies to improve student performance; it will also generate a data base to inform National policy decisions regarding the provision of ODL in Botswana. Finally, the research will help the researcher expand knowledge and understanding of the impact of the student support services and aid in advocacy and lobbying for more relevant support structures.

1.10 Brief research methodology

This is a cross sectional descriptive study in which 101 Bachelor of Education students at Botswana Open University were sampled using simple random sampling to investigate the impact of student support services in the form of tutorial attendance and discussion forum participation on the academic performance of these students. Descriptive statistics and inferential statistics (ANOVA, T-Test, and Person correlation) were run using SPSS Version 26 to establish existing relationships.

1.11 Limitations of the study

Though the study focuses on BEd programmes, it is only limited to the 2019 cohort as the previous group has completed and it will be difficult to trace them; it is only based on the experiences of the Botswana Open University Students, which may not be applicable to other institutions of higher learning. It is not possible to fully attribute the impact to the

actual intervention (Tutorial attendance or discussion forums participation) due to lack of a control group, this is also due to the fact that academic performance is dependent upon a number of factors like the nature of assessments, and some intrinsic factors like attitude of students towards learning, which this study does not take into consideration. The researcher has no control over the quality of data collected from the institutional systems and records, which may not be seen as rigorous as data which is specifically collected by the researcher. There were some gaps in the data as the data was captured for a completely different purpose.

The narrow population size, the resulting sampling size, and limited diversity per program (gender imbalance) limited the statistical tests that could be performed on the population therefore limiting the findings. There is a need to conduct the study in a large magnitude to draw more accurate conclusions.

1.12 Outline of chapters

Chapter 1: The first chapter of this dissertation contextualises and orientates the concept of students support services in open and distance learning and introduces the research problem together with the research questions. The chapter also provides justification for investigating the impact of student support services on the academic performance of students and the guiding theoretical framework. Relevant terms/concepts are also discussed.

Chapter 2: The chapter provides a review of relevant literature relating to the student support services in the form of tutorial support and discussion forum attendance to support the theoretical arguments made in the previous chapter. The chapter highlights international trends relating to the SSS (tutorial support and discussion forum participation) in the context of ODL and situates the problem in the right perspective guided by the research questions.

Chapter 3: This chapter provide information on the methodology used in the study, highlighting the research design, participants of the study, instruments used, and procedures followed in the collection and analysis of data.

Chapter 4: The chapter provides the study results and analysis guided by the research objectives, questions, and hypothesis.

Chapter 5: In this last chapter, the findings and the study and possible educational implications to the university and education sector are discussed. Recommendations on areas

of improvement relating to the student support services at Botswana Open University and the improvement of academic performance are advanced.

1.13 Conclusion

This Chapter has provided a synopsis of the thesis by highlighting some important aspects of the research on the students' demographics, the attendance of tutorial services, and participation on discussion forums as independent variables of the study, and academic performance as the dependant variable. The chapter introduced the research and provided the background for the study in terms of the support services and their role in ODL. It further discussed the research problem, and pointed research questions, hypothesis and the theoretical framework that guided the study. In doing so the Chapter briefly stated how this study will contribute to the broader literature in the field of ODL in Botswana and abroad. Chapter two of the study gives a detailed reflection of the literature that has investigated student characteristics and the student support services and their impact on academic performance.

CHAPTER TWO

Literature review

2.0 Introduction

The previous chapter has introduced the research problem, the purpose of the study, its objectives, research questions, significance, and justification. The discussion is based on the argument that though tutorial services and discussion forums constitute important aspects of student support services, their impact on academic performance is unknown. This chapter presents contextual knowledge and reviews relevant literature guided by the research objectives. Firstly, the chapter reviews literature that points to characteristics of students in the ODL context. The section then describes the two main streams of student support services that this research is focused on, namely the tutorial support in the context of ODL and online services (discussion forums) as a form of student support. In the final section, a summary of the literature review is presented and proceeds to chapter 3 that gives insight into the methodology reflecting how the study will be conducted.

2.1 Student support services in Open and Distance Learning (ODL)

Student support services is considered the most critical aspect necessary to address learner isolation and bridge the transactional gap that exists between the learner and the institution in an effort to enhance learning potential. It helps students develop understanding of content and cope with the demand of individual learning that will otherwise be challenging for one to achieve without help. Studies have revealed a challenge in the provision of adequate learner support to distance learning students in various African universities ranging from infrastructural to human resources (Shikulo & Lekhetho, 2020). These challenges are worsened by the lack of a National policy Framework for ODL education which impedes learner support leading to supply of sub-standard services (Ouma, 2003, BOU, 2020). Various researchers found a statistical significance on the impact of student support services on academic performance of students (Farajollahi & Moenikia, 2010; Usun, 2004; Alias 2001). Student support is the core of successful ODL educational system, and it should be effective in meeting the needs of the students.

Student Support Services relates to both human and non-human resources necessary for the facilitation of the teaching and learning process. These services aim at providing

students with all the necessary information needed and helping them to overcome barriers to learning and promote student performance and efficiency in learning each subject in ODL. The student support services therefore provide students with the learning tools and services to help them to be part of the learning system and propel them to advance and succeed in their studies (Chatpakkarattan& Khlaisang, 2012)

The student support services offered by an institution depend on the capacity of the institution and the resources at its disposal. Provision of the support services to students studying through ODL is of critical importance in trying to create a feeling of belonging to students. These services include but not limited to provision of tutorial (face to face contact sessions) Library services, ICT Services, counselling, mentorship, access to course material and facilities, platforms for peer interaction, etc. Student induction to open and distance learning is necessary to equip them with the necessary skills to help them cope with the demand of ODL programs enhance ability to cope with the demands of family, education and work and to introduce the various support structures that students can benefit from. Despite the value placed on the impact of these services, a study by Arko-Achemfuor (2017) on the student support gaps in an ODL context at the University of South Africa found that though a lot of support services are available for students enrolled at this university, students in the rural places are unable to utilise them effectively, which impacts negatively on their studies. Shikulo (2018) attributed this finding the fact that majority of the students studying through ODL are adults, with fulltime employment and have to balance their study with family, work and personal commitments (Shikulo, 2018; Botha & Coetzee 2016).

A correlational study by Farajollahi and Moenikia, (2010) investigating the relationship between student support services components and academic achievement in distance learning in the students of Tehran Province yielded a statistically significant correlation between the two variables. Similarly, Raser and Killen, (2005) in a study of the relationship between student support services and distance students' academic achievement concurs with Farajollahi and Moenikia, as their study revealed a relationship between students support services and its components with academic achievement was statistically significant. This finding is supported by Gamison (2010) who determined that the most critical type of support in teaching and learning process is the instructor, who guides and directs students in the process to help them in the attainment of the educational goals.

Though various studies have linked the level of support given to students, (like support offered by the tutors, student-student support which can occur face-to-face or electronically through the discussion forums) to academic performance (Lorenzi, MacKeogh & Fox, 2004; Usun, 2004; Hardman & Dunlap, 2003) there are some studies that yielded different findings in some populations, like the study by Omondi (2008), on the influence of student support services and learner characteristics on academic performance of distance learners at the University of Nairobi which came to a conclusion that though the student support services have considerable influence on performance the contribution was not significant. The researcher attributed this finding to the inadequacy in provision of these services and the possible lack of easy access to the services. This finding is in concurrence with the study by Lukwekwe (2015) at Open University of Tanzania that investigated the relationship between support services and academic performance of students and gender and academic performance which reflected that most students had a lot of responsibilities and spend less in studying coupled with inadequate guidance in the distance mode education. Similarly, Sikwibele and Mungoo (2009) found inadequate learner support as a main challenge in distance learning. The geographical and transactional distance that increases when student-tutor interaction and student-student interaction is limited, results in some learners feeling isolated; some not feeling a sense of belonging to the university due to the limited self – governance and low motivation level, which can result in underperformance and ultimate drop-out of students who study remotely (Kumtepe et al, n.d).

The success of a distance education system depends on the quality of the efficiency and responsiveness of the logistics and the student support systems that is considerate of the individual learners needs. This exercise can be costly as thus, “face-to face support and correspondence tuition tends to be limited” (Dontwi et al, 2010, p70); and because the cost of learning is born by the student, this may lead to the cost of ODL going higher, and in instances where there are no government sponsorships for distance learning like in Botswana, this can be a challenge. Dontwi et al, (2010, p, 74) concurs by stating that “ODL should not be seen as a cost saving educational measure, which can be implemented without serious planning and good implementation, but rather, it should be seen as an educational innovation that requires greater attention to planning and guided implementation for the development of the nation’s required developmental manpower”.

2.2 Demographic factors and academic performance

Various studies have investigated Student characteristics influence on academic performance (Alhajraf & Alasfour, 2014) and varied conclusions have been drawn about the influence of learner characteristics and its importance when designing effective learner support systems. A study by Awe (n.d) reflected that there are unique characteristics among ODL learners which need to be taken into consideration when planning ODL as they are relevant in the determination of the curriculum, and the development of the necessary resources like instructional material that are necessary to the overall student performance in their studies.

Though gender has been found to have an effect on academic performance by several researchers (Lim & Nasirudeen, 2014; Hedjani & Omid, 2008; Usun, 2004), there are some researchers who hold a different belief as their studies reflected no gender differences in academic performance (Mason, 2017; Borde, 1998). Some studies have reflected varied performance across specific subject fields. A study by Smith and Naylor (1993) examining the determinants of degree performance in Europe came to a conclusion that personal characteristics have a significant influence in degree performance. The study also concluded that females perform better than males in certain subjects. Murphy (1991) also posits that in societies where there is a difference in gender roles (males vs females), gender differences were observed in academic performance, it is therefore important to design support systems with an understanding of the socio-cultural context and student characteristics.

Students who usually opt for ODL are commonly adults. Studies have reflected that this comes with multiple challenges of integrating self-study with family demands, as well as work commitments. This concern is supported by the various concerns raised by tutors who raised concern over absenteeism, non-submission and late submission of assignments and projects by the students (BOU, 2020). Sikwebele and Mungoo (2009) in their study investigating opportunities and challenges in Distance Learning and Teacher Education in Botswana discovered a need to enrol teachers studying through ODL at a younger age. The authors posit that adult distance learners in Botswana experience cognitive overload and attributed this to prolonged periods of non-study and the sudden demand placed on them by distance learning which when coupled with their multiple roles at work and in their families can be overwhelmingly crippling. The findings connect with other investigations that uncovered that grades earned by more youthful learners are high in comparison to those of

mature learners (Al-Mutairi, 2011; Roos, 2009; Diaz, 2003) and the findings could be attributed to the fact that mature learners have multiple obligations other than their studies which might negatively impact on their academic performance in comparison to the younger learners who are solely concerned about their studies (Alhajraf & Alasfour, 2014). These learners therefore need to be encouraged and be persuaded when they feel uncertain them to help them stay on course. Similarly, Simpson (2000) has reflected limited persistence of elderly students in ODL in comparison to younger students. Contrary to the above findings, a study by Guney (2009) aimed at establishing the link between the students age and their academic performance drew a conclusion that matured learners accomplish higher performance results than their younger counterparts; this could be attributed to their sense of maturity, goal directedness, enhanced study skills and increased motivation. The above finding validates a connection between learners' age and their performance in terms of GPA, just that the connection points in different directions and this could be influenced by the socio-cultural contexts within which the various studies were conducted.

A study on factors affecting students' performance in ODL in Kinondoni revealed that a lot of students are overwhelmed by other responsibilities resulting in limited time for studies; this is worsened by the inadequacy of guidance in the open and distance learning sphere (Lukwekwe, 2015). ODL students have often been attracted to enrolling for studies based on how well the award they are interested in is recognised, how it will contribute to their general progress in life, the flexibility of studying through ODL which allows one to work and study at the same time (Shikulo & Lekhetho, 2020), and the seemingly low cost of tuition when compared to conventional studies. This has resulted in them overlooking their readiness to adjust their overall lifestyle to fit into the ODL system of learning, as it requires more self-commitment, motivation and time management skills. Overlooking these demands has thus often resulted in academic underperformance (Dadigamuwa & Senanayake, 2012). This is affirmed by respondents in a study by Tladi (2013) investigating attrition factors in ODL, who cited work responsibilities as a hindrance to their academic performance and subsequent progression. The researcher concluded that students who have employment and family duties to fulfil have high chances of dropping out of school (attrition) and have shown lesser commitment to independent study. The study also reflected that these students make limited use of the existing support services even when they really need them. This finding is supported by Au, Li and Wong (2018) who state that it can be challenging for students encountering learning challenges to seek help, as thus, staff should take the initiative to

contact students on a regular basis to enquire on their progress and the problems they might be encountering. When examining the impact of paid employment on the performance (GPA), Applegade and Daly (2006) recognised a negligible effect of paid employment on academic performance, but rather made an observation that paid employment contributed to improved performance with students creating a balance through time management to curb negative impact of paid employment on their academics.

Sikwibele and Mungoo (2009) on investigating the opportunities and challenges in distance learning and teacher education in Botswana found that the students' previous academic experience is a major determinant of perseverance in ODL. The authors pointed that having the lowest education levels could impact on the perseverance of an adult in an ODL system by increasing the learners' frustrations and non-persistence. These findings are similar to those by Berge and Huang's (2004) study which acknowledged the learner's previous academic experience as a major determinant of perseverance. The students reported to be overwhelmed by the nature of their duties and the content and instruction methods which they felt was inappropriate given their previous level of education.

2.3 Discussion forums as a form of student support

The arrival of Information Communication Technology (ICT) has significantly changed the current delivery of tertiary education and led to an educational experience that is different for higher education students. It is assuming a fundamental role in ODL to meet the obligation and desires for the students' in large magnitudes (Rajadurai et al, 2018) as it bridges the distance between the student and the lecturer/tutor. Though the modern digital world demands the use of ICT in ODL, many African countries are battling with the major challenges relating to access of technology, affordability and technophobia (Mathew and Iloanya, 2016) Ferreira and Venter concurs with this finding that in most African Countries, students have no access to electronic devices that could facilitate online communication and study, and that those who have them, so not know how to use them optimally (Shikulo & Lekhetho, 2020). With the modern digital world demanding the use of ICT, libraries and computer laboratories are digitalised as such, students need to make use of these platforms for their benefit, failure which they will be "nothing but simply white elephants" serving no purpose in the Institution (Musingafi et al, 2015).

Botswana like other African countries is still growing in the field of ICT as such this limitation affects the use of synchronous instruction, like webinars and video conferencing to

enhance distance education. The implementation of these can also be a challenge as though some researchers feel ODL comes at a lesser cost than the conventional system of learning, investment on ICT is costly and as such requires a strong financial resource base to ensure opportunities of constructive alignment of instruction and technological mediation to enhance academic performance of students (Khumalo, 2018). While ICT is seen to be critical for ODL, it is still necessary for institutions that are still finding ground to combine it with face-to-face facilitation to cater for some of its learners like those learners who might be challenged by ICT instructional delivery (Awe, n.d).

Computer literacy is the knowledge and understanding of information communication technology (ICT) basics like the mechanics of how to use a computer, and electronic information (Ranaku et al, 2013) Being computer literate can be important in helping students to adjust and cope better in ODL and hence enhance encourage their academic performance. BOU is on transition from the utilisation of printed resources to online teaching and learning resources, but this comes at a time when not all students are prepared for online/blended learning despite the provision of a course that introduces the learners to computers at semester one (1). This course does make a difference in the students' learning experience however, its implementation is not easy due to the limited resources like computer labs that can be utilised to take students through the practical aspect of the course limiting students only to theory, this can impact on the acquisition of skill necessary for one to function independently in an ICT learning environment. This is evidence by the multiple students' complaints, missed communications resulting from unchecked student mails and missing results due to submission of hardcopies to the campus instead of students submitting scripts online. Ouma (2019) concurs with this finding by expressing shock over the preference of handwriting by students over typing in an era of modern technologies. Price, Richardson and Jelfs cautioned that for online support to be successful, it depends on the capability of the students and lecturers/tutors to engage online (Ouma, 2019).

The conventional education system allows for students to communicate with each other and the instructor face to face which is an essential to more important social interaction. The absence of such a provision in ODL supportive network will be created and actualized utilizing ICT to offer assistance to students at all various stages of the learning cycle and provide a platform for sharing knowledge and ideas as done in a traditional arrangement of instruction (Rao, 2010). Classroom instruction and distance education should not differ much

as media is used just to deliver content, it is what the learner does or how they use the delivered content that determines the efficiency of learning. However, given the fact that in distance learning, students express and articulate their ideas and understanding in writing, Hawkes (2001) views this as giving the learner an opportunity for increased reflection and development of high-order thinking skills; offering the distance education students opportunities that are seldom availed in face to face instruction (Chakuchichi, 2011). A study by Rabab, Fatema, Sheeba and Hassan, (2013) affirmed the use of Learner Management Systems (e.g. blackboard) which allow for easy interaction of students, faculty collaboration, and flexibility in the teaching and learning process can enhance performance; The use of Information and technology has been proven to be a challenge for some learners (Rakoma, 2018; Mathew and Iloanya, 2016).

