

FIRST YEAR STUDENT SUCCESS AND DROPOUT: AN INVESTIGATION
INTO FULL AND PART-TIME STUDENTS' EXPERIENCE AT THE
NAMIBIA UNIVERSITY OF SCIENCE AND TECHNOLOGY

INDEPENTIA DE WALDT

A thesis submitted to the Faculty of Humanities, University of the Witwatersrand, in fulfilment
of the requirements for the degree of Doctor of Philosophy in Education.

Johannesburg

2022

ABSTRACT

First-year student success is a concern globally and has become a prominent feature of the higher education landscape. This study used Tinto's longitudinal model of student departure as an analytical framework to investigate the internal and external factors affecting first-year full and part-time student success in the Faculty of Management Sciences (FMS) at the Namibia University of Science and Technology (NUST). This study contributes to existing research on the first-year student dropout phenomena and provides empirical evidence in the Namibian context.

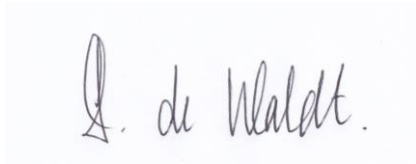
In this mixed-method approach, data were collected through an online survey containing close and open-ended questions from first-year full and part-time students in the FMS. The results highlight the complexity of the first year at university. The results further show the impact of finances and online teaching and learning on students' dropout decisions. Using Pearson's chi-square test, the pre-entry attributes of age, gender, high school results, type of high school, regional presentation, source of finance and living arrangements were found to affect the academic performance of first-year students. The thematic analysis used for the open-ended questions shows the factors of online teaching and learning (lack of technical devices and stable network); under-preparedness (time management, heavy academic workload, adjusting to the lecturing style, prior content knowledge); and psychological (motivation and isolation) as challenges first-year students experience.

The findings of this study show the complexity of the first year at university and require NUST to reimagine first-year student success. The findings allow for several recommendations to inform national and institutional practices and policies. This dissertation proposes implementing a First-Year Experience programme in the FMS.

Keywords: student success; first-year experience, persistence, self-efficacy, resilience, academic and social integration

DECLARATION

I declare that this thesis is my own unaided work. It is being submitted for the degree of Doctor of Philosophy of Education at the University of Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination to any other University.

A handwritten signature in black ink, reading "I. de Waldt.", is displayed on a light blue rectangular background.

.....
Indepentia de Waldt

04 August 2022

PUBLICATIONS EMANATING FROM THIS RESEARCH

1. SANRC First-Year Experience Journal
2. NUST, Faculty of Management Sciences Research Day

ACKNOWLEDGEMENTS

I would like to thank my research supervisors, Associate Professor Laura Dison and Dr Kershree Padayachee. Thank you for your support and invaluable feedback throughout the research process.

I would like to thank the Namibia University of Science and Technology (NUST) for allowing me to conduct my research at the institution. I would also like to thank every colleague at NUST for their support and motivation throughout the research process.

I also want to thank the students who voluntarily agreed to participate in this study, as the research process would not have been possible without them.

Finally, I want to thank my family and friends for their words of encouragement and personal support.

TABLE OF CONTENTS

ABSTRACT	i
DECLARATION	ii
PUBLICATIONS EMINATING FROM THIS RESEARCH	iii
ACKNOWLEDGEMENTS	iv
LIST OF FIGURES	xi
LIST OF TABLES	xiii
ABBREVIATIONS	xiv
1. CHAPTER 1: CONTEXT OF THE STUDY	
1.1 Introduction	1
1.2 Background to the Problem	2
1.3 Overview of Higher Education in Namibia	5
1.4 Background to NUST	6
1.4.1 Undergraduate Student Enrolment per Faculty	6
1.4.2 First-Year Student Enrolment per Faculty	7
1.5 Overview of Faculty of Management Sciences	7
1.5.1 FMS First-Year Curriculum	9
1.6 Statement of the Problem	9
1.7 Purpose of the Study	10
1.8 Significance of the Study	10
1.9 Aims of the Study	10
1.10 Research Questions	11
1.11 Conclusion	11
2. CHAPTER 2: LITERATURE REVIEW	
2.1 Introduction	13
2.2 The First-Year Experience	13
2.3 Factors Affecting Students' Dropout	16
2.3.1 Pre-Entry Attributes	16
2.3.1.1. Demographic characteristics	17

2.3.1.2	Academic characteristics	20
2.3.1.3	Socio-economic background	22
2.3.1.4	Under-preparedness of students	26
2.3.2	Psychological factors	31
2.3.2.1	Attention and motivation	32
2.3.2.2	Isolation	33
2.3.2.3	Resilience and self-efficacy	38
2.3.3	Online learning	35
2.3.3.1	Namibia's higher education stakeholders' response to online teaching and learning	41
2.3.3.2	Advantages of online teaching and learning	43
2.3.3.3	Disadvantages of online teaching and learning	43
2.3.3.4	Online readiness models	44
2.3.3.5	Learning Management Systems in higher education	46
2.3.3.6	Synchronous online learning	47
2.3.3.7	Asynchronous online learning	47
2.3.3.8	Online class size	48
2.3.4	Student engagement	49
2.3.5	First-year students' expectations	51
2.3.6	Reasons for obtaining a university qualification	52
2.3.7	Academic and social integration	52
2.3.8	Institutional support	53
2.4	Theoretical Framework	55
2.5	First-Year Experience Programmes	59
2.5.1	Pre-university engagement or recruitment stage	59
2.5.2	Revised orientation programmes	60
2.5.3	Peer tutoring and mentoring	61
2.5.4	Student tracking	61
2.5.5	Support systems	62
2.5.6	Social integration	62

2.6	Conclusion	63
3.	CHAPTER 3: RESEARCH METHODOLOGY	
3.1	Introduction	64
3.2	Research Approaches	65
3.3	Types of Mixed-Methods Design	67
3.4	Sampling	68
3.4.1	Target population and sample	69
3.5	Data collection and ethics permission	69
3.6	Research Instrument	70
3.7	Data Analysis	71
3.8	Validity, Reliability and Triangulation of Data	74
3.9	Limitations	76
3.10	Conclusion	76
4.	CHAPTER 4: ANALYSIS AND INTERPRETATION OF RESULTS	
	PRE-ENTRY ATTRIBUTES	
4.1	Introduction	77
4.2	Pre-entry attributes	78
4.2.1	Demographic characteristics	79
4.2.2	Academic characteristics	90
4.2.3	Socio-economic status	97
4.3	Conclusion	112
5.	CHAPTER 5: ANALYSIS AND INTERPRETATION OF RESULTS	
	CHALLENGES FIRST-YEAR STUDENTS EXPERIENCED	
5.1	Introduction	113
5.2	Adaptation to University and Familiarisation with Online Teaching and Learning	113
5.2.1	Adaptation to University	113
5.2.2	Familiarisation with the LMS	114
5.2.3	Migration to online learning	115
5.2.4	Preference for face-to-face learning	116
5.3	Major Challenge with Online Teaching and Learning	118

5.3.1	Theme one: Technology challenges	118
5.3.1.1	Sub-theme one: Lack of devices, and unreliable, slow or no internet access	119
5.3.2	Theme two: Under-preparedness of students	120
5.3.2.1	Sub-theme one: Transitioning to university	121
5.3.2.2	Sub-theme two: Time Management	125
5.3.2.3	Sub-theme three: Heavy academic workload	127
5.3.2.4	Sub-theme four: Self-directed learning	129
5.3.2.5	Sub-theme five: Adjustment to lecturing style	130
5.3.2.6	Sub-theme six: Prior content knowledge	131
5.3.3	Theme three: Psychological factors	134
5.3.3.1	Sub-theme one: Attention and motivation	135
5.3.3.2	Sub-theme two: Isolation	136
5.3.3.3	Sub-theme three: Resilience and self-efficacy	137
5.4	Student Engagement	138
5.4.1	Student-student engagement	139
5.4.2	Student-lecturer engagement	141
5.5	Institutional Support	145
5.5.1	Academic support services	145
5.5.2	Social support services	147
5.5.3	Belonging to student societies and clubs	149
5.6	Conclusion	150
6.	CHAPTER 6: DISCUSSION	
6.1	Introduction	152
6.2	Pre-entry Attributes	153
6.2.1	Demographic characteristics	154
6.2.2	Academic characteristics	154
6.2.3	Socio-economic status	156
6.3	Factors contributing to first-year students not enrolling for the second semester	158
6.3.1	Finances	159

6.3.2	Online teaching and learning	165
6.3.2.1	Online readiness of students	167
6.3.2.2	Online readiness of lecturers and NUST	168
6.4	Under-preparedness of Students	169
6.5	Psychological Factors	171
6.6	Student Engagement	174
6.7	Institutional Support Services	175
6.7.1	Orientation	176
6.7.2	Academic support services	176
6.7.3	Social support services	177
6.8	Alignment with Tinto's Longitudinal Model of Student Departure	178
6.9	Future Research	180
6.10	Conclusion	181
7.	CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS	
7.1	Introduction	182
7.2	Pre-Entry Attributes	183
7.2.1	Demographic characteristics	183
7.2.2	Academic characteristics	184
7.2.3	Socio-economic status	184
7.3	Factors Preventing First-Year Students' Enrolment for the Second Semester	185
7.3.1	Finances	185
7.3.2	Online teaching and learning	186
7.4	Under-preparedness of Students	188
7.5	Psychological Factors	194
7.6	Student Engagement	196
7.7	Institutional Support	196
7.8	Conclusion	198
	BIBLIOGRAPHY	199
	ANNEXURE 1	259
	ANNEXURE 2	261

ANNEXURE 3	276
ANNEXURE 4	291
ANNEXURE 5	292
ANNEXURE 6	293

LIST OF FIGURES

Figure 1.1: Undergraduate Enrolment per Faculty	17
Figure 2.1: Faculty of Management Sciences five year undergraduate graduation per gender	20
Figure 2.2: Tinto's longitudinal model of student departure (Tinto, 1993)	58
Figure 4.1(a): Age and first semester results for students enrolled	81
Figure 4.1(b): Age and first semester results for students who did not enrol for the second semester	81
Figure 4.1(c): Age and employment status	81
Figure 4.1(d): Age and balancing home, work and university responsibilities for students enrolled	81
Figure 4.2(a): Gender and first semester results: students enrolled	85
Figure 4.2(b): Gender and first semester results: students who did not enrol for the second semester	85
Figure 4.2(d): Gender and balancing home, work and university responsibilities: students who did not enrol for the second semester	85
Figure 4.3(a): Gender and preparing for tests or assignments: students enrolled	87
Figure 4.3(b): Gender and preparing for tests or assignments: students who did not enrol for the second semester	87
Figure 4.4(a): Gender and highest qualification to be obtained: students enrolled	88
Figure 4.4(b): Gender and reasons for pursuing higher qualifications: Students enrolled	89
Figure 4.5(a): First choice of qualification and first semester results: students enrolled	93
Figure 4.5(b): First choice of qualification and first semester results: students who did not enrol for the second semester	93
Figure 4.6(a): Prior qualifications and adaptation to university life	96
Figure 4.6(b): Prior qualifications and time management	96
Figure 4.6(c): Prior qualifications and preparing for tests or examinations	96
Figure 4.7: Regional representation: all students	97

Figure 4.8(a): Regional representation and first semester results: students enrolled	98
Figure 4.8(b): Regional representation and first semester results: students who did not enrol for the second semester	99
Figure 4.9: Student profile from the regions identified as extremely poor by the Namibia Multidimensional Poverty Index Report (2021)	99
Figure 4.10(a): Poor regions: preference for face-to-face versus online learning	102
Figure 4.10(b): Poor regions: migration to online teaching and learning	103
Figure 4.11: Poor regions: reasons for pursuing tertiary education	104
Figure 4.12(a): Living arrangement and first semester results: students enrolled	106
Figure 4.12(b): Living arrangements and first semester results: students who did not enrol for the second semester	107
Figure 4.13: Mechanism for payment of studies	114
Figure 5.2: Familiarisation with the LMS	115
Figure 5.3: Migration to online teaching and learning	116
Figure 5.4: Preferred mode of learning: face-to-face over online	117
Figure 5.5: Orientation attendance and offering of a separate orientation session	122
Figure 5.6: Activities to be included in a separate orientation session	123
Figure 5.7: Time management	125
Figure 5.8: Students perceptions about preparing for tests or assignments	126
Figure 5.9: Reasons for pursuing higher qualifications	137
Figure 5.10: Intentions to pursue higher qualifications	138
Figure 5.11: Level of ease of interaction with fellow students	141
Figure 5.12: Forms of engagement	140
Figure 5.13: Making friends	140
Figure 5.14: Level of ease of interaction with academic staff	141
Figure 5.15: Number of times students engaged with faculty outside of class	142
Figure 5.16: Ease of interaction with faculty	143
Figure 5.17: Discussion of students' grades with lecturers	144

Figure 5.19: Usage of available academic support services	145
Figure 5.20: Reasons for not making use of academic support services	146
Figure 5.21: Academic support services offered by academic departments in the FMS	147
Figure 5.22: Usage of social support services	148
Figure 5.23: Reasons for not making use of social support services	148
Figure 5.24: Belonging to a student club/society/sports club	149
Figure 6.1: Tinto's longitudinal model of student departure	179
Figure 7.1: Proposed First-Year Experience Programme	193

LIST OF TABLES

Table 1.1: First-year dropout per faculty: 2016 to 2020	4
Table 2.1: First-year enrolment per faculty (MIIR, 2021)	7
Table 2.2: Pre-entry attributes	17
Table 2.3: The Faculty of Management Sciences five-year enrolment by gender (Namibia University of Science and Technology, 2017; 2018; 2019; 2020; 2021; MIIR, 2021)	20
Table 2.4: Online readiness reference models (Demir and Yurdugül, 2015)	44
Table 4.1: Chi-Square test results: Pre-entry attributes	79
Table 4.2: Age, prior qualification or university attendance and first semester results	83
Table 4.3: Type of high school attended and first semester results	90
Table 4.4: High school marks and first semester results	91
Table 4.5: Prior qualifications and first semester results	94
Table 4.6: Regional representation of students with first-generation status	100
Table 4.7: First-generation status and academic performance: students enrolled	100
Table 4.8: Living arrangements	101
Table 4.9: Living arrangements and first semester results	101
Table 4.10: First-generation status and first semester results	105
Table 4.11: Regional representation and highest qualification aspirations	106
Table 4.12: Living arrangements and payment of fees	107
Table 4.13: Source of tuition fees and first semester results	110
Table 5.1: Major challenges with online teaching and learning	115
Table 5.2: Reasons for not attending orientation	123
Table 5.3: Reasons for not belonging to student clubs/society/sports club	150

ABBREVIATIONS

BUSSE	Beginning University Survey of Student Engagement
EMIS	Enrolment Management Information System
FMS	Faculty of Management Sciences
FYE	First-Year Experience
IUM	International University of Management
LMS	Learning Management System
MDPI	Multidimensional Poverty Index
MHETI	Minister of Higher Education, Training and Innovation
NBT	National Benchmark Test
NCHE	National Council for Higher Education
NMU	The Nelson Mandela University
NSFAF	Namibia Students Financial Assistant Fund
NSSC	Namibia Senior Secondary Certificate
NUST	Namibia University of Science and Technology
SPSS	Statistical Program for the Social Sciences
TVET	Technical Vocational Education and Training
UJ	The University of Johannesburg
UNAM	The University of Namibia

1 CHAPTER 1: CONTEXT OF THE STUDY

1.1 Introduction

Enrolling in higher education institutions can be exciting and challenging. It is exciting as many students will be away from home and independent for the first time. It is also challenging as students need to adjust to several new ways. The transition from high school to university is not easy, as students have to navigate their way to adapt to university life. Kitching and Hulme (2013) state that students are faced with new teaching and learning styles and must be more independent and acquire new skills. Conley et al. (2014:195) describe the transitioning from high school to university as 'stressful and disruptive'. Wangeri et al. (2012) support the above and explain that the transition to university brings deep anxiety since some students are breaking from familiar places and people for the first time. Many times, students cannot cope with the demands of university and therefore drop out during their first year.

University first-year dropout is a concern globally. Al-Sheeb et al. (2017) explain that student college success relies heavily on the students' first-year experience (FYE). Lekena and Bayaga (2018) argue that it is crucial for first-year students to have a worthwhile and positive experience, as it is during the first year that tertiary institutions either retain or lose the students. The Organisation for Economic Co-operation and Development (OECD) (2008) discloses that even though dropping out does not always present a failure of individuals or inefficiency of universities, a high dropout rate shows that the higher education system probably did not match the students' expectations and needs.

Larsen et al. (2013) state that dropping out of university is synonymous with wasting personal resources, time and money. Larsen et al. (2013) further argue that dropping out can have a negative economic effect on the university. Dropout represents significant opportunity costs because it means a missed opportunity for other potential students to complete their university studies. Dropout also has adverse socio-economic consequences since the supply of university graduates affect the returns to education as well as overall economic growth (Bound & Turner, 2011).

The challenges experienced by first-year students become even more challenging when faced with a global pandemic. Because of the global pandemic, COVID-19 detected in Namibia in March 2020, Namibia's Minister of Higher Education, Training and Innovation (MHETI), directed universities to migrate to online teaching and learning. Subsequently, the Namibia University of Science and Technology (NUST) migrated to online teaching and learning on the 11th of May 2020. This study was conducted when the university had been offering online teaching and learning for eight months.

1.2 Background to the Problem

According to Namibia's Multidimensional Poverty Index Report (2021), more than 43.3% of the Namibian population live in multidimensional poverty. Furthermore, according to English (2016), Namibia has the third-highest level of income inequality globally. Higher education plays a crucial role in attaining Namibia's national development plans, and becoming a knowledge-based, industrialised country by 2030 (Eita et al., 2002). This is because an educated and skilled population is one of the key drivers for economic growth and social development to transform Namibia into a knowledge economy.

The unpublished 2012 Namibian Higher Education Review Report confirms the shortage of skilled labour across all sectors of the economy. According to the Namibian Labour Survey (2018), only 14.6% of the Namibian employed population have completed tertiary education (Technical/Vocational Certificate/Diploma, University Certificate/Diploma or Degree). The demand and access to higher education have increased significantly over the past years as the Gross Enrolment Ratio in Namibia has increased from 19,1% in 2013 to 22.6% in 2017 (National Council for Higher Education, 2017). The Gross Enrolment Ratio provides a measure of access to higher education and is critical for understanding and assessing the performance of the higher education system, as international evidence suggests that there is a correlation between higher education participation levels and economic development (Darvas et al., 2017). Therefore, there is a greater chance of individuals with a tertiary level of education finding a job and earning more than those who do not have a university degree (Owen & Sawhill, 2013).

Namibia has two public tertiary institutions – the University of Namibia (UNAM) and the NUST, and one private university – the International University of Management (IUM). According to Lembani (2019), approximately 93% of all university students are enrolled at the two public universities, while 7% are enrolled at the IUM. The universities offer their programmes through three teaching and learning modes: full-time, part-time and distance education. There is high demand for tertiary education in Namibia. For instance, over the past five years, applications to the NUST increased from 20 119 to over 22 000 in 2021 (MIIR, 2021). Indeed, the National Council for Higher Education (2021) shows that higher education enrolment in public and private universities has increased from 53 661 in 2016 to 66 656 in 2020.

Forty-two percent (42%) of the first-year full and part-time students enrolled in the Faculty of Management Sciences (FMS) at NUST for 2020 come from rural areas (MIIR, 2021). For some of these students it is their first time in a city; their first time to be independent; they are required to: make new friends; interact with a variety of different people (i.e., lecturers, administrative staff, etc); adapt to different teaching styles and to a new way of learning. In some cases, students are also required to stay without family, which also requires adjustments. These challenges, amongst others, can often be overwhelming, resulting in many students dropping out in their first year of study. For instance, NUST's overall dropout rate increased from 17% in 2014 to 22.7% in 2020, whereas the first-year dropout rate increased from 19.4% in 2014 to 23.6% in 2018 (MIIR, 2018). In the Netherlands, 33% of students drop out or switch after the first year (The Dutch Inspectorate of Education, 2016, as cited in Van Herpen et al., 2017). According to Hanson (2021), 30% out of the 40% overall dropout rate for United States undergraduate students are first-year students who do not return to university for their second year. In Australia, New Zealand and the United Kingdom, approximately 7% to 19% of the bachelor's students drop out after their first year (Australian Government, 2014; Higher Education Funding for England, 2016, as cited in Van Herpen et al., 2017). In South Africa, the drop-out rate of first-year students is estimated at 33% (DHET, 2019).

Table 1.1: First-year dropout per faculty: 2016 to 2020

FACULTY	2016 (%)	2017 (%)	2018 (%)	2019 (%)	2020 (%)
Computing and Informatics	17.3	23.3	21.6	26	23
Engineering	19.8	20.5	15.8	23	15
Health and Applied Sciences	19.8	19.8	12.4	18	15
Human Sciences	26.6	36.8	24.5	23	22
Management Sciences	28.2	35.2	28.3	26	26
Natural Resources and Spatial Sciences	19.5	15.5	15.1	24	14
NUST	24.9	30.8	23.6	24	22

Source: MIIR, 2020

At NUST, the FMS and the Faculty of Computing and Informatics, followed by the Faculty of Human Sciences (with a dropout rate of 22% in 2020), had the biggest first-year dropout rates for 2020 (Table 1.1). FMS, apart from the 2020 academic year, consistently had the largest dropout rate and because of its size, it is by far the biggest contributor to drop out headcounts at NUST. Although the first-year dropout rate in FMS has decreased from 35.2% in 2017 to 26% in 2020 (Table 1), the number of first-year students dropping out is still concerning especially if you compare first-year student dropouts in the Business Management fields with other universities. For example, at the College for Business and Economics at the University of Johannesburg (UJ) 13% of their first-year students dropped out in 2018 (UJ Annual Report, 2018). At Nelson Mandela University (NMU), 85% of the 2017 first-year students enrolled in the Faculty of Business and Economic Sciences returned in 2018 (Nelson Mandela University, 2018).

In 2020, FMS enrolled 5545 students, of which 4829 were undergraduate students, and of these, 2334 were first-year students (MIIR, 2021). Of the 2334 first-year students enrolled at the beginning of the year, 256 full and part-time first-year students did not return for the second year (MIIR, 2021). This study focused on first-year students enrolled in both full and part-time study modes. It excluded factors affecting distance learning students as it involves a different method of instruction and study. The social conditions, for example, work and family commitments for distance students also vary significantly.

According to the NUST 2021 enrolment report, the FMS constitutes 44% of the institution's overall enrolment and therefore contributes significantly to the overall performance pertaining to the dropout, retention, throughput, pass and graduation rates of the university. The Faculty has a low undergraduate pass rate (50.4%) compared to other universities. For instance, at the UJ the undergraduate pass rate in the College of Business Economics was 85% in 2018 (UJ Annual Report, 2018) and 86.1% at the Faculty of Economics and Management Sciences, at the University of Stellenbosch (University of Stellenbosch, 2016).

Higher education in Namibia is expensive – the costs of an undergraduate qualification in FMS range between N\$19 000 (for certain Diplomas) and over N\$70 000 (for instance the Bachelor's of Accounting qualification) for the three year period (NUST Fees Booklet, 2021). Given that most of the first-year students come from low to middle-income households, it is of utmost importance to assist students to be successful. Moreover, students who drop out still need to pay the course fees (if the period for amendment has passed) and they have lost the monies they paid for registration (NUST Fees Booklet, 2021).

1.3 Overview of Higher Education in Namibia

Higher education in Namibia started around 1979/80. Prior to this, all students wishing to pursue higher education had to go to South Africa or other countries abroad. The NUST has its roots in establishing the Academy for Tertiary Education by Act No. 13 of 1980. Classes in Teacher Training and Secretarial Courses started on 14 January 1980. Five years later, another Act, No. 9 of 1985, was promulgated, and the Academy consisting of a university component (the present UNAM), a Technikon and a College for Out-of-School Training were established. Shortly after independence in 1990, the three components were collapsed into two independent higher education institutions, namely, a university and the Polytechnic of Namibia. Act No. 18 of 1992 that established the Polytechnic of Namibia was promulgated, and this left the Technikon and the College for Out-of-School Training in limbo, but they were placed under the auspices of the new university until the promulgation of the Polytechnic of Namibia Act. Two years later, with the establishment of the Polytechnic of Namibia by Act No. 33 of 1994, Technikon Namibia and the College for Out-of-School Training merged to become the Polytechnic of Namibia. The former City Campus (former Academy) became the Polytechnic of Namibia. This event accelerated and

completed the delinking of the two higher education institutions in December 1995. The Polytechnic of Namibia thus became an independent and autonomous institution in January 1996. On the 14th of September 2015, the Namibia University of Science and Technology Act was promulgated, thereby transforming the Polytechnic into a new university (NUST General Information and Regulations, 2020). The UNAM was established in 1992 and IUM in 1994.

Given the demand for higher education, student enrolment has increased over the past ten years (Hangula et al., 2017). Despite this move towards more student enrolments in higher education, there are resulting challenges. Some of these challenges include, firstly, the absence of an implemented funding framework, which results in inequalities in the funding of public higher education institutions. For instance, according to NUST's annual reports (Namibia University of Science and Technology, 2012; 2013; 2014; 2015; 2016), cost per student exceeds subsidy per student. In 2016, the subsidy per student was N\$30406 while cost per student was N\$58021. Secondly, the reduced government funding (the University's biggest source of income) has made it difficult to attract and retain high-quality academic staff and negatively affects the establishment of state-of-the-art infrastructure to support the core functions of the university, namely, teaching and learning, research and services (NUST Strategic Plan: 2014-2018).

1.4 Background to the Namibia University of Science and Technology

The NUST, previously known as the Polytechnic of Namibia, was renamed NUST by Cabinet in 2015 (Act No 7 of 2015) and is the only University of Technology in Namibia. The institution hosts several centres of excellence, institutes and units to support the University's core functions and consists of six faculties: Computing and Informatics; Engineering; Human Sciences; Health and Applied Sciences; Management Sciences and Natural Resources and Spatial Sciences (NUST Profile, 2021).

1.4.1 Undergraduate student enrolment per faculty

The FMS remains the biggest faculty in terms of undergraduate enrolment (Figure 2.1).

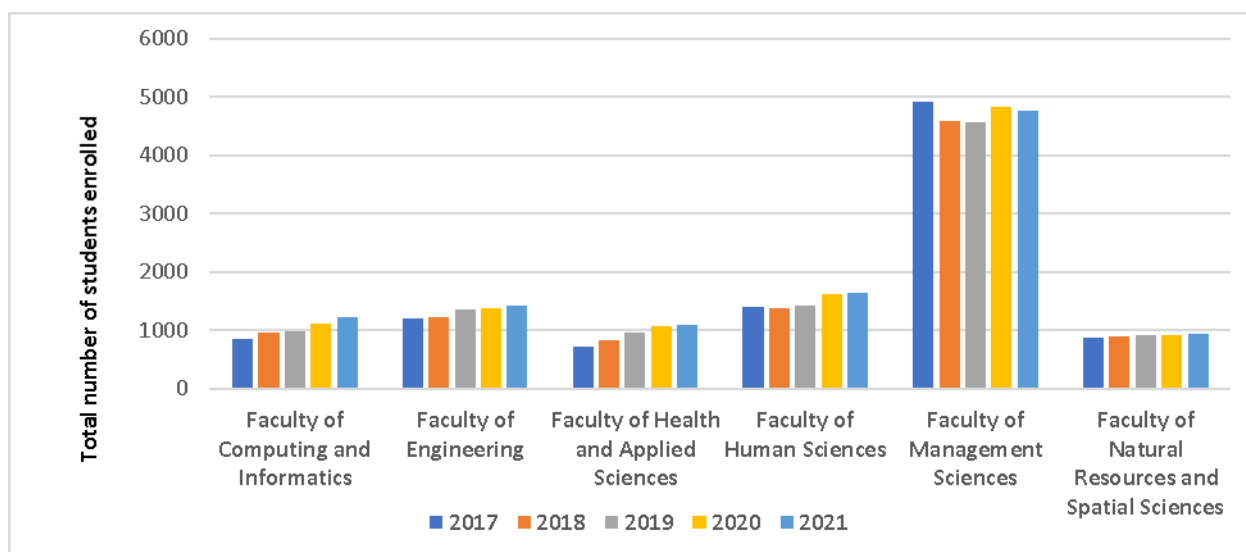


Figure 1.1: Undergraduate enrolment per faculty: 2017 to 2021 (Namibia University of Science and Technology, 2017; 2018; 2019; 2020; 2021)

1.4.2 First-year student enrolment per faculty

Given that FMS has the highest enrolment numbers, it is also the biggest in terms of first-year enrolment as outlined in Table 2.1.

Table 2.1: First-year enrolment per faculty (MIIR, 2021)

Faculty	2017	2018	2019	2020	2021
Computing and Informatics	541	626	642	660	590
Engineering	321	385	462	446	405
Health and Applied Sciences	384	472	486	471	467
Human Sciences	661	660	813	994	803
Management Sciences	2099	2052	2288	2334	1980
Natural Resources and Spatial Sciences	453	439	520	478	424

1.5 Overview of the Faculty of Management Sciences

During the 2020 academic year, the FMS offered 19 undergraduate programmes through the four departments: Accounting, Economics and Finance; Hospitality and Tourism; Management; and Marketing and Logistics. The Department of Accounting, Economics and Finance had the highest enrolment with 1721 undergraduate students, followed by the Department of Management Sciences with 1 479 students enrolled. The FMS also offers several postgraduate

programmes: six Honours programmes and three Master's degrees (Namibia University of Science and Technology, 2020).