A study by Khumalo (2018), on Improving students' success in ODL settings through the principle of constructivism alignment made a conclusion that the alignment of pedagogical practice activities and deliverance through information and communication technology has a positive impact in promoting student's graduation rates. This supports the study carried out by Wu, Tennyson, and Hsia (2010), who postulated that support services in the form of easy accessibility and retrieval of course materials and assignments were crucial for learners. However, if learners shun computer usage, it will affect their performance since most of the learning and teaching is done online (Rajadurai et al, 2018). Oliver, (2016) investigated the impact of contact sessions and discussion forums on the academic performance of ODL students revealed mixed results reflecting a better performance in an assignment for those students who attended tutorial session but contrarily, the students did not perform significantly better in the examination. The researcher attributed this to the possibility of students having insight on what the assignment entails than the exam, however, students who utilised online services performed significantly better in the final examination than those who did not use the forum.

2.4 Tutorial (face to face) session as a form of student support

A tutorial is an in-person contact session intended to help the student with a face-to-face dialogue with the tutor to facilitate active learning and offer them an opportunity to present their challenges and discuss course content in more depth. Though these sessions are intended to minimise the frustration that come with the feelings of loneliness due to a learner being on their own, but surprisingly, the student attendance of these sessions is unsatisfactory

(Kurebwa, 2014). Some studies have reached a conclusion that missing tutorial leads to poor academic performance reflecting a strong correlation between academic attendance and academic performance. According to Dzikaria and Walker (2003) the infrequent face-to-face meeting between tutors and distance students trigger frustrations and occasionally hinders the teaching/learning process. Contrarily, Obemeata cited in Dontwi et al (2010), disputes this by pointing that students have no interest in acquiring knowledge but rather are more interested in acquiring the certificates as thus they place less value on attending orientation or induction offered at the start of the program.

A study by Kabate (2014,p112) assessing students perceptions on intensive face to face in ODL at the Open University of Tanzania showed that, “students perceived intensive face to face as a resourceful occasion for their studies in terms of receiving clarification from tutors, promoting students collaboration and acquiring study skills from peers” and that Students who received psychosocial support from their peers were also another reason for students to positively perceive the intensive face to face sessions. A supportive academic atmosphere should ignite the student’s will to go on even when they feel challenged, if tutors are unapproachable and the instruction is not deliberately structured to match that inbuilt level of academic enthusiasm in the student; the student might feel alone in their academic sphere and run the risk of not exerting themselves to perform to their best ability, which may ultimately lead to drop out. This sense of belonging to a group makes students feel engaged towards the distance education provider (Angelaki & Mavroidis, 2013). Vygotsky views the role of the ODL tutor as fostering collaborative learning communities to motivate students’ learning through reflecting their ideas in the context of how others view similar ideas. The facilitator should adopt Learner centred instruction by creating student centred facilitation, facilitating group dialogue, providing opportunity for questioning, developing metacognition awareness, and making reference to resources; this should be guided by the student’s learning need and their characteristics (Madhlangobe, Chikasha and Mafa, 2014).

Most of the tutors engaged have only undergone training for conventional instruction in secondary and or tertiary education setting which limits their effectiveness to operate in an ODL system and the quality-of-service provision (Ouma, 2019). Several studies have identified tutors as the most critical form of supporting the teaching/learning process, who guides and directs students towards the achievement of their goals (Usun, 2004) and failure to do this can lead to failure of the whole process and ultimately that of the student as they will not turn up for tutorial. In a study Ouma (2019) investigating staff and students perceived

challenges in ODL, one of the respondents pointed that though the use of part-time tutors is cost effective to the institution, it is costly in terms of time as it is challenging to properly coordinate them to ensure adherence to timelines. This has resulted in limited communication that has been identified as the major limitation to improve quality learner support in distance education especially in the developing countries (Makoe cited in Ouma, 2019). The limited contact sessions also have negative implication on the conduction of tutorial session as their effectiveness is often hampered by the packed schedule aimed at achieving multiple activities within a shorter period. Zyl, Spamer, & Els (2012) investigated the effect of class attendance on the academic success of ODL students in Advanced Certificate in Education programs using data mining and found no significant correlation between contact classes and academic success of students.

2.5 Students' Support Services Perceptions

Access disparity is dictated by various variables, like infrastructural availability and reliability, ethnicity, economic class, expertise in use (e-competence) and consumer motivation. It is modestly evident that infrastructure infiltration is inadequate in developing countries (Mathew and Iloanya, 2017), with limited bandwidth and thus have an impact on access to technology being restricted to urban areas, a large number of people living in rural areas therefore have limited to no access. This gives the advantage and privilege of access by default to those living in urban areas giving them more advantages and privilege, while their counterparts in rural areas where infrastructure is limited are at the expense of in-access to technology. The existing digital divide can be a hindrance to the realisation of the full potential eLearning, impacting negatively on the academic performance of those who have no or limited access. Similarly, due to economic status, even those living in urban areas where infrastructure is available may not have access to these technologies more so common with BOU students who have no access to government sponsorship. A descriptive study investigating student's access to technology and their capability in using technology; came up with findings which support literature that challenges the basic understanding of the notion of the digital divide and reveal that the nature of access to technology is varied (Liebenberg, Chetty, & Prinsloo, 2012). The study further revealed that not all students are ICT proficient, and this can pose a challenge for learning in an ODL environment leading to underperformance of students.

2.6 Summary of literature review

The study has given a brief description of the development of ODL in Botswana, Literature relating to student support services guided by the research objectives were reviewed. The review of literature has reflected that it is through non-formal education that the world has seen the conception of the first distance education programme. Some dominant characteristics that have been identified in defining Open and Distance Learning are; the provision of a learning opportunity by an accredited training institution offered to the a learner who is separated from the teacher by time and place; training is conducted via some media, it be print, and/or electronic, allowing for interaction between the tutor and the student; these can be complemented with occasional face –to –face contact sessions (CoL, 2000).

In contract to the conventional educational system, that usually takes place in a classroom setting, ODL is offered to students remotely. Evidence points to possible varied factors that can be ascribed to academic performance. Though some studies reflected the impact, their finding pointed to different directions; however, they reflected a need for institutions to consider these factors within their context when designing the student support services as ignorance of these elements can slow down advancement and groom ground for non-performance. This thus necessitates the need to investigate the impact of the student support services on the academic performance of students studying through ODL in Botswana context at Botswana Open University to inform remedial actions. There is limited research that utilised the approach adopted for this study, with one study by Zyl, Spamer and Els (2012) found, which investigated the effect of contact class attendance on academic success at North West University in South Africa.

CHAPTER THREE

Research Methodology

3.0 Introduction

This chapter outlines the procedure that was followed in the investigation of the impact of the student support services in the form of tutorial support and discussion forums on the academic performance of Bachelor of Education (BEd) students studying through ODL at Botswana Open University. The chapter covers the methodology which gives insight into the specific procedures or techniques that were used to identify, select, process, and analyse information about the Impact of student support services on the academic. It gives a description of the researcher's paradigm and orientation to research, the design, and the purposes behind the decision to adopt that design for this study. Research methods, study site description, the study subjects and the inclusion criteria, and the sampling techniques used are discussed. A description of the instrument used for data collection is also provided together with the processes that was followed to complete this investigation. The section also contains a discussion of methods used for data analysis; and finally, the ethical considerations made in the data collection process are elaborated.

3.1 Research Paradigm and Orientation

The study is underpinned by Positivist Paradigm thinking, which underlies that it is a quantitative research, as the utilisation and views of BED students of the support services were analysed quantitatively. The impact of student support services in the form of tutorial attendance and discussion forum participation impact on the academic performance of BED Students studying through ODL at Botswana Open University was also quantified. This paradigm has been seen as a rich paradigm for educational research (Panhwar, Ansari, & Shah, 2017) as the object of study was independent of researcher's influence; knowledge was discovered and verified through direct measurements of phenomena and facts established from the collected data as proposed by Creswell (2003).

The study utilises the quantitative approach; in which the problem studied reflects a need to examine the impact that student characteristics and student support services (in the form of tutorial support and discussion forums), has on the academic performance of students studying through ODL mode at BOU. Ideas were reduced into small discrete sets of variables constituting the research that need to be examined; Student demographics and students

support services as independent variables and the academic performance as a dependent variable. The dependent variable is the final grade of the various modules at the end of the semester that ended in November 2019.

3.2 Research Design

The study is descriptive and cross sectional. Variables are not manipulated; they are only identified and are studied as they appear at one particular point in time. Quantitative content analysis is used, whereby the characteristics from BEd documents are described quantitatively. Equally inferential as a questionnaire will be used to get the perceptions of BEd students regarding students support and how it influences their performance and generalising the findings to the BEd students in Gaborone Region. Herein, the cross-sectional design allows for the measurement approach allows for the measurement of exposures (tutorial attendance and discussion forum participation), and the outcome (academic performance) at the same point of time in the subjects of study. Creswell, (2003) supports the use of this design by affirming that this type of design, allows for relationships between and among several variables to be sought and interpreted.

3.2.1 Description of site

Botswana Open University is the only standalone Open and Distance Learning University in Botswana. The university has five regional Campuses namely Gaborone, Palapye, Francistown, Maun and Nata. Gaborone Regional Campus being the largest campus in terms of enrolments houses over 2500 students registered for courses ranging from Certificate to Masters Programs. The Campus offers 70% of the available University programmes. There are seven (7) Certificate programs, three (3) Diploma programs, six (6) Degree programs, one (1) Post Graduate Certificate program and three (3) Masters Level Programs. The Region also has the Open Schooling Program offering Junior Certificate (JC) and Botswana General Certificate Examination (School equivalency) courses examined by Botswana Examinations Council. The campus is located in the city of Gaborone, offering services to students from Gaborone and surrounding villages. The Campus has 21 study centres for Open Schooling distributed across Gaborone and 8 other surrounding villages.

The campus has undergone numerous developments since the transition into a University and continues to grow in various aspects. One of the major transitions is the

introduce the online services for various programs, the transmission which was fast tracked by COVID 19 Pandemic. The introduction of the student learning portal allows students to participate and engage in all courses in which they are enrolled as well as giving students an opportunity to interact with the instructor and other students through participation in discussion forums; a move which is expected to impact positively on the performance of the students enrolled at Gaborone campus.

The University offers blended learning programs, and the Regional Campus is mandated with the overall support of students to facilitate their learning. The Campus offers various student support services including but not limited to ICT support through facilitation of discussion forums done by the tutors, and facilitation of the conduction of tutorial (face to face) session and administration of examinations.

3.2.2 Population of Study

The study will be conducted among the Bachelor of Education (BEd) Programmes students enrolled under Gaborone Regional Campus, 2019 Cohort. These programmes are: (BEd-Special and Inclusive Education (SIE) with forty-eight (48) students; BEd- Primary, with thirty one (31) students and BEd-Integrated Early Childhood Development (IECD) with fifty (50) students; making a total population of one hundred and twenty nine (129) students who are studying in Open and Distance learning mode in the School of Education at Botswana Open University – Gaborone Regional Campus. These programmes were purposively selected for this study as they have been operation through blended mode of education for over a year and as thus can give a clear insight into the impact of the support services put in place on the academic performance.

3.2.2.1 Sampling Procedure

Simple random sampling was used, this is a form of probability sampling where subjects of study are selected randomly from the study population, this ensured that every member of the population stands a chance of being chosen (Singh, 2003) Given that the population size was too small, a sample of 101 students was randomly selected, representing 78.3% of the population, this was a large enough sample, as a large simple random sample size has internal validity as it represents the characteristics of the large population (West, 2016).

3.2.3 Description of research instruments

Data mining technique was used to generate data from the institutional databases; the advantage of this approach is that it made use of tools that are already available in the Institution. Data mining generated information on the academic performance and participation of the student on the discussion forums for analysis. The attendance registers from the face-to-face tutorial sessions were retrieved to form part of the data that was evaluated. Considering the size of the population, this type of data collection was less expensive, and more data was collected within a short period of time, as such the approach was very convenient considering the limited time given for the study and the COVID- 19 protocols requiring social distancing from participants.

A data mining and document analysis guiding tool (Appendix A) was used to organise the necessary data from the systems and institutional records. The guiding tool contained three (3) sections; the first section was the students' academic performance on various modules, which was collected from the institutional database through the help of the academic registrar. The second section captured the frequency of tutorial attendance, generated from the past tutorial attendance registers, and the last part captured data on the number of discussion forums an individual student participated in, collected from the student portal with the aid of BEd Programs Tutor Coordinator.

A questionnaire was administered both physically and online to get the perceptions of BEd students regarding students support and how it influences their performance. Creswell (2012) describes a questionnaire as a research instrument that consists of an array of questions intended to gather information from respondents in a written or verbal form, the author further points that this is a less costly approach to data collection method which can be used to reach out to a wide population.

The researcher administered a 51-item Questionnaire (Appendix B) that was used to solicit information on the perceptions of BEd students regarding students support and how it influences their performance. The first part of the questionnaire consisted of eight (8) items soliciting learner details. The second portion was a set of 51 statements, four (4) of which were on technological support, four (4) other items relates to tutorial support, four (4) more items were on usage of learning technology, sixteen (16) items are on access to learning technology, eight (8) items are on perceived effectiveness of discussion forums and then the

other six (6) statements were on motivation towards ODL the remaining eight (8) questions enquired on other support services and one (1) open ended question on how the institution can better its student support services. All question were rated in a Four-point Likert Scale ranging from 1 to 4 with 4 being the highest score (Scale: 4= Strongly agree, 3= Agree, 2= Disagree, 1= Strongly disagree), except for the last one questions that required students' self-expression. The challenge experienced from utilising this tool was the inability to ensure that the desired number of students participated in the study, due to the current COVID-19 protocols dictating social distancing and the proven low response rate in online questionnaires (Saleh and Bista, 2017). The data collected was analysed, and conclusions drawn, to prove the hypotheses true or false.

3.2.4 Validity and reliability of the instrument

Validity refers to the degree to which the researcher is measuring what they are supposed to measure (content validity, criterion validity and construct validity); reliability however, estimates consistency of the measurements, it reflects the degree to which an instrument measures a construct the same way each time it is used under same conditions with the same respondents (Wagner et al, 2012).To ensure validity of the research instruments, the researcher conducted a face validity test, whereby the instruments was presented to an expert (Research Supervisor) from the Department of Education at Botho University for examination and verification of whether all the necessary data will be collected guided by the construct that was to be measured and or matching the research objectives or questions.

The form of data to be used is permanently available and can be checked by other researchers which constitute an important point of validity. There are a number of data pre-processing techniques that were employed, aimed at substantially improving the overall quality of the extracted patterns, which includes data cleaning which was useful in removing noise and correcting inconsistencies in the data. Data reduction was also applied to reduce the data size by aggregating or eliminating redundant features from the data as recommended by Han and Kamber, (2001).

A pilot study was conducted using 30 students from other Bachelor's Degree programs offered at BOU other than Bachelor of Education Programs. The purpose of this was to check validity, sentence structure and understanding. A reliability coefficient of the

tool that was piloted was calculated as per Table 3.1, and the necessary adjustments to the questionnaire were made.

Table 3. 1

Pilot Reliability Coefficient of the Student Support Services Perceptions Questionnaire

Variable	Cronbach's Alpha	Number of items	N
Technological support	.88	5	30
Tutorial attendance	.28	6	30
Challenges that affect my academic performance	.65	8	30

Some lessons were learnt from the pilot study and the necessary changes were made as follows:

- The tool was too long, many respondents in the pilot group did not fully complete the questionnaire as thus, the structure of the questionnaire was modified to shorten it. Teijingen, Rennie, Hundley, and Ograham (2001) attest that a lengthy questionnaire can lead to participant boredom and inattentiveness to the meaning of the items resulting in some participants stopping at some stage seeing that there are loads of questions to be answered.
- The presence of a neutral response in the piloted tool (which used a five-point Likert scale) led to many students settling for the response, yet a neutral response is neither a positive nor a negative response, which may denote a state of unwillingness to respond or a state of confusion (Bishop, 2015) therefore revision was made to have a four-point Likert scale.
- Survey questions were intermixed randomly to avoid having questions that measure the same construct in one place as this might increase the reliability of the questionnaire (Goodhue & Luacono, 2002)
- The number of variables within the questionnaire were increased from three to five using the same set of questions that were piloted to improve the tools comprehensiveness in measuring perceptions related to the construct under study.

In order to understand whether the questions in this questionnaire all reliably measure the same variable, a reliability analysis was carried out on the Students' Support Services Perception scale comprising of 51 items. Cronbach's alpha showed the overall common reliability of the Students' Support Services Perception scale to reach an acceptable reliability

of $\alpha = .73$ (see Table 4.20). Most items appeared to be worthy of retention. The different individual variables' reliability coefficient of the questionnaire was also calculated as reported in Table 3.2; with the lowest reliability at .62 and the highest at .84. Only questions that were helpful in calculation of the Cronbach's Alpha for individual variables were retained (see Appendix I) and those unhelpful were removed from the variables but allowed to constitute the overall reliability coefficient of the Students' Support Services Perceptions Scale as research has reflected a general accepted rule that α of 0.6-0.7 indicates an acceptable level of reliability, and 0.8 or greater a very good level (Taherdoost, 2016).

Table 3. 2

The reliability analysis of the Student Support Services Perceptions Questionnaire for individual variables

Name of variable	Number of Items	Cronbach's Alpha (α)
Access to learning technology	10	.84
Usage of learning technology	3	.72
Level of technological support	2	.82
Level of tutorial support	3	.62
Level of motivation towards ODL	3	.72

3.2.5 Ethical considerations

The proposal was submitted to Botho University Institutional Research Board, who granted permission for the study to proceed (see Appendix A), permission and ethical clearance was then sort and granted from the Ministry of Tertiary Education (MoTE) to go ahead with the study (see Appendix B), the researcher subsequently obtained permission and clearance from the Botswana Open University (see Appendix C) to go ahead with the study and access participants and institutional data bases The requests were done through writing a letter that identified the duration of the study, potential impact of the study and the outcomes for the research as recommended by Creswell (2003). The researcher then sort consent for participation and permission from the student to access their data, this was done through a correspondence letter that was emailed to student (Appendix E). To ensure maximum response, participants who did not respond were followed telephonically to notify them of the request. The aim of the study and its benefits were explained to all concerned partners in writing. Confidentiality is ensured by not reflecting identification on the reports. The

researcher uses unbiased language and language that is sensitive to labels as recommended by Creswell (2003) in writing and disseminating these research findings.

3.2.6 Data collection procedure

Participants were solicited through the permission of the Director- Gaborone Regional Campus (see Appendix D) for access into the student portal (Discussion forums) and permission to acquire students' performance/grades and registers; the researcher explained the intention behind the study and how the needed data will be used. Surety was given on ensuring the safety of data to be used as well as maintenance of confidentiality. Consent was also sort from the students to complete a questionnaire and allow the researcher to engage in data mining and document review to solicit the needed information for analysis.

The data from both the primary sources (students) and secondary sources using the existing institutional data bases (data mining) and documents review (attendance registers, and discussion forums participation records) was re-organised to suit the study purpose guided by the data mining tool and document analysis tool (see Appendix G). The characteristics that were analysed from the institutional records/documents were tutorial attendance, participations on discussion forums and the performance grades.

Furthermore, a questionnaire that took about ten (10) minutes to fill, was converted to a google form and was shared through email with all Bachelor of Education students, 2019 Cohort, for consent and completion to collect data on their perceptions regarding students support and how it influences their performance. The questionnaire was also availed in print format for the convenience of those students who came to the University for various services.

The data was collected from November 2020 to beginning of March 2021. The data collection took long as it was difficult to access students, and there was very low response rate to online questionnaire, and students had followed telephonically to request them to check their emails.

3.2.7 Data Preparation

Data cleaning was used to remove noise and correct inconsistencies in the data, like mismatching data. Data reduction was also applied to reduce data size by eliminating gradient features from the data, like removal of contents of posts and selecting only student numbers

and date and forum in which the student participated in the discussions to reduce the size of the file. Characteristics from the documents like performance scores and attendances were entered as they are into SPSS. To determine this, students' records on discussion forum participation were mined from the ITS and quantitatively analysed to determine the number of discussion forums each individual student participated in across the four modules taken in the semester. Performance marks in percentage (%) for each module were recorded from ITS through the academic registry office. Performance across the four modules that were registered for was averaged to get the overall semester mark.

Other characteristics like gender, age, educational background (including previous exposure to ODL, Level of qualification and field of study), and employment status were coded (Appendix H) in preparation for analysis in SPSS.

Data from the questionnaire was rated on a four-point Likert scale where strongly agree was coded as 4, agree as 3, disagree as 2 and strongly disagree as 1. For inferential statistics, each variable was operationalised by the sum of students' reaction to items in the questionnaire designed to measure that variable.

3.2.7.1 Procedure for testing hypothesis

Parametric tests were used to test the hypotheses as per Table 3.3, under the assumption that the data followed a normal distribution. This assumption was made as the mean performance of the data accurately represented the centre of the data distribution (see Figure 1.3).

Table 3. 3

Hypothesis and types of statistical tests run.

Number	Hypothesis (HO)	Variable	Type of Variable	Analysis	Type of statistical Test
1	H0₁ : There is no significant difference in mean scores of academic performances based on the demographic factors (gender, age, employment status and educational background) of Bachelor of Education learners studying through ODL at Botswana Open University. .	Demographic factors - Gender - Age - Employment status - Education background	Discrete	Descriptive Inferential	Z-Test ANOVA
2	H0₂ : There is no relationship between participation in discussion forums and academic performance of Bachelor of Education learners studying through ODL at Botswana Open University?	Participation in discussion forums	Continuous	Inferential analysis	Person Correlation
3	H0₃ : There is no relationship between frequency of tutorial attendance and academic performance of Bachelor of Education learners studying through ODL at Botswana Open University	Frequency of tutorial attendance	Continuous	Inferential analysis	Person Correlation
4	H0₄ : There is no significant relationship between the Students' perceptions of the Support Services and the academic performance of Bachelor of Education learners studying through ODL mode at Botswana Open University.	Students' Support Services Perceptions	Continuous	Inferential analysis	Person Correlation

3.3 Chapter Summary

The preceding chapter addressed the research paradigm, design, and methodology. The research approach was discussed guided by the student support services (face to face tutorial support and technological support) which form the basis of the study. The study was underpinned by the positivist paradigm thinking, which underlies that it is a quantitative research, as it analysed the impact of the student support services on the academic performance of students quantitatively. It is a descriptive and cross-sectional

design. This approach allowed for the determination of the extent of a relation between the tutorial attendance, discussion forum participation and academic performance of BEd Students using statistical data. It is a survey study and the questionnaire containing 51 items, and a guiding tool for data collection from students' records were the used as data collection instruments. The validity and reliability of the questionnaire used are articulated together with the ethical consideration to protect the subjects of study. Statistical Package for the Social Sciences (SPSS) software was used for empirical data analysis. Both descriptive and inferential statistics were computed to summarise observable features and deduce observable patterns from the data.

The next chapter (Chapter 4) articulates the study findings according to the guiding research questions and the hypotheses formulated thereto.

CHAPTER 4

Analysis of data and interpretation of results

4.0 Introduction

This chapter contains findings from the study. The findings are presented according to the hypotheses, which apply to Bachelor of Education students studying through the open and distance learning mode at Botswana Open University; the data was analysed using SPSS version 26.

4.1 Data presentation and analysis

The first section of the questionnaire solicited the student's demographics (see Appendix F). 101 students consented and completed the questionnaire. Information on the students' demographics was also collected from Institutional student Information Technology Services (ITS), for verification of the information, however, there were some fields that were missing from the ITS like employment status, previous educational qualification, and field of previous educational qualification. Gaps in these fields could not be filled as there was no information on these fields in the institutional records. Other gaps that were not filled had missing information from both the tool and the institutional records. The following are the findings on the demographics of the sampled population.

4.1.1 Descriptive statistics

Table 4. 1

Descriptive statistics by individual BEd programs

Program of study	Total number of students/programs	Frequency	(%)
Bachelor of Education – Special and Inclusive Education (BEd-SIE)	48	41	40.6
Bachelor of Education – Primary Education (BEd- Pri)	31	28	27.7
Bachelor of Education – Integrated Early Childhood Development (BEd-IECD)	50	32	31.7
Total	129	101	100

Table 4.1 shows that 78.3% of the total population participated in the study, with the majority of students coming from Bachelor of Education-Special and Inclusive Education program (BEd-SIE), followed by Bachelor of Education-Integrated Early Childhood Development (BEd-IECD) and least representation being from Bachelor of Education – Primary (BEd-

Primary). Though more BEd-SIE students responded than BEd-Primary, proportionally, there was high response rate from BEd-Primary as 90.3% of the program population participated in the study compared to 85.4% of BEd-SIE and 64.0% of BEd-IECD (refer to Appendix J, Figure J5.1 for graphical representation). This was not an expected finding as it does not reflect a proportional composition of the BEd population as there are more students enrolled for BEd-IECD than other programs; thus, one will expect more students to come from this program.

4.1.1.1 Gender

Table 4. 2

Demographic characteristics of respondents by gender

Gender	No. of students	Program			Total	Frequency of respondents by gender	%
		BEd-SIE	BEd- Pri	BEd-IECD			
Males	n	4	7	0	11	11	10.9
	N	4	8	1	13		
Female	n	37	21	32	90	90	89.1
	N	44	23	49	116		
Total Sample Size (n)		41	28	32	101	101	100

According to Table 4.2, all Bachelor of Education programs are female dominated as such more females than males participated in the study. This reflects that the sample size is more female dominated. More females from BEd-SIE responded than other programs while more males from BEd -Primary responded than other programs (See Appendix J, Figure J5.2 for graphical representation).

4.1.1.2 Age

Table 4. 3

Age ranges of respondents

Age	Number of Respondents	%
26-35	22	21.8
36-45	57	56.4
46 - 55	22	21.8
Total	101	100.0

Majority of respondents are of the age ranges 36 to 45 years (Table 4.3). The other two age categories are equally represented (refer to Appendix J, Figure J5.4 for graphical representation). The findings reflect that majority of respondents are in the middle adulthood.

4.1.1.3 Employment status

Table 4. 4

Employment status of respondents

Employment status	No of respondents	%	Valid %
Employed	94	93.1	94.0
Part-time	3	3.0	3.0
Unemployed	3	3.0	3.0
Total	100	99.0	100.0
Missing	1	1.0	
Total	101	100	

The descriptive statistics reflect that the study was dominated by respondents who are employed either on a full time or part-time basis (Table 4.4) with 3.0% out of those employed being employed on a part-time basis. This shows that most students registered for Bachelor of Education programs are fully employed, implying that majority have at least two duties to fulfil at the same time, that of being a student and an employee. These findings are presented graphically in Figure J5.5 (Appendix J).

4.1.1.4 Educational background

Table 4. 5

Educational background (previous educational qualification) of respondents

Educational Qualification	No. of respondents	%
O'Level (BGCSE)	3	3.0
Certificate	2	2.0
Diploma	94	93.0
Degree	1	1.0
Post Graduate Diploma	1	1.0
Total	101	100.0

According to Table 4.5, Majority of respondents held a Diploma qualification prior to enrolment, while some few held O’Level qualification and Certificate qualifications. The least number of students held qualifications equivalent or better than what they are enrolled for (Bachelor’s Degree). Out of the respondents who hold a diploma qualification, majority (85.1%) hold a diploma in an educational field of study (see Figure 1.2). The remaining 7.9% did not specify the field under which their diploma qualification fall under. Only 1% of respondents held a qualification in a field other than education, which was a Degree in Media Studies. Respondents who held O’Level, Certificate and Post Graduate Certificate did not specify the fields under which those qualification fall; this implies that most students registered for Bachelor of Education programs at Botswana Open University hold diploma qualifications in Education.

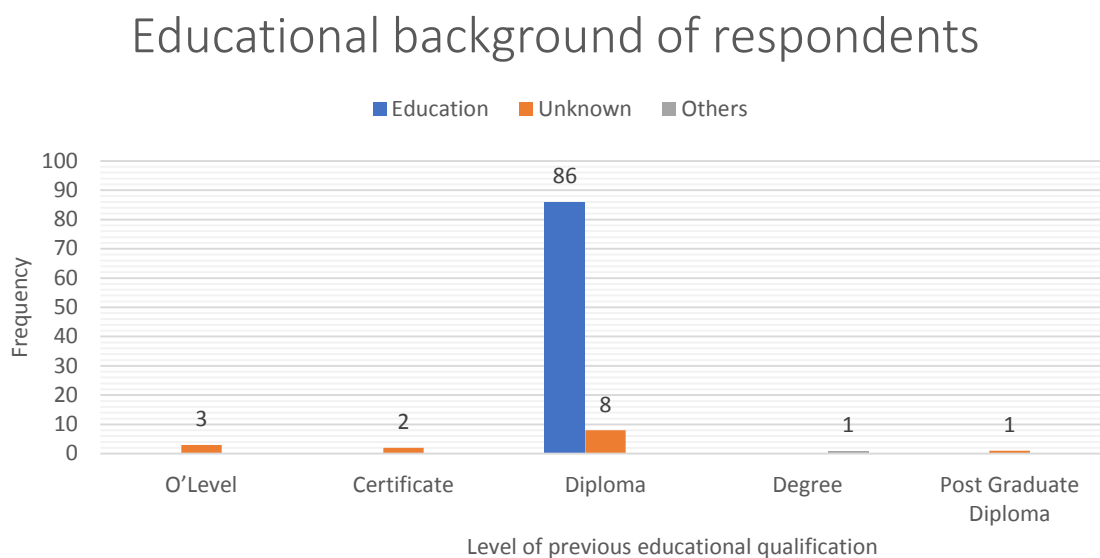


Figure 1. 2. Graphic representation of educational background of respondents (qualification and field of the qualification attained)

4.1.1.5 Previous study through ODL

Table 4. 6

BEd Students' background in ODL mode of education

1 st time study through ODL	No. of respondents	%	Valid %
No	15	14.9	15.2
Yes	84	83.2	84.8
Total	99	98.1	100
Missing	2	2.0	
Total	101	100	

Table 4.6 shows that not all students respondents responded to the question relating to if they have previous exposure to ODL. Majority of Bachelor of education students were new to the open and distance learning mode of education, with a lot of them responding “Yes” to the question “Is this your first time studying through ODL?” (refer to Appendix J, Figure 5.5 for graphical presentation). This reflects that most students had no experience in studying through Open and Distance Learning Mode.

4.1.2 Data Analysis and interpretation of demographic factors and academic performance

To answer the first research question which reads as “Is there any significant difference in mean scores of learners academic performance based on the demographic factors (gender, age, employment status and educational background) of Bachelor of Education learners studying through ODL at Botswana Open University?” the following hypothesis was formulated:

H0: There is no significant difference in mean scores of academic performance based on the demographic factors (gender, age, employment status and educational background) of Bachelor of Education learners studying through ODL at Botswana Open University.

4.1.2.1 Gender and academic performance

Table 4. 7

Statistical comparison of the performance means by gender.

Report					Report				
TM					TM				
Gender	Mean	N	Std. Deviation	Std. Error of Mean	Gender	Mean	N	Std. Deviation	
Male	66.6182	11	5.64107	1.70085	Male	66.6182	11	5.64107	

Formula to calculate Z-stat

$Z = \frac{\text{mean difference}}{\text{Standard error of (Mean difference)}}$

Standard error of (Mean difference)

SE of mean difference (depicted from SE of the mean) is;

$$SE (M1 - M2) = \sqrt{SE_1^2 + SE_2^2}$$

$$\sqrt{(1.7)^2 + (.80)^2} = \sqrt{2.89 + 0.64} = \sqrt{3.53} = 1.8788$$

$$\text{Mean1 Male} = 66.6$$

$$\text{Mean 2 female} = 71.23$$

$$Z = \frac{66.6 - 71.23}{1.8788} = \frac{-4.595}{1.87} = -2.46$$

To find out mean difference based on gender, Z Test was used based on the large sample size.

The sample test statistic Z-stat = -2.45. Lies outside the region of acceptance of +/-1.96.

Therefore, there is difference in mean scores of male and female. The null hypothesis is therefore rejected.

4.1.2.2 Age and academic performance

Table 4. 8

Statistical comparison of the population performance means by age categories.

Age Category	N	$\bar{x}$	SD	SE	95% CI	df	F	Sig.
23-35	22	71.02	7.15	1.53	67.85, 74.19	(2, 98)	1.11	.34
36-45	57	71.52	8.120	1.08	69.27, 73.58			
46-55	22	68.64	6.07	1.29	65.95, 71.33			
Total	101	70.73	7.53	.75	69.24, 72.21			

F(2, 98)= 1.11 (The degrees of freedom are in parentheses (between groups, within groups) , $p>.05$)

For each of the three (3) age categories, the analysis statistically compared the population performance mean as presented in Table 4.8. There is no statistically significant difference in the performance between the various age groups ($F=1.107$) with a p value of .34. This means that there is no significant statistical difference between the means of the different age categories variable, therefore the null hypothesis is retained.

Table 4. 9

Statistical comparison of individual BEd programs performance means by age category

Program of Study	Age Category	N	$\bar{x}$	SD	SE	95% CI	df	F	Sig.
BEd-SIE	26-35	7	67.14	7.85	2.97	59.89, 74.40	(2, 39)	.17	.85
	26-45	26	67.11	6.80	1.33	64.36, 69.85			
	45-55	9	68.53	3.71	1.24	65.68, 71.38			
	Total	42	67.42	6.34	.98	65.44, 69.39			
BEd Primary	26-35	8	72.25	8.29	2.93	65.32, 79.18	(2, 25)	1.24	.32
	26-45	15	72.20	8.48	2.19	67.50, 76.90			
	45-55	5	65.70	8.32	3.72	55.37, 76.03			
	Total	28	71.05	8.48	1.60	67.77, 74.34			
BEd IECD	26-35	7	73.43	3.30	1.25	70.38, 76.48	(2, 28)	4.9	.02
	26-45	16	77.62	5.35	1.34	74.76, 80.47			
	45-55	8	70.53	6.74	2.38	64.90, 76.16			
	Total	31	74.84	6.05	1.09	72.62, 77.06			

The degrees of freedom are in parentheses (between groups, within groups). $p<.05$ for BEd-IECD)

Additional statistical analysis was done to compare the program performance means by age category, the BEd- Special and Inclusive and BEd – Primary were statistically

insignificant with a p value $> .05$ (see Table 4.9). On the other hand, BEd- Integrated Early childhood Development performance is statistically significant because its p value (.02) is lesser than the usual expected significant value of .05. this gives sufficient evidence ($F(2, 28) = 4.9, p = .02$) to conclude that there is significant association between the age and the average performance of Bachelor of Education- Special and Inclusive Education students, reflecting an effect at the program population size, thus the null hypothesis is rejected for this particular program.