The Dean, supported by the Associate Deans for teaching and learning and research and innovation, is responsible for the core activities of the Faculty. Each of the Academic Departments has a Head of Department and a Deputy Head of Department. In 2020, the Faculty had a staff component of 157 faculty (110 full-time and 47 part-time) (MIIR, 2021). Seventeen staff members were enrolled for higher qualifications in 2019 (Namibia University of Science and Technology, 2019).

According to the Faculty's strategic plan (Namibia University of Science and Technology, 2019-2023), the Faculty aspires to decrease their first-year dropout rate from 28.3% in 2018 to 24.3% in 2023. However, there are no strategies identified as how this would be achieved. Literature reveals that there must be a concerted effort aimed at improving first-year student success at institutional as well as departmental levels.

1.5.1 FMS admission requirements

The University's admission requirements require candidates to have obtained 25 points in the Grade 12 examination, which equates to obtaining a minimum of five C symbols. The University also requires an E-symbol in English. These requirements are mostly applicable to the Faculties of Management (some programmes contain additional requirements as outlined in Annexure 1) and Human Sciences, as the other Faculties have additional (more rigorous) admission requirements. The latter allows for the selection of the best first-year students.

NUST also caters to applicants who do not meet standard admission requirements in the spirit of lifelong learning and redress past disadvantages. These applicants are admitted through the Mature-Age Entry Scheme – the applicants must at least have a Junior Certificate or equivalent qualifications. Selection for mature-age entry is by means of appropriate written entrance tests, three years' work experience, satisfactory references, and passing of NUST's language proficiency test in English at A-level, which enables them to commence programmes of study as approved by the Senate.

1.5.2 FMS first-year curriculum

All first-year students are expected to take six institutional core courses: basic science, computer user skills, language in practice, information competence, basic mathematics and contemporary issues. These courses were designed to provide incoming students with basic and foundational (subject) competencies (knowledge) underpinning learning in higher education in general and in the specific cognate area of the learning programme. Learners entering with good competencies in some of the above courses may be exempted from these courses in accordance with standards and criteria decided by the Senate from time to time (Namibia University of Science and Technology, 2020). In addition to these courses, students must take Faculty core courses in the qualification.

As expanded on in the next section, first-year students face several challenges that can negatively affect their university experiences. During the first year of study, students must adapt to the academic demands as they have to adhere to tight deadlines; for example, they must submit two assignments on the same day and write tests in the same week, which gives little time for thorough preparation.

1.6 Statement of the Problem

No prior institutional research has been conducted to understand the factors affecting first-year student success and why first-year students drop out in the FMS at NUST. Apart from the Beginning University Survey of Student Engagement (BUSSE) administered in 2017, focusing on first-year expectations, there has been limited focus on researching factors affecting first-year student dropouts and factors contributing to first-year student success at the institution. This study investigated which factors, based on Tinto's longitudinal model of student departure, affect first-year student success and dropouts in FMS. Tinto highlights the importance of academic and social integration in student persistence. NUST offers academic and social support services; however, a small number of students use them. No research has been conducted at NUST to identify why students are not using the services or the benefit to students who do use these services. This study aimed to investigate the support services absent or that can be enhanced in the FMS to inform the proposed FYE programme.

1.7 Purpose of the Study

This study aimed to identify the perceived factors that affect first-year student success and dropout rates in the FMS. Tinto's longitudinal model of student departure was used as an analytical framework, underpinning the study and the relevance of the model's elements (student pre-entry attributes; goals and commitments; institutional support and commitment; academic and social integration) in the Namibian context were investigated. Ultimately, the study also anticipated identifying support services absent or support services that can be enhanced in the FMS and developing the FYE programme for FMS to enhance first-year student success, thereby improving the Faculty's retention rates.

1.8 Significance of the Study

Due to a lack of prior empirical studies on the study topic at NUST, this study will create new knowledge in Namibia on the topic and will contribute to the existing knowledge. The research:

- a. Investigated the internal and external factors affecting first-year full and part-time students' success and dropouts;
- b. Identified the factors affecting the first-year students experience;
- c. Identified the factors affecting the underutilisation of the existing academic and social support services offered;
- d. Investigated the first-year student success models implemented at two South African universities to provide contexts conducive to developing a FYE framework for the FMS;
- e. Identified support services absent or that can be enhanced in the FMS; and
- f. Explored possibilities impacting educational practices in the FMS.

1.9 Aims of the Study

The main aims of the study were to identify the internal and external factors affecting first-year full and part-time student success as well as explore the factors resulting in first-year full and part-time student dropouts; identify the factors affecting the first-year students' experience; identify support systems absent in the FMS and identify the factors contributing to the

underutilisation of existing academic and support services. By identifying and understanding these factors, an FYE programme for the FMS is proposed to enhance first-year retention and decrease first-year dropouts. Furthermore, the study also contributes by deepening our understanding of students' experiences during a moment of significant transition in higher education, from traditional to face to face to a more blended approach, with greater use of technology.

1.10 Research Questions

The central research questions for this study are aligned with the objectives. The main research questions were:

RQ 1: What factors affect first-year student success?

RQ 2: What factors contribute to first-year student dropouts?

RQ 3: Why are existing support (academic and social) systems not optimally used?

RQ 4: What first-year support systems are absent or can be enhanced in the FMS?

RQ 5: What strategies can be developed and implemented to enhance the first year in FMS?

1.11 Conclusion

In the following chapters, the link between first-year students' academic performance and ten pre-entry attributes (independent variables) is described for students enrolled and students who did not enrol for second semester. Other challenges experienced by first-year students are discussed. The results of this study highlight specific pre-entry attributes shown to have statistical significance with enrolled students' academic performance and students who did not enrol for the second semester. The results provide NUST with a clear profile of the factors that affect the first-year student experience, allowing the institution to make informed decisions on enhancing the FYE thereby improving first-year student success and retention. The following is an overview of the content of the different chapters that follow in this study:

Chapter two consists of a literature review investigating issues related to first-year student academic success and retention. Factors influencing the academic performance of students are

discussed including an overview of higher education in Namibia. The literature review also provides an overview of the NUST and the FMS. The chapter includes the theoretical framework of Tinto's longitudinal model of student departure and concludes with FYE models developed and implemented at two South African universities. Chapter three consists of the study's research methodology deemed suitable for the aim and objectives of this research. The sampling procedure, sample, data collection methods, justification and data analysis procedure are described. Finally, the ethical considerations and limitations of the study are presented. Chapter four presents the research findings, set out under three main themes that emerged from the data collected. These themes are further categorised into sub-themes. Direct quotes from the participants are used to support the findings. Chapter four contains the analysis of the data in terms of the pre-entry attributes, including the academic characteristics of age and gender; academic characteristics (type of high school, high school results, choice of qualification and prior content knowledge); and socio-economic status/characteristics (first-generation status, living arrangements and conduciveness of learning environment).

Chapter five presents the research findings on the challenges students experienced, including the analysis of the underutilisation of existing support services and students' efficacy. Chapter six is a discussion of the research findings in relation to the literature review and the study's aim. Chapter seven provides the recommendation and the conclusion from the study based on the research findings and discussion. Caution has been taken not to discuss and make recommendations based on COVID-19 as these recommendations would not contribute towards the research problem in that COVID-19 has subsided in 2022, but it does reflect on lessons learnt during COVID-19.

2 CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter provides an overview of previous research on factors affecting first-year students' dropout at university including the impact of COVID-19 on the first-year student experience. By using primary sources, I used a thematic approach to the literature review by organising the existing literature on the different themes important in understanding the factors contributing to first-year student dropout. The literature review, to be discussed below, shows that the COVID-19 pandemic had a huge impact on the first-year experience at university. Although the intention of this study was not to test Tinto's student departure framework in a pandemic, the results of this study assert that certain factors such as pre-entry attributes, which affect the first-year students experience under 'normal university conditions', are also relevant during a pandemic such as COVID-19. The inclusion/alignment of online teaching and learning in Tinto's student departure framework will be discussed in detail in Section 2.4. Finally, the literature review observed effective FYE models developed by two South African universities to enhance first-year student success. As mentioned before, the Namibian context is similar to that of South Africa, and the study, therefore, uses two South African universities that have successfully implemented FYE models.

Given the importance of the first year at university, it is paramount to understand the factors that affect the first-year experience as Nyar (2021:78) posits that "the initial weeks of the first-year are also the time at which students are most likely to drop out from their course in the first year of study".

2.2 The First-Year Experience

First-year student success has been a growing concern for universities over the past years. This concern has grown incrementally with the challenges facing higher education due to the emerging global trends of massification, widening access, the influence of technology and dwindling resources appearing to manifest most strongly at the first-year level (Leibowitz et al., 2009). When first-year students enter university, they face several challenges that affect their

academic performance. They must adjust to a new way of learning, become more independent, adapt to a faster learning pace, manage their time and workloads, adjust to university classes (Van Rooij et al., 201) and cope with a heavier workload (Bailey & Phillips, 2016; Hassel & Ridout, 2018). Moreover, the literature reveals that first-year students experience several other challenges: challenges in areas such as academic writing, reading, referencing, note-taking, question analysis and argumentation, numeracy, English as a barrier, inability to use computers, coping with the academic workload, time management, ineffective study methods, lack of critical thinking skills and “learning new context” (Mavunga, 2014; Mayet, 2016:8; Tanga & Maphosa, 2018, Lee et al., 2019). Additionally, Srairi (2021) states that university factors such as resources, the curriculum, university regulations and teacher quality affects student dropouts. Moreover, a review of the literature shows that pre-entry factors, as illustrated in Table 2.2, also affects first-year students’ success.

As alluded to previously, the challenges become even more severe when faced with a global pandemic. In early 2020, the COVID-19 pandemic brought the world to an unprecedented stop. China reported the first coronavirus (COVID-19) case in December 2019. Thailand, Japan and the Republic of Korea reported their first cases of COVID-19 on the 20th of January 2020. By the end of February 2020, countries in the Western Pacific, European, South-East, Eastern Mediterranean regions, America, and two African countries, Algeria and Nigeria, reported COVID-19 positive cases. Most African countries reported COVID-19 positive cases by the end of March 2020. Namibia reported its first COVID-19 positive case on the 13th of March 2020 (Pan American Health Organization and World Health Organization, 2020).

As preventative measures, many countries imposed restrictions such as banning public events and gatherings, workplace closures, stay-at-home restrictions, domestic and international flights, and closing schools and universities. A study conducted by the International Association of Universities (2020) revealed that Africa was the region with the highest percentage of higher education institutions closed because of COVID-19.

In March 2020, Namibia was declared a state of emergency. Many restrictions were put in place, including suspending face-to-face classes for schools and universities. As a result of the state of

emergency, NUST cancelled all face-to-face classes that had commenced on the 10th of February 2020 on the 16th of March 2020. Subsequently, the MHETI called on all universities to migrate to online teaching and learning to salvage the academic year. Online teaching and learning commenced at NUST on the 11th of May 2020. As a result, the institution, lecturers and students had to make more adjustments than usual.

The adjustments required first-year students to adapt to online teaching and learning within a short period as well as to adapt to the restrictions imposed as a result of COVID-19. Moosa and Bekker (2022) show that the sudden move online learning due to COVID-19 created an influx of epistemological, psycho-social and financial challenges for first-year students. Additionally, Kaisera & Bwalya (2021) and Pillay, et al, 2021, state that many students had challenges in terms of e-learning system accessibility and accessing the e-learning platform layout, resources to access internet and network, isolation, and the home environment not conducive for online teaching and learning. Rivera and Millàn (2021) posit that the transformation to online teaching and learning poses extra challenges not only to instructors, but also to students, especially those who are newcomers and have not been exposed to university experiences before. Moreover, the shift to online teaching and learning had a major impact on students and caused a lack of motivation, stress symptoms, insufficient access to digital infrastructure at home, inadequate digital skills for online teaching and learning and varying degrees of financial and non-financial familial support and studying in environments not conducive to learning (Whitelaw, Branson & Leibbrandt, 2022).

According to Cea, et al, 2020 and Munoz Vidal & Arevalo (2020) instructors usually just replicate what they did during their face-to-face instruction, which adds to the fact that they are unfamiliar with the technology they need to use, and thus, unprepared to tackle technology issues as they arise. The above is supported by Adedoyin & Soykan (2020) who argue that with the shift to online teaching and learning, most lecturers were unprepared to deliver high-quality instruction.

Rivera, et al (2021) state that given that online instruction was implemented as an emergency measure due to the pandemic, there was little to no preparation in most educational

establishments. Arriagada (2020) explains that in order to be better prepared to transition to emergency online modes of education, there need to be strong educational policies implemented in the short, medium and long-term. Indeed, researchers such as Akaslan and Law (2011), Moftakhari (2013); Harrington (2001) and Rohayani (2015) all agree that institutions, online learners and online teachers must be ready for online teaching and learning. As a result, the online readiness models are described in Point 2.6.4.4 below.

Whilst online teaching and learning had a big impact on the first-year student experience during COVID-19, the results of this study show that factors such as pre-entry attributes; academic characteristics; socio-economic background; preparedness of first-year students; psychological factors; and institutional support, which impact the first-year students experience during normal face-to-face teaching and learning are also pertinent in the ‘new normal’. The sections to follow focus on the above factors and also include online teaching and learning.

2.3 Factors Affecting Students’ Dropout

Universities need to understand first-year student dropouts as research shows that the FYE is significant in retaining students. Several factors contribute to first-year student dropouts. These factors are discussed in detail, starting with the pre-entry attributes. Table 2.2 below outlines the pre-entry attributes which contributes to students’ decision to drop out.

2.3.1 Pre-Entry attributes

Table 2.2: Pre-entry attributes

Pre-entry attributes	Author(s)
Socio-economic conditions of family	Tomul & Polat, 2013 Loye et al., 2020 Van Zyl et al., 2012 Lovat & Darmawan, 2019 Craft, 2019
Age	Loye et al., 2020 Karinga et al., 2019
Gender	Parajuli & Thapa, 2017 Kolster & Kaiser, 2015 Van Zyl et al., 2012
Choice of study	Casanova et al., 2018
Living environment	Wallner & Nissen, 2018 Staten, 2016
High school results	Sosu & Pheunpha, 2019 Stewart et al., 2015 Blanchete, 2016 Goegan & Daniels, 2019 Parsons, 2016
Type of high school	Van Zyl-Schalekamp & Mthombeni, 2015 Costas-Santos et al., 2018
Finances	South Africa Council for Higher Education, 2013 Bonaldo & Pereira, 2016 Van Zyl, 2010 Moodley & Singh, 2015

*Authors Own***2.3.1.1 Demographic characteristics****a. Age**

According to Moen and Schaefer (2021), universities are among the most age-segregated of institutions. Among the many reasons mature students enter full-time higher education are career orientations, replacing redundant skill sets, being a role model for children, and the enjoyment of learning (O'Carroll et al., 2017). Several studies show that age affects the academic performance of first-year students (Momanyi et al., 2015; Loye et al., 2020, Onuekwusi, 2015). Milun et al. (2016) argue that older students obtain higher grades than younger students. Contrary to this, Pellizzari and Billari (2012) show that younger students perform better than their peers. However, Imlach, Ward, Stuart, Summers, Valenzuela, King, Suanders, Summers, Srikanth, Robinson and Vickers (2017:1) argue that "ageing does not impede academic achievement, and that discrete cognitive skills as well as lifetime engagement in cognitively stimulating activities

can promote academic success in older adults”. Furthermore, Cotton et al. (2017) state that many non-traditional students (in the Namibian context, referred to as part-time students) are likely to be older, first-generation attendees, financially independent, live off-campus and attend university part-time. Moreover, Dawborn-Gundlach and Margetts (2018) state that while mature-age students (21 years and above) share many of the issues and concerns of other first-year students, additional factors such as dependents, financial commitments, paid employment, the time since they last used academic skills and the lack of familiarity with ICT. Dawborn-Gundlach and Margetts (2018) further state that the style of assessment, loneliness and social dislocation on campus contribute to feelings of anxiety and can compromise overall university adjustment and achievement. Schuller and Watson (2009) state that mature students may struggle more in adapting than their younger peers because their backgrounds are often more complex because of personal responsibilities and the point at which they are at in their life course. Morrow-Howell et al. (2020) highlight fitting in career concerns, acclimating to the learning environment and technology, internal and external stressors, return on investment, and ageism and undervaluing age-diversity as challenges for older students. According to Chapman (2017), gaps or breaks in a student’s experience of formal and post-secondary education, poor experiences at school and the financial risks taken might make adaptation particularly difficult for mature students. However, Sutton (2019) argues that older students tend to bring a wealth of life experience that can help them adapt to some of the academic aspects of university life, which might help them persist through some of the challenges during their studies.

O’Carroll, et al., 2017 show that there is agreement that mature learners require more flexibility in terms of the delivery of material, and they benefit from deeper learning assessments. The latter is supported by Leach et al. (2001) who state that adult learners may be disempowered by conventional assessment strategies, which promote a surface-level approach. Hay et al. (2010), support a change from assessment in which the lecturer has full control to one where there is a partnership between the lecturer and the learner, empowering the learner and allowing their voice to be heard. Hay et al. (2010:580) believe that assessments that allow for ‘critical reflective knowing’ could lead to a transformation of ideas and practice. ‘Policymakers should recognise part-time higher education as an optional world in which complex individual student needs trump the homogeneity of institutional systems’ (Butcher, 2020:13). Butcher (2020) continues

that part-time mature students can feel peripheral, like tourists visiting higher education but who know they do not really belong.

According to five NUST annual enrolment reports (Namibia University of Science and Technology, 2017; 2018; 2019; 2020; 2021), the number of students from 25 years and above decreased from 46% in 2017 to 38% in 2021. The enrolment reports further show that students representing the age range 18 to 24 years remain the biggest contributor to student enrolments at NUST.

b. Gender

Literature shows that more female students enrol at universities than their male counterparts (OECD, 2008; National Council for Higher Education, 2021). According to Zimba (2015), the support for girls' education has been promoted through global and national initiatives for more than two decades. Global initiatives such as the United Nations Girls' Education Initiative; Women in Development; Millennium Development Goals; Convention on the elimination of all forms of discrimination against women; Girls' Education in the 21st Century: Gender Equality, Empowerment and Economic Growth (The World Bank, 2008); and The Dakar Framework for Action, Education for All: Meeting Our Collective Commitments (United Nations Educational, Scientific and Cultural Organization, 2000). According to Zimba (2015), African females have been supported in education through avenues such as Forum for African Women Educationalists, African Union Gender Policy, New Partnership for Africa's development, African Charter on Human and People's Rights, and the Solemn Declaration on Gender Equality in Africa. At the Southern African Development Community region level, females education has been championed through the Southern African Development Community Protocol on Gender and Development and the Southern African Development Community Gender Protocol Barometer, and at the national level, Namibian girls' education has been supported by the Ministry of Gender Equality and Child Welfare, the Forum for African Women Educationalists - the Namibian chapter and through the Gender Mainstreaming in Education Programme (Zimba, 2015).

DeMinck (2017) found that female students experienced balancing home, work and university responsibilities as challenging. Despite the above, Kolster & Kaiser (2015) and Parajuli & Thapa (2017) show that female students outperform their male counterparts.

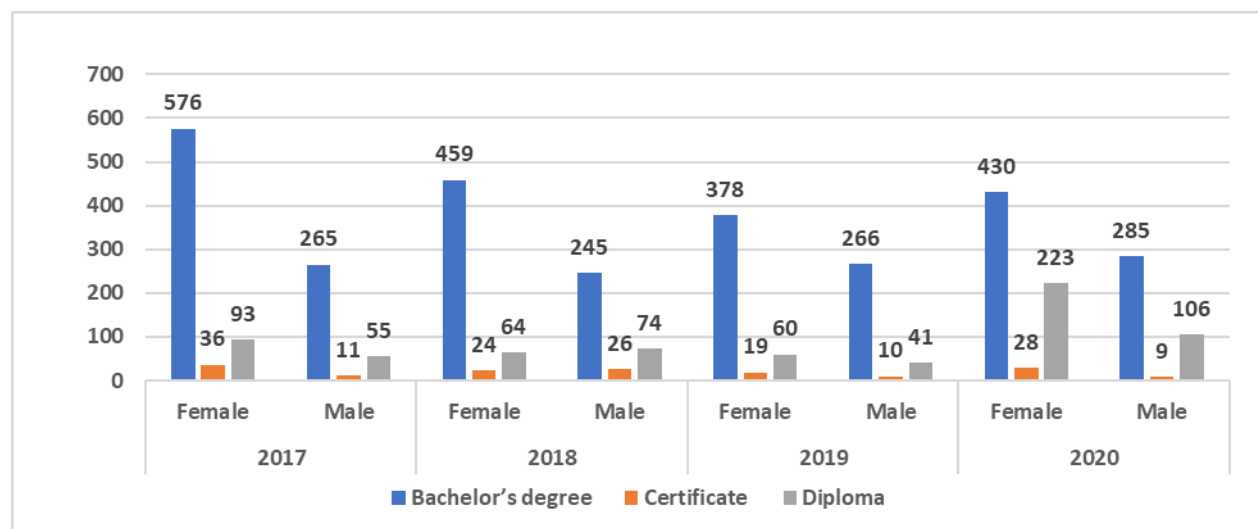
As shown in Table 2.3, at NUST, over the past five years, more female than male students enrolled in the FMS (Namibia University of Science and Technology, 2017; 2018; 2019; 2020; 2021).

Table 2.3: The Faculty of Management Sciences five-year enrolment by gender (Namibia University of Science and Technology, 2017; 2018; 2019; 2020; 2021; MIIR, 2021)

Year	Overall enrolment		First-year enrolment	
	Gender		Gender	
	Female	Male	Female	Male
2017	2935	1977	869	704
2018	2663	1933	819	730
2019	2589	1986	873	732
2020	2735	2094	902	810
2021	2702	2052	765	701

Moreover, according to NUST's graduation statistics, more female than male students in the FMS graduated from 2017 to 2020 (Table 2.4; MIIR, 2021).

Figure 2.1: The Faculty of Management Sciences five-year undergraduate graduation per gender (MIIR, 2021)



Research has highlighted gender differences in academic motivational attributes and how these predict academic achievement for each gender; however, a vast amount of inconsistency exists amongst such literature (Pirmohamed et al., 2017). Severiens and Dam (2012) state that female students perform much better than male students. Edwards-Joseph and Baker (2014) show that self-efficacy enhances academic achievement especially in female students. Furthermore, females are more successful in completing their higher education degrees compared to males (Voyer & Voyer, 2014). Voyer et al. 2014, continue that female students are also less likely to switch study programmes. Furthermore, female students seem to perform better academically because they have positive perceptions of education, read more and study more (Smith, 2016). Woodfield et al. (2005) state that female students perform better academically as they are more academically responsible. On the contrary, a study conducted by Pirmohamed et al. (2017) on gender differences in correlation to academic achievement among university students showed that self-efficacy was the only significant predictor of achievement for female students. Pirmohamed et al. (2017) state that environmental or contextual factors have been posited to explain gender differences in achievement. These factors expand to socialisation – where masculinity is generally perceived as lacking emotions and affections, while femininity is beauty conscious and marriage-oriented. These perceptions shape attitudes and behaviour in schools, ultimately impacting negatively on academic achievement (Kange'ethe & Muhoro, 2014). Gender biases exist in teaching, such as students being told they can or cannot do a task because of their gender, but also by the hidden curriculum - the subtle lessons that children encounter every day through teachers' behaviours, feedback, classroom segregation and instructional materials (Frawley, 2005). Musser et al. (2017) reveal that male students' poor academic performances result from a combination of experiences, such as a disconnect between high school and university academic expectations, adherence to rigid male gender roles and an inability to set priorities and engage with faculty and staff. Musser et al. (2017) further argue that hegemonic masculinity may lead to unfavourable academic performance for men. Harris and Harper (2015) found that men's notion of masculinity was well-formed by the time they arrived on campus, and once in university, men act in accordance with traditional conceptions of masculinity as influenced by parents, interactions with male peers and participation in contact sports. These conceptions may lead to male students not asking for help, when needed, as they would not like to be seen as “not having everything under control” or “struggling”.

Apart from the demographic characteristics of age and gender discussed above, the academic characteristics also affect students' decision to drop out.

2.3.1.2 Academic characteristics

a. Type of high school

Students from private schools tend to perform better compared to those from public schools (Parajuli et al., 2017). Frenette and Chan (2015) show that students who attended private high schools were more likely to have socio-economic characteristics positively associated with academic success and school peers with university-educated parents. Opposing these results, Costa-Santos et al. (2018) showed that students from public secondary schools seem to be better prepared for the teaching methodologies at university. Preston (2014) supports Costa-Santos et al. (2018) by asserting that students from public secondary schools perform better at university than students from private schools, claiming that private school graduates make less effort at university because of perceived long-term advantages of their secondary schooling and other socio-cultural reasons.

According to the Ministry of Education, Arts and Culture (2019), Namibia only has seventeen private secondary schools, with five in the Khomas region, three in the Kavango region and one per region (Erongo, Hardap, Ohangwena, Omaheke, Omusati, Oshana, Oshikoto, Otjozundjupa and Zambezi). Most Namibian learners attend public schools; nationally, only 6.4% of all learners were enrolled in private schools in 2019. More than 10% of the learners in the Karas, Erongo and Khomas regions attended private schools in 2019. Khomas had the highest percentage of learners enrolled in private schools (19.0%), while Kavango West had the lowest percentage (1.2%). The latter can be because of the high poverty rates in the region (Ministry of Education, Arts and Culture, 2019).

b. High school grades

According to Blanchet (2016), Goegan and Daniels (2019) and Parsons (2016), high school results are the strongest predictor of first semester results and first-to-second semester retention. Furthermore, studies show that high school grades are associated with performance and persistence in college (Westrick et al., 2015; Allensworth & Clark, 2020, Hodara and Lewis,

2017, Galla, Shulman, Plummer, Gardner, Hutt, Gojer, D'Mello, Finn & Duckworth, 2019). Tinto's longitudinal model of student departure also holds the position that students with A-grade high school results are more likely to persist during their studies. Naidoo et al. (2013) disclose in a study conducted on academic success within the Occupational Therapy Education Programme at the University of KwaZulu-Natal that graduates with lower matriculation scores took longer to complete their degrees than those with higher matriculation scores. This is supported by Van Zyl (2010), who shows that students are more likely to drop out if they have completed four or fewer higher grade subjects in Grade 12. Sosu and Pheunpha (2019) found that students with the lowest entry grades are more likely to drop out. Stewart et al. (2015) state that students who enter college with high academic scores from high school are likely to persist through their first year. Stewart et al. (2015) continue that support services such as tutoring, mentoring, counselling services, early intervention systems and financial aid will improve students' academic deficiencies and increase persistence beyond the first year.

c. *Prior qualifications*

Several studies show that prior qualifications improve students' academic performance as it enhances students' level of academic preparation and increases motivation (Bickerstaff et al., 2017; McLaughlin et al., 2017). Wong (2018) states that prior development in academic study skills is key for academic success. Morse (2018) further states that entering students are equipped with practical knowledge, and that these students have the advantage over those learning the theory for the first time with no prior experience.

Universities have developed and implemented bridging courses to help students transition from high school to university. For instance, the UFS offers bridging programmes, and the UFS (101) compulsory module teaches first-year students how to engage with complex problems from multiple perspectives and develop competent graduates. Similarly, the Cape Peninsula University of Technology hosts an extended curriculum programme to increase the throughput rate of socially and educationally disadvantaged students who otherwise may fail their first year. A study conducted by Eitemüller and Habig (2020) shows that students with low prior knowledge manage to close their content gaps in just a few weeks and adjust differences in prior knowledge before starting their studies. Eitemüller and Habig (2020) further state that at the end of the first

semester, bridging course participants achieve significantly better exam results than their fellow students who did not enrol in the bridging course. Van Herpen et al. (2020) show that participation of students in pre-academic programmes could give students a head start in higher education.

Research shows that pre-university training can play a role in continuing and completing a student's academic studies. For instance, students who enrol through the NUST InSTEM bridging programme are more likely to succeed in their studies than those who joined the university directly from high school. While students can enrol in any other faculty upon successful completion of the bridging course, a very small number of students continue in the Humanities and Management Faculties. Most students enrol in the Science, Technology, Engineering and Mathematics fields upon completing the programme. The student's success during the remainder of their studies may be because they learn how to adapt to university life during the bridging year, and their actual first year may not be as challenging.

In the following section, the socio-economic background is discussed in detail below.