4.1.2.3 Employment status and academic performance

Table 4. 10

Statistical comparison of the population performance means by employment status.

Employment status	N	$\bar{x}$	SD	SE	95% CI	df	F	Sig.
Employed	94	70.78	7.42	.765	69.26, 72.30	(2, 97)	.09	.92
Parttime	3	72.00	6.94	4.00	54.77, 89.23			
Unemployed	3	69.43	14.58	8.42	33.22, 105.65			
Total	100	70.78	7.55	.755	69.28, 72.27			

$F(2, 97) = .085$ (The degrees of freedom are in parentheses (between groups, within groups) , $p > .05$)

The findings in Table 4.10 reflect that there is no significant statistical difference $F(2, 97) = .09, p > .05$) between academic performance means of Bachelor of Education Students according to the employment status of studying through ODL at Botswana Open University. The null hypothesis is therefore accepted.

Table 4. 11

Statistical comparison of individual BEd programs performance means by employment status

Program of Study	Employment status	N	$\bar{x}$	SD	SE	95% CI	df	F	Sig.
BEd-SIE	Unemployed	1	75.50	.	.		(1, 40)	1.69	.20
	Employed	41	67.22	6.29	.98	65.24, 69.21			
	Parttime	0	.	.	.	.			
	Total	42	67.42	6.34	.98	64.44, 69.39			
BEd Primary	Unemployed	1	52.75	.	.	.	(2, 24)	3.27	.06
	Employed	25	72.24	7.92	1.58	68.98, 75.51			
	Parttime	1	64.67	.	.	.			
	Total	27	71.24	8.58	1.65	67.85, 74.63			
BEd - IECD	Unemployed	1	80.00	.	.	.	(2, 28)	.39	.68
	Employed	28	74.60	6.24	1.18	72.18, 77.02			
	Parttime	2	75.65	4.06	2.88	39.10, 112.16			
	Total	31	74.84	6.05	1.09	72.62, 77.06			

The degrees of freedom are in parentheses (between groups, within groups), $p > .05$)

Similarly, ANOVA conducted across the different Bachelor of Education Programs to determine association between employment status and performance yielded no significant results (see Table 4.11) for BEd-Special and Inclusive Education ($F = 1.69$, $p > .05$), BEd-Primary ($F = 3.27$, $p > .05$) and BEd – Integrated Early Childhood Development Based ($F = .39$, $p > .05$) based on these findings, there is insufficient evidence to conclude that there is an association between employment status and academic performance of Bachelor of Education students studying through ODL Mode at Botswana Open University; therefore the null hypothesis is retained.

4.1.2.4 Educational background and academic performance

4.1.2.4.1 Previous educational qualification and academic performance

Table 4. 12

Statistical comparison of individual BEd programs performance means by previous level of educational qualification.

Program of Study	Previous educational qualification	N	$\bar{x}$	SD	SE	95% CI	df	F	Sig.
BEd-SIE	O'level (BGCSE)	2	68.75	8.84	6.25	-10.66, 148.16	(3, 38)	.05	.99
	Certificate	0	.	.	.	.			
	Diploma	38	67.30	6.50	1.06	65.16, 69.4			
	Degree	1	68.25	.	.	.			
	Post Graduate Diploma	1	68.50	.	.	.			
	Total	42	67.41	6.34	.979	65.44, 69.39			
BEd Primary	O'level (BGCSE)	1	79.50	.	.	.	(2, 25)	.52	.60
	Certificate	2	69.38	23.51	16.63	-141.87, 280.62			
	Diploma	25	70.85	7.40	1.477	67.80, 73.90			
	Degree	0	.	.	.	.			
	Post Graduate Diploma	0	.	.	.	.			
	Total	28	71.05	8.48	1.60	67.77, 74.30			

The degrees of freedom are in parentheses (between groups, within groups), $p > .05$)

For a one-way ANOVA for the variables previous educational qualification and academic performance across the three programs, the sample data did not provide enough evidence $p > .05$ (refer to Table 4.12) to reject the null hypothesis, therefore the insufficient evidence leads to the conclusion that there is no significant association between the previous educational qualification and the academic performance if BEd -SIE and BEd-Primary students studying through ODL at Botswana Open University. Bachelor of Education – Integrated Early Childhood Development had fewer than two groups for the dependent variable as such, no statistics were computed for this program.

4.1.3 Data Analysis and interpretation of participation on discussion forums and academic performance

The second objective of the study was to determine the relationship between participation on discussion forum and the academic performance of Bachelor of Education learners studying through Open and Distance Learning at Botswana Open University. Before going into this objective, it was important to generally understand how students enrolled for the three Bachelor of Education programs namely, Bachelor of Education-Special and Inclusive Education, Bachelor of Education-Primary and Bachelor of Education- Integrated Early Childhood Development, at Botswana Open University perform. To achieve this, descriptive statistics were calculated from the collected performance scores (Figure 1.3).

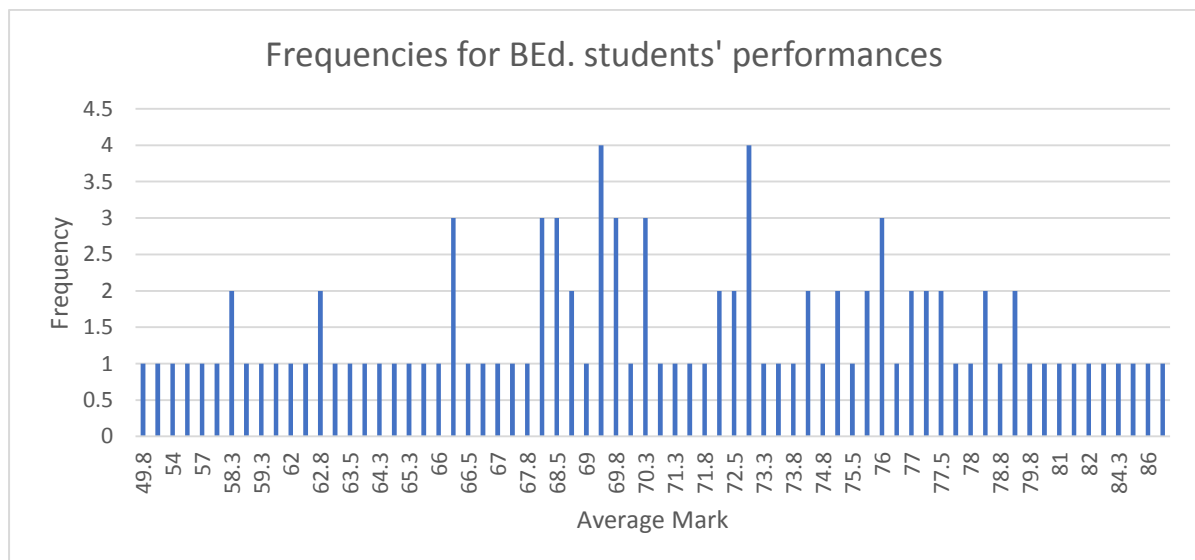


Figure 1. 3. Graphical presentation of frequency for student performance (Mean=70.73, SD = 7.53)

Research Question 2

2. What is the relationship between participation on discussion forums and academic performance of Bachelor of Education learners studying through ODL at Botswana Open University?

H0₂: There is no significant relationship between participation in discussion forums and academic performance of Bachelor of Education learners studying through ODL at Botswana Open University.

To test this hypothesis, Pearson Correlation Test was carried out between level of discussion forum participation and academic performance.

Table 4. 13

Pearson correlation test of the relationship between discussion forum participation and academic performance in all Bachelor of Education Programs

Variable	N	Mean	SD	Pearson correlation (ρ)	Sig (2-tailed)
Overall Performance	101	70.73	7.53	.13	.20
Total Discussion forum participation	101	6.87	1.71		

The sample data rejects the existence of any relationship in the population. There is no statistically significant correlation (Person correlation = .13, Sig (2-Tailed) >.05) between the level of Discussion Forum Participation in Bachelor of education programs and the level of academic performance of BEd students (refer to Table 4.13).

Table 4. 14

Pearson correlation test of the relationship between Discussion Forum Participation and Average academic Performance in individual Bachelor of Education Programs

Program	Variable	N	Mean	SD	Pearson correlation (ρ)	Sig (2-tailed)
BEd-SIE	Performance	42	67.42	6.34	-.02	.89
	Discussion forum participation	41	6.37	1.66		
BEd-Primary	Performance	28	71.05	8.48	.13	.51
	Discussion forum participation	29	6.83	2.21		
BEd-IECD	Performance	31	74.84	6.05	.13	.49
	Discussion forum participation	31	7.65	1.31		

Further correlation test was run to evaluate if there is any correlation between discussion forum participation and academic performance in individual BEd Programs; similarly, there was no statistically significant correlation across all the three programs (see Table 4.14). A negative correlation was found in BEd-SIE, reflecting that as one variable increases, the other

one decreases; However, this finding was not significant. According to this findings discussion forum participation did not influence the students' average performance in the various modules. Thus, whether one has participated on the discussion forums of a particular module or not, it will not affect their performance in program. Therefore, the null hypothesis is retained.

4.1.4 Data Analysis and interpretation of tutorial attendance and academic performance

The third objective of the study was to determine the relationship between tutorial attendance and academic performance of Bachelor of Education learners studying through ODL mode at Botswana Open University. this was guided by the research question 3 which read as, “What is the relationship between tutorial attendance and academic performance of learners studying through ODL at Botswana Open University?” The following hypothesis was formulated:

H0₃: There is no significant relationship between frequency of tutorial attendance and academic performance of Bachelor of Education learners studying through ODL mode at Botswana Open University.

Pearson correlation test was conducted to test this hypothesis.

Table 4. 15

Pearson correlation test of the relationship between tutorial attendance and academic performance of BEd students

Variable	N	Mean	SD	Pearson correlation (ρ)	Sig (2-tailed)
Performance	101	70.73	7.53	.29**	.00
Total tutorial attendance	101	4.16	2.63		

**Correlation is significant at the .00 level (2-tailed)

The sample contains sufficient evidence to reject the null hypothesis that there is no significant relationship between frequency of tutorial attendance and academic performance of Bachelor of Education learners studying through ODL mode at Botswana Open University, as evidenced by a p value < .05 (person correlation= .29, $p < .05$). It is therefore concluded that there is medium significant correlation between Bachelor of Education academic performance and tutorial attendance (see Table 4.15), therefore, the null hypothesis is rejected, as according to this findings tutorial attendance of the modules influenced the student's overall performance.

Despite the above finding, further analysis was conducted to search for any existing relationships between the tutorial attendance and academic performance in the individual Bachelor of Education programs.

Table 4. 16

Pearson correlation test of the relationship between Tutorial attendance and academic performance of students in individual Bachelor of Education Programs

Program	Variable	N	Mean	SD	Pearson correlation (ρ)	Sig (2-tailed)
BEd-SIE	Performance	42	67.42	6.34	-.01	.97
	Tutorial attendance	41	2.00	1.43		
BEd-Primary	Performance	28	71.05	8.48	.19	.34
	Tutorial attendance	28	5.29	2.51		
BEd-IECD	Performance	31	74.84	6.05	-.03	.89
	Tutorial attendance	32	5.94	1.601		

According to Table 4.16, Pearson Correlation test indicates that the level of academic performance in BEd SIE, BEd -Primary and BEd-IECD programs is not significantly dependent ($p>.05$) on the level of tutorial attendance of the same programs. Therefore, the null hypothesis is retained. According to this finding there is no significant relationship between tutorial attendance of individual programs and student's academic performance on those programs.

4.1.5 Data Analysis and interpretation of students' support services perceptions and academic performance

To determine the relationship between students' perceptions regarding the student support services and the academic performance of learners studying through ODL at Botswana Open University a Students' Support Services Perceptions Questionnaire was administered and was analysed using person correlation test. This was guided by the fourth research question which read as; "Is there a significant relationship between the Students' Perceptions of the Student Support Services and the academic performance of Bachelor of Education learners studying through ODL mode at Botswana Open University?"

H0₄: There is no significant relationship between the Students' Support Services Perceptions and the academic performance of Bachelor of Education learners studying through ODL mode at Botswana Open University.

Table 4. 17

Reliability Coefficient of the Students' Support Services Perceptions Instrument

Variable	N	Cronbach's Alpha (α)	Number of items
Students' Support Services Perceptions	80	.73	51
Excluded	21		
Total	101		

To start with, the reliability Coefficient of the instrument was calculated so as to measure the soundness of the Students' Support Services Perceptions Instrument and $\alpha = .73$ (refer to Table 4.20). According to Taherdoost (2016) this is an acceptable Reliability Coefficient as various researchers have reflected a general accepted rule that α of 0.6-0.7 indicates an acceptable level of reliability, and 0.8 or greater indicates a very good level.

Table 4. 18

Pearson correlation test of the relationship between Students' Support Services Perceptions and the academic performance in Bachelor of Education Program.

Variable	N	Mean	SD	Pearson correlation (ρ)	Sig (2-tailed)
Students' Perceptions	101	127.87	10.70	-.04	.72
Academic performance	101	70.73	7.53		

There was no statistically significant relationship (Pearson correlation = -.04, Sig (2-Tailed) = .72) between the student' support services perception scores and the academic performance of Bachelor of Education students studying through ODL mode at Botswana Open University. A negative Pearson correlation value indicated an opposing relationship between the perceptions held and academic performance however, this was not significant. The null hypothesis is therefore retained because the Sig (2-Tailed) $>.05$ (see Table 4.18) and conclude that, how students perceive the student support services does not influence Bachelor of Education Students' academic performance.

The researcher found it worthy to further quantify the perceptions of Bachelor of Education studying through ODL at Botswana Open University regarding the extent to which students perceive the level of support services they receive the following research question was therefore formulated.

Table 4. 19

Pearson correlation test of the relationship between Students' Perceptions of Student Support Services and their performance in all BEd Programs

Variable	N	Mean	SD	Pearson correlation (ρ)	Sig (2-tailed)
Performance	101	70.73	7.53		
Technological support	101	3.23	1.43	-.27	.01
Usage of learning technologies	93	9.35	1.50	.13	.25
Access to learning technologies	92	18.32	5.30	.22	.04
Motivation towards ODL	96	8.39	1.76	.07	.50

**Correlation is significant for technological support at the 0.01level (2-tailed)

**Correlation is significant for access to learning technologies at the 0.04 level (2-tailed)

Pearson correlation test was carried out to investigate the association between the variables under the Students' Support Services Perceptions Scale and academic performance of Bachelor of Education students. Table 4.19 reflects that there was statistically significant small negative correlation between Technological support and academic performance (Pearson correlation = -.27, Sig (2-Tailed < .05)) and another statistically significant positive correlation between Access to learning Technologies and academic Performance (Pearson correlation = .22, Sig (2-Tailed < .05)) Usage of Learning Technologies and Motivation towards ODL were not statistically significant because their Sig (2-Tailed) (.25 and .50 respectively) are greater than the usual significance level of .05.

Table 4. 20

Analysis of student perceptions of how BOU can better student support services to improve academic performance of the students.

Factor	No. of times the response appears	% of students mentioning the factor	Valid %
F1. Incorporation of IT course in the curriculum	1	1.0	1.2
F2. Providing help when needed	10	9.9	12.3
F3. Access to tutors	10	9.9	12.3
F4. Opening lines of communication	13	12.9	16.0
F5. Provision of internet access	1	1.0	1.2
F6. Increasing number of tutorials	3	3.0	3.7
F7. Addressing queries on time	13	12.9	16.0
F8. Giving timely feedback	18	17.8	22.2
F9. Flexibility of assessments submission	2	2.0	2.5
F10. Increase access to the Library	2	2.0	2.5
F11. Improve staff professionalism	1	1.0	1.2
F12. Training of Tutors on ICT- Limited ICT skills for tutors	4	4.0	4.9
F13. Flexible tuition payment terms	1	1.0	1.2
F14. Institution doing well	2	2.0	2.5
Total	81	80.2	100

Subjective perceptions of how Botswana Open University can improve the student support services were sort. A structured question was posed as part of the questionnaire reading as “How do you think BOU-Gaborone Regional Campus can better the student support services to improve your academic performance?” 81 responses, constituting 80.2% of the population provided feedback for this question. The responses were divided into related factors and quantitatively tabulated to represent the findings statistically (see Table 4.20).

Majority of students reflected a need to give students timely feedback; reflecting that students are not given feedback of assessments on time, Equally, the same number of students responded that there is a need to open various channels of communication pointing that telephones go unanswered, and emails are not responded to. This was followed by the need to address queries on time. Students pointed that there is a delay responding to queries and some queries go unaddressed. Students recommended that the institution should be able to provide help when needed and an equal number of students mentioned the need to improve access to

tutors, pointing that they are unable to get help when they need it and have limited access to tutors with three (3) students describing it as a lack of commitment from tutors. 4.9% proposed need to train tutors on ICT, as they are perceived to have limited skills, stating that this deficit renders online tutorials unhelpful.

Other recommendations included were made by fewer students were, a need to increasing the number of tutorials, exercising flexibility on submission dates of assessments, increasing access to the library, provision of internet access, and incorporation of IT course in the curriculum. Only 2.5% of respondents gave a positive feedback that the Institution is doing well in the provision of support services.

4.2 Chapter summary

In this chapter, the study sample was described according to the demographics, and the various hypotheses tested and presented according to the research questions. The major aim of the study was to explore the impact of Student Support Services in the form of tutorial attendance and discussion forum participation on academic performance of BEd studying through the ODL mode at Botswana Open University, Gaborone regional campus. Various statistical tests were run, and results analysed using SPSS version 26 and presented. Chapter 5 brings more insight into the findings by discussing the various findings and drawing conclusion to the study.