2.3.1.3 Socio-economic background

Students' socio-economic backgrounds play a significant role in successfully integrating students academically and socially, affecting students' decision to drop out of university. This is supported by the study conducted by Lekena and Bayaga (2018), revealing that half of the students who participated in the study, especially those from low-income or disadvantaged backgrounds, dropped out because they were unable to bear the direct and indirect costs of university attendance, or they are unable to continue attending when financial needs change. The South African Council for Higher Education (2010:145) report stipulates that at the University of the Western Cape, 'financial factors contribute to a stressful experience for some students, starting at the very beginning of the year when registration has to be paid when textbooks must be acquired, and accommodation and living expenses must be sorted'. A Universities of South Africa publication (2018) reveals that the top two reasons given by students for considering dropout are financial (40% cite tuition fees as a potential reason for leaving university, and 30%

cite living costs). The Universities of South Africa publication (2018) further reveals that poor academic performance, a sense of not belonging, and safety concerns off-campus were also reasons given by students for considering dropping out. According to Reynolds and Cruise (2020), socio-economic status is an indicator of undergraduate students' persistence. Crawford (2016) and Maria and Awan (2019) show that there is a difference in student's academic performance depending on their socio-economic background

Namibia consists of fourteen different regions, of which the Ohangwena, Kunene, Zambezi, Kavango and Omaheke regions were classified as having the highest poverty rates (Namibia Multidimensional Poverty Index Report, 2021). Although the other nine regions are not classified as being extremely poor, many people in these regions represent low-income or come from disadvantaged backgrounds. According to the Namibia Statistics Agency (2018), 47.4% percent of households in Namibia indicated that salaries or wages were their main source of income in 2018. This is followed by subsistence farming accounting for 19.8% of all Namibian households. The 2018 survey further observed major differences in the sources of income between urban and rural areas. In urban areas, 63.3% of the households depended mainly on salaries or wages whereas, in rural areas, 41.6% of households depended on subsistence farming. The regions of Ohangwena (60.6%), Omusati (58.8%), Kavango West (57.1%) and Oshikoto (42.1%) reported subsistence farming as their main source of income (Namibia Statistics Agency, 2018). Only 8.2% of Namibia's employed population have obtained a certificate, diploma or degree, and 2.5% have obtained a postgraduate certificate, diploma or degree. To get out of poverty and raise their standard of living, many students pursue higher education as they believe it would improve their career aspirations. The results of this study affirm the aforementioned and it is therefore safe to argue that because of this belief, students remain resilient despite facing several challenges. Clearly, finances plays a huge role in terms of student persistence.

a. Finance

A lack of funds affects the payment of tuition fees and the purchasing of food, the day-to-day necessities, transport and study materials, and some students do not participate in campus-based social and academic activities that require payment (Universities South Africa, 2018). In

addition, a lack of funds has been shown by researchers to have a significant impact on student persistence, and as a result, many students drop out of university (Van Zyl, 2010; South African Council for Higher Education, 2013; Moodley, et al., 2015; Bonaldo, et al., 2016; Lekena, et al., 2018). Stewart et al. (2015) show that financial aid assistance increases students' persistence beyond the first year. Chen and Hosler (2017) show that students who obtain financial aid (grants or loans) tend to remain in university and achieve higher grades than the average student. According to Mngomezulu et al. (2017), students receiving bursaries are sometimes expected to redirect part of the funding they receive to their families to alleviate their poor living conditions. Mngomezulu et al. (2017) continue that the above contributes to the psychological schemas of students, consequently impacting their academic performance and sabotaging students' financial resources. Furthermore, financial stressors have also been highlighted as one of the factors associated with increased anxiety or depression during COVID-19 (Jones, Manze, Lamberson & Freudenberg, 2021).

The Namibia Students Financial Assistant Fund (NSFAF) provides financial assistance through loans and grants. Loans include tuition and non-tuition fees, additional costs, bank charges, administration charges and disbursements, whereas grants are financial awards given by the NSFAF. The NSFAF policy (2005) asserts that financial assistance is granted to cover tuition, textbooks, registration fees and related educational expenses at rates as may be approved by the NSFAF Board from time to time. Furthermore, the policy highlights that financial assistance relating to accommodation, meals, transport and maintenance is offered only to students in selected fields of study of high priority as determined by the Board from time to time. These priority fields are mainly focused on the Science, Technology, Engineering and Mathematics areas. Furthermore, many students coming from rural areas live on their own or with family, share a flat or live in the informal settlements in Windhoek and have additional expenses such as taking transport to and from campus, purchasing data and devices (due to COVID-19) and purchasing textbooks. As mentioned before, since many family members lost their jobs due to COVID-19, it added significant financial strain to students' and their families. Furthermore, students from low socio-economic status are more likely to have part-time employment to sustain themselves and in some cases their families.

As shown by Staten, 2016; Wallner et al., 2018; Gichere et al., 2019; Kaisara & Bwalya, 2020; living arrangements have an impact on the academic performance of students. Additionally, the literature reviewed show that students who work part-time and study, are more likely to dropout.

b. Living arrangements and conduciveness of learning environment

Students' living environment plays a crucial role in their academic performance (Staten, 2016; Wallner et al., 2018; Gichere et al., 2019; Kaisara & Bwalya, 2020). Muslim et al. (2012) found that several factors affect students living off campus. These factors are expensive rental rates, noisy neighbours, no free internet access for students and safety concerns. Maina & Aji (2017) and Sikhwari et al., 2020, show that students living on campus perform better academically. According to Timmons (2014), students living on campus enjoy benefits such as attending classes punctually and accessing the library for longer periods, whereas non-resident students living far from their campus encounter difficulties in these aspects. Iqbal, Morrissey and Patrick (2020) state that students living independently obtained higher grades, attributing this to other factors such as students' attitude towards study, self-efficacy and motivation. Murray (2014) states that students with some form of residence-based accommodation are, on average, graduating more quickly than students without. The conduciveness of the learning environment is also an important factor that affects students' academic performance. However, the literature shows that the conduciveness of the learning environment was a challenge during online teaching and learning (Belaineh, 2017; Kaisara et al., 2021). As a result of COVID-19, students were sent home to be taught online. Many first-year students, especially those from the rural regions, live with family, live alone or share accommodation, and live in informal settlements in Windhoek. Informal settlement living is not conducive to learning as there is no electricity or basic living necessities. Academically conducive environments are of great importance to the success of students. The Ministerial Committee appointed by the South African Minister of Higher Education in 2010, to review the provision of student accommodation at universities and benchmark South African universities against each other as well as against international institutions operating in similar environments, is a good case in point. The Report on the Ministerial Committee for the Review of the Provision of Student Housing at South African Universities (2011) made seven recommendations; firstly, universities need to develop residence admissions and allocations policies to increase and support access to university residences by

poor working-class and rural students; and strategies and mechanisms need to be established to allow all new first-year contact students in need of accommodation to be allocated to a residence for their first year. Secondly, the committee recommended that minimum standards for the accommodation and housing of students must be developed and made applicable to all providers of student housing, both public and private. The third recommendation was that given the dire shortage of suitable student accommodation, public-private partnerships in the form of student villages, particularly in the metropolitan areas, should be explored further; and that mechanisms should be designed to foster and enhance cooperation between all stakeholders involved in the provision of student housing and accommodation need to be established, under the auspices of the Department of Higher Education and Training. Fourthly, control or governance systems be put in place for the management and administration of these residences. Fifthly, once the State has indicated what proportion of this target it can fund, the private sector should be invited to meet the remaining bed capacity target, aligned with minimum standards for providing student housing. The report continues that a differentiated or sliding residence infrastructure funding mechanism should be developed to enable campuses with low bed capacities to receive a higher percentage of the infrastructure funding until they have caught up. As the sixth recommendation, universities must have measures to ensure the condition of residence infrastructure for maintenance and refurbishment. The final recommendation is that universities should develop a multi-year strategic plan (including a financial plan) for residence maintenance and refurbishment. The recommendations made in the above report resonates with the Namibian context, in that NUST does not have sufficient accommodation for its students. Furthermore, and this will be discussed in Chapter 6, MHETI directed universities to enter into public private partnerships to assist in establishing suitable accommodation for students.

In the same way that living arrangements and conditions influences students' decision to drop out of university, work influence including family responsibilities also affect students' levels of persistence. Moreover, students from low socio-economic status and disadvantaged backgrounds face financial challenges which leave them with no choice but to seek employment during their period of study. The above is supported by Lessky and Unger (2020:2) who posit that "the growing number of working students can be attributed partly to changes in the student population with regard to socio-demographic and socio-economic characteristics."

c. Work influence

According to Evans (2021:10) “increasing numbers of university students are working part-time while studying and, as a consequence, several academic studies have highlighted the adverse impact of this practice on academic performance”. Mithimunye and Daniels (2021) support Evans by arguing that students’ academic performance and success is adversely affected by engagement in paid part-time employment during the period of study. Many Namibian students work full-time and attend classes in the afternoon. These students cover the same material as the full-time students.

Usually, part-time students receive little support from parents and student aid. Sometimes work-related factors contribute to students dropping out. Nearly three-quarters (71%) of students who dropped out of college said that work contributed to the decision, with more than half (54%) identifying it as a significant factor. About a third (35%) said that balancing work and school was too stressful (Johnson et al., 2009). Hovdhaugen (2015) supports this, stating that students who work full-time alongside studying full-time are less likely to complete their programme than students working part-time or not working. Many of the students working part-time and studying have dependent children and families.

d. Family responsibilities

Many times, part-time students have family responsibilities resulting in competing demands. In some instances, students are single parents, and they find it challenging to balance the different roles as they must attend to family issues that may interfere with their studies (Jeffreys, 2015).

Aside from the impact the socio-economic background in terms of finances, living arrangements, work influence and family responsibilities, students coming from low socio-economic backgrounds are often first-generation students.

e. First-generation status

According to Reynolds and Cruise (2020), first-generation status is an indicator of undergraduate students’ persistence. CraftdeFreitas and Rinn (2013) show that students whose parents attained a higher qualification are more likely to succeed. Another perspective on generational status is

provided by James et al. (2010) who found that compared to their counterparts, first-generation students have clearer objectives, work more consistently throughout the semester, and manage their academic workload more strategically, despite feeling overwhelmed by the number of tasks they have to complete. Radunzel (2021) shows that first-generation students (whose parents have no college experience) are generally less likely to persist in college and complete a degree. Van Zyl-Schalekamp et al. (2015) argue that all students must acquire analytical and problem-solving skills, learn about other cultures and races, satisfy study requirements and deal with external commitments. They point out that, unfortunately for first-generation students, there is no one to guide them through such problems, and students must figure out how to proceed with their studies while experiencing those problems. Avallone (2018) supports the view of Van-Zyl-Schalekamp and Mthombeni by stating that it is important for first-generation students because social capital recognises the value of supportive individuals who provide emotional support and validation as well as information. These students have an advantage: their parents or relatives may help them manage student life, get financial help and deal with study and examination pressures. Moreover, according to Garza et al. (2014), first-generation students tend to get lost in the transition from their first year of college to their senior year and beyond. Notwithstanding the above, Ricks and Warren (2021) argue that while a wealth of research outlines the obstacles and challenges of first-generation students, literature describing these students' assets is limited. According to Garrison and Gardner (2012), first-generation students have personal assets and strengths, including proactivity, goal direction, optimism and reflexivity; their lived experiences tend to influence the development of these assets. Higher education in Namibia started around 1979/80. Before this, all students wishing to pursue higher education had to go to South Africa or other countries abroad (NUST General Information and Regulations, 2020). The Namibia Statistics Agency (2018) showed that a small percentage of the Namibian population had a university certificate, diploma or degree. The assumption, therefore, is that most students are first-generation students.

While the above pre-entry attributes affect first-year students' success, once students enter university, they are faced with a number of challenges such as transitioning from high school to university. Keeping in mind that the study also focused on part-time students (who most worked) some of these students have been at high school a long time ago, which also makes

adapting to university life challenging. Hunter (2006) states that incoming students enter a new culture whether they come to university from high school or from a work environment. Furthermore, adapting to academic demands also proves challenging in terms of student's readiness (or preparedness) when registering at university.

Literature shows that many first-year students entering university find the transition from high school to university challenging as they are unprepared and lack the required skills needed for success in higher education (Tirney et al., 2015; B, 2019). The transition to university may be particularly difficult for mature students with families and students who are the first-generation to attend university (Briggs et al., 2012).

Conley (2008) argues that to be successful at university, a student needs four factors: cognitive strategies, content knowledge, academic behaviours, and contextual skills and awareness. Cognitive strategies refer to ways of thinking and working that are needed and expected in a university environment, such as analytical thinking, reasoning, evaluation, accuracy and precision. Content knowledge refers to the mastery of knowledge and skills about the core subjects and an understanding of the knowledge structure in these subject areas. The third factor includes critical learning skills and techniques, which refer to academic behaviours or beliefs, including time management skills, study skills, persistence, motivation and self-efficacy. The fourth factor is contextual skills and awareness, which refers to information that students need to get into university and navigate the environment. This is supported by Briggs et al. (2012), Kandinko and Mawer (2013) and Hassel et al. (2018), who show that English language proficiency, autonomous learning, independent study and realistic student expectations are important determinants of student success. Stewart et al. (2015) state that students must resolve academic and transition issues early during the first year to help underprepared students be successful in higher education.

a. *Transitioning from high school to university*

A study on the transition from the second level and further education to higher education led by Denney (2015) shows that the challenges associated with the transition to higher education are not necessarily short-lived, and the more complex a student finds the transitional challenge, the lower their odds of getting a higher grade. To assist students with the transition, universities offer orientation – an intentional programme meant to help transition students into their first year of university (Evensen, 2017). Orientation affects retention and academic preparedness. It provides the option for purposeful spaces and opportunities in which first-year students can connect and interact; the opportunity for first-year students to engage with the university before their academic courses begin (Evensen, 2017).

Nyar (2020:124) states that a ‘typical’ orientation session would provide information and guidance about academic requirements and support services of the institution by academics and student services staff; the involvement of peer leaders, mentors and student volunteers; and, more recently, department-based activities with new students often involving ‘ice-breakers’ and team-based tasks and challenges. While research shows the importance of orientation (Nyar, 2020; Alperin et al., 2020), Selesho (2012) argues that the induction of first-year students is often criticised for being confusing, sometimes overly bureaucratic, and, while providing information, does not provide it in a user-friendly way or in a context where it can be readily assimilated.

Nyar (2020:124) argues that there is no longer a ‘generic’ or ‘typical’ approach to orientation in recent decades. et al. (2018) state that orientation is only the first step in the transition process. Morgan (2014) developed a student experience transitions model, which according to scholars like Nyar (2020), is in synergy with the idea of extended orientation. Morgan’s model outlines six stages of extended orientation – stages 1 and 2 refer to first contact and admissions and pre-arrival; stage 3 refers to arrival at university and orientation; stage 4 refers to the introduction to study at university; stage 5 refers to re-orientation and re-introduction and, stage 6 is outduction. However, orientation is only one activity that assists students with the transition. Over the past couple of years, many universities have begun introducing FYE programmes to help first-year undergraduate students adjust to the college environment and become more successful. The FYE

course typically extends beyond orientation content and student development across the first year (Yan & Sendall, 2016).

b. Time management

Time management skills are an important factor in being successful during the first year at university (Conley, 2008; Nigussie, 2019). Adams and Blair (2019) state that effective time management is associated with students' better academic performance and lower anxiety levels; however, many students find it hard to balance their studies and day-to-day lives. Additionally, literature shows that time management is an essential component of students' readiness for online learning, as shown in the models developed for e-learning readiness (Mercado, 2008; Akaslan & Law, 2011). Furthermore, recent studies show that time management is challenging for students during online learning (Barrot et al., 2021; Hayat et al., 2021). However, according to Dhawan (2020), online learning provides flexibility where learners can schedule or plan their time for completing online courses. Miertschin et al. (2015) show that online courses present unique challenges for effective time management and workload (Kohan et al., 2017). This can be attributed to factors such as being at home where students face many distractions, for instance, doing housework instead of preparing for a test, getting distracted by social media or other entertainment platforms while working on their devices (Department of Higher Education and Training, South Africa, 2020).

c. Heavy academic workload

According to Scully and Kerr (2014), student workload is an essential and complex concept. Literature shows that a heavy student workload negatively affects academic success (Atalay et al., 2016), promotes surface learning (Scully & Kerr, 2014), negative attitudes, and lack of motivation towards learning (Mikkonen & Ruohoniemi, 2011), higher dropout rates and procrastination (Bowyer, 2012) and plagiarism (Ehrich et al., 2016). Tempski et al. (2012) state that a high workload also affects the non-academic life of students in higher education by generating stress, anxiety and feelings of burnout and is, therefore, a strong predictor of psychological well-being (Liu et al., 2015). Furthermore, heavy workloads can cause physical challenges (Rummel, 2015), impede students from participating in physical activities necessary

for maintaining a healthy lifestyle (Sweeney, 2011), and surface learning approaches (Biggs & Tang, 2011).

The South African Council for Higher Education 2010 report remarks that students' under-preparedness affects success as many students entering university find the intensity of the work differs significantly from school, as the volume of work is more demanding than what they experienced at school. Furthermore, the literature shows that the transition to purely online classes increased students' academic workload during COVID-19 (Armstrong et al., 2020; Al-Kumaim et al., 2021). Aristovnik et al. (2020) conducted a study on the impact of the COVID-19 pandemic on higher education students. Their study found that slightly less than one-third of the students globally reported their study workload had become smaller or significantly smaller. The study shows that the workload for students from South America, Asia and Africa had decreased. Previously, it was reported that one of the reasons for the overload could be that lecturers have exhibited concern for finishing the syllabus on time, which is the result of fear and panic among educators regarding how to complete the programme of study (Allam et al., 2020). Al-Kumaim et al. (2021) state that the design of teaching plans remained unchanged even though COVID-19 has forced universities to change their teaching and communication. They continue that some university instructors and students had little experience or training in using, assessing and managing online teaching.

Bao (2020) supports this by stating that some instructors and students face extra challenges because of a lack of online teaching and learning experience. Al-Kumaim et al. (2021) state that another reason for the overload is that staff and students must deal with multiple online learning platforms. Rozman et al. (2014) point out that students' prior learning shapes students' perceptions of their workload. For instance, one spends less time studying for exams.

d. Self-directed learning

Self-directed learning is, amongst others, a good predictor of academic performance (Cazan & Schiopca, 2014; Khiat, 2017); it enhances motivation, performance and self-efficacy (Boyer et al., 2014). Du Toit-Brits and Van Zyl (2017) point out that self-directed learning can be regarded as an essential skill in the 21st century, and it implies that the acquisition of school subject

knowledge alone is not sufficient; skills such as critical thinking, resource identification and responsibility to learn should be emphasised. Du-Toit-Brits (2018) further states that the student is not a passive receiver of information but rather an active and self-directed contributor in the learning process, creating a meaningful understanding of the learning information found in the learning environment.

Du Toit-Brits (2018), in her self-directed learning theory model, suggests that students' learning characteristics, the learning environment, compounded with a meaning-making learning change process, can change students into holistically transformed self-directed goal-oriented students. Moreover, Karatas and Arpaci (2021) argue that opportunities have changed people's understanding of learning with increased virtual learning. Karatas and Arpaci (2021) continue that the teacher was seen as the only source of knowledge and that the source of information has become diverse in the traditional understanding. Furthermore, Karatas and Basbay (2014) state that memorising information in the past was important, but nowadays, it has become essential to gain skills related to where information can be accessed and learned. Karatas and Arpaci (2021) stipulate that people are expected to acquire the learning skills to learn.

Chiu et al., (2020) show that students need to be motivated to acquire and use self-regulation to allocate sufficient cognitive resources to accomplish learning tasks. According to Heikkilä and Lonka (2006), students who regulate their learning can coordinate and manage reasonable task-related goals, take responsibility for their learning and maintain self-motivation. Gagnon et al., (2016) and Guilmette et al. (2019) found that self-regulation has strong links and positive effects on students' self-help, motivation, and wellbeing.

Edwards (2015) shows that self-directed learners are emotionally engaged in the learning process and can monitor and adjust their learning. While Odoom (2020) indicates that a self-directed learner takes the initiative with or without others' help in formulating the learning plan, resources, strategies and means needed for one's learning. According to Du Toit-Brits and Van Zyl (2017), first-year students qualify on paper for university admission, but they cannot acquire the necessary academic skills (including self-directed learning). Du Toit-Brits et al. 2017:50, argue that this is so because “a lack of motivation may have an effect on a student's self-

directedness in learning. Learning motivation is the driving force behind the implementation of self-directed learning activities although learning motivation is characterized as one of the most popular research dimensions in the area of self-directed learning.”

e. Adjusting to lecturing style

Adjusting to the lecturing style is highlighted as a significant challenge by scholars such as Naong, et al., 2009, even prior to COVID-19. Students barely adopted face-to-face teaching and learning when COVID-19 occurred. As a result of the pandemic, students and lecturers were compelled to adjust to online teaching and learning. Kebritchi et al. (2017) indicate that the teaching staff faces problems regarding content delivery and lower student interest due to the absence of face-to-face meetings, lower control over student groups and not being able to correct these situations. Reyes-Chua et al. (2020) state that as a fundamental problem, only a few lecturers have enough experience to conduct online courses. Similarly, the shift to online teaching and learning placed additional demands on students. Since the teacher is not physically present during online teaching to monitor and direct learning, students are afforded opportunities and are challenged to take the initiative and responsibility for their learning (Mahlaba, 2020), which compels students to be self-directed. Furthermore, given that NUST is moving toward a blended teaching and learning approach, there will be implications for planning modes beyond COVID-19.

f. Prior content knowledge

Literature shows that there is a significant relationship between academic performance and prior content knowledge (Muda et al., 2013; Marinaccio, 2017). According to Papageorgiou and Carpenter (2019), international research has identified relationships between prior knowledge resulting from passing Accounting at high school level and students’ academic performance at higher education institutions. Furthermore, the research conducted by Papageorgiou and Carpenter (2019) indicates a significant association between students’ academic performances in high school Accounting compared to students who did not have Accounting before registering for the Accounting course.

According to Beharu (2018) psychology is among many things that matters in human day-to-day activities. The success and failure we face in various activities we perform each day most often depends on our everyday psychology. Psychological problems such as stress, anxiety, motivation, loneliness and can lead students in higher education institution to failure in their academic achievements, test anxiety, poor performance, low self-confidence, unrealistic worry and fear or uneasiness that interfere with their ability to function normally.

2.3.4 Psychological factors

According to Mofatteh (2021), the prevalence of stress, anxiety and depression are high among university undergraduate students. Literature shows that psychological factors such as personality type (high neuroticism and low extraversion) (Kawase et al., 2008) and motivation (Gilar-Corbi et al., 2020) affect first-year students.

2.3.4.1 Attention and motivation

A vital factor affecting the choice of studies, persistence in studies and performance is individuals' motivation for their studies (Trautwein & Stolz, 2015; Brahm et al., 2017). According to Mahan et al. (2014), student motivation is positively influenced by campus relationships with faculty and staff. Students' motivation to learn may be affected by the teachers' outlook, interests and enthusiasm for their subject (Zhang, 2014). Kucharčíková (2013) and Marčíková (2015) state that the motivation for students to learn and study at university is determined by the personal interest and the quality of teaching. Talbot (1990) argues that the single most influential personality traits (in relation to academic persistence and achievement) appear to be intrinsic motivation.

Attention and students' motivation have been shown as factors affected by online learning (Balan et al., 2020). Cicekci and Sadik (2019) show that students struggle to maintain attention towards the material presented to them. Hartnett (2016) states that motivation in online learning is a complex phenomenon. Gustiani et al. (2022) show that motivation plays a crucial role for learners in online learning and that there is a dynamic interplay between learner motivation and positive classroom experiences in online settings (Meşe & Sevilen, 2021). Research conducted by Stark (2019) shows that online students reported lower motivation levels than face-to-face

students. Students' motivation toward online learning is intrinsically affected by their ambition to learn new knowledge and enjoyment in experiencing a new learning method (Simamora, 2020; Gustiani et al., 2022). However, Meşe et al. (2021) argue that online education negatively impacts students' motivation due to a lack of social interaction, a mismatch between expectations and content, organisational problems and the organisation of learning environments. Furthermore, Meşe et al. (2021) state that learners experience lower motivation levels when they skip classes or do not participate in the activities. Bawa (2016) highlights motivation as a critical issue that can cause low retention particularly since online classes tend to be self-directed. Vanthournout et al. (2012) state that students' academic motivation predicts persistence in the first year of higher education.

2.3.4.2 Isolation

An overall experience on campus is for students to feel quite lonely or isolated, even though there are thousands of other students (Maertz, n.d.). The physical and temporal separation between tutor and student and between students themselves can lead to feelings of isolation (Croft et al., 2010). The literature further shows that a lack of social engagement negatively impacts students' mental health (Vaughn et al., 2016; Ishii et al., 2018; Sprung & Rogers, 2020). Matthews et al. (2019) show that socially isolated children experienced more significant mental health difficulties.

2.3.4.3 Resilience and self-efficacy

Resilience is essential to helping students manage academic demands to enable positive progress and cope with the pressure of study, work and life (Caruana et al., 2014). The mindsets of students make them perceive their academic world differently. According to Dweck (2006), the growth mindset promotes resilience while the fixed one does not. Students with a fixed mindset tend to conceive everything as a measure of their ability and intellect, such as academic performance, challenges, troubles, etc. However, students with a growth mindset tend to think of their academic lives in learning, growing and developing. Growth mindset students interpret setbacks, challenges and effort as effective approaches to improving their ability, intelligence and experience (Claro, et al., 2016). Dweck (2016) states that "a growth mindset is not simply telling students that they can achieve any goal they have set for themselves; it involves creating

an environment where students can develop this belief and providing them with the necessary resources and skills to achieve their learning goals”. Good and Lavigne (2017) show that there are many ways educators can try to instil a growth mindset in students. Good teachers not only help students succeed, but they also help them believe that their effort and learning strategies are the sources of their success. When teachers respond to struggling students by giving them easier tasks and praising them excessively for completing these tasks, students may interpret this as a sign of their lack of inherent ability. Instead, teachers should set challenging learning goals for every student and do whatever is needed to ensure that all students can learn the material in ways that are appropriate for them. Good et al. 2017, further state that teachers should believe that all students can learn and succeed and design the learning environment accordingly. The ultimate goal is that students are persuaded that, with the appropriate learning strategies and investment of effort, they can improve and reach their full potential.

Researchers have discussed different types of resilience, including academic, emotional and behavioural resilience. Recently, special attention has been given to academic resilience (Tamannaifar & Shahmirzaei, 2019). Students who succeed against all odds are considered academically resilient. Academically resilient students are those students who are academically successful, despite coming from the socioeconomically disadvantaged backgrounds that have typically predicted poorer educational outcomes (Erberber et al., 2015). According to Tamannaifar and Shahmirzaei (2019), academic resilience is affected by external protective factors (e.g., social supports and opportunities available in the family, school, community and peers) and internal protective factors (e.g., personality traits, skills, attitudes, beliefs and coping strategies).

Johnson (2008) identified several ‘internal’ factors such as self-efficacy as most important to developing resilience in young people. This finding suggests that effective self-efficacy, which is positively associated with self-esteem in young people (Carprara et al., 2013), influences the development of resilience. Bandura (1993) indicates that students with strong self-efficacy were further motivated to persist through academic challenges and access the necessary resources to succeed. According to Bandura (1994), students low in self-efficacy tend to dwell on their deficiencies and view situations as more challenging than they are. People with a strong sense of self-efficacy view challenging problems as tasks to be mastered, whereas people with a weak

sense of self-efficacy avoid challenging tasks. Therefore, student agency and self-efficacy are the belief that *I will do it and I will be successful*. The latter is evident in this study, as they had to adapt to all the changes such as online teaching and learning that happened during COVID-19.

Although online teaching and learning does not form part of Tinto's student departure framework, it influenced the student experience and can be regarded as part of external community (as outlined in Tinto's framework). As alluded to before, I am cautious to elaborate on COVID-19 as it has subsided. However, given that the results of this study show that online teaching and learning affected the students, it is discussed in the following sections below.

2.3.5 Online learning

According to Singh and Thurman (2019) online teaching and blended learning have been part of teaching in higher education for nearly two decades. Aristovnik et al. (2020) show that while some universities already offer online teaching and learning, many students encountered online teaching and learning for the first time during COVID-19. Indeed, a study conducted by the Department of Higher Education and Training, South Africa (2020) found that many first-year students were not familiar with technology, using technological devices, nor had they engaged much with institutional Learning Management Systems (LMS), which would become their only way of participating in their studies. Bernard et al. (2014) show that while online teaching and learning have been present at universities, their actual implementation and adoption have been persistently inconsistent. Roslan and Halim (2021) support this view as they state that before COVID-19, most higher education institutions were still relying on face-to-face teaching with online offered for distance education or as a supplement to conventional teaching. Since 2014, NUST has positioned itself to offer blended teaching and learning (NUST Strategic Plan: 2014-2018). Before that, the university implemented a LMS to cater for its distance students. However, even as the university envisaged adopting a blended teaching and learning mode, the LMS was not optimally used (the reasons for the underutilisation of the LMS will be discussed below) (Mutelo & Angula, n.d.). COVID-19 forced the university, as was the case globally, to migrate to fully online teaching and learning.