CHAPTER 5

Results Discussion and Recommendations

5.0 Introduction

This chapter discusses the major findings of the impact of student support services in the form of tutorial attendance and discussion forum participation in the academic performance of BEd students studying through ODL mode at Botswana Open University. The discussions are done guided by the research questions and hypotheses. The conclusions and recommendations are drawn based on the purpose, research questions and results of the study.

5.1 Discussion for research question 1, hypothesis 1: Demographic factors and academic performance

The study revealed that there are some variables that have significant relationship with academic performance, these finding were observed on gender and academic performance as per Z-test statistic calculated from Table 4.7, as well as another significant relationship of age and academic performance at individual program level for BEd-IECD (refer to Table 4.9) and no significant association was found with other variables.

These findings are in line with various studies that have investigated Student demographics influence on academic performance (Alhajraf & Alasfour, 2014) and drew varied conclusions about the influence of learner characteristics and its importance when designing effective learner support systems. Similar to this finding, some researchers have found gender to have an effect on academic performance (Lim & Nasirudeen, 2014; Hedjani & Omid, 2008; Usun, 2004). Abdulla (2005) found that gender has significant impact on some fields e.g. in the field of financial management, females out performed males, while in accounting, males outperformed females. Contrary to the findings of this study, there are some scholars who hold a different belief as their studies have reflected no gender differences in academic performance (Mason, 2017; Borde, 1998); in concurrence to this, Lukwekwe (2015) concluded that gender is not a positive determinant of academic performance, but further clarifies that where male students tend to perform higher than females' students could

be attributed to the ample time male students have to read and revise whereas their female counterparts have lots of responsibilities at home which limits their time to study.

The congestion of students on the 36-45 years category is a reflection that most students are in the middle adulthood stage who characteristically are mature adults with the possibility of family and work commitments; and having the majority of respondents being employed either on a full time or parttime basis (see Table 4.3), implies that the majority of students have a minimum of two roles to fulfil at a go. A study by Shikulo and Lekheto (2020) exploring the student support services of a distance learning Centre at Namibian University indicate that most students opt for distance education because it allows them to work and study at the same time; an indication for extensive student support to help students balance the various role. The presence of a significant association between age and academic performance in one program (BEd-IECD) is similar to the findings by Alhajraf and Alasfour, (2014), and Simpson (2000) who reported an influence of age on academic performance with younger students performing better than their older counterparts, but contrary to the above findings, a study by Guney (2009) concluded that mature learners perform better.

Most BEd students hold a diploma qualification in educational fields (Figure 1.2). This is an expected finding as the minimum requirement for entry into Bachelor of Education programs is at least a Diploma in an educational program or related field. Bachelor of Education Programs at Botswana Open University are designed for students who are upgrading their educational qualifications (BOU, 2020). The program is only two year long, which requires a student to have a foundation in educational programs. Though this is an expectation, it is equally unsurprising to find students (5%) who hold qualifications lower than diploma. This could be explained by the entry requirement which recognise experience in the field of education as an eligibility criterion for admission (BOU,2020)

The finding that there was no significant association between employment status and the academic performance of Bachelor of Education students is similar to the finding of a study by Oladejo and Onyeagbako (2017), who found no significant difference in the distance learners' academic performance based on employment status when investigating the demographic differentials and distance learners' academic performance at National Open University of Nigeria.

5.2 Discussion for research question 2, hypothesis 2: Discussion forum participation and academic performance

There was no significant relationship between participation on discussion forums and the academic performance of BEd students (Table 4.13 and Table 4.14). This finding suggests that discussion forum participation did not influence the students' academic performance in the various modules. This finding is contradictory to previous findings that speak to the positive impact of discussion forum participation on academic performance (AlJeraisy, Muhammed, Fayyumi and Alrashideh, 2019; Cherry, 2011; Lyu, 2018;). In a study by Chery, Pare, Collimore and Joordens, (2020), assessing the effectiveness of voluntary online discussion forums conclude that participation in discussion forums results in better course performance results reflected that online discussion forums are beneficial even if minimal time is invested by the instructor in the discussions. Similarly, Wikle and West (2019), associated discussion forum participation with better learning outcomes. Participants have reflected a need to train tutors on ICT (see Table 4.20), as they are perceived to have limited skills, stating that this deficit renders online tutorials unhelpful; this could mean students are not utilising the tutorial support. This could either mean that the students do not find the discussion forums helpful and as thus make little or no use of them, or due to the technological challenges, students don't have a chance to engage more on the learning platform. In addition, an address on Botswana Open University Response to COVID 19 and Ideas for Future Developments on Botswana Television, the Vice Chancellor of the University Dr Daniel Tau pointed that COVID 19 has propelled the implementation of transiting all ODL courses that had not been introduced to online learning to be conducted online and this has come without putting effort on understanding content with its own challenges citing the challenge of linking the institution, the tutors, and the students together.

The other the factor that could possibly explain this differing finding could be that the reviewed studies focused on the cognitive aspects of the discussion forums (quality of posts) whereas this study only focused on the physical counts of forum participation, which does not reflect the level of effectiveness of the discussion which the quality of posts may reflect. It is thus necessary to evaluate the quality of posts on the discussion forums for a more objective evaluation to be made.

Online learner participation in educational platforms (discussion forums) is a complex process of partaking and maintaining student-tutor and student-student relations and does not

happen automatically. For effective learning to take place, there is a need for effective interaction with peers, educators and the study materials (Maboe, Nkosi & Makoe, 2013). By posting information on the discussion forum, learners are given an opportunity to interrogate, share and gain knowledge from each other. The forum environment creates an even learning field of opportunities and accessibility. It allows students to reflect and contribute well thought responses and give those learners who cannot express themselves openly in face-to-face contacts an opportunity to interact with the course content and peers, with enough time and provides for deeper reflection when compared to face to face, as learning is self-paced and self-regulated through the asynchronous nature of the discussions usually leading to high quality discussions (Smith, 2000) which can enhance student performance.

5.3 Discussion for research question 3, hypothesis 3: Tutorial attendance and academic performance

There is sufficient evidence that BEd students' tutorial attendance of the modules significantly influenced the student's overall academic performance (see Table 4.15). This finding supports previous finding that linked tutorial attendance to high academic performance (Maldonado, Llorens, Acosta & Co, 2017; Molepo & Mothudi, 2014;) Similarly, a study by Olivier (2016) on the impact of face-to-face contact session and online discussion forums on academic performance at an ODL University, in which a t-Test for independent samples indicated that students who attend a written assignment preparation contact session performed significantly better in written assignment than those who did not attend, whereas those who used online discussion forums performed significantly better in final examinations than those who did not use the forums.

Contrary to the above findings, Lizeth, Yaneth and Violeta, (2019) found no significant effect of face-to-face tutorial sessions in the academic performance of students, though students gave the tutorial a good rating for satisfaction. Zyl et al, (2012) further concurs with this on an investigation of the effects of contact class attendance in the academic success in Open and Distance Learning in Advanced Certificate in education programs, revealing that though majority of students did not attend contact classes, they performed academically above average. He points that this could be attributed to other factors like having adequate study material. His study further revealed that the practical significant correlations were found between contact class and vacation school attendance and the

academic success of students; but ANOVA analysis revealed that it was beneficial for students to attend three contact sessions than fewer.

This brings us to the conclusion that face-to-face contact makes significant positive contribution to Bachelor of Education students' academic performance studying through ODL mode at Botswana Open University, Gaborone Regional Campus.

5.4 Discussion for research question 4, hypothesis 4: Students' perceptions of the student support services

Table 4.19 reflects that there was statistically significant small negative correlation between Technological Support and Academic Performance and another statistically significant positive correlation between Access to Learning Technologies and Academic Performance. Usage of Learning Technologies and Motivation towards ODL were not statistically significant.

Though generally most students are tech savvy and able to manage computers well, computer illiteracy is a major issue among BOU students, many of them have challenges in operating basic programs like Microsoft word, PowerPoint, and are unable to manage their files, this can be challenging as well as frustrating as technological proficiency is a critical requirement in an all-online course. This therefore makes it necessary for the institution to strengthen the technological support to enhance maximum utilisation of the learning platforms (which include discussion forums) and to aid the student in managing assignments and course ware well without hindrances. Kadagidze, (2014, p 261) concurs with this by positing that "While the experienced teachers are well aware of the importance of shared understandings, there is also the acknowledgement that the rapid pace of change in the information and communication technologies requires a great deal of flexibility and adaptability by both teachers and learners." This is in line with the UNESCO (2020) recommendation on Education During COVID-19 and Beyond which advocates for the strengthening of the resilience of system for equitable and sustainable development through prioritising focus on equity and inclusion of marginalised learners to ensure that economic strains do not prevent those learners from accessing education. The University needs to introspect and understand the kind of technological support needed by the students to effectively meet their needs and implement solutions to the challenges that might impact on academic performance.

Access to technology affords students better access to learning resources, research material and educational applications that can enhance their learning. This can help the learners to have active engagements with different learning communities like fellow learners, online groups, and course instructors (Matthew & Illoanya, 2016). Educational technology makes learning more interactive and collaborative, and this can help students better engage with course material and enhance self-paced learning leading to improved performance. A study by Harris, Al-Bataineh M. and Al-Bataineh (2016) investigating the impact of one-on-one technology on the academic achievement of students in Central Illinois highlighted that technology could be a factor in students' academic achievement and motivation to continue with school. Contrarily, A study by Davis (2012) investigating the effect of technology instruction on academic achievement of fifth Grade students using independent sample T-Test to compare means between the experimental and the control group found that the utilisation of technology instruction did not increase students' academic achievement.

There is no significant relationship between the Students' Support Services Perceptions and Academic Performance of Bachelor of Education students studying through ODL mode at Botswana Open University, Gaborone Regional Campus (refer to Table 4.18). Some studies have arrived at contradictory conclusions, like a study by Singh, Singh, and Singh, (2012), which concluded that academic motivation is positively associated with academic achievement, however, Lukwekwe, (2015), argues that students' momentum for learning requires a high level of support further pointing that limited support and ineffective services can demotivate students and contribute to student failure. Botswana Open University should focus on paying attention to the profile of its students to help devise effective means in identifying and supporting those learners who require special help. When examining how students' perceptions of academic support impact their willingness to seek academic support, Vanderrberg (2013) revealed the importance of developing need recognition for academic support among individual students. The study further made an observation that perceptions of academic support were closely tied to their need for services, with positive academic support experience breeding positive student students' perceptions and their willingness to seek support.

Botswana Open University Bachelor of Education students' perceptions findings from the study reflects that students have concerns regarding the support services provision (Table 4.20), and among these concerns, lack of timely feedback, not addressing queries on time, limited communication, lack of access to help when needed, and lack of access to tutors,

ranked among the concerns that students felt needed to be addressed to improve their academic performance. Studies have reflected limited interaction of educators and learners and sometimes delay response to queries and low motivation of learners to perform in discussion forums (Smith, 2000) as some of the challenges encountered in online support. This is possibly another explanation why students feel face-to-face tutorials are more helpful as it seems difficult to get help outside tutorial times. This finding is unsettling when considering the nature of support needed in ODL. The fact that all BOU tutors are employed on a part-time basis could explain why it can be a challenge to get hold of tutors outside tutorial and or discussion forum time, as most of them have their full time jobs and other commitments when they do not have tutorials; understandably so, because they are only compensated for the tutorials and discussion forums conducted, as such one cannot be held accountable for activities that need to be done during their own personal time.

5.5 Conclusion from literature and empirical study

Open and distance learning field has demonstrated concern over the success of students studying through this mode of education, and this is evidenced by more studies aiming at addressing issues of students' access and utilisation of the student support services, students' characteristics, and relationship between students support services; and their influence on performance of ODL students.

The results of Z test and Analysis of Variance (ANOVA) indicates that gender and age in one programme Integrated Early Childhood Development programme shows statistical significance. The Pearson correlation results show no significance in discussion forum participation and academic performance. The results of Pearson correlations also showed that there is significant correlation between tutorial attendance and academic performance. The results of Pearson correlation show no correlation between academic performance and perceptions on students support services.

Based on reviewed literature and the findings presented in this study, the researcher arrived at the conclusion that; the tutorial attendance and discussion forums) have different positive influences on the academic performance of students studying through this mode of education. A comparison of student performance in face-to-face classes versus online classes versus hybrid classes using Open Educational Resources, Little and Jones (2020) concluded that students perform better in hybrid classes and online classes than face-to-face classes. Similar results were found at the university of Florida, where researchers observed that the

blended model of learning has learning outcomes comparable to face-to-face, and to online learning, and in some cases better than face to face (Dziuban, Hartman & Moskal, 2004). Therefore, it is important for the university to not only focus on having valued courses but rather to ensure provision of a balanced necessary support to produce high academic achievers as the degree of performance and ultimate success of students depend on the amount of support services availed to them.

Though the whole world is moving at a faster pace due to technological advancements, and the transition to total online learning being a good advancement, it is important for the university to self-introspect and evaluate how effective the pace at which its moving with technology is, less it leaves its students behind. Even though fostering interactivity in an online community is seen as the main indicator of success in online courses findings of this study have reflected limited benefits to be derived from e-learning platforms like in the discussion forums as thus, the benefits of the learning platforms cannot be realised if learning system are not adequately utilised.

Finally, the ultimate aim of the Students Support Services is to help the University produce students who progress and complete their studies with good performance outcomes, however, findings from this study reflect that though tutorial attendance has significant relationship with academic performance, the value of discussion forums cannot be overlooked; and with the advent of the institution having to even consider offering synchronous online tutorial to cater for the physical face-to-face tutorial, students' access to learning technologies and technological support should be enhanced and their perceptions of the support services be considered to inform and enhance the effectiveness of the support given for continuous betterment of the support services put in place.

5.6 Educational Implications

The study reflects gender differences in the means of academic performance of students, and they are as well suggestive of a relationship between age and academic performance in one program, these findings suggest that student support services provided should take into consideration the demographic factors when planning for the support services they avail to students in order to meet their differing needs. Though the meaning of Open in ODL, as described by the Open University in United Kingdom, is described to indicate that the "Institution has no barriers of entry, no entry requirements, only exit standards; with disregard to person's background and previous advantage or disadvantage (Gourley & Lane,

2009, p57); consideration of these when planning support is important as it informs the relevant student support services to be put in place to enhance students' performance and subsequent transition through the system.

The significant relationship between tutorial attendance and academic performance calls on a need for institutions to create opportunities that can allow students who are limited by technology to not be excluded from educational opportunities by incorporating some aspects of the traditional correspondence way of learning for purposes of inclusivity for disadvantaged communities.

Several studies have advanced knowledge regarding the value of student support services and their link to academic performance, similarly the findings herein suggest a need to shorten transactional distance by opening various ways of student contact for enhanced performance. Institutions should be guided by the profile of their "real" customers than the "ideal" to be able to provide more relevant support that meets the need of current learners.

5.7 Suggestions and Recommendations

Though Botswana Open University has previously managed to graduate students with good results, the findings of this study bring about insight into the impact of the students support services (discussion forum participation and tutorial attendance) and raises a lot of important recommendations to improve the support services provided for the betterment of student performance.

- The findings have reflected the impact of face-to-face tutorial attendance on academic performance; with the advent of COVID-19 Pandemic, there is a need for the Botswana Open University to enhance synchronous online interactions for effective study engagement to improve the performance of students. It is important to provide support services which enhance students' ability and zeal to interact with content, like, through enhanced technological support more especially for students finding it a challenge to keep up with technological advancements.
- Learner support seems to be centralised as students find it difficult to be assisted from where they are, with ICT serving very little purpose; it is thus important for the university to consider having some full-time tutors who can be able to address students' concerns outside tutorial time and discussion forum platforms to enhance timely assistance to students in need. Improved contact with tutors and the university in general, can address

the issue of learner isolation/loneliness, and enhance student motivation and performance. It is also necessary for the institution to setup and implement a robust monitoring and evaluation system to facilitate and oversee the student support delivery.

- Open and distance learning needs appropriate and up-to-date learning technologies, students therefore need to get the necessary assistance (technological support) to upgrade their gadgets and get new features that improve their capability. The university should promote continuing and perpetual commitment to empowering s and support staff and students to continually take the next steps forward to keep up with the technological advancements.
- Inducting students on the role of tutorial sessions and discussion forums can help to inculcate a sense of self-governance and determination for students to learn independently without dependence on their tutors.

5.8 Future Research Direction

There is a need for further confirmatory studies using a wider population as this study was only limited to Botswana Open University, Gaborone Regional Campus. The imbalanced in the study sample like gender representation also call on more representative sample to be used to reach more accurate conclusions.