The change to online teaching and learning forced teachers and students to adapt to a new reality (Cicha et al., 2021). It required universities to evolve toward online teaching, implementing online strategies and adapting to the available technological resources in record time (Garcia-Morales et al., 2021). This rapid change to online teaching and learning and the absence of clear policies and guidelines in most higher institutions on online teaching presented several questions such as what to teach, how to teach, what should be the duties of the teacher and the student, the workload of the teacher, the teaching environment and the implications for education equity etc., were not apparent (Zhang et al., 2020). Furthermore, Allam et al. (2020) state that the best tools can be in place, but without equitable access by all students to the tools, adequate preparation time and training for faculty, and the adaption of existing curricula, or the development of brand-new course syllabi, it will be difficult to replicate the in-person learning experience online. Technology has long been recognised as a way to provide flexibility and offer students choices in the how, where and when they study (Gordon, 2014). Carlsen et al. (2016) state that flexible learning pathways that can help higher education systems become more effective and efficient in fulfilling their missions and goals. Flexible higher education provisions can better accommodate the diverse needs of both students and employers. It can also improve job prospects and create a sense of fulfilment among those engaged in learning.

2.3.5.1 Namibia's higher education stakeholders' response to online teaching and learning

When the MHETI directed universities to migrate to online teaching and learning, NUST established an online implementation committee to provide leadership and guidance in terms of all matters related to the University's response to COVID-19. In a memorandum to staff dated 08 April 2020, the Acting Vice-Chancellor acknowledged several challenges the university faced in terms of online teaching and learning. These challenges included but were not limited to:

- a. 'Student and staff access to a reliable and affordable internet connection;
- b. Student and staff access to appropriate devices to access online learning such as laptops and other devices;
- c. Student computer literacy, especially our first-years, and also training to students to utilise the resources appropriately;
- d. Appropriate training for staff to be able to properly deliver online teaching, learning and

assessment to our quality standards;

- e. Sufficient University IT infrastructure to cope with the increased demands such as bandwidth and hardware capacity;
- f. The challenge of practical and laboratory-based subjects;
- g. The availability of conducive and appropriate learning conditions for our students at home and;
- h. Reliable data to support our decision-making.’

To mitigate some of these challenges, NUST offered webinars, training videos and one-on-one assistance through the Centre for Open and Lifelong Learning and Teaching and Learning Unit to staff. The University also offered a student orientation course developed for students to access and familiarise themselves with online teaching and learning. The University, in collaboration with the National Council for Higher Education (NCHE), the Ministry of Higher Education, Training and Innovation, NUST Student Representative Council, NSFAF and many other stakeholders in this regard, worked hard to find potential solutions and to provide support for resolving these challenges. The MHETI launched a stimulus package to mitigate the impacts of COVID-19 on the higher education sector. Through the stimulus package, the Ministry offered support to over thirty- two thousand needy students locally by providing portable internet devices with 10 gigabytes of data per month as well as laptops at a subsidised cost. The Ministry also allocated N\$2.4 million to NUST to upgrade the institution’s bandwidth (Namibia News Digest, 2020).

Despite the above efforts, and as alluded before, NUST already had online presence, prior to COVID-19 although on a small scale. The literature reviewed for this study, to be discussed below, shows that there are a number of factors affecting online teaching and learning. Clearly, from the communication from the VC dated April 2020, the institution was faced with major challenges which implies that the university was not ready for online teaching and learning. Moreover, by looking at the online readiness models as outlined in Table 2.5, one can argue that the students, the lecturers and the institution were not ready for online teaching and learning.

However, given COVID-19 the university had to adapt to online teaching and learning and it is highly unlikely that universities will again return to full face-to-face classes. It is therefore important for NUST to invest in online teaching and learning to reap the advantages and benefits deriving therefrom.

2.3.5.2 Advantages of online teaching and learning

Previous studies reveal that online learning has several advantages, including reducing the time and costs for travel; increasing opportunities to access and collaborate with expert professionals in a global range; providing students with the flexibility to access courses at their convenience; and allowing adjustments to subjects and content need (Finch & Jacobs, 2012; Hu et al., 2016; Benito et al. 2021). Arkorful and Abaidoo (2015) further state that e-learning allows access to a vast amount of information and motivates students to interact with others. However, despite the advantages highlighted above, Gherhes, Stoian, Farcasiu & Stanici (2021), show that there is a greater preference for face-to-face to online teaching and learning. Gherhes et al. (2021) further show that more than half of the respondents in their study asserted that they wanted to return to face-to-face learning at the end of the COVID-19 pandemic. Respondents in Gherhes et al.'s (2021) study highlighted the biggest disadvantages of e-learning (compared to face-to-face learning) as, amongst others, the lack of interaction, technical problems during internet connection, less explanations given during class, and that it is harder to learn.

2.3.5.3 Disadvantages of online teaching and learning

There are also many challenges associated with online learning. These challenges include technical issues; teachers' lack of technical skills and their teaching style inappropriately adapted to the online environment; lack of interaction with teachers or poor communication with them; perceived isolation; challenges balancing study; work and family commitments; confusion with content; and lack of motivation (Roddy et al., 2017; Coman et al., 2020;). Means and Neisler (2020) further highlighted students' motivation, the presence of lecturers and missed opportunities for learners to deepen their understanding by discussing the course content with peers. Parkes et al. (2015) show that students are not sufficiently prepared for balancing their work, family and social lives with their study lives in an online learning environment. Students are also poorly prepared for several e-learning competencies, and there is a low-level

preparedness amongst students concerning the usage of a LMS. Kaisara et al. (2021) highlight further online challenges in the e-learning system: accessibility and platform layout, resources to access the internet and network, isolation and the home environment in the Namibian context. Akaslan & Law (2011) and Moftakhari (2013) show that online readiness is affected by several factors such as students, lecturers and institutions.

2.3.5.4 Online readiness models

According to Akaslan and Law (2011) and Moftakhari (2013), institutions, online learners and online teachers must be ready for online learning before embarking on this journey. Oliver and Harrington (2001) indicate that online learning readiness is one of the most significant factors influencing e-learning programmes' successful outcomes. Online readiness is considered one of the critical characteristics for successfully implementing e-learning in higher education (Rohayani, 2015).

Online readiness refers to students' e-learning readiness, lecturers' readiness for online learning and online learning institutions' readiness (Demir & Yurdugül, 2015). Online readiness will be briefly discussed. Demir and Yurdugül (2015) investigated the most prominent components for students' online readiness, teachers' online readiness and institutions' online readiness by investigating the strengths and weaknesses, the characteristics and components of online readiness models. Their findings proposed the online readiness reference model for students, teachers and institutions as outlined in Table 2.5.

Table 2.4: Online readiness reference models (Demir and Yurdugül, 2015)

Online readiness models		
Students	Lecturer	Institutional
Competency of technology usage	Acceptance	Finance
Self-directed learning	Access to technology	ICT infrastructure
Access to technology	Motivation	Human resources
Confidence in prerequisite skills and oneself	Time management	Management and leadership
	Institution and policy	Content
	Content	Culture

Motivation	Pedagogical competency	Competency of technology
Time management	Competency of the technology usage component	usage

These online readiness models will be briefly discussed below because they set the scene for determining, from the data, which factors affected the readiness of NUST students, lecturers and the institution.

a. *Online learning reference readiness model for students*

Demir and Yurdugül (2015) suggest that the most prominent components of students' online readiness are competency using technology, self-directed learning, access to technology, confidence in prerequisite skills and oneself, motivation and time management. Competency using technology incorporates students' self-efficacy in using computers, the internet and other technological devices. Self-directed learning encompasses determining learning sources, reaching out to learning materials independently, determining which strategies one should employ and assessing learning processes and outcomes. Access to technology refers to the need for students to either have the necessary technological devices or have access to them. It also includes capabilities like a stable internet connection. Confidence in prerequisite skills and oneself is a combined component that comprises one's trust towards the skills required to succeed in e-learning and towards oneself. Motivation is the students' willingness and eagerness to attend classes via online or electronic methods. Lastly, the time management component measures the degree to which students can utilise their time effectively with the intention of achievement.

b. *Online readiness reference model for teachers*

Demir and Yurdugül (2015) further suggest an eight component reference model for teachers' readiness: acceptance, access to technology, motivation, time management, institution and policy, content, pedagogical competency, and lastly, competency of technology usage. Competency of technology usage, access to technology, time management and motivation are as for the students' online readiness model, only with reference to teachers. The acceptance

component has to do with the dispersion of literature. It includes perceived ease of use and usefulness. The institution and policy component measures the extent to which higher managers support policies and regulations consolidate the e-learning initiative's implementation. Content includes delivered materials being effective, efficient, of good quality and applicable to teach to novices and low-achieving learners as well as experts and high-achieving students. Finally, the pedagogical competency dimension obliges teachers to use suitable instructional strategies and pedagogical approaches in both the development and delivery phases of the e-learning content.

c. Online readiness reference model for institutions

The most prominent components in institutions' online readiness are finance, ICT infrastructure, human resources, management and leadership, content, culture, and lastly, competency using technology. The ICT infrastructure component, similar to the access to the technology component, encompasses other capabilities facilitating online learning, such as LMSs. Finance relates to the institution's financial situation where online learning is to be applied. It includes both an institution's capacity to allocate sufficient money and its willingness to do so. The human resources component measures how much satisfactory and instant assistance can be provided to teachers or other staff in urgent need. It also includes staff's competency regarding the requirements of the e-learning initiative. Management and leadership are somewhat like the component of institution and policy. It explains the support of high managers and how they deal with and overcome unforeseeable complications that occur and slow down or obscure the implementation of the e-learning initiative. Finally, culture signifies whether institutions can create environments where e-learning is welcomed and consequently supported by all high-level managers and employees.

2.3.5.5 Learning Management Systems in higher education

A LMS is a web-based or cloud-based software program that assists in the teaching-learning process and helps deliver instruction, training and development programmes. The LMS facilitates instructors, learners and administrators to use and access services and is beyond the restriction of time and place in the teaching and learning process (Chaubey & Bhattacharya, 2015). Mohammed et al. (2018) describe an LMS as software that includes a range of services that assist teachers with managing their courses and tracking registration, attendance, class lists,

grades, test results, class schedule and other administrative requirements (Ninoriya et al., 2011). LMSs can be divided into open-source platforms such as MOODLE and commercial platforms like Blackboard (Kraleva et al., 2019).

NUST is using an open-source platform as its LMS. Although the LMS has been in place for some time, not all faculties have utilised it optimally. A study conducted by Mutelo and Angula (n.d.) focusing on the adaptation and implementation of e-learning at NUST for students and lectures found that the adoption and implementation of e-learning have been challenging due to the lack of ICT knowledge to use the e-learning platform. Mutelo and Angula (n.d.) further state that it takes time for staff and students to acquaint themselves with the new technology adopted or implemented.

2.3.5.6 Synchronous online learning

Littlefield (2018) states that the synchronous online learning environment is structured so that students attend live lecturers; there are real-time interactions between educators and learners, and instant feedback is possible. The synchronous online learning mode instils a sense of community through collaborative learning (Asoodar et al., 2014), can help students feel a stronger sense of connection to their peers and instructor and stay engaged in course activities, and students can engage in spontaneous discussion (Yamagata-Lynch, 2014). According to Perveen (2016), direct interaction with teachers and students in real-time is like a traditional face-to-face classroom, but somewhat better, as the distance is no longer a barrier and by connectivity, via the internet, no time is wasted travelling. However, synchronous online learning also has some challenges, such as the availability of students at a given time and the necessary availability of a good internet connection (Perveen, 2016). Furthermore, Murphy et al. (2011) consider synchronous online learning more teacher-oriented.

2.3.5.7 Asynchronous learning

According to Asaqli (2020), one of the benefits of asynchronous online learning is that students can access recordings when convenient for them and study and practice at their own pace. The asynchronous space leads to student-centred learning (Murphy et al., 2011), less reliance on memory and notes, and more discussions with peer groups to help build critical thinking and

deep learning (Huang & Hsiao, 2012). The chances of getting irritated by technological problems, like low speed and non-connectivity, are less as ample time to attempt e-activities is available (Perveen, 2016).

Perveen (2016) shows that asynchronous e-learning can be challenging as only carefully devised strategies can keep students engaged and interested in this learning environment to facilitate motivation, confidence, participation, problem-solving, analytical and higher-order thinking skills. Moreover, according to Marble et al. (2016), asynchronous learning may not expose students to the latest information in a particular field or have the benefit of having an expert immediately address any specific question they may have. Marble et al. (2016) elaborate that the nature of student camaraderie is very different as, unlike the live program, there is no student interaction. Peer-to-peer learning opportunities are not available to participants, and the students and programme coordinator do not interact in person but rather online or by phone when questions arise.

Yamagata-Lynch (2014) argues that there is room in the instructional technology research community to address strategies for facilitating online synchronous learning that complements asynchronous learning.

2.3.5.8 Online class size

With no physical walls, the online classroom can house many students (Sorensen, 2014). According to Taft et al. (2019), class enrollment sizes for online learning in higher education, a topic of ongoing interest in the academic literature, impact student learning, pedagogical strategies, school finances and faculty workload. Benton and Pallett (2013) state that students in small classes consistently report a stronger desire to take courses than those in very large classes, have stronger work habits and have more positive attitudes about the disciplines. Benton and Pallett (2013) continue that the teaching methods also differ, as instructors in small and medium classes are more likely to involve students in hand-on projects and real-life activities, assign projects that require original or creative thinking, form teams or discussion groups to facilitate learning, and ask students to help each other understand concepts or ideas, providing higher student satisfaction, more motivation, more effort and better study or work habits.

Artemiou et al. (2013) agree that small-group training is the most effective teaching approach in enhancing communication skills. According to Beattie and Thiele (2016), students enrolled in larger classes had significantly fewer interactions with professors. Sorensen (2015) states that some concern is what happens to the quality of instruction in courses with high enrollments. Bento and Pallett (2013) categorise class size as small (10-14), medium (15-34), large (35-49) and very large (50+). As the largest Faculty at NUST, some classes have more than 100 students, in Departments such as Marketing and Logistics and Management. Beattie, et al. 2016 and Sorensen (2015) show that there are fewer interactions between students and faculty in the online learning space.

2.3.6 Student engagement

Student engagement is an essential component of the FYE. Kuh (2001) defines student engagement by two key components: first, what students do (the time and energy they devote to educationally purposeful activities), and second what institutions do (the extent to which they employ effective educational practices to induce students to do the right things academically. Kuh (2009) further explains that student engagement extends beyond students' time and involvement in their studies towards examining the extent of student participation in effective educational practices, as outlined by Chickering and Gamson (1987) who presents seven principles on student engagement. These principles are: student-staff interaction, cooperation between students, active learning, prompt feedback, time on task, high expectations of students, and lastly respect for diverse talents and ways of learning.

It is key to successful teaching and learning, irrespective of the content delivery mechanism's content and format (Khan et al., 2017). Student engagement increases student satisfaction and student motivation to learn, reduces the sense of isolation, and improves student performance in online courses (Martin & Bolliger, 2018). Pascarella (1980) shows that the influence of student pre-enrolment traits held constant, significant positive associations between the extent and quality of student-faculty informal contact and students' educational aspirations, their attitudes toward college, their academic achievement, intellectual and personal development, and their institutional persistence. Lee and Ransom (2011) show that as representatives of the university,

faculty and staff serve as critical links to information and support that promote student success. Capps (2012) shows that faculty and advisers affected students' feelings and decisions about university.

Kennedy (2020) and Anderson (2003) argue that student engagement in online learning is dependent on interaction. Moore (1993) shows three types of student engagement in online environments:

- a. Learner-instructor interaction which refers to the interaction between the learner and the expert who prepared the subject material, or some other expert acting as the instructor.
- b. Learner-learner interaction refers to the inter-learner interaction, between one learner and other learners, alone or in group settings, with or without the real-time presence of an instructor.
- c. Learner-content interaction relates to the interaction between the learner and some text or artefact (an article, slides from a presentation, an audio recording, etc) and is often didactic but not exclusively so.

Hu et al. (2016) support this by stating that effective learning should be multi-directional communication, including communication between students and students, content, and between students and teachers. Brown (2021) highlights that while all three methods of student engagement are important, it is sometimes necessary to prioritise and focus on one or two of these types of engagement, depending on the class goals and subject. However, Redmond et al. (2018) argue that the three types of student engagement (behavioural, cognitive and emotional) developed in the online learning environment are limiting. Redmond et al. (2018) proposed five elements crucial for engagement for teaching and learning in the online space: social engagement, cognitive engagement, behavioural engagement, collaborative engagement and emotional engagement.

With the shift to online teaching and learning, most lecturers were unprepared to deliver high-quality instruction (Adedoyin & Soykan, 2020). Ya (2020) states that many teachers are not technologically savvy and are forced to adapt to conduct their classes online without proper training, diminishing the quality of education. Farrell and Brunton (2020) highlight several

psychosocial factors such as peer community, an engaging online teacher and confidence, and structural factors such as life load and course design as successful online student engagement.

Dwivedi et al. (2018) highlighted several factors affecting students' engagement. Their study shows that students' time spent online is directly proportional to the instructor's online time, promptness of the instructor's response to students' online activities queries increases student engagement, and the students' engagement increases if the online content is related to the syllabus. However, engagement is not the same as face-to-face lectures. Cox and Orehovec (2007) identify five types of student-lecturer engagement. Disengagement refers to not interacting outside of class. Incidental contact is defined as unintentional contact between faculty and students. Functional interaction occurs for a specific institutionally related purpose. Personal interaction is purposeful and revolves around the personal interests of a faculty member and a student, and lastly, mentoring is defined as assistance with career and professional development, role modelling, and emotional and psychosocial support.

2.3.7 First-year students' expectations

According to Hassel and Ridout (2018), the gap between students' prior expectations and the realities of university life can cause significant distress, poor academic performance and increased dropout rates if not managed effectively. Hassel and Ridout (2018) found that students have largely realistic expectations of university. For example, the majority expected to be in charge of their study. Some unrealistic expectations were also evident; for example, most expected that teaching would be the same at university as it had been at school. A study, examining the gap between students' expectations and experiences conducted by Pather and Dorasmay (2018), indicates a significant gap between students' expectations and their actual university experience regarding social engagement, academic engagement and seeking academic support. Pather and Dorasmay. (2018) further state that a mismatch between students' university expectations and experience can result in students feeling disconnected from the institution, which could lead to academic failure and high dropout rates.

2.3.8 Reasons for obtaining a university qualification

Studies show several reasons why students enter university (Hout, 2012; Schunk & Mullen, 2012; Chan, 2016; Ma et al., 2019). There is another side to the issue of socio-economic backgrounds, in other words, the potential for improving one's socio-economic status when obtaining a university qualification. Literature shows that university graduates find better jobs, earn more money and suffer less unemployment than high school graduates (Hout, 2012; Chan, 2016; Ma et al., 2019). However, many scholars argue that entering university also provides non-economic benefits. Lagemann and Lewis (2015) argue that attending university has less to do with pursuing economic or employee benefits and more about preparing young adults with generic skills and civic values and virtues. Lagemann and Lewis (2015) believe that a university degree should provide students with new knowledge, competencies and applied skills such as problem-solving, communication, critical thinking and creativity, which are important for success in the global economy. This is supported by Kiziltepe (2010), who argues that university graduates must have five dispositional outcomes: interpersonal competence, multi-cultural understanding, skills in problem identification and problem-solving, a sense of purpose, and the confidence to act in ways that make a difference.

2.3.9 Academic and social integration

Tinto (2012) indicates that the more students are academically and socially engaged with academic staff and peers, the more likely they will succeed in the classroom. A study conducted by Pather (2013) on social and academic integration of first-year at-risk students in a mathematics intervention programme shows that these students experienced a high level of academic and social integration as a result of the classroom environment created, the collaborative teaching and learning techniques used, and the similar nature of the students. The study further revealed that the students' results improved, and 'there was also a positive shift in the students' motivation and attitude to learning mathematics' (Pather, 2013:67).

Social interaction amongst peers during the first year at university enhances student integration into the academic environment. Social interaction can include belonging to a sports club or student society. Maunder (2018) states that students with strong attachments to their peers demonstrate higher adjustment levels to university life. This is supported by the South African

Council for Higher Education (2010) report, which remarks that social integration is essential as many of the students felt that belonging to sports or social clubs created a 'safe' space for them and felt like 'at home'. Botton and Gregory (2015) show that social engagement in the online sphere can occur through well-designed collaborative activities, blogs, chat rooms, wikis and forums, video and mini-lecturers and case studies.

2.3.10 Institutional support

Tinto (2004) and Boylan (2001) argue that seeking to improve success rates for academically underprepared students should lobby for a developmental education programme that encompasses a divided approach laying the groundwork for success with effective academic advising and provides content and structure; for example, pre-college basic skills course, tutoring and topical workshops. Stewart et al. (2015) showed that support services such as tutoring, mentoring, counselling services and early intervention systems increase students' persistence beyond the first year. Many universities offer programmes to address academic, personal and social needs (Ciobanu, 2013). Research shows that students who use academic support services performed better than those who did not (Ciobanu, 2013; Grillo & Leist, 2013; Watson et al., 2018). Cuseo (2016) argues that the provision of timely academic support for first-year students may not only serve to increase student success during the first year at university, but it may also increase the likelihood that new students will persist to degree completion. Cuseo (2016) continues that collaboration among different organisational units and university community members is important.

A review of the literature highlights strategies such as academic advising, peer mentoring and tutoring (Bettinger et al., 2013; Cuseo, 2015), memory and concentration skills building, early academic progress and warning monitoring, faculty mentoring, first-year seminar courses, group learning, proactive advising and time management workshops (Bettinger et al., 2013) developed and implemented at university for promoting student success. For instance, the University of Kwa-Zulu Natal implemented a Senate-approved Academic and Monitoring Support programme to retain students through a wide range of student-focused support systems and learning environments that enable students to complete their studies successfully (Paideya & Dhunpath, 2018). Cuseo (2016) highlights the importance of peer collaboration through peer tutoring, peer

mentoring, cooperative learning groups, supplemental instruction and learning communities. A large body of evidence shows that peer instruction benefits student learning (Tullis & Goldstone, 2020) as it improves learners' conceptual understanding (Duncan, 2005), decrease failure rates (Porter et al., 2013) and bolsters student engagement (Lucas, 2009).

A study conducted by Yomtov et al. (2017) reveals that mentored first-year students felt significantly more integrated and connected to their university at the end of their first semester than non-mentored students. Collier (2017) highlights cost, availability of a relatively more significant number of potential mentors, and increased likelihood of mentees following mentors' advice due to sharing a common perspective as advantages of peer mentoring or tutoring.

Often the frontline campus representatives who interact with undecided students, academic advisers can offer academic support and guidance during the academic journey, especially benefits first-year students trying to navigate this new and challenging endeavour. As a result of their unique position, advisers can influence students' academic experience and satisfaction with the institution (Ellis, 2014). McGill et al. (2020) state that academic advising has moved from the fringes of higher education to find its place at the centre of student success initiatives in higher education. However, students are not using the services already in place (Dietsche, 2012). Perry et al. (2020) show that students do not understand the services available, and many do not take advantage of university offerings. Perry et al. (2020) elaborate that students are not aware of available programmes, which correlates to less use and perceived value of these services and programmes. Dietsche (2012) states that age, gender, ethnicity, receptivity to support, negative college experiences, faculty referral, studying with peers and poor grades were associated with increased use of some services. According to Lauch et al. (2020), there is insufficient research about why students choose not to use services they have already paid for.

The literature reviewed shows how institutions can assist the underprepared first-year student. However, recent studies found that traditional remedial education does not improve long-term student outcomes (Bailey & Jaggars, 2016). Bailey and Jaggars (2016) argue that instruction is at the core of any developmental (in our context, foundational or bridging) education strategy. Alford and Griffin (2013) support this by stating that it is challenging to teach the underprepared

student. Alford and Griffin (2013) continue that it is helpful to identify the teaching and learning principles involved and then search for practices that follow those principles. They further state that if engagement with underprepared students is to be increased, relevance must increase. Students who sense a disconnect between what they are learning at college (or in a course) and their future life, as they perceive it, will never engage as well as students who understand the relevant connections between their current learning and their future (Alford & Griffin, 2013). Furthermore, the 2016 Centre for Community College Student Engagement Report themed: *Expectations meet reality: The underprepared student and community colleges*, supports Bailey et al.'s argument by stating that since the early 2000s, there has been a call for a culture of inquiry, evidence and accountability for a thorough re-examination of developmental education.

2.4 Theoretical Framework

While there are many transition and retention frameworks such as the student involvement theory by A.W. Astin developed in 1984, the theory of self-authorship developed in 2004 by B. Magolda and the social change model of leadership development developed by S.R. Komives developed in 2009); this study uses Tinto's model of student departure developed by V. Tinto in 1993. Apart from the absence of relevant studies conducted in the Namibian context on first-year student success, I also decided to use Tinto's model as there is a strong emphasis on the academic and social integration of students, which is lacking at NUST at the moment. Furthermore, by using Tinto's framework it can assist NUST to understand the factors affecting first-year student success. Also, Tinto's model provides an overview to understand the reason(s) that contribute towards students' success as well as provide information on how to improve services to foster student success. Furthermore, Tinto's work is considered by some researchers to be the most accepted theory of student departure (Elkins, Braxton & James, 2000). In the absence of any prior studies conducted on factors contributing to first-year students' dropout, Tinto's longitudinal model of student departure (Figure 2, page 68, below) was used as an analytical framework for my study as it provides a holistic view of students' background before joining university, their experiences once at university and the student's role in achieving success. Tinto's model highlights pre-entry attributes, students' goals and commitments, institutional experience, and academic and social integration as important factors for student success. Pre-entry attributes include students' family background skills and abilities and prior

schooling. Family background refers to the parent's education, family expectations as well as socio-economic backgrounds. Skills and abilities refer to students' intellectual skills (knowledge, critical thinking, problem-solving etc.) and social skills (basic communication, interpersonal etc.). Tinto claims that students who enter with A-level scores are also more likely to graduate from university. Tinto argues that these attributes affect students' commitments and goals as they already know what they want prior to joining the university. His model highlights the importance of the institutional experience through students' academic performance. Tinto says that if students cannot adapt to the academic demands, they are likely to drop out. He also highlights the importance of faculty, staff and student interactions. Tinto (2012:56) continues that "the degree and quality of personal interaction with other members of the institution (whether with faculty or with peers) are critical elements" in students' decision to either stay or leave college.

Tinto states that academic and social integration is vitally important and argues that if students have had positive experiences in terms of academic and social integration, they are likely to stay. Given that academic support and social support services are underutilized at NUST, for this study it was important to determine whether the underutilization affects student success. These factors affect students' goals and commitment as they may shift once students have experienced the academic and social domains and impact whether students leave or stay. Tinto (1993, 2012) believes that these are important factors to enhance student success.

Although Braxton et al. (2004) have highlighted that Tinto's model needs to be revised to account for residential and commuter universities, I used Tinto's model as I believe that external commitments such as work and family responsibilities include this aspect. I used the model as most of NUST's students live off-campus – the institution only accommodates 495 students, of which a small percentage are first-years.

Other criticisms of Tinto's model include the elements of the interactions of students' off-campus academic and social factors such as finances, family obligations and external peer groups, while others argue that academic integration does not play an essential part in the success of students (Braxton & Lien 2000; Yorke & Longden, 2004). I believe that Tinto's model incorporates the social factors and off-campus interactions through the institutional experience

(social and academic) and the external commitments elements. In my view, both components are important to develop the holistic student and to ensure that students have the attributes necessary to succeed when employed. I would further argue that social and academic integration is essential in creating that sense of belonging for first-year students. The First-Year Experience in Higher Education in South Africa: A Good Practices Guide (2017), Cuseo (2016), Stewart et al. 2015, show that programmes such as early alert, orientation and academic skills workshops support first-year students' integration into the academic and cultural sphere.

Although Tinto's model does not explicitly address student agency (i.e., where students are self-reflective, take action and interact with their environments (empowering themselves to be successful), I believe it is covered in the students' intentions, goals and commitments; for example, why students enrol at university and how committed they are to achieving their goals. Some of the factors, for instance, family background, lie beyond the University's control. This study is therefore important, as the data will provide evidence of students' different backgrounds, making it easier for staff to understand their students, and it may reveal factors where the University has a chance of making a difference.

Lastly, I looked at practices implemented in two South African universities (UJ and NMU) to assist first-year students in succeeding. UJ implemented its FYE programme in 2010. Since its implementation, the first-year dropout rate decreased from 16.9% to 13,3% in 2018 (University of Johannesburg, 2018). At NMU, the first-year retention increased from 82% in 2015 to 87% in 2018 (Nelson Mandela University, 2015; 2018). I used South African studies because there are similarities in the higher education contexts with Namibia, with both countries having massive social inequalities and similar demographics.

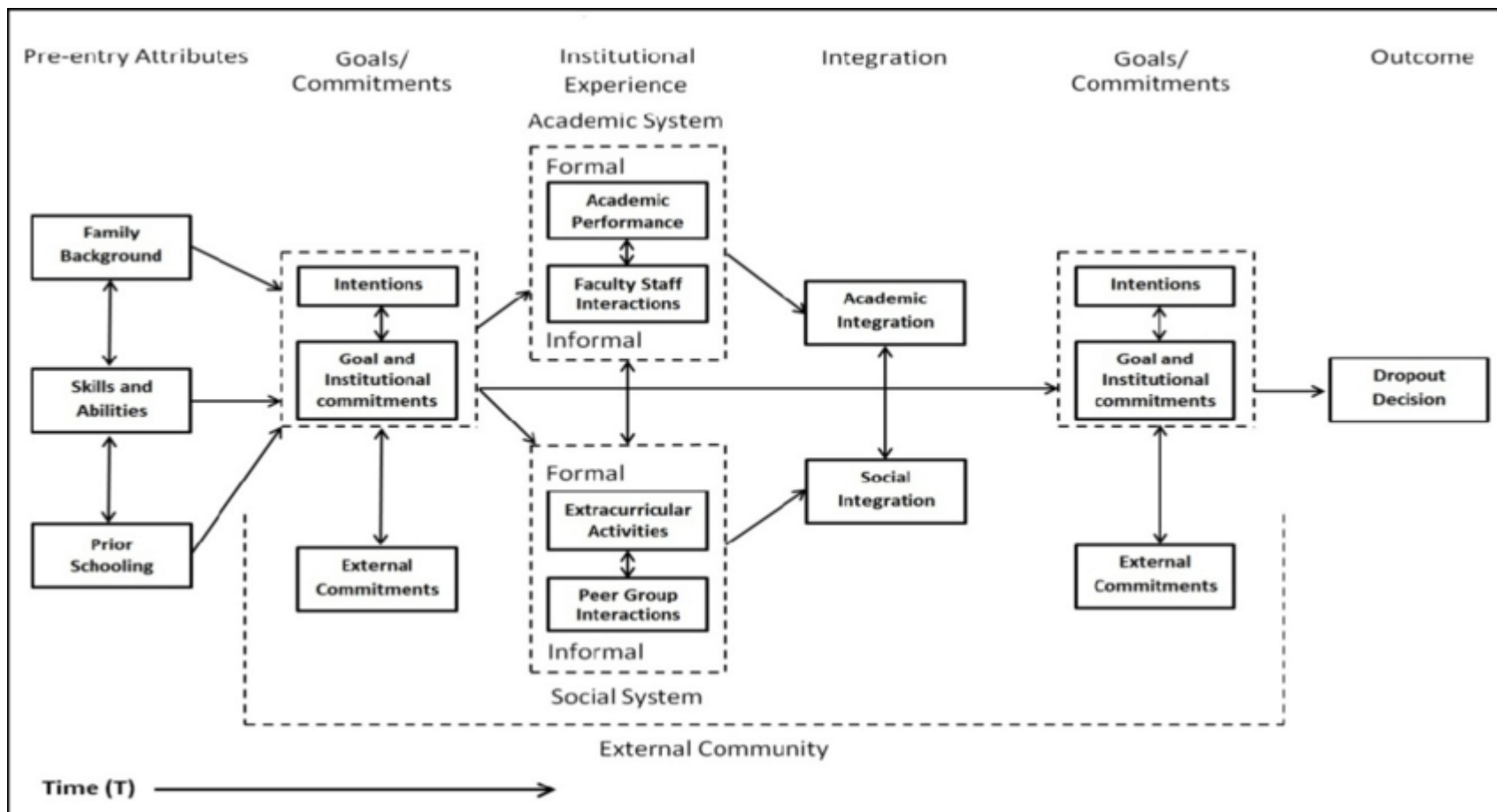


Figure 2.2: Tinto's longitudinal model of student departure (Tinto, 1993)

2.5 First-Year Experience Programmes

A successful transition into university during the first year is crucial for student engagement, success, and retention. Universities globally have focused on FYEs to integrate first-year students into their environments successfully; for example, in Australia since the 1990s (Nelson & Clarke, 2014), and according to Freer (2016), the FYE movement is historically based in the civil rights era of the 1960s and early 1970s in the US. Nutt and Calderon (2009) state that the FYE has been highlighted in different ways and at different times in other parts of the world. For instance, Canada, Japan, South Africa, and many European countries (e.g., Belgium, Denmark, the Netherlands, Norway, the Republic of Ireland and Spain) have begun to explore strategies for engaging their first-years as their demographics have changed, albeit for differing reasons. In the South African context, universities such as Stellenbosch established the First-Year Academy in 2008. The South African National Resource Centre for the FYE and Students in Transition Centre (SANRC) was established in 2015. Furthermore, most South African universities, such as Nelson Mandela University, University of Pretoria, Rhodes University and Cape Peninsula University of Technology, have FYE programmes centred around enhancing the student transition as well as the student experience.

This study looks at models used by UJ and NMU to enhance students' FYE, thus contributing to a decrease in the dropout rates. Both universities have developed and implemented FYE programmes with high-impact practices for a more coordinated institutional effort. UJ established two central institutional committees to create a FYE strategy (FYE Strategic Committee) and to ensure that strategies were operationalised - FYE Operations Committee. (The First-Year Experience in Higher Education in South Africa: A Good Practices Guide, 2017). NMU established its First-Year Success Programme to 'facilitate the holistic development of first-time entering students that enables their successful transition and integration into the university' (The First-Year Experience in Higher Education in South Africa: A Good Practices Guide, 2017:48).

2.5.1 Pre-university engagement or recruitment stage

UJ and NMU implemented strategies to engage with their students before enrolment. UJ developed an online orientation programme focusing on the needs and queries of prospective

students. The university also instituted placement tests; students wishing to enrol take the National Benchmark Test (NBT) to place students in the most appropriate qualifications and modules. NMU provides pre-entry advice and gives access to interactive online modules and videos to prepare for university entry via their How2@nmmu initiative.

Rutenfrans (2017) acknowledges that pre-university enrichment programmes provide students in secondary schools with opportunities for deepening and broadening access. Engaging with students prior to entering university makes them less anxious as they will know what to expect and what support structures are in place to assist them to be successful. The Universities of South Africa (2018) report emphasised that universities need to focus efforts beyond the university; it should start at the schools from which students are drawn. The report further highlights that ‘a greater focus on assisting those schools with academic and career advice is likely to have a positive effect on managing entering students’ expectations as well as assist students in making more appropriate career choices’ (Universities of South Africa, 2018:13).

2.5.2 Revised orientation programmes

UJ has re-conceptualised its traditional orientation week and hosts an extended orientation to help students better understand the university over an extended period. The first-year seminar takes place over a period ranging between two and nine days, depending on the faculty (The First-Year Experience in Higher Education in South Africa: A Good Practices Guide, 2017).

At NMU, the Vice-Chancellor hosts the institutional welcome, whereas the faculties host separate welcomes that connect the students with their chosen faculty. The university also hosts a How2@nmmu, a two-day, peer-led academic orientation programme that connects first-years with senior students in their chosen programme of study. To further connect with lecturers, the programme includes activities like meet your lecturer, student-staff fun events, academic sessions, and mathematics refreshers for BSc students. The university also hosts wellness orientation and social orientation to foster social integration for students to develop a sense of belonging, adding value to the student and academic success. NMU also hosts an orientation for second semester modules (The First-Year Experience in Higher Education in South Africa: A Good Practices Guide, 2017).

2.5.3 Peer tutoring and mentoring

Peer tutoring and mentoring at both universities play an important role in FYE programmes. UJ has various activities that employ senior students to assist with facilitating the adaptation, adjustment and academic enhancement of first-year students. For instance, academic discipline-based tutors facilitate learning and support for first-year students. According to UJ's policy on tutoring and tutors (2019) tutors are paid at specified UJ rates. Planned interventions are also held in the first semester, where the mentor and mentee must meet at least fortnightly for discussions and for mentees to get guidance from their mentors. The university also uses Residence Academic Advisers in the residences who act as both academic and non-academic mentors. Additionally, the university has implemented online initiatives to enhance continuous contact with tutors and discuss issues with them. An online module, UJ success 101, was also developed to assist students (The First-Year Experience in Higher Education in South Africa: A Good Practices Guide, 2017).

Similarly, at NMU, first-year students are buddied, and peer-facilitated learning takes place face-to-face and online. Students are assisted with assessment preparations and support after the first assessments. According to Deloitte (2017), tutoring can help bridge the gap between student knowledge and course material. Frade (2017) emphasises that the value of tutoring and mentoring programmes lies in how effectively they are planned and implemented. Once again, it is essential to have a consolidated and integrated approach when developing and implementing tutoring and mentoring programmes.

2.5.4 Student tracking

Identifying 'at-risk' students early on allows universities to intervene and assist students in being successful. In some universities, it is called early alert programmes. UJ and NMU initiated ongoing student performance and tracking to immediately identify students who seemed not to be engaging and, therefore, might be at risk. These students are referred to the appropriate interventions and support during the first semester and before end-of-semester examinations (The First-Year Experience in Higher Education in South Africa: A Good Practices Guide, 2017). A study conducted by Kang'ethe and Muhoro (2014) reveals that early alert programmes are an important national strategy for improving students' performance and retention.

2.5.5 Support systems

According to the First-Year Experience in Higher Education in South Africa: A Good Practices Guide (2017) NMU assists their students by focusing on students' expectations, how to get the most out of their lecturers, note-taking, academic integrity, digital literacy (accessing and using the MOODLE-based LMS), both in lecturers and through programmes or activities offered by the student affairs office, Higher Education Access & Development Services and Library and Information Services. To cater for the increasing diversity of students entering higher education institutions, additional support must be available to support the academic and personal development of students, including study skills to support academic writing skills and subject-specific support to address gaps in subject knowledge and understanding (Dhillon et al., 2008). This is supported by Hill et al. (2003:15), who affirm that 'the most influential factors in the provision of quality education are the quality of the lecturer and the student support systems'.

2.5.6 Social integration

The two universities implemented several co-curricular activities to enhance social integration. At UJ, co-curricular activities such as organised sports clubs and societies and cultural activities were identified as providing a wide variety of learning and opportunities for building friendships and a ready acceptance of the diversity in the UJ community. NMU's social orientation programme aims to foster social integration and for students to develop a sense of belonging. NMU also hosts events where students are introduced to societies and clubs, providing personal, social and leadership development (The First-Year Experience in Higher Education in South Africa: A Good Practices Guide, 2017).

Zhao and Kuh (2004) argue that students participating in a learning community are positively linked to engagement, student-reported outcomes and overall satisfaction with college. These high-impact practices have had successes, and as mentioned previously, the first-year dropout rate decreased in the case of UJ, and the first-year retention rate increased at NMU.

Both universities have emphasised the importance of FYE programmes requiring a central coordinator or champion to pull the strings together. UJ and NMU affirm that institutional

support is critical and that when developing an FYE framework, institutions can begin by identifying a small multi-disciplinary team of interested and committed individuals for the initial design phase of what might be needed to establish an FYE programme (The First-Year Experience in Higher Education in South Africa: A Good Practices Guide, 2017).

2.6 Conclusion

The literature reviewed shows the complexity of first-year students' success and dropouts. It further highlights several factors affecting or influencing first-year students' success and dropouts. Some of these factors are outside of the control of universities. The pre-entry attributes, students' expectations, transitioning from high school to university and adaptation to university life, students' goals and commitments, the institutional support provided, and academic and social integration into university are shown as important factors. Furthermore, the literature shows that over the past years, there has been strong emphasis on the FYE and universities globally have developed and implemented several strategies to enhance first-year student success. It is important for universities to understand the factors affecting first-year student success and dropout to have strong support systems in place that will enhance the first-year student experience. It is also evident from the literature that students' success is not one-sided: the university needs to recognise their responsibility by creating effective and efficient support services, and students need to realise that their success depends on their commitment to their studies.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the rationale for and procedures used in undertaking the research. The measuring instruments and methods used to do the statistical analysis are discussed. The research study focused on first-year (full and part-time) students who were still enrolled and those who did not enrol for the second semester in the FMS. An online survey was developed, and a link to the survey was sent (via email or text message) to one thousand and ninety (1090) enrolled students and one hundred and eighty one (181) students who did not register for the second semester. Three hundred and ninety-seven (36.4%) enrolled students and 79 (43.6%) students who did not register for the second semester responded to the survey.

Cresswell (2003) identifies three research approaches: quantitative, qualitative and mixed-methods.

- a. In the quantitative approach, the researcher primarily uses post-positivist claims for developing knowledge.
- b. The qualitative approach is where the inquirer often makes knowledge claims based on constructivist perspectives (for instance, the multiple meanings of individual experiences etc.).
- c. The mixed-methods approach is where the researcher tends to base knowledge claims on pragmatic grounds (for example, consequence-oriented, problem-centred and pluralistic). Pragmatists believe that reality is constantly renegotiated, debated and interpreted, and therefore the best method to use is the one that solves the problem.

For this study, I have decided on the mixed-method approach to fully understand the complexity of the first year at university. I felt that mixing the quantitative with qualitative methods might be superior to a single method as it is likely to provide rich insights into the research phenomena that cannot be fully understood by using only one method. By mixing the two methods also helps to produce a more complete picture and provides an opportunity for a greater assortment of different or complementary views; which are valuable as they not only lead to extra reflection

and enrich our understanding of a phenomenon, but also open new avenues for future inquiries (Teddle & Tashakkori, 2009).

3.2 Research Approaches

As mentioned above, the mixed-methods research approach, popular in the social, behavioural and health sciences, was used to gain in-depth and comprehensive understanding of the research problem for this study. In the mixed-methods approach, the researchers collect, analyse and integrate quantitative and qualitative data in a single study or in a sustained long-term programme of inquiry to address their research questions (Cresswell, 2003). This study used online questionnaires with both closed and open-ended questions. The purpose for the open-ended questions was to provide in-depth understanding into the research problem.

When using the mixed-methods research approach, the researcher bases the inquiry on the assumption that collecting diverse data types best provides an understanding of a research problem. The mixed-methods design offers a number of benefits to approaching complex research issues as it integrates philosophical frameworks of both post-positivism and interpretivism (Fetters, 2016) interweaving qualitative and quantitative data in such a way that research issues are meaningfully explained. It also offers a logical ground, methodological flexibility and an in-depth understanding of smaller cases (Maxwell, 2016). In other words, the use of mixed-methods enables researchers to answer research questions with sufficient depth and breadth (Enosh, Tzafrir, & Stolovy, 2014). Creswell, et al. (2014), state that mixed-methods research provides more evidence for studying a research problem than quantitative or qualitative research alone (Cresswell & Clark, 2011). It employs strategies of inquiry that involve collecting data either simultaneously or sequentially to understand research problems. The data collection also involves gathering numeric and text information so that the final database represents both quantitative and qualitative information. For this study, I used numeric and text analysis the latter to support the quantitative data.

According to Cresswell and Clark (2011), while designing a mixed-methods study, four key decisions should be considered: (a) level of interaction; (b) priority; (c) implementation; and (d) procedures. The level of interaction refers to how the quantitative and qualitative strands are kept

independent or interact with each other. Priority refers to which method – quantitative or qualitative – is emphasised in the study. This study's priority for both the quantitative and qualitative phases is equally important. Implementation refers to the time the data sets are collected but most importantly, it describes the order in which the researcher uses the results from the two data sets. Procedures refer to the approach the researcher decides on for mixing the strands.

My approach to mixing the strands was evident during interpretation, where the quantitative data was presented and supported by the qualitative data. This was done to show whether the qualitative data supports and/or contradicts the findings of the quantitative data. Cresswell, et al. 2011 state that this type of mixing occurs when the quantitative and qualitative strands are mixed during the final step of the research process after the researcher has collected and analysed all sets of data. It involves the researcher drawing conclusions or inferences that reflect what was learned from the combination of results from the strands of the study, such as by comparing or synthesising the results in a discussion.

Cresswell, et al., 2011, highlights seven primary reasons for using mixed-methods (called the rationale in mixed-methods): the need for different, multiple perspectives, or more complete understandings; to confirm our quantitative measures with qualitative experiences; to explain quantitative results; to better contextualise instruments, measures or interventions to reach certain populations; to enhance our experiments; to gather trend data and individual perspectives from community members; to evaluate the success of a program by using a needs assessment and a test of the success of the program. Apart from the rationale provided in Section 3.2 above for the using the mixed method approach for this study, other reasons were aligned to get a more complete understanding of the research problem; to confirm the quantitative measure with qualitative experience and to explain quantitative results (as outlined in Chapter 4). To obtain a different perspective and enhance understanding of the problem, this study focused on two perspectives: first-year full and part-time students enrolled; and first-year students who did not enrol for the second semester.

3.3 Types of Mixed-Methods Design

Cresswell (2016:269-) highlights three basic mixed method designs, namely:

- a. The convergent parallel mixed methods - a researcher collects both quantitative and qualitative data, analyzes them separately, and then compares the results to see if the findings confirm or disconfirm each other. The key idea with this design is to collect both forms of data using the same or parallel variables, constructs or concepts. The two databases are analyzed separately and then brought together. There are several ways to merge the two databases. The first approach is called a side-by-side comparison. These comparisons can be seen in the discussion sections of mixed methods studies. The researcher will first report the quantitative statistical results and then discuss the qualitative findings (e.g., themes) that either confirm or disconfirm the statistical results.
- b. The explanatory sequential mixed methods approach is a design in mixed methods that appeals to individuals with a strong quantitative background or from fields relatively new to qualitative approaches. It involves a two-phase project in which the researcher collects quantitative data in the first phase, analyzes the results, and then uses the results to plan (or build on to) the second, qualitative phase. The quantitative results typically inform the types of participants to be purposefully selected for the qualitative phase and the types of questions that will be asked of the participants. The overall intent of this design is to have the qualitative data help explain in more detail the initial quantitative results. A typical procedure might involve collecting survey data in the first phase, analyzing the data, and then following up with qualitative interviews to help explain the survey responses.
- a. The exploratory sequential mixed method approach start with a qualitative phase first followed by a quantitative phase, we have an exploratory sequential approach. An exploratory sequential mixed methods is a design in which the researcher first begins by exploring with qualitative data and analysis and then uses the findings in a second quantitative phase. Like the explanatory sequential approach, the second database builds on the results of the initial database. The intent of the strategy is to develop better measurements with specific samples of populations and to see if data from a few

individuals (in qualitative phase) can be generalized to a large sample of a population (in quantitative phase).

I used the convergent parallel mixed method design for this study as outlined in Figure 3.1 below.

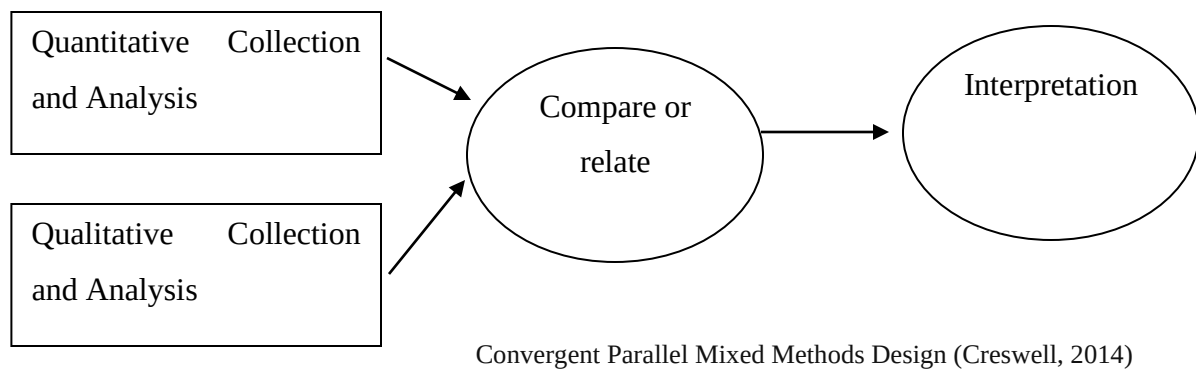


Figure 3.1: Convergent Parallel Mixed Methods Design

Other terms that refer to this design are simultaneous triangulation, or concurrent triangulation. Creswell (2014) indicate that a major challenge in this design is to converge (merge) the accessed and analysed data, as well as to collect differential data on similar issues and questions so that different but complementary analyses of the data can be undertaken, sustained and reliably synchronised and concluded. The following are potential approaches to ultimately forming *merged* data: side-by-side comparison, data transformation, and joint display of data.

3.4 Sampling

Phrasisombath (2009) describes sampling as selecting several study units from a defined study population. Sampling techniques include probability and non-probability sampling. Probability sampling is a sample where every item in the population has an equal chance of being included. Probability sampling consists of simple random sampling, systematic sampling, stratified sampling, cluster sampling and multi-stage sampling. Non-probability sampling is associated with case study research design and qualitative research and consist of quota sampling, snowball sampling, convenience sampling and purposive or judgemental sampling (Taherdoost & Group, 2016). I used purposeful sampling, defined as intentionally selecting (or recruiting) participants

who have experienced the central phenomenon or the key concept being explored in the study (Cresswell & Clark, 2011) and focused on first-year full and part-time students still enrolled and first-year full and part-time students who did not enrol for the second semester.

3.4.1 Target population and sample

This study's target population was first-year (full and part-time) students still enrolled and students who did not enrol for the second semester. The cross-sectional survey design was used, which implies that data was collected at one point in time, or over a short period (Levin, 2006).

3.5 Data Collection and ethics permission

Data was collected through a self-developed online survey, consisting of open and close-ended questions. The survey was developed on LimeSurvey, a free online survey used by the Teaching and Learning Unit at NUST. LimeSurvey is a free open-source online survey application written in PHP (Hypertext Preprocessor). The software enables users to create and publish online surveys, collect response, create statistics and export the results to other applications (LimeSurvey Quick Start Guide, 3.0, 2021).

Permission to conduct the study was obtained from the University (Annexure 4) and the Dean of the FMS (Annexure 5). Ethical clearance was also obtained from the University of Witwatersrand (Protocol Number: H20/05/08) (Annexure 6). Data was collected in the second semester during November 2020. The reason for administering the survey at this time was that students would have experienced university life as well as the systems to answer the questions. The contact details of first-year full and part-time students were obtained from the MIIR Office. Invitations to participate in the online survey were sent out via email and text messages to all first-year students enrolled and to students who did not enrol for the second semester. Staff were requested to encourage students to participate by the Dean of FMS. Respondents were given two weeks to participate. Two friendly reminders were sent to students, via email and text message, thanking those who had completed the survey and requesting those who had not completed the survey, to participate.

Only I, as the researcher, had access to the survey responses. The online survey was set up with a start and end date. Respondents were also given the option to save the survey and resume at a later stage. Responses were anonymised and responses could not be linked to email addresses.

The excel sheets (including the SPSS and Atlas.ti analyses described below) were stored on an external hard drive and was password protected, with only me, as the sole researcher, having access. The printed documents were stored in file in a safe, with a password and only me had access to it.

3.6 Research Instrument

The review of literature has highlighted several factors aligned to Tinto's longitudinal model of student departure that affect student dropouts. The self-developed online questionnaires (Annexures 2 and 3) contained closed-ended and open-ended questions and were administered to students enrolled and to students who did not enrol for the second semester. Rowley (2014:4) states that questionnaires are used 'to collect data from a relatively large number of people and that data gathered may therefore be seen to generate findings that are more generalisable'. The open-ended questions aimed to provide in-depth insights. Participants were requested to provide reasons or explain their answers to the close-ended questions.

The first two research questions: What factors affect first-year student success and what factors contribute to first-year student dropouts were aligned to the domains highlighted in Tinto's longitudinal model of student departure, namely: pre-entry attributes; goals and commitments; and institutional experience. Admittedly, and as a result of COVID-19, the impact of academic and social integration after students were enrolled for some time, were difficult to determine, as a result of the restrictions imposed. Furthermore, the component of online teaching and learning does not feature in Tinto's student departure framework, I would however argue that it forms part of the external community.

Additionally, the online questionnaire was developed based on my knowledge pertaining to the sample population, and relevant studies conducted in the South African context, such as the

South African Council for Higher Education (2010) report, Lekena and Bayaga (2018) and Van Zyl (2010).

The online survey for the students enrolled consisted of four sections. Section A focused on the demographic information; Section B focused on background information (first-generation status, parent formal education background, financial support and living arrangements). The aforementioned information is aligned to the pre-entry attributes outlined in Tinto's student departure framework. The goals and commitments of students were measured by one item asking students about their highest expected academic degree. Section C aimed to measure the use of existing academic and social support services (questions 21 to 27), while Section D measured academic and social integration. Academic integration was measured by asking students about their academic experiences (questions 28 to 36) whereas social integration was measured by students' peer group interaction, attendance to orientation and membership to a sports club or student society (questions 37 to 47). Students' self-efficacy was measured by asking students why they had enrolled and what their highest qualification aspiration was. Institutional commitment was measured by asking students about the importance of graduating. Section E measured student's overall institutional experiences.

The online survey for the students who did not enrol for the second semester was the same as for the enrolled students except for two questions omitted: 'How important is it for you to graduate?' and 'What is the highest qualification you intend to acquire', since students did not enrol for the second semester.

3.7 Data Analysis

As mentioned, the data was exported and saved (with a password) in excel format on the researcher's external hard drive. The data was exported into an excel sheet and cleaned (for example deleting responses where participants only responded to the first two questions). Numeric values were added to each response, and the excel sheets were exported to SPSS where it was computed and displayed in descriptive statistics (frequencies and cross-tabulation). The data is presented and interpreted in Chapter 4. In some instances, direct quotes from the qualitative data (open-ended questions) are included in support of the quantitative data.

Descriptive statistics were used for frequencies and cross-tabulation. Zikmund et al. 2003, describe descriptive statistics as the transformation of raw data into a form that will make them easy to understand and interpret; rearranging, ordering and manipulating data to generate descriptive information. Pearson's chi-square test (Equation 1) was used to determine whether there was a statistically significant relationship between the dependent and independent variables based on frequency counts.

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Chi-square is calculated by taking the observed numbers (O_i , the actual count of each case in each cell of the table), subtract the expected numbers (E_i), squaring the answer and dividing it by the expected values (E_i) (McHugh, 2013). The degrees of freedom for a χ^2 table are calculated by: (Number of rows – 1) $\times$ (Number of columns – 1) (McHugh, 2013). Once the level of significance and degrees of freedom were established, the hypothesis was rejected or accepted by using the chi-square table of significance (Turner, 2014).

The data for the open-ended questions was analysed by using the Atlas.ti software. Atlas.ti analyses qualitative data of large bodies of textual, graphical, audio and video data (Atlas.ti,22). Thematic analysis was used to analyse the qualitative data (open-ended responses). Thematic analysis is a method for systematically identifying, organising and offering insight into patterns of meaning (themes) across a dataset. Through focusing on meaning *across* a dataset, thematic analysis allows the researcher to see and make sense of collective or shared meanings and experiences. Identifying unique and idiosyncratic meanings and experiences found only within a single data item is not the focus of thematic analysis. This method, then, is a way of identifying what is common to the way a topic is talked or written about, and of making sense of those commonalities (Braun & Clarke, 2012). The following six phases as identified by Braun and Clark (2012:60-69), were used to thematically analyse the data:

- a. **‘Familiarisation with the data** - this phase involves reading and re-reading the data, to become immersed and intimately familiar with its content.

- b. **Generating Initial Codes** - this phase involves generating succinct labels (codes) that identify important features of the data that might be relevant to answering the research question. It involves coding the entire dataset, and after that, collating all the codes and all relevant data extracts, together for later stages of analysis.
- c. **Searching for initial themes** - this phase involves examining the codes and collated data to identify significant broader patterns of meaning (potential themes). It then involves collating data relevant to each candidate theme, so that you can work with the data and review the viability of each candidate theme.
- d. **Reviewing themes** - this phase involves checking the candidate themes against the dataset, to determine that they tell a convincing story of the data, and one that answers the research question. In this phase, themes are typically refined, which sometimes involves them being split, combined, or discarded. In the thematic analysis approach, themes are defined as pattern of shared meaning underpinned by a central concept or idea.
- e. **Defining and naming themes** - this phase involves developing a detailed analysis of each theme, working out the scope and focus of each theme, determining the “story” of each. It also involves deciding on an informative name for each theme.
- f. **Producing the report** - this final phase involves weaving together the analytic narrative and data extracts and contextualizing the analysis in relation to existing literature.’

To examine the perspectives of the different research participants, I printed out the qualitative data and read and re-read through the responses received from the participants. Once I familiarized myself with the data, Atlas.ti. software programme was used to aid in sorting and organizing the data. By going back to Atlas.ti., I arranged the responses to the research questions aligned to Tinto’s theory of student departure. I searched for common themes and grouped these themes. Each theme was then given a conditional name. The data, aligned to the different names was printed and again analyzed by me. Initially, there were more than three themes, and the conditional themes were again reviewed by me. After reviewing the data, themes were collapsed and three major themes and ten sub-themes in terms of first-year students’ challenges emerged (see Chapter 5, Section 5.3). The names of the themes were reviewed to ensure that the theme names are aligned to the research questions and Tinto’s student departure framework. Once the themes were established, the final themes and sub-themes are outlined in a table and

presented in Chapter 5. Chapter 5, supported by literature, presents the analyses and interprets, the themes and the sub-themes. The first major theme identified was technology factors, which were categorised into the sub-themes of lack of devices and unreliable, slow or no internet access. The second major theme identified was the under-preparedness of students. This theme included sub-themes such as the transitioning to university, adjusting to the lecturing style, time management, heavy academic workload, self-directed learning and prior content knowledge. The third major theme identified was psychological factors, which included the sub-themes of isolation, attention and motivation.

3.8 Validity, Reliability and Triangulation of Data

Heale and Twycross (2015) refer to validity in a quantitative study as ‘The extent to which a concept is accurately measured.’ Cresswell and Clark (2011) state that, in quantitative validity, researchers look for evidence of content validity (judges assess whether the items or questions are representative of possible items); criterion-related validity (whether the scores relate to some external standard, such as scores on a similar instrument); or construct validity (whether they measure what they intend to measure). Heale and Twycross (2015) explain that the second measure of quality in a quantitative study is reliability, or the consistency of a measure. Three attributes of reliability are (Heale and Twycross, 2015:66).