References

- Adejo, O. & Connolly, T. (2017). 'An Integrated System Framework for Predicting Students' Academic Performance in Higher Educational Institution', *International Journal of Computer Science and Information Technology*, 9, p149-157. Available at: <https://www.researchgate.net/publication/318319277> (Accessed: 20 June 2020)
- AECT (2001) 13.3 Theory of Distance Education: The Handbook of Research for Educational Communications and Technology. Bloomington. Available from <http://members.aect.org/edtech/edl/13/13-03.html>
- Alhajraf, N.M. & Alasfour, A. (2014). 'The Impact of Demographic and Academic Characteristics on Academic Performance', *International Business Research*, p92-100. Available at: <https://www.researchgate.net/publication/314914494> (Accessed: 10 June 2020)
- Alraimi, K. M., Zo, H. and Ciganek, A. P. (2015). 'Understanding the MOOCs continuance: The role of openness and reputation', *Computers and Education*, 80, p28-38.
- Appanna, S. (2008). A Review of Benefits and Limitations of Online Learning in the Context of the Student, the Instructor and the Tenured Faculty. *International Journal on E-Learning*. 7.
- Arko-Achemfuor, A. (2017). 'Students Support Gaps in an Open Distance Learning Context', *Issues in Educational Research*, 27(4), p658-676. Available at: <http://eric.ed.gov/id=EJ1160144> (Accessed: 10 June 2020)
- Arifin, W. N. (2020). Sample size calculator (web). Retrieved from <http://wnarifin.github.io> (Accessed: 10 Dec 2020)
- Astin, A.W. (1991). Assessment for Excellence: The Philosophy and Practice of Assessment and Evaluation in Higher Education. Washington, DC: American Council on Education/Oryx Press Series on Higher Education. Available at <https://www.researchgate.net/publication>. (Accessed: 10 August 2020)
- Ates H., & Alsai, K. (2012). The Importance of Lifelong Learning has been Increasing. *Procedia - Social and Behavioral Sciences*, Volume 46, Pp 4092-4096, Available at <https://www.sciencedirect.com/science/article/pii/S1877042812019416>
- Awe, A.B. (n.d). Learners' Characteristics as Determinants of Learners' Preference for Distance Learning: The National Open University of Nigeria. Available at: <https://www.academia.edu/7707765> (Accessed: 10 June 2020)
- Au, O.T., Li, K. & Wong, T.M. (2018). 'Student Persistence in Open and Distance Learning: Success and Challenges', *Asian Association of Open University Journal*, 13(2), pp 191-202. Available from <http://www.emeraldinsight.com/2414-6994.htm> (Accessed: 11 June 2020)

- Ballotpedia.org. (n.d). Academic Performance. Available from http://ballotpedia.org/Academic_Performance#Footnotes
- Biao, I. (2012). Open and Distance Learning: Achievements and Challenges in a Developing Sub-Educational Sector in Africa. Chapter 2. *Intech*. Available from <http://dx.doi.org/10.5772/48080> (Accessed: 10 June 2020)
- Botswana National Commission for UNESCO. (2018). *Botswana National Implementation Plan for Sustainable Development Goal (SDG)4 - Education 2030* [online]. Available at: <http://www.sdg4education2030.org/> (Accessed: 11 June 2020)
- Botswana Open University (BOU). (2020). *Counselling Centre Quarterly Report*.
- BOU (2020) Vice Chancellor's Speech on "BOU's response to COVID 19 and ideas for future development" address on 9th August 2020. Botswana Open University (BOU). (2019). *Learning Analytics Policy*. Gaborone: Botswana Open University.
- Botswana Open University (BOU).(2019). Botswana Open University 2018/2019 Integrated Annual Report.
- Botswana Open University (BOU).(2017). Botswana Open University 2016/2017 Integrated Annual Report.
- Brown, C., & Czerniewicz, L. (2010). Debunking the "digital native": Beyond digital apartheid, towards digital democracy. *Journal of Computer Assisted Learning*, 26, 357–369.
- Chakuchichi D. (2011) Student Retention as a Function of the Quality of Learner Support in Open and Distance Learning: Students' Perceptions at the Zimbabwe Open University. *Zimbabwe International Journal of Open & Distance Learning*, 1 (1), pp90-98.
- Chatpakkarattana, T. & Khlaisang, J. (2012). The Learner Support System for Distance Education. *Creative Education*, 3, 47-51. doi: 10.4236/ce.2012.38B011. Available from <https://www.scirp.org/journal/CTA.aspx?paperID=26751>
- Cheng, C.K. & Pare, D. E. & Collimore, L.M. & Joordens, S. (2011). Assessing the effectiveness of a voluntary online discussion forum on improving students' course performance. *Computers & Education*. 56. 253-261. 10.1016/j.compedu.2010.07.024.
- Clasquin, M. (2012). Contact Sessions: Their role in Open Distance Learning and contemporary practice in the College of Human Sciences at the University of South Africa.
- Commeyras, M. & Mazile, B. (2011). Exploring the Culture of Reading Among Primary School Teachers in Botswana. *The Reading Teacher*. 64. 418-428. 10.2307/41203425
- Creswell, J.W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 2nded. London: Sage Publications.

- Diaz, A.L. (2003). Personal, family, and academic factors affecting low achievement in secondary school. *Electronic Journal Research in Educational Psychology and Psychopadology*, 1 (1), p43-66. Available at: <http://sciepub.com> (Accessed: 24 June 2020)
- Dontwi, I.K., Amahia, G.N., Chukwu, A.U. & Udomboso C.G. (2010). *Factors Affecting Learning in an Open and Distance Learning Programme*, 5, p60-76. Available at: <http://www.researchgate.net/publication/327437048> (Accessed: 11 June 2020)
- Farajollahia, M., Moenikiaa, M (2010). The study of relation between students support services and distance students' academic achievement. *Procedia - Social and Behavioral Sciences*. 2. 4451-4456. 10.1016/j.sbspro.2010.03.710. Available at: <https://www.researchgate.net/publication/> (Accessed: 02 June 2020)
- Fischer, F. (1998). Policy Inquiry in a Post Positivist Perspective. *Policy Studies Journal*, (26), pp129-146. Available at <https://www.cddc.vt.edu/tps/e-print/peter.pdf>. (Accessed 20th August 2020)
- Florack, A. (2012). The Impact of Teachers of Different Genders Instructing Students of Different Genders. *Education Masters*. Paper 214. Available at http://fisherpub.sjfc.edu/education_ETD_masters accessed on 14 January 2020.
- Freeman JV, Julious SA. The analysis of categorical data. *Scope* 2007; 16(1): 18–21.
- Fung, Y. & Carr, R. (2010). Face-to-Face Tutorials in a Distance Learning System: Meeting student needs. Available at <https://www.researchgate.net/> (Accessed: 17 June 2020)
- Goodhue, D. & Loiacono, E. (2002). Randomizing Survey Question Order vs. Grouping Questions by Construct: An Empirical Test of the Impact on Apparent Reliabilities and Links to Related Constructs.. 254. 10.1109/HICSS.2002.994385. Available at <https://www.researchgate.net/> (Accessed: 02 June 2020)
- Guney, Y. (2009). Exogenous and endogenous factors impacting student performance in undergraduate accounting modules. *Accounting Education, An International Journal*, 18(1), 51-73.
- Harris, J.L., Al-Bataineh, M. & Al-Bataineh, A. (2016). One to one technology and its Effect on Student Academic Achievement and Motivation. *Contemporary Educational Technology*, 7(4), 368-382. Available at <http://files.eric.ed.gov/>
- Human Resource Development Council (HRDC) of Botswana (2016). *What are the functions of student support services?* HRDC, 2016-2020. Available at: <https://hrdc.org.bw/> (Accessed: 20 July 2020)
- Jayanthi, S., Balakrishnan, S., Lim, A., Latiff, N. & Nasirudeen, A.M.A. (2014). Factors Contributing to Academic Performance of Students in a Tertiary Institution in

- Singapore, *American Journal of Educational Research*, 2. 752-758. Available at: <http://10.12691/education-2-9-8> (Accessed: 09 July 2020)
- Kabate, M. (2014). Assessing Students Perception on intensive face to face in Open and Distance Learning Education: A case of the Open University of Tanzania. *HURIA-Journal of the Open University of Tanzania*. 18.
- Kadagidze, L. (2014). The role of forums in online instruction. *European Scientific Journal* vol.1 ISSN: 1857 – 7881 (Print) e - ISSN 1857- 7431 256 Available at <https://citeserx.ist.psu.edu/> (Accessed: 17 June 2020)
- Kamau, J.W. (2009). Considerations for Higher Education Distance Education Policy for Development: A University of Botswana Case Study in Sikwebele, A. and Mungoo, J. (eds), Chapter 13. *Bridging the Knowledge Divide*, Pp231-244. Available at: www.googlebooks.co.bw (Accessed: 21 June 2020)
- Kassymova, G. & Issaliyeva, Saule & Aigerim, Kosherbayeva. (2019). E-Learning and its Benefits for Students. Available at <https://www.researchgate.net/publication/339336165> (Accessed: 21 January 2021)
- Keegan, D. (2003). *Pedagogy and support systems in e- learning*”, Routledge, London, U.K.
- Khumalo, S.S. (2018). ‘Improving Students Success Rate in Open and Distance Learning Settings through the principle of Constructive Alignment’, *Trends in E-Learning*. Intech Open. Available at: <http://www.intechopen.com/books/> (Accessed: 21 June 2020)
- Kumtepe, E.G., Toprak, E., Ozturk, A. Buyukkose, G.T., Kilinc, H. & Menderis, I.A. (n.d.) Support Services in Open and Distance Education: An Integrated Model of Open Universities. Anadolu University, College of Open Education, Turkey. Available at: <https://members.aect.org/> (Accessed 20th August 2020)
- Little, P. & Jones, B. (2020). A Comparison of Student Performance in Face to Face Classes versus Online Classes versus Hybrid Classes using Open Educational Resources. *Journal of Instructional Pedagogies*. 24, 1-10. Available at <http://www.files.eric.ed.gov> . (Accessed: 11 March 2021)
- Liebenberg, H., Chetty, Y., & Prinsloo, P. (2012). Student access to and skills in using technology in an open and distance learning context. *The International Review of Research in Open and Distributed Learning*, 13(4), 250-268. Available at <https://doi.org/10.19173/irrodl.v13i4.130>.
- Lukwekwe, S.A. (2015). ‘Factors Affecting Students’ Performance in Open and Distance Learning: A Case Study of Kinondoni Regional Centre’, A dissertation submitted in partial fulfilment of the requirements for degree of Masters of Distance Education of the Open University of Tanzania. Available at: <http://www.semanticscholar.org/> (Accessed: 11 June 2020)

- Maboe, K., Nkosi, Z. & Makoe, M. (2013). Prospects and Challenges of Learners On-line Discussion Forum Interaction in an ODL (Open Distance Learning) Institution. *Journal of Health Science*. 1. Available at 10.17265/2328-7136/2013.12.002. (Accessed: 17 June 2020)
- Mathew, I.R. & Iloanya, J.B. (2016). *Open and Distance Learning: Benefits and Challenges of Technology Usage for Online Teaching and Learning in Africa*. Botho University, Botswana. Available at: <http://oasis.col.org/bitstream> (Accessed: 01 June 2020)
- McDonald, J.H. 2014. Handbook of Biological Statistics (3rd ed.). Sparky House Publishing, Baltimore, Maryland. This web page contains the content of pages 77-85 in the printed version.
- Modesto, S. & Gatsha G. (eds) (2017). *The road to Botswana Open University 1998-2017*. Gaborone, Botswana: BOCODOL
- Molepo, L. & Mothudi, H. (2014). The Impact of Face-To-Face Tutorials on College of Education Students: A Case of Unisa's Ekurhuleni Regional Service Centre. *Mediterranean Journal of Social Sciences*. 5. 10.5901/mjss.2014.v5n20p1928.
- Musingafi M.C.C, Mapuranga B., Chiwanza, K. & Zebron S. (2015). Challenges for Open and Distance Learning (ODL) Students: Experiences from Students of the Zimbabwe Open University. *Journal of Education and Practice*, 6(18), pp59-66. Available at: www.iiste.org/ (Accessed: 01 June 2020)
- Oladejo, M.A. & Onyeagbako, S.O. (2017). Demographic Differentials and Distance Learners' Academic Performance at National Open University of Nigeria. Available from www.ajol.info (Accessed on 17August 2020)
- Olivier, B. H. (2016). The impact of contact sessions and discussion forums on the academic performance of open distance learning students. *International Review of Research in Open and Distributed Learning*, 17(6), 75–88. Available at: <https://www.tandfonline.com/doi/> (Accessed: 01 June 2020)
- Omondi, B. (2008). *The influence of learner support services on academic performance of distance learners: The case of University of Nairobi external degree programs in Kenya*, School of continuing and distance education, College of Education and External Studies (CEES). Available at: <http://hdl.handle.net/11295/14205> (Accessed on 17August 2020)
- Oroma, O. J., Wanga, H. & Ngumbuke, F. (2012). Challenges of e-learning in developing countries: The Ugandan experience. 10.13140/2.1.4754.1448. Available at <https://www.researchgate.net/publication> (Accessed: 17 June 2020)
- Ouma R. (2019). Transforming university learner support in open and distance education: Staff and students perceived challenges and prospects, *Cogent Education*, 6(1). Available at: <http://DOI:10.1080/2331186X.2019.1658934> (Accessed: 01 June 2020)

- Ouma, A. P. (2003). *A national distance education (DE) solution for Uganda: Innovative application of digital ICTs to overcome the barriers of the existing digital divide*. A paper presented during the IITE Specialized Training on ICTs for Distance e-Learning for Countries in Sub-Saharan Africa at the University of South Africa (UNISA), Pretoria. Available at: [\[Google Scholar\]](#) (Accessed: 11 June 2020)
- Panhwar, A.H., Ansari, S., & Shah, A. (2017). Post-positivism: An Effective Paradigm for Social and Educational Research. *International Research Journal Arts & Humanities (IRJAH)*. 45. 253-260.
- Rabab, A.W., Fatema, A., Sheeba, T. & Hassan, B. (2013). Students' Perceptions of MOODLE at the CHS. 97-101. 10.1109/ECONF.2013.74.
- Rajadurai, J., Alias, N., Jaafar, A., Wan H. & Wan N. (2018). 'Learners' Satisfaction and Academic Performance in Open and Distance Learning (ODL) Universities in Malaysia', *Global Business and Management Research: An International Journal*, p511-523.
- Rakoma, M. A. (2018). Rural students' experiences of online learning support in an open distance learning environment [Unpublished master's dissertation]. Stellenbosch University. Available at: www.google.com (Accessed: 01 June 2020)
- Rao A.M.A (2010). ICT in Open Distance Learning: Issues and Challenges. Formal Education Technologies for scaling up ODL Programmes. Indira Gandhi National Open University. Pan-Commonwealth Forum 6 (PCF6). Available at: http://oasis.col.org/bitstream/handle/11599/2086/2010_RaoM_ICTinODL.pdf (Accessed: 01 June 2020)
- Raser, W. & Killen, R. (2005). The perceptions of students and lecturers of some factors influencing academic performance at two South African universities. *Perspectives in Education*. 23.
- Ron, O. (n.d.) The Role of ICT in Higher Education for the 21st Century: ICT as a Change Agent for Education
- Ross, C. (2009). Engagement for learning: What matters to students, what motivates them and how can institutional support services foster student engagement? *In 2009 Biennial Conference of the Australia and New Zealand Student Services Association*, Brisbane, Australia. Available at <http://hdl.handle.net/11072/1317> (Accessed: 01 June 2020)
- Ruterana, Pierre. (2021). Enhancing the Culture of Reading in Rwanda: Reflections by Students in Tertiary Institutions.
- Saleh, A. & Bista, K. (2017). Examining Factors Impacting Online Survey Response Rates in Educational Research: Perceptions of Graduate Students. *Journal of Multi-*

- Disciplinary Evaluation. 13(29). Available from <http://www.jmde.com> Retrieved 20/02/2021
- Sarmah, B. & Das, K.K. (2010). Learner Support Services in Open and Distance Learning: Issues and Evidences from the State of Assam. Commonwealth of Learning. Available at: <http://oasis.col.org/handle/11599/2080> (Accessed: 01 June 2020)
- Schofer, E., & Meyer, J. (2005). The Worldwide Expansion of Higher Education in the Twentieth Century. *American Sociological Review*, 70(6), 898-920. Retrieved March 17, 2021, from <http://www.jstor.org/stable/4145399>
- Shikulo, L. & Lekhetho, M. (2020) .Exploring student support services of a distance learning centre at a Namibian university, *Cogent Social Sciences*, 6(1).Available at: <https://doi.org/10.1080/23311886.2020.1737401> (Accessed: 11 June 2020)
- Seretse, G. (2007). Cultivating a reading culture among Botswana. Mmegi Online, 2 February. Available at: www.mmegi.bw (Accessed: 14 March 2021)
- Shikulo, L. & Lekhetho, M. (2020) .Exploring student support services of a distance learning centre at a Namibian university, *Cogent Social Sciences*, 6(1).Available at: <https://doi.org/10.1080/23311886.2020.1737401> (Accessed: 11 June 2020)
- Siddique, M. H. (2004). Distance Learning Technologies in Education. APH Publishing Company.
- Sikwibele, A. & Mungoo, J. (2009). Distance Learning and Teacher Education in Botswana: Opportunities and Challenges. *International Review of Research in Open and Distance Learning*. <http://10.10.19173/irrodl.v10i4.706> (Accessed: 01 June 2020)
- Singh, S., Singh, A. & Singh, K. (2012). Motivation Levels among Traditional and Open Learning Undergraduate Students in India. Available at <http://www.irrodl.org/index.php/irrodl/article/download/1050/2196?inline=1>
- Singh S. (2003) Simple Random Sampling. In: Advanced Sampling Theory with Applications. Springer, Dordrecht. https://doi.org/10.1007/978-94-007-0789-4_2
- Strayhorn T.L. (2008). How college students' engagement affects personal and social learning outcomes. *Journal of College and Character*, 10,2, Available at: <https://doi.org/10.2202/1940-1639.1071> (Accessed: 01 June 2020)
- Taherdoost, H. (2016). Validity and Reliability of the Research Instrument; How to Test the Validation of a Questionnaire/Survey in a Research. *International Journal of Academic Research in Management*. 5. 28-36. 10.2139/ssrn.3205040.
- Teijlingen van, E., Rennie, A.M., Hundley, V. & Graham, W. (2001). The importance of conducting and reporting pilot studies: the example of the Scottish Births Survey, *Journal of Advanced Nursing* 34: 289-295. Available at: <https://sru.soc.surrey.ac.uk/SRU35.PDF> (Accessed: 01 August 2020)

- Tilak, J. B. G. (2009). Current trends in private sector in higher education in Asia. *Higher Education Review*, 41, (2) (Spring) (in press)
- UNESCO. (2018). Ed. Lee, J., Rhee, D., & Rudolf, R. Women teachers matter for girls' educational success in Francophone Africa UNESCO's International Institute for Educational Planning Available at <https://learningportal.iiep.unesco.org/> Accessed on 17 August 2020)
- Usun, S. (2004). Learner Support Services in Distance Education System: A Case of Turkey. *Turkish Online Journal of Distance Education*, 5(4), p47-51. Available at: <http://www.SciRP.org/journal/ce> (Accessed: 01 July 2020)
- Vanderberg, L. (2013). "The Relationship Between Students' Perceptions of Academic Support and Their Willingness to Seek Support". Master of Arts in Higher Education Theses. 72. <https://pillars.taylor.edu/mahe/72>
- Walt, J., Potgieter, F.J. & Wolhuter, C. (2014). Education Reform in Southern Africa since the 1960s: What Progress Has Been Made?. *Anthropologist*. 17. 279-290. <https://www.researchgate.net/publication/288652992> (Accessed: 01 February 2021)
- West, P. (2016). Simple random sampling of individual items in the absence of a sampling frame that lists the individuals. *New Zealand Journal of Forestry Science*. 46. 10.1186/s40490-016-0071-1. Available at: <https://www.researchgate.net/publication/306345882> (Accessed: 17 Jan 2021)
- Yadav, S.K., Bharadwaj, B. K. & Pal, S. (2012). Mining Educational Data to Predict Student's Retention :A Comparative Study', *International Journal of Computer Science and Information Security (IJCSIS)*, 10(2),p. Available at: <http://www.researchgate.net/> (Accessed: 17 June 2020)
- Zheng, B. & Warschauer, M. (2015). Participation, Interaction, and Academic Achievement in an Online Discussion Environment. *Computers & Education*. 84. 10.1016/j.compedu.2015.01.008. https://www.researchgate.net/publication/272239937_Participation_Interaction_and_Academic_Achievement_in_an_Online_Discussion_Environment
- Zazueta, A., Lizeth Quiroz Campas, L.Q., Yaneth, C., Valenzuela, C. & Violeta L. (2019). The effect of the presence tutorials in the academic performance of the administration students of a University of the North of Mexico. *Inquietud Empresarial*, XIX (1), 91-107.
- Zyl, J.V., Spamer, E.J., & Els, C.J. (2012). 'Effect of Contact Class Attendance on the Academic Success of Open Distance Learning Students in Advanced Certificate in Education Programs', *Contemporary Educational Technology*, 3, p166-183. Available at: <http://www.researchgate.net/> (Accessed: 17 June 2020)

Appendices

Appendix A Botho University clearance and introductory letter

BOTSWANA	FRANZOSIA	LESOTHO	NAMIBIA	ESWATINI	BLENDED & DISTANCE LEARNING CAMPUS
Gaborone Campus Botho Education Park, Kgale P.O. Box 30194, Gaborone, Botswana Tel: +267 301 8990 Fax: +267 308 7858	Francistown Campus Plot 8424, Tlokgeng Park P.O. Box 145, Francistown, Botswana Tel: +267 244 0685 Fax: +267 244 0695	Maseru Campus Maseru Mall, West Wing, Tlokgeng P.O. Box 1758, Maseru 280, Lesotho Tel: +266 2224 7080 / 8231 3821 / 1378 8381 Fax: +266 2231 3821	Windhoek Campus Botho Higher Education Institution, Office No. 100 Kunene Plaza 11, 12, Angolotho Road, Windhoek P.O. Box 40271, Windhoek, Namibia Tel: +264 61 254433 / 254433 Fax: +264 61 254433	Muscat Campus Plot No. 1235, Sherehah Road, Muscat, Eswatini P.O. Box 1235, Muscat, Eswatini Tel: +268 2465 7338 Fax: +268 2465 7338	Blended & Distance Learning Campus Email: blended@bothouniversity.ac.za Website: www.bothouniversity.ac.za



BOTHO UNIVERSITY
EXCELLENCE | LEADERSHIP | INNOVATION

030/LTRE/GBE/2020
21 October 2020

TO WHOM IT MAY CONCERN

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH

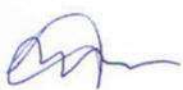
This is to confirm that Tendani Nkolo ID1819160. is a student at Botho University, studying for Masters in Higher Education.

The student would like to conduct research under the topic, "Impact of student support services on academic performance of Bachelor of Education students in Open and Distance Learning (ODL) mode: The case of Botswana Open University".

In light of the above, The Faculty of Health and Education at Botho University seeks your permission to allow her to carry out this research and accord her the necessary support as it will help in the completion of his studies.

The information collected will be used solely for this research and will be treated with a high level of confidentiality and anonymity.

Yours sincerely



Mr. Tom Atonga
Manager, Library, Teaching and Research Excellence Department (LTRE)
Office of Quality Management (OQM)
Botho University – Gaborone Campus



BOS ISO 9001:2015 Certified Organisation
www.bothouniversity.com

Appendix B Ministry of Tertiary Education Ethical clearance letter

Telephone : 3655400 / 3655483
Fax : 3914271
E-mail: botsamote@gov.bw



Block 6, Government Enclave, Headquarters
Private Bag 00517 Gaborone

MINISTRY OF TERTIARY EDUCATION, RESEARCH, SCIENCE AND TECHNOLOGY

REF: MOTE 1/18/6 IX (17)

18th November 2020

Tendani Nkolo
P O BOX 40919
GABORONE

Dear Madam

Application for Research Permit:

Impact of Student Support Services on academic performance of Bachelor of Education students in Open and Distance Learning (ODL) mode: The Case of Botswana Open University

Reference is made to your application on the above captioned matter.

Your application for Research Permit for the proposed research titled: ***"Impact of Student Support Services on academic performance of Bachelor of Education students in Open and Distance Learning (ODL) mode: The Case of Botswana Open University"*** has been granted. The permit is valid for one (1) year. You are kindly advised to peruse section 4.4 to 5.0 of the 'Guidelines for Application for Research Permit' in Botswana.

Any changes in the proposed research should be communicated, without fail, to the Permanent Secretary, Ministry of Tertiary Education Research Science and Technology citing above reference. You are advised to submit final research report to the Department of Research, Science and Technology.

By copy of this letter, the Director of Research Science and Technology (DRST) is advised to take note of this development and ensure that deliverables to government are timely met. Furthermore, you are requested to deposit completed research report to DRST.

Yours faithfully


Dr. Kekgonne E. Baipoledi
For/Permanent Secretary

cc: Director of Research Science and Technology



Achieving Prosperity for All

OUR VISION
"A Knowledge based Society Enabling Prosperity for all"
Collaboration Co- production Consuming
TOLL FREE: 0800-600-185



Appendix C Botswana Open University ethical clearance letter



RESEARCH ETHICS COMMITTEE CLEARANCE CERTIFICATE

This is to certify that:

Reference Number: 11678859

Research Title: Impact Of Student Support Services On Academic Performance Of Bachelor Of Education Students In Open And Distance Learning (ODL) Mode: The Case Of Botswana Open University

Researcher(s): TENDANI NKOLO

Was considered by the University Research Ethics Committee on 23/11/2020, meets the requirements of the Botswana Open University Research Ethics Policy and was APPROVED on 23/11/2020 and shall expire on 23/11/2021

SIGNED:

A handwritten signature in black ink, appearing to read "F. Kaniwa".

F. Kaniwa, PhD
Chair, University Research Ethics Committee

This ethical clearance certificate is issued subject to following conditions:

1. A signed personal declaration of responsibility.
2. If the research scope changes significantly, a new ethical clearance application must be submitted.
3. It is the researcher's responsibility to ensure all relevant informed consent forms are kept for future reference.

Note. Please quote the reference number in all enquiries.

Appendix D Botswana Open University Regional Directors' permission letter

Private Bag BO187, Bontleng, Gaborone
Tel: (+267) 3646000 Fax: (+267) 3191089
www.bou.ac.bw

Inspire Tomorrow, Today


Botswana Open
University

Reference No: PF 116781 Date: 24/11/2020

Ms Tendani Nkolo
P O Box 40919
GABORONE

Dear Ms Nkolo

**APPROVAL TO CONDUCT RESEARCH STUDY AT BOTSWANA OPEN UNIVERSITY-
GABORONE REGIONAL CAMPUS -YOURSELF**

The subject matter refers.

Following your letter dated 23rd November 2020 I am pleased to inform you that permission is granted as per your request and scope of the research.

For further details on what is expected of you as a researcher, you are advised to familiarize yourself with the University (BOU) Research and Ethics Policy.

Thank you

Yours faithfully


M. Aabobe
for/REGIONAL DIRECTOR
Gaborone Regional Campus

Western Bye Pass, Garamothose Junction, Plot 39972, Block 6, Gaborone, Botswana

Appendix E Consent letter

INFORMED CONSENT FORM

Title of Study:

Impact of student support services on academic performance of Bachelor of Education students in Open and Distance Learning (ODL) mode: The case of Botswana Open University

Introduction:

You are invited to participate in a research study investigating the impact of Student Support Services on academic performance of students studying through Open and Distance Learning (ODL) at Botswana Open University, Gaborone Regional Campus., you are requested to read this consent form and ask any questions you may have before agreeing to participate in the study. You may choose to withdraw from the study anytime you feel you cannot continue for any reason.

This study is conducted by Tendani Nkolo, a student from Botho University, in the Department of Health Education, pursuing her Masters Degree in Education (Higher Education)

Purpose:

The purpose of this study is to investigate Impact of student support services on academic performance of Bachelor of Education students in Open and Distance Learning (ODL) mode: The case of Botswana Open University. The population of this study is all students all Bachelor of Education Programmes students, 2019 Cohort. It is estimated that about 125 students would participate in this survey. It is believed that the findings of this study will be used to offer recommendations to Botswana Open University to improve the student support services and to inform policy makers to design relevant strategies address the student support services. The findings will also inform the students on the relevance of the support services in place through the generation of data on a field that has not been explored in the context of Botswana.

Instruction:

Participants will be required to consent for participation in the study and for use of their private information in the institutional records. The consent will take less than 5 minutes to complete. The participants will then be required to fill a 34 itemed questionnaire that will take roughly 10 minutes to fill.

Confidentiality:

The information given will be kept confidential. I am asking permission to use the obtained data to perform quantitative analysis. With this consent, I also request for access to your academic records specifically your marks, tutorial attendance record and discussion forum participation. I will not include any information that will make it possible to identify you as the subject in any sort of report that I might publish. You may keep the document for your records and you can contact the researcher if you have any questions. Research records will be kept secured, only the researcher will have access to the records.

Risks and Discomforts:

There are no known risks involved in this study and no major discomfort except the time spent reading the document. One is not bound to consent if he/she does not feel comfortable with their data being used.

Benefits:

Participation in this study will help generate findings that will assist you to understand the relevance and importance of the support services that are availed to you; and help to improve the student support services for Open and Distance Learning to enhance academic performance.

Right to refuse or withdraw:

Participation in this study is purely voluntary and one has the right to withdraw from the study at any time with no penalty involved. Your decision whether or not to participate will not affect your current or future relations with Botswana Open University.

Who to contact with questions:

If you have any questions about this study, you may contact Tendani Nkolo at (+267) 3646148; or by e-mail at tkgopolo@gmail.com. This project has been reviewed and approved by Botho University Institutional Review Board and Botswana Open University Research Ethics Board. If you have any questions about your rights as a research participant, you may call the IRB at (+267) 3646136

If you agree to the above, kindly provide consent by signing here _____.

Kindly send back the form to tkgopolo@gmail.com.

Appendix F Students' Support Services Perceptions Questionnaire

RESEARCH QUESTIONNAIRE

Students' Support Services Perceptions Questionnaire

Kindly assist by participating in the following study.

Topic: Impact of student support services on academic performance of students studying through Open and Distance Learning (ODL): The case of Botswana Open University

The findings of this study will be used to offer recommendations to Botswana Open University to improve the student support services and to inform policy makers to design relevant strategies address the student support services. Please indicate your answer by ticking the box that best applies to you.

Student ID: _____ Age: _____ Gender: _____

Name of Programme of study: _____ Year of enrolment: _____

Is this your first time learning through ODL? Yes/No Employment status: _____

Previous Highest academic qualification in full _____

Kindly tick the answer that best applies to you.

SA=Strongly Agree, A=Agree, D=Disagree, SD=Strongly Disagree

		SA	A	D	SD
1	I always participate in discussion forums				
2	I had previous knowledge of computers prior to my enrolment				
3	I use the computer as an integral part of my job				
4	I am comfortable using a computer				
5	I have easy access to a computer?				
6	I get most computer access at Botswana Open University Campus				
7	I get most computer access at home				
8	I get most computer access at a community access centre				
9	I get most computer access at an internet cafe				
10	I get most computer access at work				
11	I get most computer access at a friend's place				
12	I get most computer access at a relative's place				
13	I can afford to get my own computer				
14	I am computer literate				
15	I have easy access to internet				
16	I get most internet access at Botswana Open University Campus				
17	I get most internet access at home				
18	I get most internet access at a community access centre				
19	I get most internet access at an internet cafe				
20	I get most internet access at work				

21	I get most internet access at a friend's place				
22	I get most internet access at a relative's place				
23	I can afford to get my own internet connectivity				
24	I need internet connectivity for my studies				
25	I need internet connectivity for social reasons				
26	I need assistance to connect to the internet				
27	I need assistance to access a specific website given its URL				
28	I need assistance to access the student portal				
29	I need assistance to utilise discussion forums				
30	I need assistance to use hyperlinks				
31	I need assistance to use search engines				
32	I need assistance to word processing software				
33	I need assistance to connect to tutors via online platforms				
34	I need assistance to connect to other learners via online platforms				
35	I always attend face to face tutorial sessions				
36	I have time to attend the tutorial sessions				
37	I find face to face tutorials very helpful				
38	I have the funds to travel to the campus for tutorials				
39	I prefer to just study on my own				
40	I have adequate interaction with the tutor on the student portal				
41	The learning materials are adequate to facilitate my own learning				
42	My tutors are always available for assistance outside tutorial hours				
43	I have time for my studies				
44	I am motivated to study through Open and Distance Learning				
45	I am committed to studying through Open and Distance Learning				
46	My family is supportive in my studies				
47	My job allows me time to study				
48	I have a conducive learning environment at home				
49	I have a conducive learning environment at Botswana Open University Campus				
50	I can easily balance my family, work, and study schedule				
51	I easily get assistance at Botswana Open University when I experience technology related challenges				

How do you think BOU –Gaborone Regional Campus can better the student support services to improve your academic performance?

Thank you for your participation!