- a. ‘Homogeneity (internal consistency) using item-to-total correlation, split-half reliability, Kuder Richardson coefficient and Cronbach’s α .
- b. Stability refers to the consistency of results using an instrument with repeated testing.
- c. Equivalence refers to the consistency among responses of multiple users of an instrument or among alternate forms of an instrument.’

This study used Cronbach’s α , described by Tavakol and Dennick (2011) as a measure of internal consistency of a test of scale; expressed as a number between 0 and 1. Tavakol and Dennick (2011) further describe internal consistency as the extent to which all items in a test measure the same concept or construct, and hence it is connected to the inter-relatedness of the items within the test. If the items in a test are correlated to each other, the value of alpha is increased; however, a high coefficient alpha does not always mean a high degree of internal

consistency because alpha is also affected by the length of the test - if the test length is too short, the value of alpha is reduced (Tavakol & Dennick, 2011). By using SPSS, Cronbach's α was determined at .726 for the students enrolled and .857 for the students who did not enroll for the second semester, which implies there is a good reliability of the data.

To ensure validity of the survey, I piloted the survey with ten colleagues at NUST (including the Dean of the Faculty) to identify possible challenges in understanding the questions, detect the duration for completion, and to ensure that the survey has been properly set-up. Based on the comments received from colleagues, the survey was revised. Thereafter, ten first-year enrolled students were randomly elected to participate in the second pilot study. Students were requested to participate, and the purpose of the pilot study was explained to them. These respondents were excluded from the major study. No comments were received from them in terms of improving the survey. Finally, as sole researcher, the themes and sub-themes of this study were organized based on the research questions, the theoretical framework including previous literature conducted on factors affecting first-year student success.

At a basic level, the triangulation strategy requires an acknowledgment that no one measure in the social sciences is a perfect measurement of the construct under consideration. With only one measure of the construct, the error and biases inherent in the measure are inextricably confounded with the construct of interest. Although simple in concept, triangulation "carries with it a host of implications regarding the proper conduct of social research, the effects of imperfection or unreliability of measurement operations on the development of theory, and the manner in which our field might gradually attain the status of the more developed sciences" (Crano, 1981: p. 320). Triangulation of data from multiple sources of enquiry was therefore a critical component in this research.

As mentioned, this study involved collection of quantitative and qualitative data concurrently through an online survey which constituted close and open-ended questions. The quantitative data was firstly analyzed using SPSS and the qualitative data were analyzed by using Atlas.ti. The above two databases were merged during data analysis and interpretation. Both data sets in

this study had equal value in understanding the research problem and as mentioned before the data was jointly displayed in Chapters 4 and 5.

3.9 Limitations

A limitation of this study is that a longitudinal investigation over three or four years would have provided richer data on success and persistence by following and monitoring the students from the start to the end of their undergraduate study programmes. While this study provided comprehensive and meaningful knowledge regarding the factors that affected students' academic performance and the challenges they experienced, the study was limited to first-year full and part-time students in the FMS only. Given that the online survey was administered during the COVID-19 pandemic, I could not print and distribute questionnaires to students for completion which affected the response rate. Furthermore, not all students had the resources to complete the online survey.

3.10 Conclusion

This chapter provided an overview of the research process that was followed when conducting the research and collecting the data for the study; it also highlights the processes and procedures that were adopted during the study. The mixed method research approach, used for this study, provided an in-depth understanding of first-year student success and first-year students experience. The next chapter focuses on the analysis and interpretation of the data for the pre-entry attributes.

4 CHAPTER 4: ANALYSIS AND INTERPRETATION OF RESULTS: PRE-ENTRY ATTRIBUTES

4.1 Introduction

I took a different approach to presenting the data for this research study. In chapters 4 and 5 (to follow) the statistical analysis, interpretation and supporting literature are joined together to make coherence. Given the comprehensive datasets, chapter 4 will present the data pertaining to pre-entry attributes as outlined in Tinto's student departure framework. Whereas the next chapter, chapter 5 will present the data, interpretation and supporting literature pertaining to the other challenges first-year students experience at university.

To understand the factors affecting first-year student dropout and the challenges first-year students face, the chapter discusses the data analysis and findings from 392 online questionnaires completed. Three hundred and twenty-seven first-year students who enrolled and 65 first-year students who did not enrol for the second semester at NUST completed the survey. The interactive approach, using both the quantitative and qualitative data to support each other (Badre, transcribed and edited by Oussou, 2020), is used to present the data. To present the quantitative data, descriptive analysis, bar and pie graphs are used. Themes and sub-themes (using verbatim quotations) are used to present the qualitative data.

This chapter presents the data pertaining to the respondents' pre-entry attributes – their demographic background (age, gender), academic background (type of high school, high school results, choice of qualification and prior qualifications), and their socio-economic status (first-generation status, source of finance and living arrangements). I then present the results of the chi-square tests that were conducted to determine whether there is a statistically significant relationship between the independent variables (age, gender, type of high school, high school results, choice of qualification, prior qualifications, first-generation status, source of finance and living arrangements) and the dependent variable (first semester results). Descriptive analysis using frequencies and percentages demonstrates whether the type of high school attended, high

school marks, prior qualifications, first-generation status and source of finance affect academic performance on the pre-entry attributes.

4.2 Pre-entry Attributes

Socio-cultural factors outside the academic setting affect first-year student performance at university. In Tinto's (1993) longitudinal model of student departure, he refers to the following factors as pre-entry attributes: students' family background (parents' education, family expectations and socio-economic backgrounds), skills and abilities (critical thinking, problem-solving, interpersonal skills, basic communication) and prior schooling (high school results). The South African higher education context is similar to that of Namibia. To ensure that the pre-entry attributes are applicable in the Namibian context, I reviewed literature on student persistence and retention in the South African context to identify pre-entry attributes that have predictive value for anticipating student academic success and retention. Ten pre-entry attributes were identified for this study, categorised as demographic (age, gender), academic (type of high school, high school results, choice of study and prior qualifications) and socio-economic status (region, first-generation status, source of finance and living arrangements). Table 4.1 shows the chi-square test results for these ten factors to determine whether there is a statistically significant relationship between the independent variables (age, gender, type of high school, high school results, choice of qualification, prior qualifications, first-generation status, source of finance and living arrangements) and the dependent variable (first-year semester results). For the students enrolled, the factors related to age, gender, region, type of high school, high school marks and living arrangements are significantly linked to academic performance, at a significance level of $p < 0.05$. At the $p < 0.05$, source of finance is also significant.

Table 4.1: Chi-Square test results: Pre-entry attributes

	Students enrolled				Students who did not register for the second semester			
Variable	X ² value	Df	p-value	Cramer's V	X ² value	Df	p-value	Cramer's V
Demographic								
Age	168	15	.000	.000	7.1	15	.954	.954
Gender	19	5	.001	.001	5.3	5	.377	.377
Academic								
Type of high school	97	15	.000	.000	26	15	.034	.034
High school marks	199	35	.000	.000	43	25	.015	.015
Choice of qualification	119	10	.289	.289	14	10	.171	.171
Prior qualifications	10.9	10	.365	.365	7.72	5	.172	1.72
Socio-economic status								
Region representation	160	70	.000	.000	41	65	.991	.991
First-generation status	11	10	.306	.306	10	5	0.64	0.64
Source of finance	16.4	5	.006	.006	5.77	5	.398	.398
Living arrangements	197	30	.000	.000	25	25	.447	.447

For the students who did not register for the second semester, the type of high school and high school marks were found to be statistically significant ($p < 0.05$), implying that academic success was also influenced by the type of high school attended and high school marks. Each pre-entry factor will now be discussed in detail.

4.2.1 Demographic characteristics

4.2.1.1 Age and first semester results

Several studies show that age affects the academic performance of first-year students (Van Onuekwusi Zyl et al., 2012; Lovat and Darmawan, 2019; Loye et al, 2020). Craft (2019) states that mature-age students achieve higher grades than young learners who have just left school. Onuekwusi (2015) further argues that cognitive development, motivation and readiness to learn are age-related factors necessary for learners' successful achievement.

In the present study, the respondent's demographic information indicates that most of the students enrolled ($n=246$) and those who did not enrol for the second semester ($n=38$) were in the age range 18 to 24 years. Fifty-seven ($n=57$) of the students enrolled and twenty ($n=20$) who did not enrol for the second semester were in the age range 25 to 34 years. Twenty-two ($n=22$) of the students enrolled and six ($n=6$) of the students who did not enrol for the second semester were in the age range 35 to 44 years. Two ($n=2$) of the students enrolled and one ($n=1$) of the students who did not enrol for the second semester were in the age range 45 and above. Note that from the segmentation of the data in groups of registered and not registered students, the sample was above 50, which did not contradict the chi-square assumptions.

Figures 4.1(a) and (b) presents the age and first semester results of the students enrolled and the students who did not enrol for the second semester. Most of the 18 to 24-year-old students performed better than those in the older age groups (Figure 4.1(a)). Perhaps this is because they did not need to worry about paying tuition fees, since ($n=240$) of the respondents receive funding from NSFAP, while only eight stated that they pay for their studies themselves as reflected in Figure 4.13.

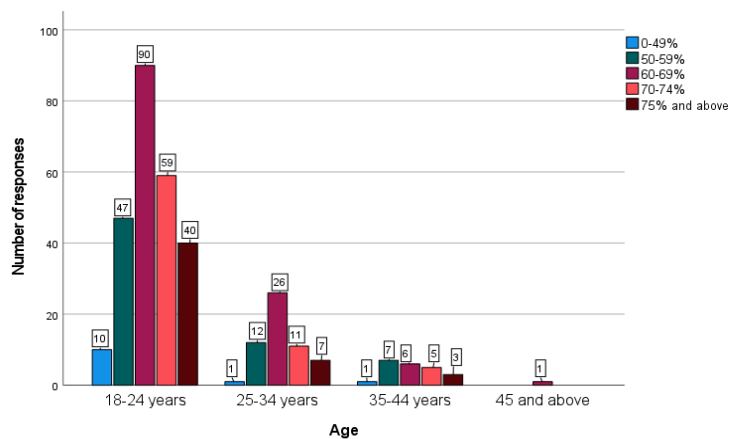


Figure 4.1(a): Age and first semester results for students enrolled

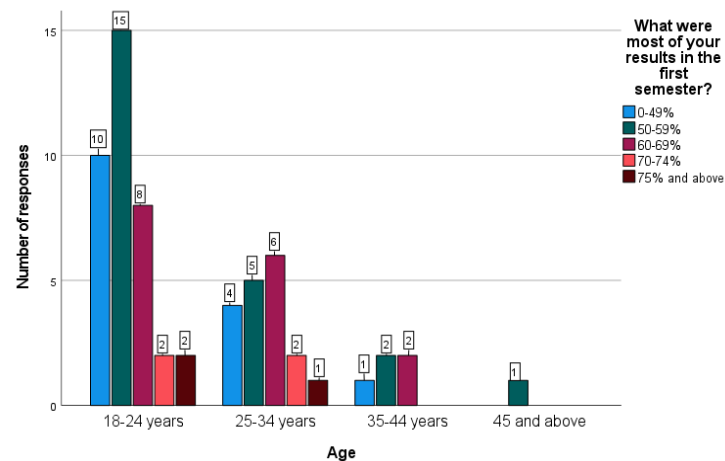


Figure 4.1(b): Age and first semester results for students who did not enrol for the second semester

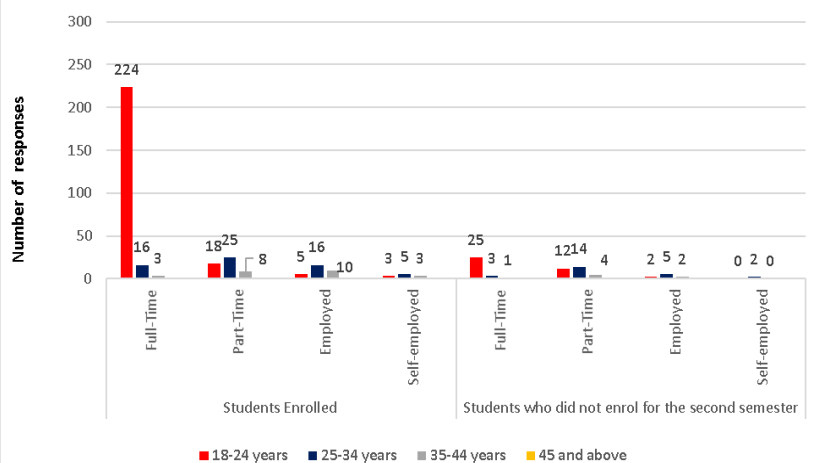


Figure 4.1(c): Age and employment status

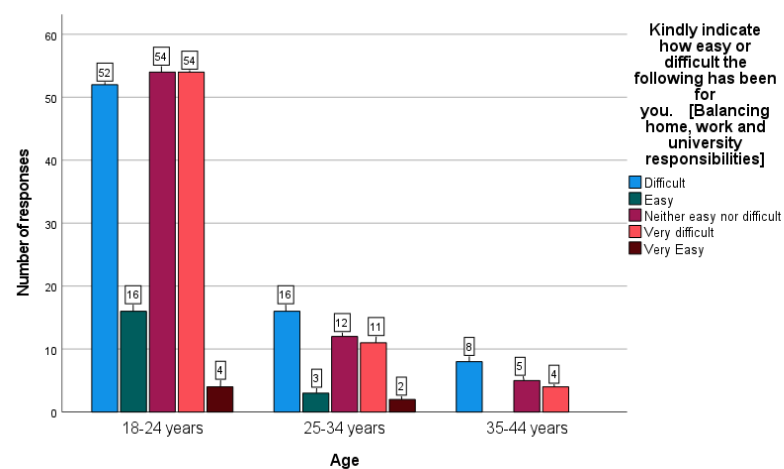


Figure 4.1(d): Age and balancing home, work and university responsibilities for students enrolled

Note: Respondents could choose more than one option

Most of the students ($n=24$) aged 18 to 24 and 25 to 34 years who did not enrol for the second semester obtained between 0 and 49% (a fail) and 50 and 59% (Figure 4.1(b)). The poor performance of these students can be attributed to factors such as finances, as the data shows that most of the students paid for their own studies, as reflected in Figure 4.13). Another factor possibly impacting their performance is their living arrangements (Figure 4.9) as well as their inability to keep up with schoolwork due to the migration to online teaching and learning as a result of COVID-19, as 30 students indicated that they were part-time students (Figure 4.1(c)).

As a result of being older students in the workplace, they may not always have the luxury of dedicated time for their studies, as they must attend to their families after work as well as study, which is evident in the qualitative data. One participant wrote: *'I am full-time employed, a single mother of two. So it tends to get hectic when it comes to school work'*. Additionally, they may not have the available support as the University offers limited support after hours, i.e., after 16:30. However, students had access to support asynchronously, for instance they could email a staff member should they have had certain queries. However, there is no guarantee that they would have received a response immediately and may have had to wait until the next morning when staff were in the office. Sometimes this is not ideal as students may require *just-in-time* support. Figure 4.1(c) shows that most ($n=224$) students in the age range 18 to 24 years are full-time students, implying that they do not have employment obligations, as do older students. Figure 4.1(c) further illustrates that thirty-three ($n=33$) of the students in the age ranges 25 to 34 and 35 to 44 years are part-time students.

Students working full-time and studying full-time find balancing home, work and studies difficult (Hovdhaugen, 2015; Muthimunya, et al., 2020). Typically, these students would be older students. Figure 4.1(d) below shows that only five ($n=5$) of the older students (25 years and above) found balancing home, work and university responsibilities very easy and easy.

According to Bickerstaff et al. (2017) having attended or completed a prior qualification improves students' academic performance. Table 4.2 shows that thirty-nine ($n=39$) of the older students (25 years and above) had completed a course or qualification prior to joining NUST. Similarly, for the students who did not enrol in the second semester, seventeen ($n=17$) of the

older students (25 years and above) had attended a course and/or completed a prior qualification. However, the data shows that despite having completed a course or qualification prior to joining NUST, they did not perform academically better than the younger (18 to 24 years) students.

Table 4.2: Age, prior qualification or university attendance and first semester results

Age (Years)	0-49%		50-59%		60-69%		70-74%		75% and above	
	E	DNE	E	DNE	E	DNE	E	DNE	E	DNE
18-24	0	2	1	3	11	3	6	1	3	0
25-34	0	3	8	3	11	5	7	2	4	1
35-44	1	1	1	1	2	0	3	0	1	0
45 and above	0	0	0	1	1	0	0	0	0	0
Total	1	6	10	8	25	8	16	3	8	1

E – enrolled; DNE – did not enrol for the second semester

The chi-square test results (Table 4.1) for the students enrolled also showed that there is a relationship between age and academic performance at a statistical significance level of $p=.000$. These results are consistent with the findings of Loye et al. (2020), Van Zyl et al. (2012) and Lovat et al. (2019) who indicate that age does have an impact on students' performance. Based on the data in Table 4.2 it is clear that no relationship exists between age and academic performance.

The data of this study affirms that the institution has a diverse first-year student body in terms of age. Furthermore, in this study, many of the older students have completed a course or qualification prior to joining NUST, which would suggest that they would perform academically better, however, this is not the case. The data of this study in terms of age and the academic performance of students concurs with Dawborn-Gundlach and Margetts (2018:28), who state that 'a number of factors contribute to students' academic adjustment'. Finally, students in different age groups have different expectations and experiences when entering university. Furthermore, O'Carroll et al. (2017); Leach et al. (2001) and Hay et al. (2010) agree that mature learners requires mor flexibility in terms of delivery material and assessment.

4.2.1.2 Gender

Kolster et al., (2015) and Parajuli et al., (2017) found that female students outperform their male counterpart. Loye et al. (2020) and Van Zyl et al. (2012) agree that gender plays a role in students' academic performance. In the context of NUST, the University's enrolment reports show that more females than males have enrolled in the FMS. For the years 2017 to 2021, more female first-year students enrolled than males (MIIR, 2021). In this study, two-hundred and three ($n=203$) of the students enrolled were female, and one-hundred and twenty-four ($n=124$) were male. Figure 4.2(a) shows that the enrolled female students performed better than their male counterparts, fifty-five ($n=55$) and forty ($n=40$) obtained between 70 and 74% and 75% and above, respectively, compared to 20 male students who obtained between 70 and 74% and ten who obtained 75% and above.

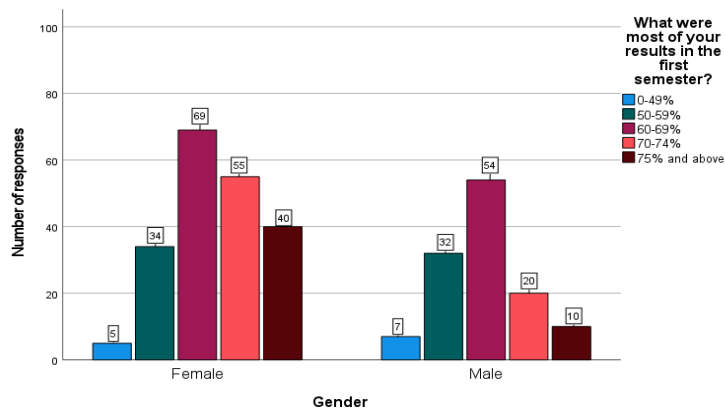


Figure 4.2(a): Gender and first semester results: students enrolled

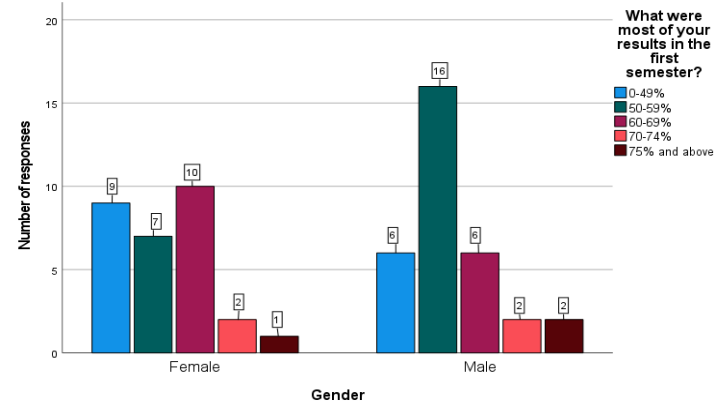


Figure 4.2(b): Gender and first semester results: students who did not enrol for the second semester

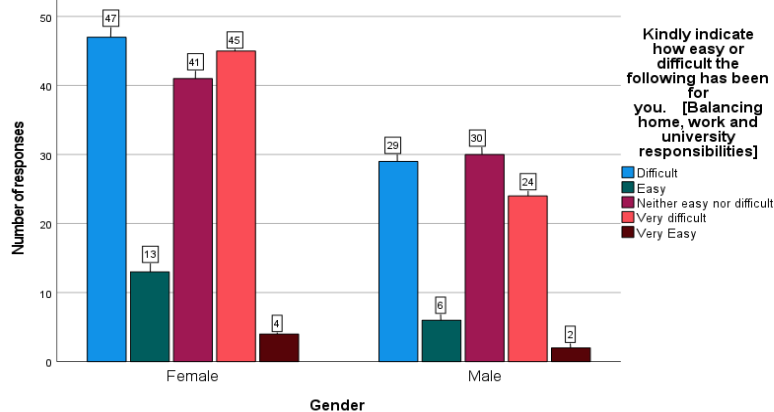


Figure 4.2(c): Gender and balancing home, work and university responsibilities: students enrolled

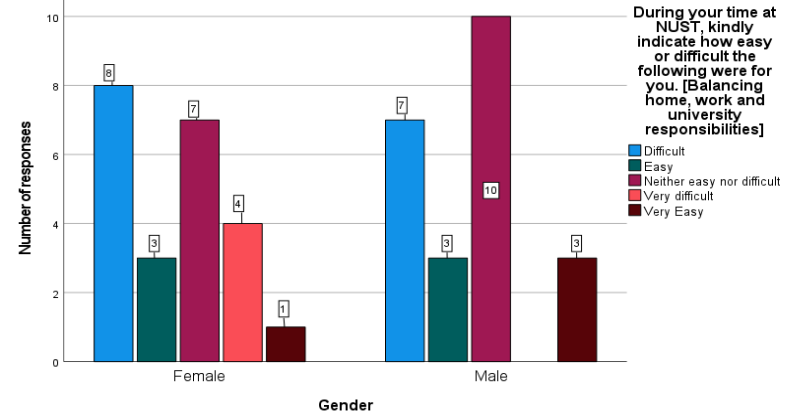


Figure 4.2(d): Gender and balancing home, work and university responsibilities: students who did not enrol for the second semester

With respect to the students who did not register for the second semester, the data shows that thirty-one respondents ($n=31$) were female, and thirty-four ($n=34$) were male (Figure 4.2(b)). Ten ($n=10$) female students obtained between 60 and 69% and only two ($n=2$) female students obtained between 70 and 79%.

While no research could be found highlighting the possible reasons why more female than male students enrol in FMS and why female students outperform their male counterparts, the NSFAP Annual Report (2018/2019) shows that slightly more females than males received loans and grants. The above may explain why more females than males enrol in the FMS. Dweck (2006) believes that fixed mindset conditioning can contribute to gender inequalities. In her research, she found that parents and teachers often gave more process praise to males than females, thereby reinforcing a growth mindset amongst boys but a fixed mindset amongst females. Contrary to Dweck's research, Smith (2016) argues that female students seem to perform better academically because they have positive perceptions of education, read more and study more. Woodfield et al. (2005) state that female students perform better academically as they are more academically responsible. Further empirical research on why females perform better than males at university in the Namibian context is needed.

It must also be recognised that the numerous challenges women face both in the workplace and at home continue to be a multifaceted issue for which there are no easy answers or solutions (DeMinck, 2017). Figure 4.2(c) shows that slightly more female enrolled students ($n=92$) than male enrolled students ($n=53$) found balancing home, work and university responsibilities difficult and very difficult.

Similar to the students enrolled, twelve ($n=12$) of the female students who did not enrol for the second semester found balancing home, work and university responsibilities very difficult and difficult, while ten ($n=10$) male students indicated that they neither found balancing home, work and university responsibilities easy nor difficult (Figure 4.2(d)).

One-hundred and twenty-three ($n=123$) female students enrolled found preparing for tests or assignments difficult and very difficult, compared to 48 enrolled male students (Figure 4.3(a)).

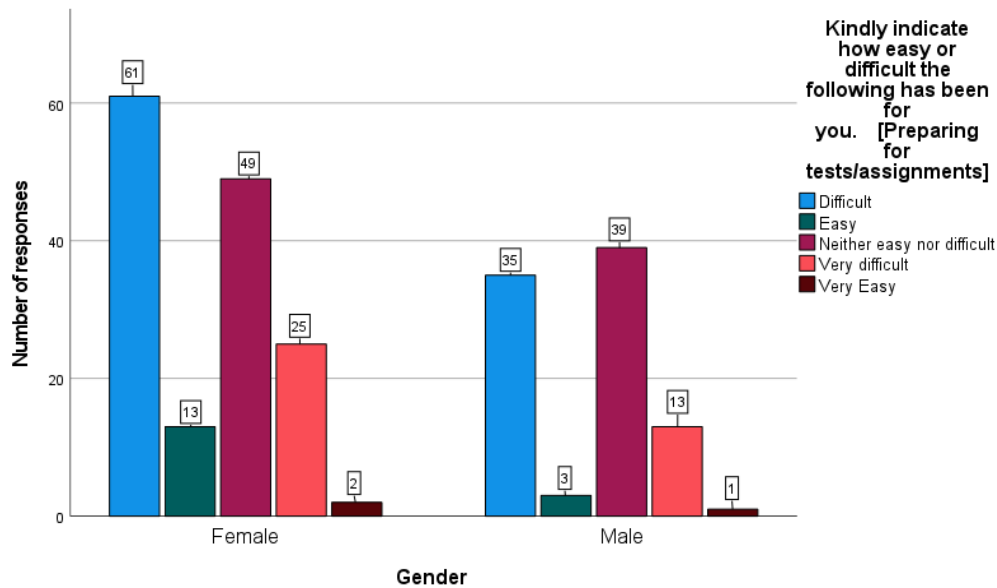


Figure 4.3(a): Gender and preparing for tests or assignments: students enrolled

For students who did not enrol for the second semester, slightly more female ($n=9$) than male students ($n=6$) found preparing for tests or assignments difficult and very difficult (Figure 4.3(b)).

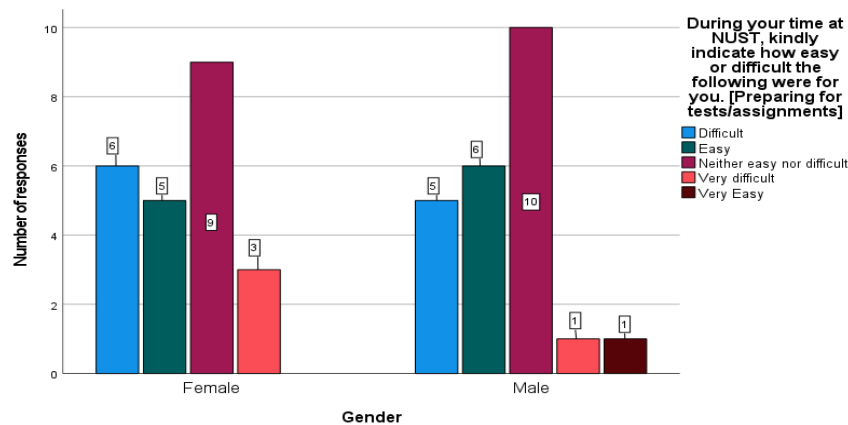


Figure 4.3(b): Gender and preparing for tests or assignments: students who did not enrol for the second semester

The data concurs with DeMinck's findings (2017) that female students found balancing home, work and university responsibilities challenging. The data of this study further reveals that more

females found preparing for tests or assignments difficult. This can be attributed to reasons such as taking care of family, having work responsibilities and domestic demands.

The chi-square test result for the students enrolled show that gender was significantly dependent on academic performance ($p=.001$) (Table 4.1). This is consistent with the findings of Workman and Heyder (2020) and Douglas et al. (2020), who found that female students outperform male students in a range of indicators of academic performance.

Interestingly, most of the enrolled female students intended to pursue postgraduate qualifications. Forty ($n=40$) of the female respondents indicated that they would like to obtain a Bachelor's degree, whereas sixty-five ($n=65$) intend to pursue a PhD, sixty-five ($n=65$) a Master's degree; thirty ($n=30$) an Honours degree and two ($n=2$) a postgraduate certificate or diploma (Figure 4.4(a)).

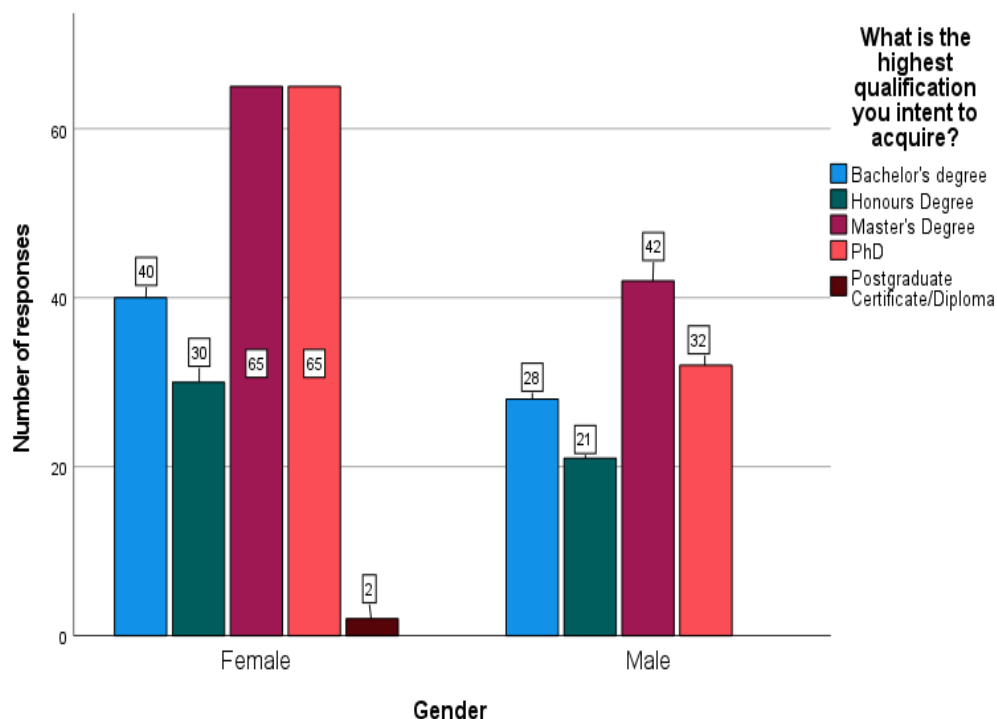


Figure 4.4(a): Gender and highest qualification to be obtained: students enrolled

Moreover, one-hundred and eighteen ($n=118$) of enrolled female respondents indicated that they pursued university education to improve their chances of getting a good job, with eighty ($n=80$) stating that they pursued university education to contribute to the fulfilment of their potential (Figure 4.4(b)). Evidently, the data shows that female students persist with their studies as they are motivated on personal level(s).

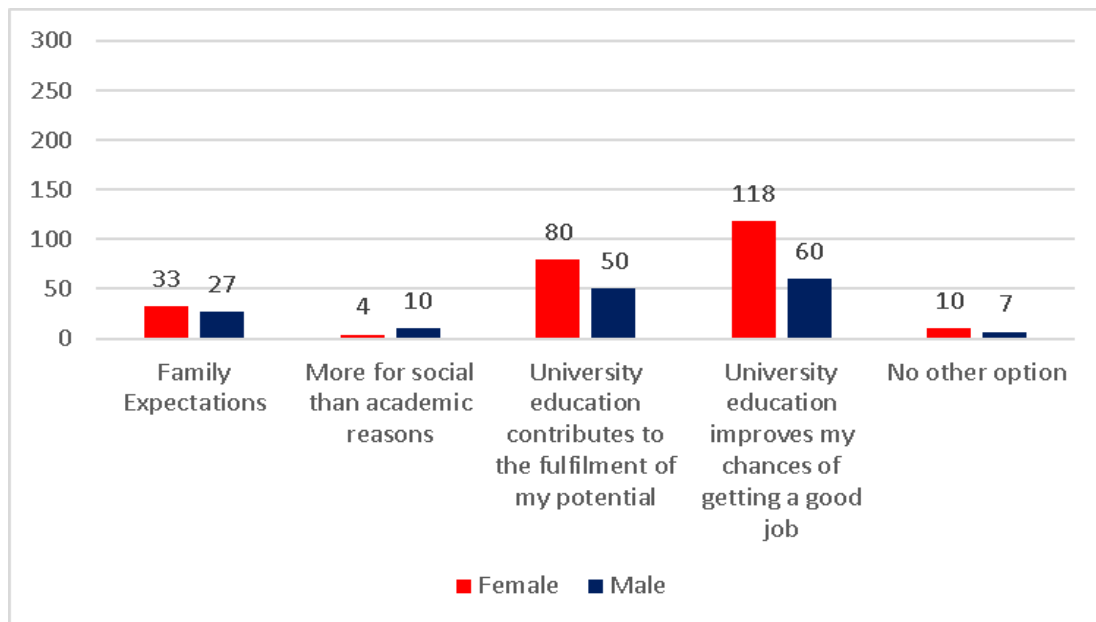


Figure 4.4(b): Gender and reasons for pursuing higher qualifications: Students enrolled

Gender is not a significant factor for academic performance for students who did not enrol for the second semester (Table 4.1). This is consistent with the findings of Arthur et al. (2019) who also found no significant difference in the academic performance of males and females.

Although the demographic characteristics appear not to have any statistical significance in terms of academic performance for the students who did not enrol for the second semester, it does affect the academic performance of the students enrolled. However, the diversity in the first-year student body at NUST not only comprises the demographic characteristics of the students but includes the socio-economics status and the academic characteristics of students, shown by this study to be important for student success.

4.2.2 Academic characteristics

4.2.2.1 Type of high school, high school results and first semester results

Several studies maintain that students from public schools tend to perform subpar compared to those from private schools (Frenette & Chan, 2015; Parajuli & Thapa, 2017). This is because private schools provide adequate resources to students, such as good teachers, computer classes, science laboratories, technical courses and have smaller teacher/pupil ratios (Van Zyl-Schalekamp and Mthombeni, 2015). Anders et al. (2020) show that private schools offer a curriculum that they deem appropriate for the ability, aspirations and socio-economic composition of students. Anders et al., 2020 further state that within private schools, students are directed towards certain subjects because they are judged to be more effective for progression to high-status universities. In the present study, I examined the type of high school attended by students and compared this with their first semester results to determine if there was any correlation between these factors. The data shows that two hundred and eighty-seven ($n=287$) of the enrolled students attended public/government schools. Similarly, of the students who did not register for the second semester, fifty-two ($n=52$) attended public/government schools. A small number of enrolled students and students who did not register for the second semester attended private schools – thirty-two ($n=32$) and nine ($n=9$), respectively. The data shows that of the students enrolled who attended public/government schools, two-hundred and twenty-two ($n=222$) first semester results were 60% and above. However, thirty-one ($n=31$) first semester results were between 0 and 49% and 50 and 59% for the students who did not enrol for the second semester and who attended public/government schools (Table 4.3).

Table 4.3: Type of high school attended and first semester results

Type of high school	First semester result									
	0-49%		50-59%		60-69%		70-74%		75% and above	
	E	DNE	E	DNE	E	DNE	E	DNE	E	DNE
Public/government	10	13	56	18	114	12	68	4	40	1
Private	2	2	6	4	7	4	7	0	10	1
Home-schooled	0	0	2	1	1	0	0	0	0	0
Other	0	0	2	0	1	0	0	0	0	1
Total	12	15	66	23	123	16	75	4	50	3

E – enrolled; DNE – did not enrol for the second semester

For students enrolled as well as students who did not register for the second semester, the type of high school was found to be a significant factor affecting students' academic performance, at $p=.000$ and $p=.034$, respectively (Table 4.1). The results are thus consistent with the interesting findings of Preston (2014) who asserts that students from public secondary schools perform better at university than students from private schools.

Most of the students enrolled ($n=175$) achieved high school grades of 60% and above, and these students were awarded 60% and above for their first semester results (Table 4.4). Similarly, students who did not register for the second semester, and who entered university with 60% and above, also had most of their first semester marks as 60% and above (Table 4.4).

Table 4.4: High school marks and first semester results

High school marks	First semester results									
	0-49%		50-59%		60-69%		70-74%		75% and above	
	E	DNE	E	DNE	E	DNE	E	DNE	E	DNE
0-29%	1	0	0	1	3	1	2	0	0	0
30-39%	1	0	1	0	0	0	0	0	0	0
40-49%	2	0	4	0	4	0	0	0	0	0
50-59%	2	3	22	3	23	2	5	0	1	0
60-69%	3	8	21	12	51	9	28	1	10	0
70-79%	2	4	11	5	32	2	29	0	21	1
80-89%	0	0	0	2	1	2	0	3	1	1
90-100%	0	0	0	0	1	0	0	0	1	1
Total	11	15	59	23	115	16	64	4	34	3

E – enrolled; DNE – did not enrol for the second semester

Academic performance is significantly dependent on high school marks for the students enrolled and the students who did not enrol for the second semester, at $p=.000$ and $p=.015$, respectively (Table 4.1). The chi-square test results are consistent with research conducted by Van Zyl et al. (2012), Allensworth et al. (2020), Hodara et al. 2017 and Galla et al. (2019), who all demonstrate that high school grades are associated with performance and persistence at university.

4.2.2.2 Choice of study

Choice of study has been highlighted as a significant influence on student persistence (Casanova, et al., 2018), since students apply for programmes for which they have the ability, talent and

interest (Heinesen, 2018). Additionally, Amani (2016) states that students who choose their degree programmes with knowledge and interest are more likely to enjoy and be committed to the chosen fields of study. Students' choice of study depends on the career they wish to pursue (Arhin, 2018).

Choice of qualification was found to have no statistical significance on the academic performance of students (Table 4.1). Further, of the students enrolled, one-hundred and fifty-two ($n=152$) said yes, ninety ($n=90$) said no, and eighty-four ($n=84$) did not respond to the question. Thirty-one ($n=31$) students enrolled obtained between 60 and 69%, and twenty-four ($n=24$) obtained between 70 and 74% as their first semester results. Of the students who did not enrol for their first choice of qualification, thirty-one ($n=31$) stated that most of their first semester results were between 60 and 69%; and twenty-four ($n=24$) indicated that most of their first semester results were between 70 and 74% (Figure 4.5(a)).

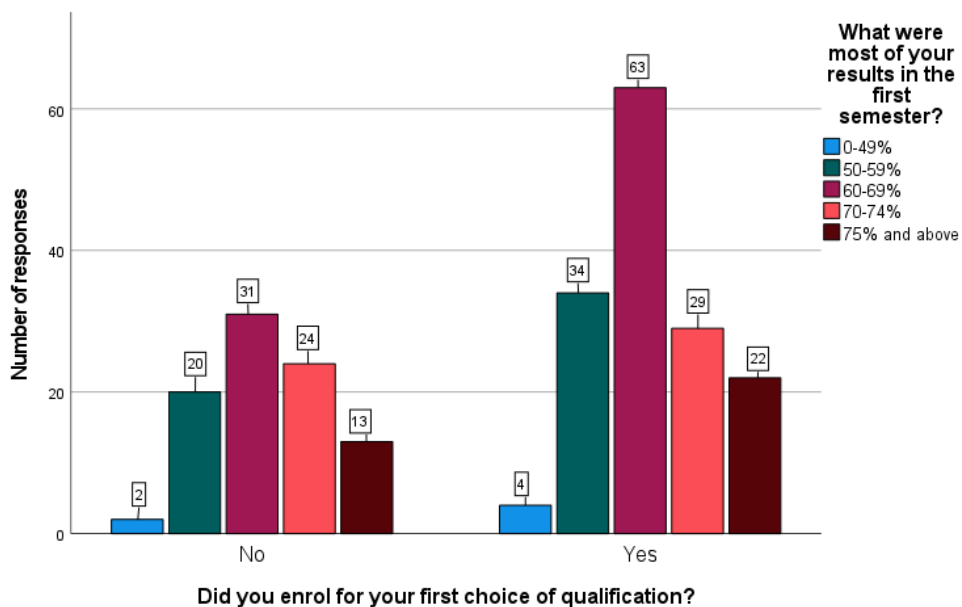


Figure 4.5(a): First choice of qualification and first semester results: students enrolled

Of the students who did not enrol for the second semester, twenty-seven ($n=27$) indicated that they were registered for their first choice of qualification, nineteen ($n=19$) stated that they were not registered for their first choice, and nineteen ($n=19$) did not respond to the question. The

thirteen ($n=13$) students who responded as not having registered for the first choice, stated that most of their first semester results were between 0 and 49% and 50 and 59%, respectively (Figure 4.5(b)). This academic performance and the fact that the above students did not enrol for the second semester are consistent with Bernardo et al. (2016) who state that students who do not register for their first choice of qualification are more likely to drop out.

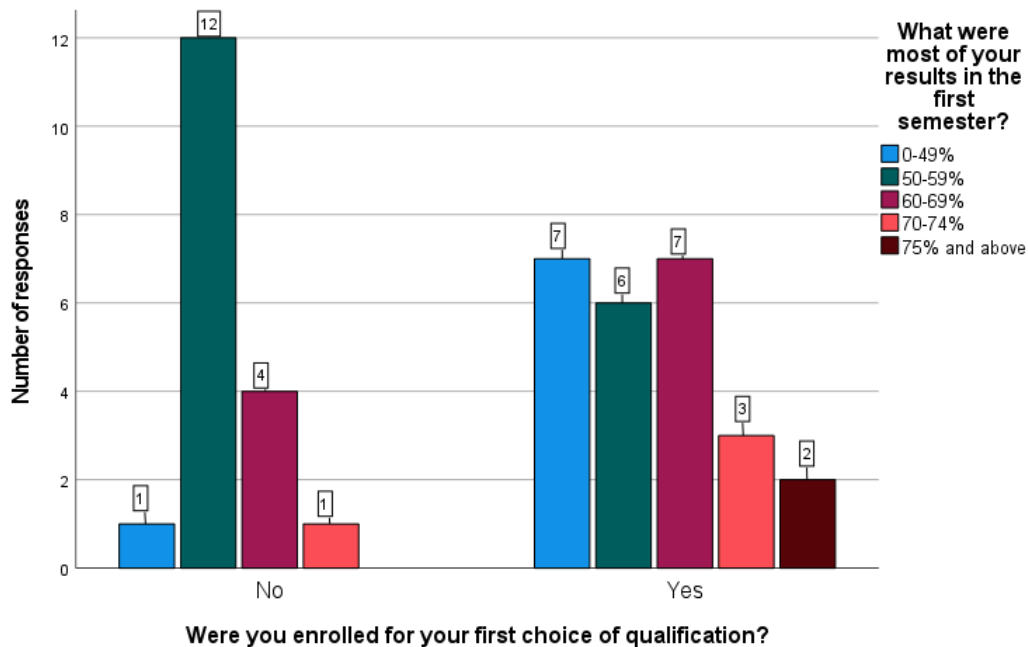


Figure 4.5(b): First choice of qualification and first semester results: students who did not enrol for the second semester

The data shows that irrespective of whether students were enrolled for the first choice of qualification, it did not affect their academic performance (for the students enrolled). However, the same cannot be said for the students who did not enrol for the second semester, as the academic performance of these students was poorer.

4.2.2.3 Prior qualifications

Several studies show that prior qualifications improve students' academic performance. According to McLaughlin et al. (2017), they enhances students' level of academic preparation and increases motivation (Bickerstaff et al., 2017). Morse (2018) further states that entering

students are equipped with practical knowledge, and these students have the advantage over those learning the theory for the first time with no prior experience.

Of the students enrolled, only sixty ($n=60$) attended another university and/or completed a course or qualification prior to joining NUST. The data reveals that more students who had previous enrolment ($n=49$) obtained 60% and above. Fewer students, twenty-six ($n=26$), who did not register for the second semester attended another university and/or completed a course/qualification before joining NUST. Sixteen ($n=16$) of these students obtained between 50 and 59% or 60 and 60%.

Table 4.5: Prior qualifications and first semester results

	Students enrolled									
	0-49%		50-59%		60-69%		70-74%		75% and above	
	E	DNE	E	DNE	E	DNE	E	DNE	E	DNE
Attended a university/prior qualification course	1	6	10	8	25	8	16	3	8	1
Did not attend a university/prior qualification/course	11	9	55	15	97	8	59	1	40	2
Total	12	15	65	23	122	16	75	4	48	3

E – enrolled; DNE – did not enrol for the second semester

To understand if having attended a university or a course or qualification prior to joining NUST has an impact on students' experience, I considered how these students adapted to university and whether they also struggled with managing their time and preparing for tests/assignments. Figure 4.6(a) shows that twenty-eight ($n=28$) enrolled students and sixteen ($n=16$) students who did not enrol for the second semester strongly agreed and agreed that they have adapted easily to university life.

Despite having attended a university or completed a course or qualification prior to joining NUST, twenty-three enrolled students ($n=23$) and eight ($n=8$) students who did not enrol for the second semester had trouble in managing their time (Figure 4.6(b)).

Given that students attended university or completed a course or qualification prior to joining NUST, there is an assumption that students will have the necessary skills to prepare for tests or examinations. However, Figure 4.6(c) shows that a small number of enrolled students, four ($n=4$) and eight ($n=8$) who did not enrol for the second semester and who attended university and/or completed a course or qualification prior to joining NUST, found preparing for tests or examinations very easy and easy.

Having a prior qualification does not significantly affect first semester results (Table 4.1), but one cannot ignore the benefits of attending a university or a prior qualification or course before attending university as evidenced in this study.

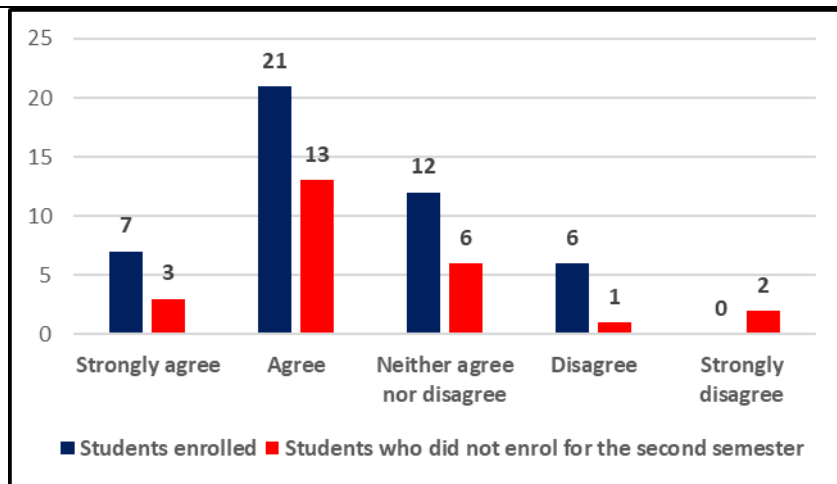


Figure 4.6(a): Prior qualifications and adaptation to university life

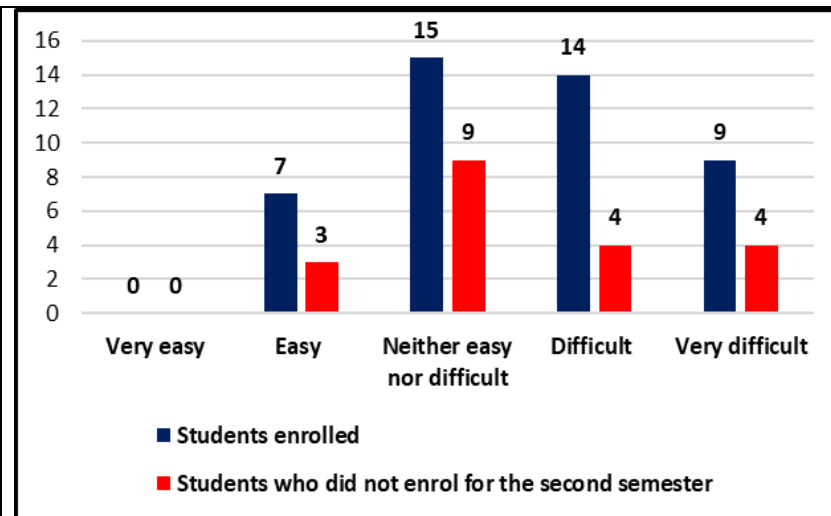


Figure 4.6(b): Prior qualifications and time management

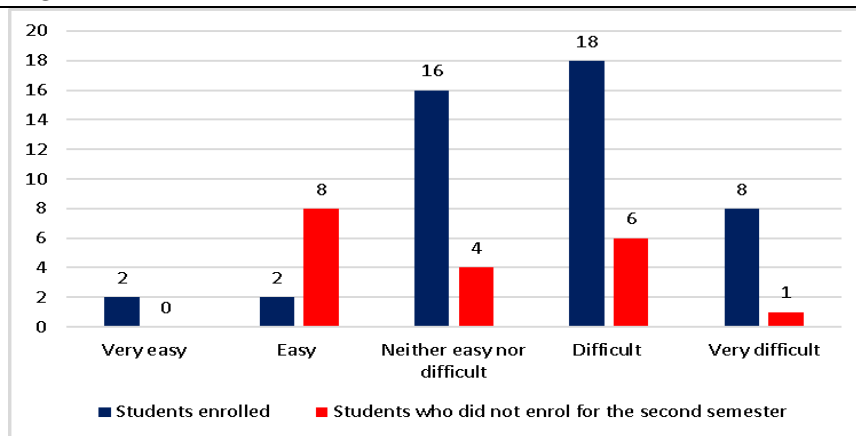


Figure 4.6(c): Prior qualifications and preparing for tests or examinations

4.2.3 Socio-economic status

Research shows significant differences in university outcomes between individuals from different socio-economic backgrounds (Crawford, 2016; Maria et al. 2019). Specifically, finance has been highlighted as a significant challenge that affects student success (Moodley et al. 2015; Lekena et al.2018; Matsolo et al., 2018). According to Tinto (2004), only a quarter of low-income youth were academically well-prepared for university. Given the significant impact of socio-economic background on academic success, this factor was investigated.

4.2.3.1 Regional representation

The Namibia Multidimensional Poverty Index Report (2021) states that at least 43.3% of Namibia’s population is poor. The regions with the highest poverty are Kavango East (70%), Kavango West (79.6%), Kunene (64%), Zambezi (60.7%), Ohangwena (56.6%) and Omaheke (51.4%). Figure 4.7 shows that most (43% and 38%) of the students enrolled and those who did not register for the second semester came from the Khomas region, which has the third-lowest poverty rate of 25.5% (Namibia Multidimensional Poverty Index Report, 2021).

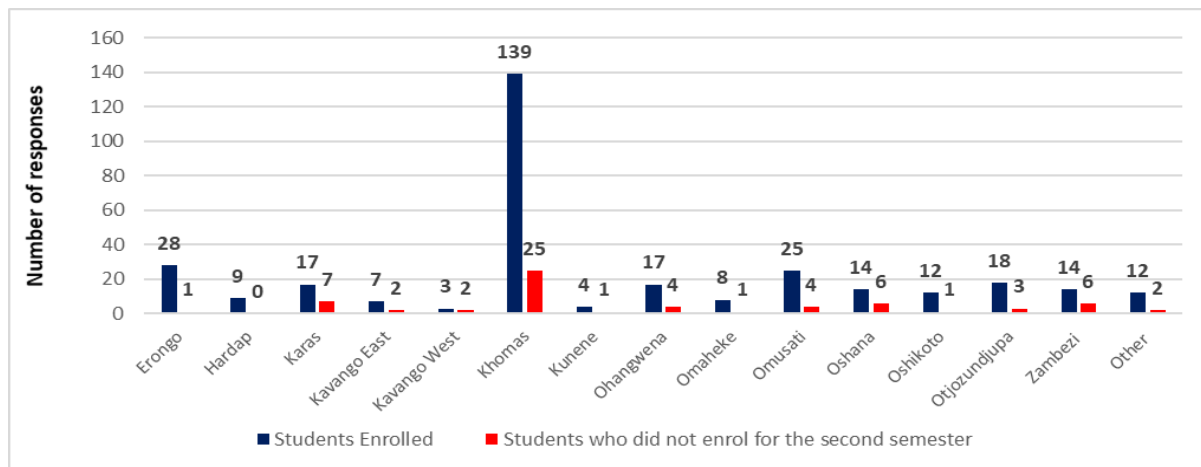


Figure 4.7: Regional representation: all students

The regions identified by Namibia’s Multidimensional Poverty Index Report 2021 as having the highest poverty rates had a low response rate. However, it is noted that students returned home during the lockdown and might not have had access to the resources to complete the online survey, thus the data favours the poorer regions. The response rates from the highest poverty regions for enrolled students and students who did not register for the second semester were:

Kavango (3% and 6%), Kunene (2% and 1%); Zambezi (5% and 9%), Ohangwena (5% and 6%) and Omaheke (3% and 2%) (Figure 4.7). Figures 4.8(a) and (b) show the academic performance of students according to the fourteen regions. Of the fifty-four enrolled students from the highest poverty regions, twenty ($n=20$) indicated that most of their first semester results are between 60 and 69%, fourteen ($n=14$) between 70 and 75% and five ($n=5$) 75% and above (Figure 4.8(a)). This is surprising since the literature reviewed shows that students from poor backgrounds perform worse than students from more affluent backgrounds (Reynolds et al. 2020).

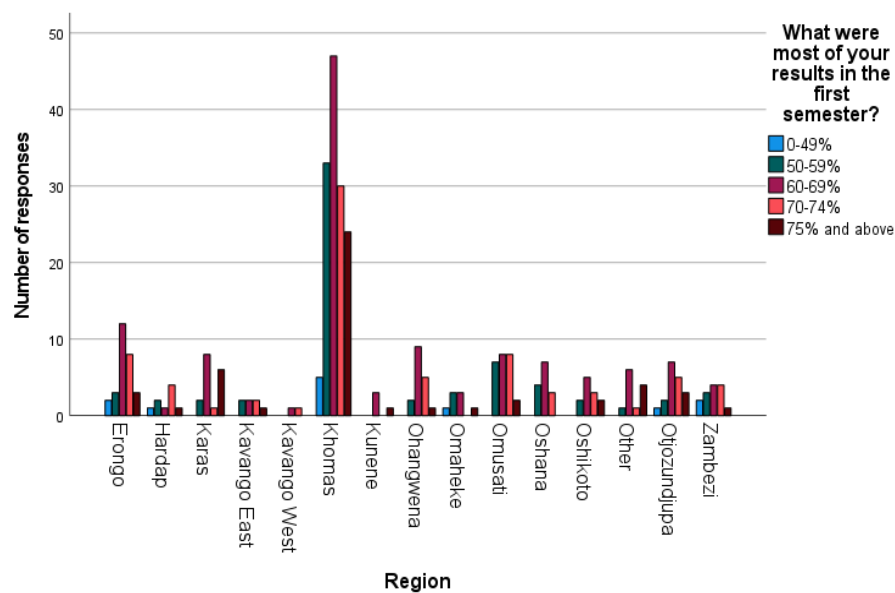


Figure 4.8(a): Regional representation and first semester results: students enrolled

Eleven ($n=11$) of the students who did not return for the second semester from the highest poverty regions obtained between 0 and 49% and 50 and 59% (Figure 4.8(b)), which is consistent with the findings of Crawford (2016) and Maria et al. 2019, who showed that there is a difference in student's academic performance depending on their socio-economic background.

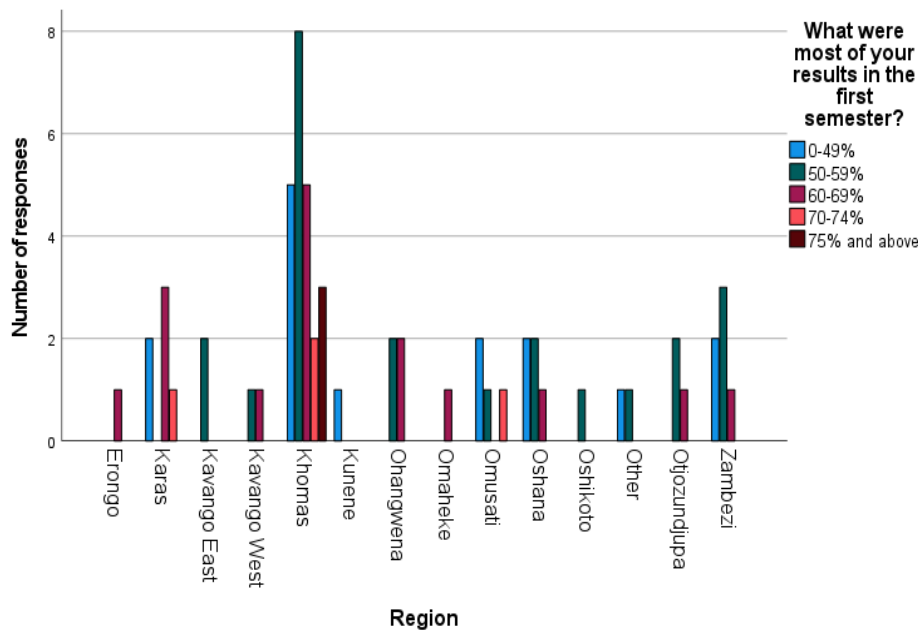


Figure 4.8(b): Regional representation and first semester results: students who did not enrol for the second semester

To fully understand the profile of students from the highest poverty regions, Figure 4.9 shows that fifty-three ($n=53$) enrolled students and fourteen ($n=14$) students who did not enrol for the second semester are from these extreme poverty regions.