Appendix G Data mining and documents analysis guiding tool

DATA MINING AND DOCUMENTS ANALYSIS GUIDING TOOL

PART A

Student ID No:_____ **Gender:**_____ **Age :**_____

a) ACADEMIC PERFORMANCE IN VARIOUS MODULES

Modules Taken	Module 1	Module 2	Module 3	Module 4	Average Mark
1. Marks (%)	☐	☐	☐	☐	

b) TUTORIAL ATTENDANCE

Modules Taken	Module 1	Module 2	Module 3	Module 4
2. Number of tutorials attended	☐	☐	☐	☐

c) DISCUSSION FORUMS PARTICIPATION

Modules Taken	Module 1	Module 2	Module 3	Module 4
3. Number of forums one participated in	☐	☐	☐	☐

Appendix H Data preparation tool

DATA PREPARATION

Topic: **Impact of student support services on academic performance of Bachelor of Education students in Open and Distance Learning (ODL) mode: The case of Botswana Open University**

Final Study Data Coding for SPSS

ATTRIBUTE	Captured as	CODE
Student ID	StudID	Same as ID
Age		
26-35		1
36-45		2
46-55		3
Gender	Gender	
Male		1
Female		2
Name of Programme of study	Progrm	
BEd-SIE		1
BEd-Pri		2
BEd- IECD		3
Year of Enrolment	Yearenrol	
2019		1
2018		2
2017		3
Is this your first time to study through ODL?	FirstODL	
No		1
Yes		2
Employment Status	Emplstatu	
Unemployed		1
Employed		2
Parttime		3
Previous Level of qualification	Levelqual	
PhD		7
Masters		6
Post Graduate Diploma		5
Degree		4
Diploma		3
Certificate		2
O-Level (BGCSE)		1
• Industry of the qualification	Highquali	
Education		1
Others		2
Programs		
Bachelor of Education – Special and Inclusive Education (BEd-SIE)	BEdSIE	
Bachelor of Education – Primary Education (BEd -Pri)	BEdPri	
Bachelor of Education – Integrated Early Childhood		

Development (BEd-IECD)	BEdIECD	
Academic Performance	TAM	% Score
Tutorial Attendance (Actual number of tutorials attended across all courses)	CodeAtte	
No attendance in all tutorials		0
Attended all tutorials		8
Forum participation (Total number of discussion forums participated in)	CodeParti	
No participation in all forums		0
Participated in all forums		8
Questionnaire Items Rating		
Strongly Agree		4
Agree		3
Disagree		2
Strongly Disagree		1

Student Support Services Perceptions Questionnaire Items Coding

Item	Question	Captured as
1	I prefer to just study on my own	i1
2	I have easy access to internet	i2
3	I can easily balance my family, work, and study schedule	i3
4	I need assistance to connect with other learners via online platforms	i4
5	I have easy access to a computer?	i5
6	I can afford to get my own internet connectivity	i6
7	I have adequate interaction with the tutor on the student portal	i7
8	I get most internet access at home	i8
9	I need assistance to connect to the internet	i9
10	I have time to attend the tutorial sessions	i10
11	I get most computer access at a relative's place	i11
12	My job allows me time to study	i12
13	I need internet connectivity for social reasons	i13
14	I am computer literate	i14
15	I get most internet access at Botswana Open University Campus	i15
16	I need assistance to access the student portal	i16
17	I can afford to get my own computer	i17
18	I have a conducive learning environment at home	i18
19	I get most internet access at a relative's place	i19
20	I need assistance to connect to tutors via online platforms	i20
21	My family is supportive in my studies	i21
22	I need internet connectivity for my studies	i22
23	I get most computer access at Botswana Open University Campus	i23
24	The learning materials are adequate to facilitate my own learning	i24
25	I have the funds to travel to the campus for tutorials	i25
26	I need assistance to access a specific website given its URL	i26
27	I am motivated to study through Open and Distance Learning	i27
28	I need assistance to utilise discussion forums	i28
29	I get most computer access at home	i29
30	I need assistance to use search engines	i30
31	I have time for my studies	i31

32	I get most computer access at an internet cafe	i32
33	I always attend face to face tutorial sessions	i33
34	I get most internet access at work	i34
35	I get most internet access at a community access centre	i35
36	I use the computer as an integral part of my job	i36
37	I find tutorials very helpful	i37
38	I get most computer access at a friend's place	i38
39	I am comfortable using a computer	i39
40	I get most internet access at an internet cafe	i40
41	My tutors are always available for assistance outside tutorial hours	i41
42	I had previous knowledge of computers prior to my enrolment	i42
43	I am committed to studying through Open and Distance Learning	i43
44	I need assistance to use hyperlinks	i44
45	I get most computer access at work	i45
46	I get most internet access at a friend's place	i46
47	I always participate in discussion forums	i47
48	I have a conducive learning environment at Botswana Open University Campus	i48
49	I need assistance to word processing software	i49
50	I get most computer access at a community access centre	i50
51	I easily get assistance at Botswana Open University when I experience technology related challenges	i51
52	How do you think BOU –Gaborone Regional Campus can better the student support services to improve your academic performance?	i52

STUDENT SUPPORT SERVICES PERCEPTIONS QUESTIONNAIRE VARIABLES

Demographic Factors

Age, Gender, Employment Status, Educational Background

Other questionnaire variables

Other Variables	Number of items	Individual items making up the variable	Cronbach's Alpha (α)
Access to learning technology	10	i11, i19, i32, i34, i35, i38, i40, i45, i46, i50	.84
Usage of learning technology	3	i14, i39, i42	.72
Level of technological support	2	i15, i23	.82
Level of tutorial support	3	i24, i41, i48	.62
Level of motivation towards ODL	3	i3, i27, i31	.72

Appendix I Questionnaire Variables Reliability Statistics

Attribute	Mean	SD	N	N of Items	Cronbach's Alpha
Access to learning technology					
i11	1.89	.845	92	10	.844
i19	1.87	.828	92		
i32	1.86	.735	92		
i34	2.24	1.031	92		
i35	1.54	.636	92		
i38	1.65	.718	92		
i40	1.78	.836	92		
i45	2.17	1.001	92		
i46	1.72	.803	92		
i50	1.59	.698	92		
Usage of learning technology					
i14	3.15	.570	93	3	.719
i39	3.11	.634	93		
i42	3.10	.660	93		
Technological support					
i15	1.59	.751	101	2	.824
i23	1.63	.797	101		
Tutorial support					
i24	2.24	.793	100	3	.620
i41	1.86	.779	100		
i48	2.54	.846	100		
Motivation towards ODL					
i3	2.60	.732	96	3	.719
i27	3.02	.754	96		
i31	2.76	.707	96		

Appendix J Other supporting figures

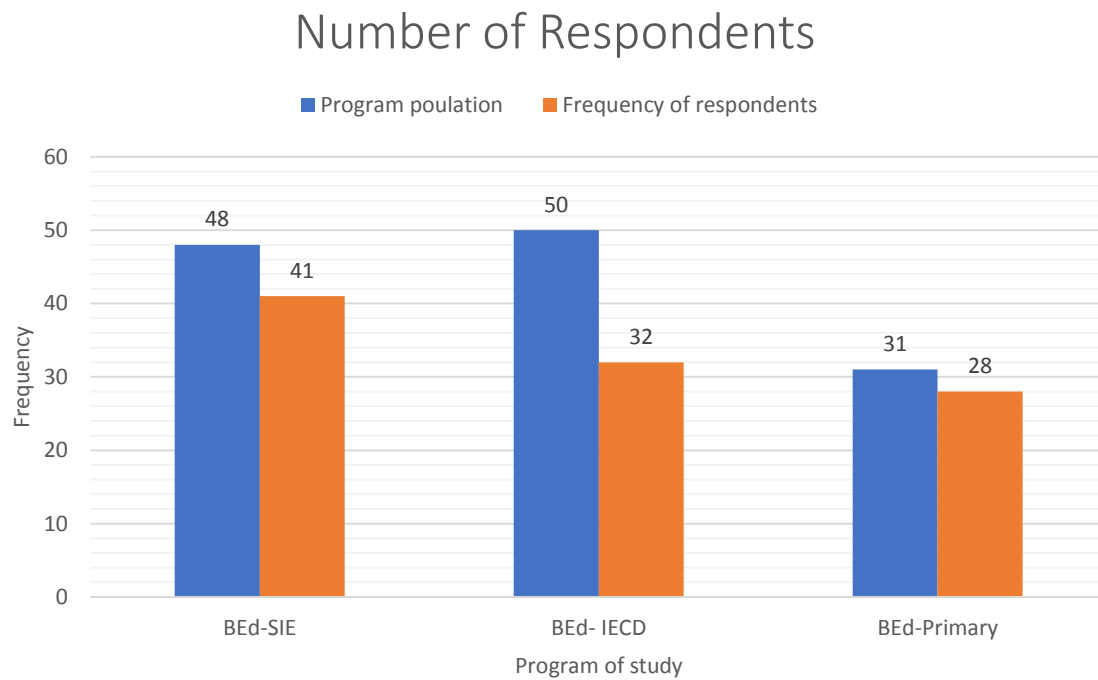


Figure J5. 1 Graphical representation of number of respondents by program

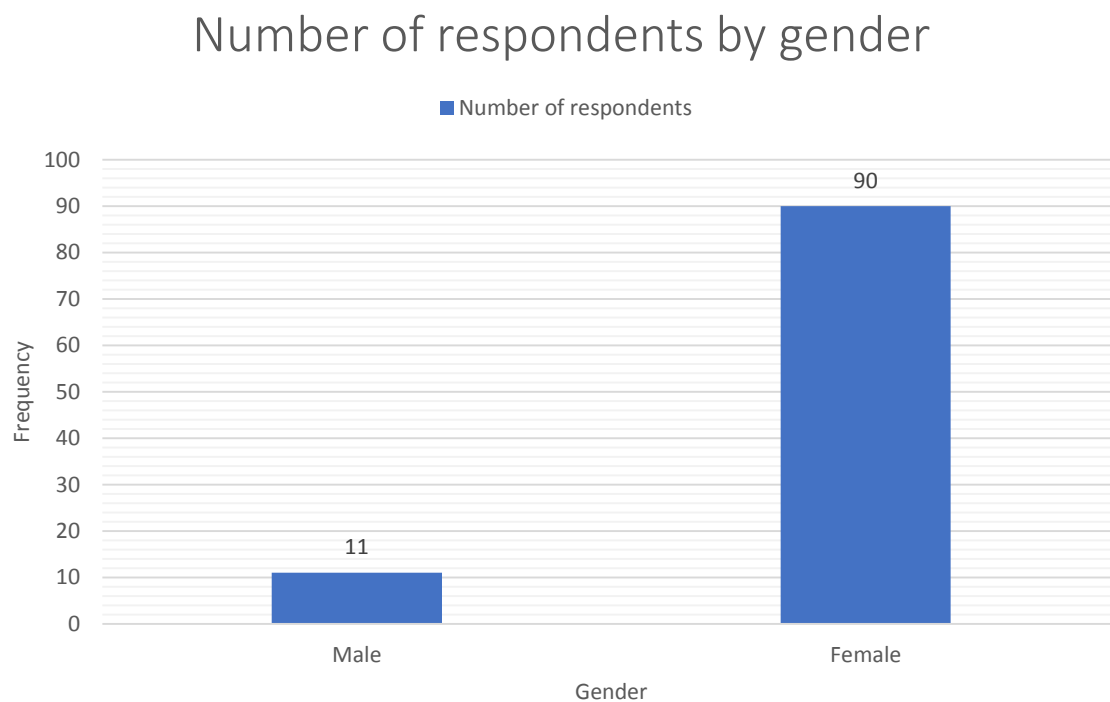


Figure J5. 2 Graphic representation of respondents by gender

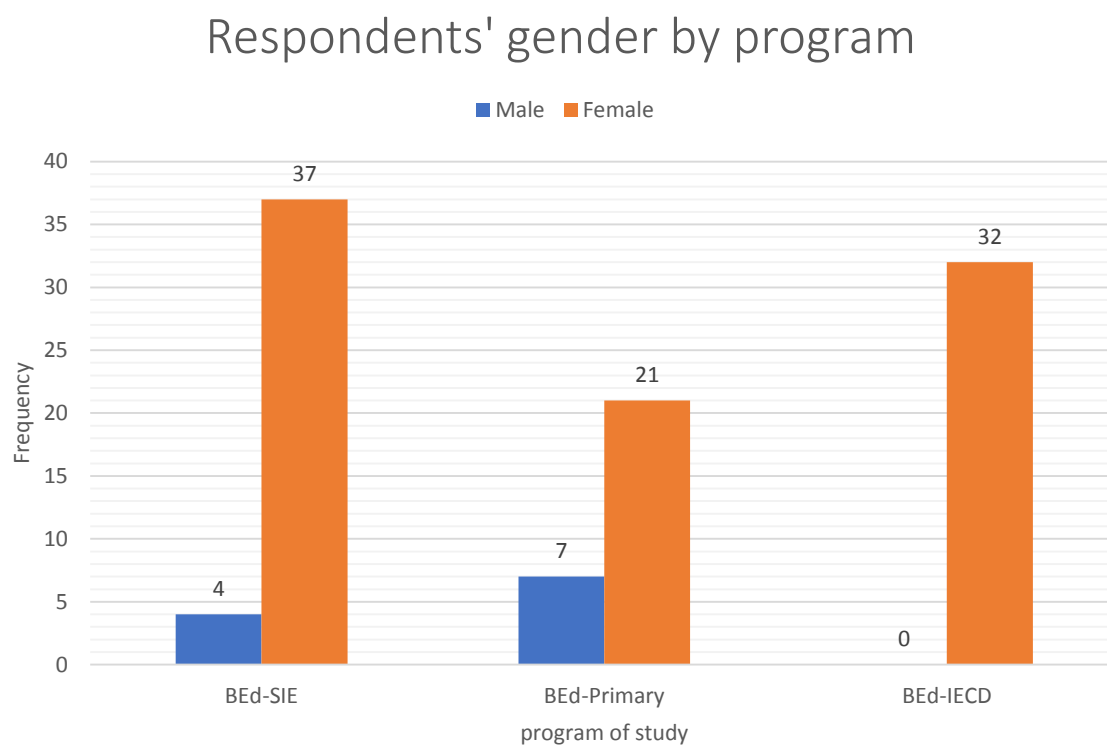


Figure J5. 3 Graphic representation of respondents by gender per program

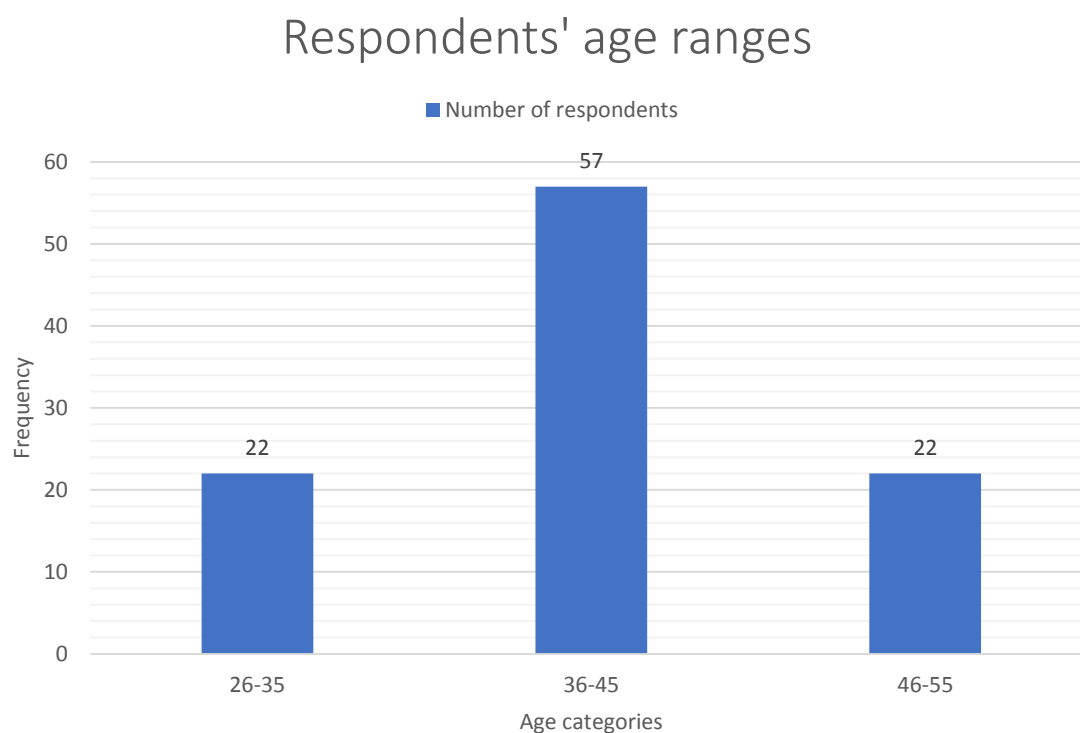


Figure J5. 4 Graphical representation of respondents' age ranges

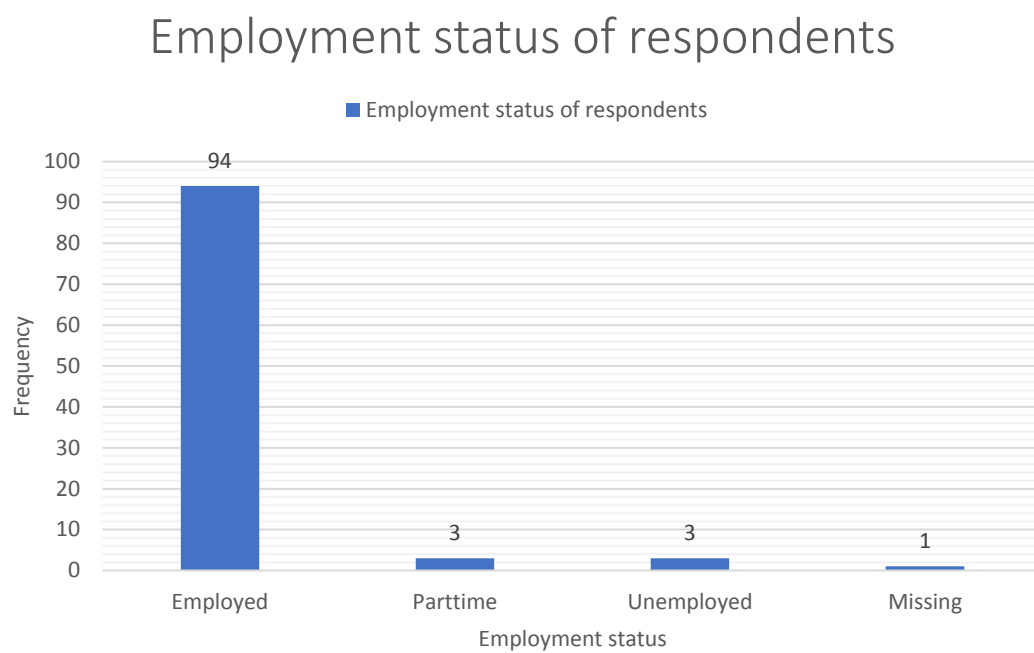


Figure J5. 5. Graphical representation of employment status of respondents