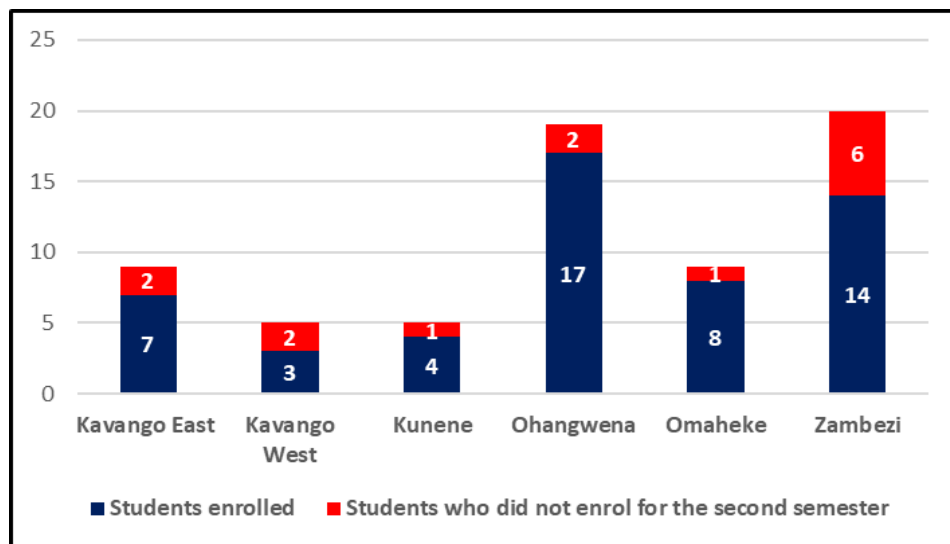


Figure 4.9: Student profile from the regions identified as extremely poor by the Namibia Multidimensional Poverty Index Report (2021)

Table 4.6 shows the distribution of the twenty-three ($n=23$) enrolled students and four ($n=4$) students who did not enrol for the second semester in the highest poverty regions, who indicated that they were first-generation students.

Table 4.6: Regional representation of students with first-generation status

	Students enrolled		Students who did not enrol for the second semester	
	Yes		Yes	
	N	%	N	%
Kavango East	2	9	1	25
Kavango West	0	0	1	25
Kunene	2	9	0	0
Ohangwena	10	43	1	25
Omaheke	5	22	0	0
Zambezi	4	17	1	25
Total	23	100	4	100

Furthermore, of the first-generation students, only five ($n=5$) indicated that most of their first semester results were 0 and 49% and 50 and 59%, respectively and more students ($n=17$) stated that most of their first semester results were 60% and above (Table 4.7). This data contradicts CraftdeFreitas et al. (2013) and Van Zyl-Schalekamp et al. 2015, who state that students whose parents attained a higher qualification are more likely to succeed at university.

Table 4.7: First-generation status and academic performance: students enrolled

Region	Number of first-generation students	First semester results				
		0-49%	50-59%	60-69%	70-74%	75% and above
Kavango East	2	0	0	1	0	1
Kavango West	0	0	0	0	0	0
Kunene	2	0	0	2	0	0
Ohangwena	10	0	0	7	3	0
Omaheke	5	1	2	1	0	1
Zambezi	4	1	1	0	1	1
Total	23	2	3	11	4	3

Students from these poorer regions move to Windhoek and given that NUST can only accommodate a small number of students must find accommodation. Table 4.8 further illustrates

that most, forty-one ($n=41$), students stayed with family, own accommodation or shared a flat or apartment.

Table 4.8: Living arrangements

Region	Own accommodation	Sharing a flat or apartment	University accommodation	Family	Parents	Other
Kavango East	1	3	0	3	0	0
Kavango West	0	0	1	1	0	0
Kunene	1	1	1	1	0	0
Ohangwena	4	4	0	7	0	2
Omaheke	2	1	1	2	1	1
Zambezi	3	4	0	3	2	2
Total	11	13	3	17	3	5

Even though the students lived on their own, shared a flat or apartment or stayed with family, more students ($n=35$) indicated that most of their first semester results were 60% and above (Table 4.9). This is consistent with the findings of Iqbal et al (2020) who state that students living independently obtained higher grades, attributing this to other factors such as students' attitude towards study, self-efficacy and motivation.

Table 4.9: Living arrangements and first semester results

Accommodation	0-49%	50-59%	60-69%	70-74%	75% and above
Own accommodation	1	5	3	1	1
Sharing a flat or apartment	0	2	5	6	0
University accommodation	0	0	1	1	1
Family	1	3	9	2	2
Parents	0	0	1	2	0
Total	2	10	19	12	4

Not surprisingly, almost half ($n=24$) of the students from the highest poverty regions prefer face-to-face classes to online teaching and learning (Figure 4.10(a)). The data suggests that this could be because students lack the necessary resources for online teaching and learning. The finding is consistent with research focused on analysing students' preferences and behaviours in e-learning

versus face-to-face learning, conducted by Gherhes et al. (2021), showing that there is a greater preference for face-to-face to online teaching and learning. Gherhes et al. (2021) further show that more than half of the respondents in their study asserted that they wanted to return to face-to-face learning at the end of the COVID-19 pandemic. Respondents in Gherhes et al.'s (2021) study highlighted the biggest disadvantages of e-learning (compared to face-to-face learning) as, amongst others, the lack of interaction, technical problems during internet connection, less explanations given during class, and that it is harder to learn.

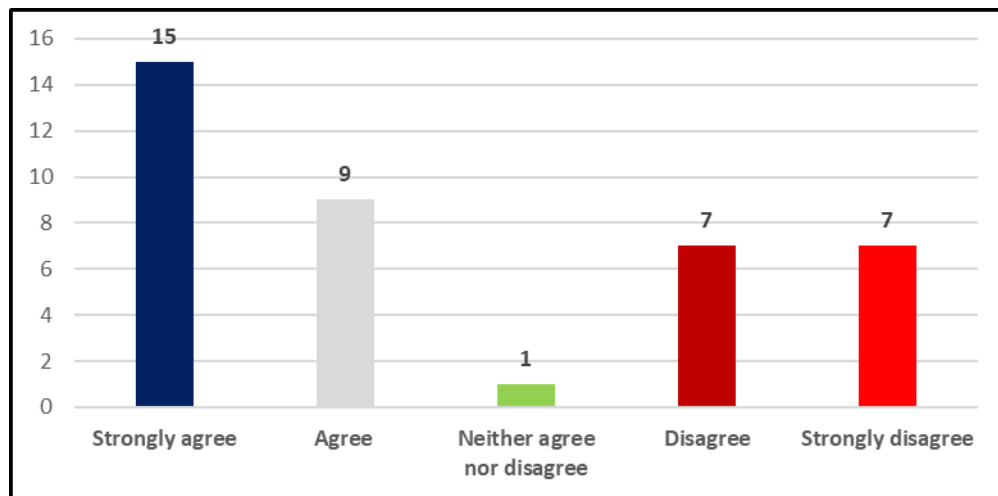


Figure 4.10(a): Poor regions: preference for face-to-face versus online learning

Thirty ($n=30$) students from the highest poverty regions found migration from face-to-face to online teaching and learning difficult and very difficult (Figure 4.10(b)).

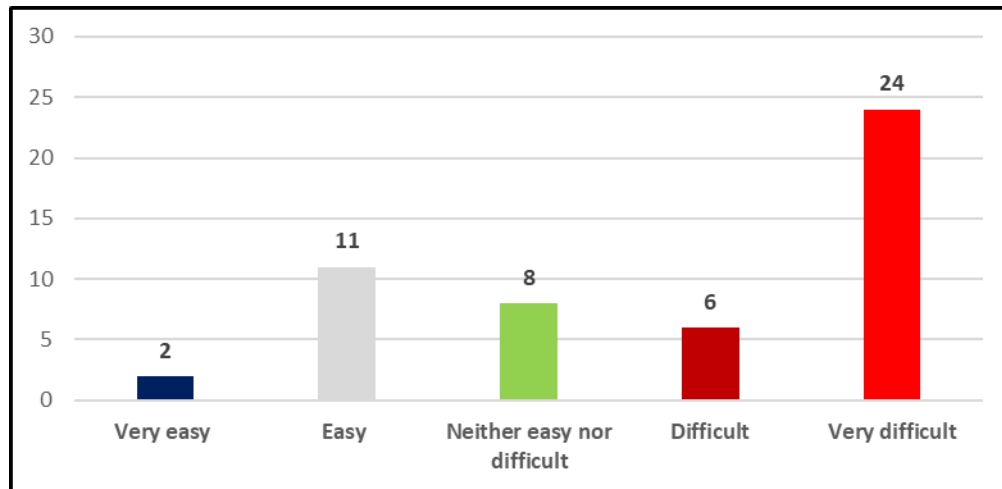


Figure 4.10(b): Poor regions: migration to online teaching and learning

Regional representation is a significant factor in students' academic performance at $p=.000$ (Table 4.1). This is consistent with the research findings of Crawford (2016) and Maria et al. 2019, who reported that there is a difference between students' engagement with technology.

I sought to determine the main reasons why students from the highest poverty regions had opted to pursue a university qualification. Of the sixty-seven ($n=67$) students (enrolled and those who did not enrol for the second semester) from the regions regarded as extremely poor, thirty-nine ($n=39$) stated that they pursued university as they believed it would improve their chances of getting a good job (Figure 4.11).

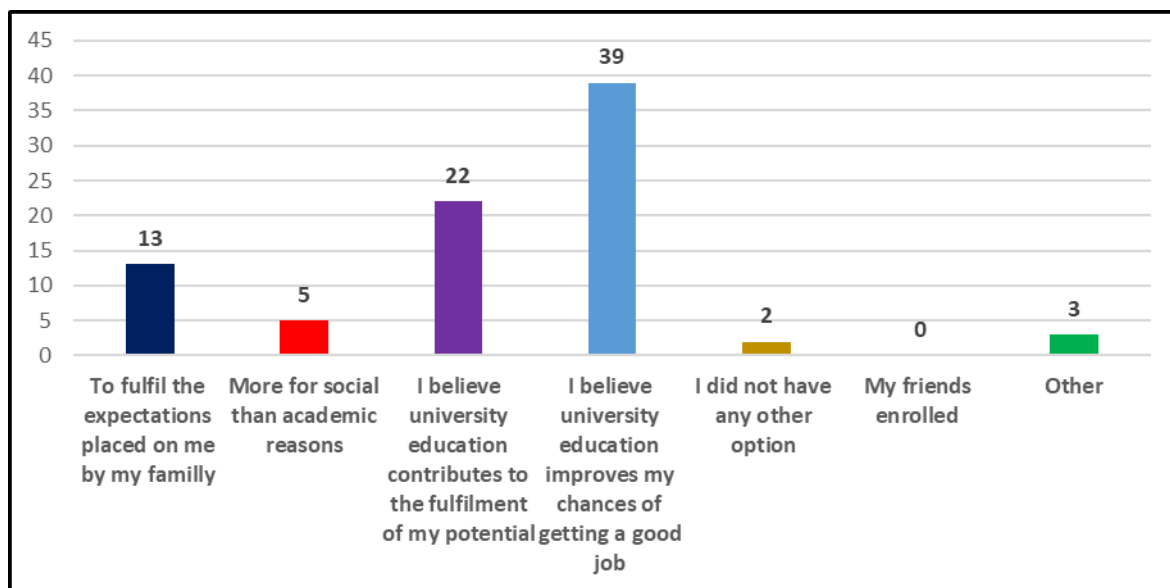


Figure 4.11: Poor regions: reasons for pursuing tertiary education

This finding is consistent with the findings of the studies by Hout (2012), Chan (2016) and Ma et al (2016) who state that students pursue higher qualifications for the post-graduation economic benefits. Moreover, twenty-two ($n=22$) of the respondents indicated that they pursued higher qualifications to fulfil their potential, which is aligned to the non-economic factors as outlined by Kiziltepe (2010) and Lagemann et al. 2015. This data shows that for these students, university is more than just about obtaining a degree, as illustrated in the following participants' responses when asked why they pursued higher education:

'I am passionate about learning.'

'To start my own business.'

Students who move from the poverty regions of Namibia to study in Windhoek are faced with many challenges. They must adapt to living alone or with family or friends as well as adjusting to city life. Moreover, the data shows that almost half of these students are first-generation students, implying that their parents cannot assist in preparing them for university life.

4.2.3.2 First-generation status

Research shows that students who are first-generation students find university difficult and students whose parents attained a higher qualification are more likely to succeed at university (CraftDeFreitas et al. 2013; Van Zyl-Schalekamp et al. 2015). Van Zyl-Schalekamp and Mthombeni (2015) state that students who have someone in the family who attended university before them, tend to have better knowledge of what is happening and what is expected from them. The latter, referred to as social capital, promotes personal well-being by providing access or bridges to resources outside oneself (Behrens, 2021).

Table 4.10: First-generation status and first semester results

First-generation status	0-49%		50-59%		60-69%		70-74%		75% and above	
	E	DNE	E	DNE	E	DNE	E	DNE	E	DNE
Parent and/or other family members attended university	7	10	33	17	81	13	50	0	36	2
First in the family to attend university	5	5	32	6	42	3	25	4	13	1
Total	12	15	65	23	123	16	75	4	49	3

E – enrolled; DNE – did not enrol for the second semester

Surprisingly, most students (enrolled and did not register for the second semester), were not the first in their families to attend university. The data further reveals that more students ($n=29$) from the poor regions had parents or other family members who attended university. Only twenty-three ($n=23$), were first-generation students. One cannot generalise that because of the socio-economic status of students (even though it plays a significant role) they cannot attend university (Table 4.10). This is consistent with the research conducted by Redford et al. (2017) that suggests that first-generation students are more likely to be from low-income families. Partida (2018) states that for first-generation university students, education is an opportunity to break out of their inherited socio-economic status. The data of this study supports the above research, as sixteen ($n=16$) out of the twenty-three ($n=23$) first-generation students from poor regions indicated that the highest qualification they would like to obtain is a Master's degree ($n=9$) and PhD ($n=7$) (Table 4.11).

Table 4.11: Regional representation and highest qualifications aspired to be obtained

Region	Bachelor's degree	Honours	Masters	PhD
Kavango East	0	1	0	1
Kavango West	0	0	0	0
Kunene	1	0	1	0
Ohangwena	2	3	2	3
Omaheke	0	0	4	2
Zambezi	1	0	2	1
Total	4	4	9	7

Contrary to expectations, first-generation status for students (enrolled and who did not register for the second semester) was found not to be a significant factor for students' academic performance, at significance levels of $p=.306$ and $p=.064$, respectively (Table 4.1).

4.2.3.3 Living environment

Students' living environment plays a crucial role in the academic performance of students (Kaisara and Bwalya, 2021). Research shows that students living on campus perform better academically (Sikhwari et al., 2020). Unfortunately, even without COVID-19, NUST can only accommodate 495 students on campus (MIIR, 2021). As a result, students are forced to stay in accommodation outside the university, which means they either must stay with family, find their own accommodation or share a flat or apartment.

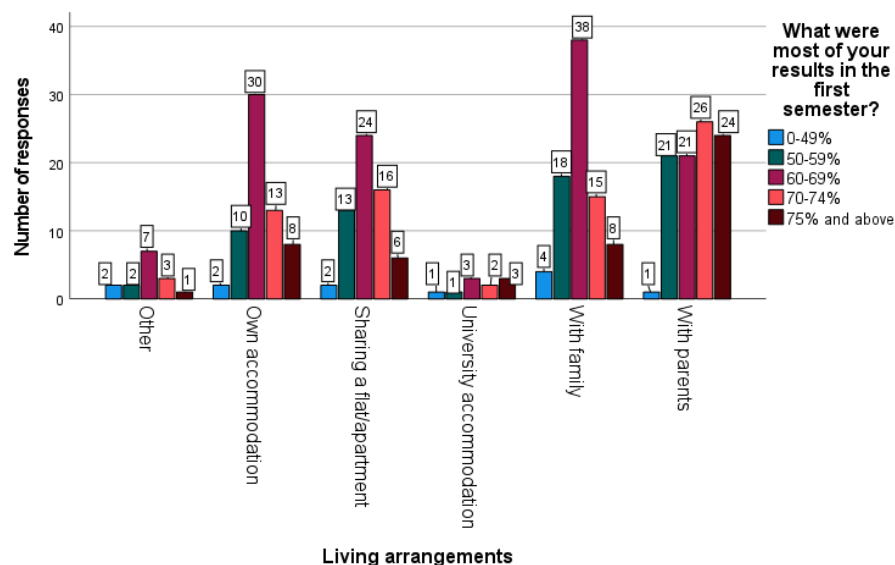


Figure 4.12(a): Living arrangement and first semester results: students enrolled

A small number ($n=93$) of students enrolled, lived with their parents. Enrolled students ($n=158$) who lived on their own, shared an apartment or flat or lived with family performed academically better (60% and above) (Figure 4.12(a)). This is consistent with the findings of Iqbal et al. (2020) who state that students living independently obtained higher grades.

Most of the students who did not register for the second semester, lived on their own, shared a flat or apartment or lived with family. However, unlike with the students enrolled, the data reveals that most of the students ($n=38$) obtained between 0 and 49% and 50 and 59% (Figure 4.12(b)).

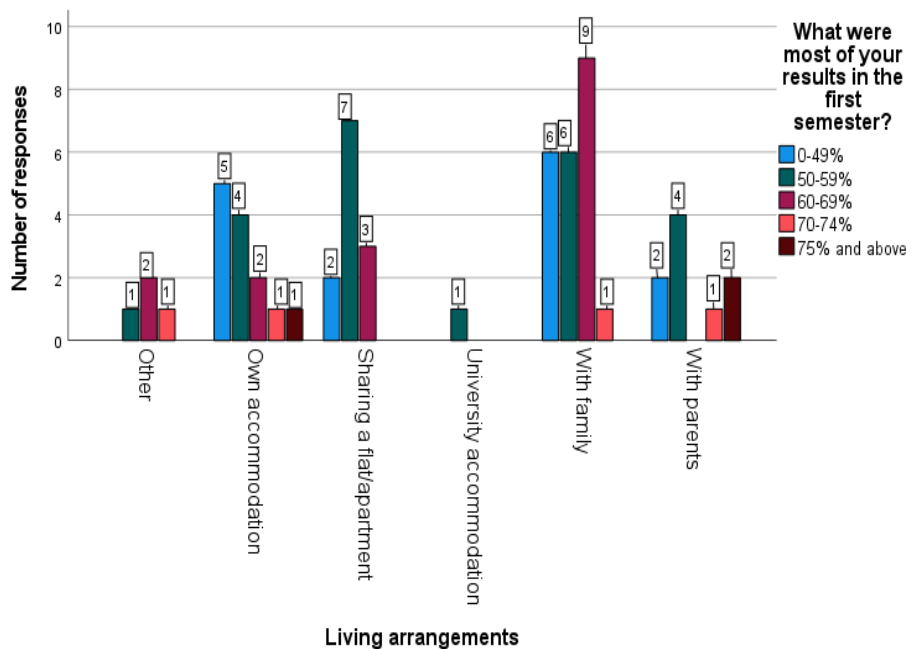


Figure 4.12(b): Living arrangements and first semester results: students who did not enrol for the second semester

Regarding tuition fees, only fifteen ($n=15$) students living on their own, sharing a flat or apartment or living with family had their fees covered by the NSFAP (Table 4.12).

Table 4.12: Living arrangements and payment of fees

	NSFAF	Parents	Other family members	Myself	Employer
Parents	2	5	1	2	0
Family	8	7	3	8	0
University	0	0	0	1	0

accommodation					
Sharing a flat or apartment	2	4	1	4	0
Own accommodation	2	2	2	9	0
Other	1	1	0	1	0

For the students enrolled, living arrangements were found to be a significant factor affecting students' academic performance at $p=.000$ (Table 4.1). The results are consistent with the findings of Staten (2016), Wallner et al. 2018, Gichere et al. 2019, and Kaisara et al. 2021. However, living arrangements of the students who did not register for the second semester are not a significant factor for students' academic performance at $p=.447$ (Table 4.1).

Additionally, the qualitative data identified a non-conducive learning environment and problems with electricity supply as challenges in the online learning environment.

'The family I used to live with was mentally abusive, and my mom is unemployed and sick, and I didn't always have access to the internet, and I have to take care of her at the same time.'

'I'm not capable of online teaching as where I stay there's no electricity...'

'The study environment is very uncomfortable, there's too much noise pollution.'

'I don't get time to study when I am with my family; they force me to do housework while having to write a test.'

The above data concurs with the existing literature showing that the conduciveness of the learning environment affects student performance (Staten, 2016; Kaisara et al., 2021).

4.2.3.4 Tuition fees

Many students come from families with low socio-economic status. Therefore, tuition fees can be a significant challenge and can impact students' studies negatively as not all students receive funds from the NSFAP. Other studies have identified the lack of funds as having a significant impact on student persistence, and as a result, many students drop out of university (Van Zyl,

2010; South African Council for Higher Education, 2013; Bonaldo et al. 2016; Moodley et al. 2015; Lekena et al. 2018).

Paying tuition fees was, therefore, an important element to investigate in this study. The tuition fees of the majority ($n=240$) of the enrolled students were covered by the NSFAF, whereas only fifteen ($n=15$) students who did not register for the second semester received financial assistance from the NSFAF. Twenty-five ($n=25$) students who did not register for the second semester paid for their studies (Figure 4.13).

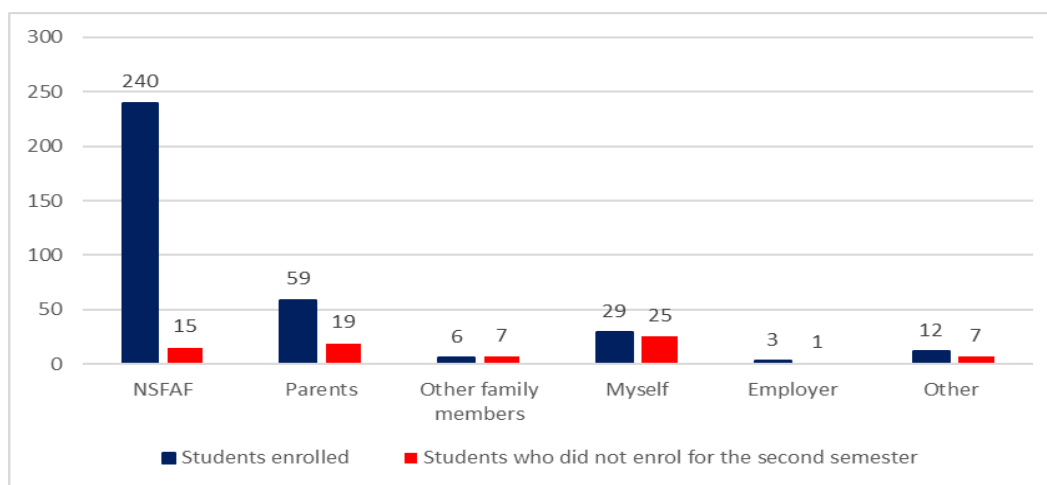


Figure 4.13: Mechanism for payment of studies

A further analysis was conducted to see whether students whose fees were paid by the NSFAF performed better academically. Table 4.13 shows that 53% ($n=176$) of the students whose tuition fees were covered by the NSFAF obtained 60% and above. Surprisingly, of the students who did not enrol for the second semester and whose fees were covered by the NSFAF, eleven ($n=11$) obtained between 0 and 49% and 50 and 59%. Figure 4.13 shows that most students lived with family, on their own or shared a flat or apartment and even though the NSFAF paid for their studies, students had other financial responsibilities, such as purchasing data and rent payments. Mngomezulu et al. (2017) show that students from poor or working-class families receiving bursaries for their studies are sometimes expected to redirect part of their funding they receive to their families to alleviate the family's living conditions.

Table 4.13: Source of tuition fees and first semester results

	Students enrolled									
	0-49%		50-59%		60-69%		70-74%		75% and above	
	E	DNE	E	DNE	E	DNE	E	DNE	E	DNE
NSFAF	11	6	53	5	93	4	56	0	27	0
Parents	1	3	9	7	21	4	13	2	15	3
Other family members	0	1	0	2	2	0	3	2	1	1
Myself	1	5	6	8	10	8	6	1	6	1
Employer	0	0	0	0	1	0	1	0	1	0
Other	0	1	1	2	3	1	2	1	6	0
Total	13	16	69	24	130	17	81	6	56	5

Note: respondents could choose more than one option

E – enrolled; DNE – did not enrol for the second semester

Academic performance is significantly dependent on the source of finance at $p=.006$ (Table 4.1). This is consistent with Van Zyl (2010), South African Council for Higher Education (2013), Moodley et al. 2015, Bonaldo et al. 2016 and Lekena et al. 2018, who state that a lack of funds has a significant impact on student persistence and as a result, many students drop out of university.

Moreover, a lack of funds not only affects the payment of tuition fees, but also affects the purchasing of food, day-to-day necessities and study materials, transport costs, and some students do not participate in campus-based social and academic activities that require payment (Universities South Africa, 2018). Twenty-five ($n=25$) students who did not register for the second semester stated they did not register due to financial difficulties. Participants shared the following:

‘I failed to settle my account and I am still struggling to get the amount.’

‘Was unable to fund my registration and COVID-19 made it hard as I couldn’t ask from close family and friends as they too felt the financial constraints of the pandemic.’

‘My parents didn’t have the money to pay for my tuition and registration fees.’

'The lack of financial aid [made] me quit my studies.'

Furthermore, when asked what their major challenges were, enrolled students and students who did not register for the second semester stated the challenges as follows:

'Taxi fare to school...'

'No funds available to buy myself recommended textbooks.'

'Accommodation is very expensive and the hostel requirement is to[o] much. Taking a taxi everyday is so much expensive.'

'Cost of accommodation and transport money, that is the big challenge is have experience on.'

'Financial difficulty, sometimes I don't have lunch money.'

The lack of funds also culminated in students not being able to buy study material, pay for accommodation or local transport (not always having funds to go to campus). One of the students wrote:

'Funding in terms of accommodation if you are not admitted in the hostel, as well as transport and food money.'

Financial stressors have also been highlighted as one of the factors associated with increased anxiety or depression during COVID-19 (Jones et al., 2021). This is evident in this study as well, for example:

'Financial difficulty it's real a major problem for Everytime asking myself am I or my parents going to settle my school fees its really disturb my studies. Sometimes I try to focus on my book but that thing just keep bothering me in my mind... Especially this time of pandemic I feel like giving up cauz I owe the institution too much.'

Clearly, having to pay for their tuition, accommodation, transport and taking care of other responsibilities can have a major impact on the students' decision to stay or leave university. The data concur with the literature that shows that first-year is challenging when there are material obstacles. Moreover, literature combined with my data analysis shows that student university success relies heavily on the students' FYE (Lekena, et al. 2018).

4.3 Conclusion

The data show that seven out of the ten pre-entry attributes for the students enrolled were found to be statistically significant in impacting academic performance. Only two of the ten pre-entry attributes were statistically significant for the students who did not enrol for the second semester. By using Tinto's student departure model for this research, and even though one can argue that the model was not expected to be tested during a pandemic, the data shows that the pre-entry attribute of age, gender, type of high school, high school marks, regional representation, source of finance and living arrangements are still pertinent even in a pandemic. Furthermore, the aforementioned pre-entry attributes outline the students' backgrounds which cannot be changed, and which were not affected by COVID-19. The strict measures imposed as a result of COVID-19 only happened in 2020, after students completed high school. The purpose of this research study was not to determine factors affecting student success during a pandemic but given that no study of such nature has been conducted at NUST, the purpose was to identify the internal and external factors affecting first-year student success at NUST.

This data supports Tinto's longitudinal model of student departure in terms of the attributes of family background, particularly the socio-economic backgrounds and prior quality or type of schooling. The pre-entry attribute pertaining to the skills and abilities of students will be discussed in Chapter 5 as part of the under-preparedness of students. Although Tinto's model is not focused on the online teaching and learning environment, and elucidates on concepts such as students', goals and commitments, their institutional experience and social and academic integration, my critical analysis has shown that the framework is still relevant, and the data continues to illustrate this in Chapter 5 with respect to student engagement and institutional support.

5 CHAPTER 5: ANALYSIS AND INTERPRETATION OF RESULTS: CHALLENGES FIRST-YEAR STUDENTS EXPERIENCED

5.1 Introduction

As mentioned in the previous chapter (chapter 4) I have taken a different approach to presenting the data for this research study. In this chapter the data is analysed, interpreted and supported by drawing on relevant literature to ensure coherence.

The literature reviewed in Chapter 2 showed that several factors contribute to students dropping out in their first year at university. Chapter 4 presented the data relating to the pre-entry attributes. This chapter focuses on the challenges for the enrolled students and those who did not enrol for the second semester, concentrating on students' adaptation to university and online learning. Clinciu (2013) states that the first year seems to be the most critical for college adaptation because of the many adjustment difficulties it can generate. Many students face challenges related to integrating and adapting to university life (Gonta & Bulgac, 2019; Javed, 2020), including adapting to a new environment, learning new study habits, and, since COVID-19, adapting to online teaching and learning.

5.2 Adaptation to University and Familiarisation with Online Teaching and Learning

5.2.1 Adaptation to university

Beginning with a focus on adaptation to university life, students were asked whether they agreed or disagreed with the statement, '*I adapted easily to university life.*' Thirty-one ($n=31$) and seventy-five ($n=75$) enrolled students strongly agreed and agreed with the statement, respectively. Of the students who did not register for the second semester, eight ($n=8$) and twenty-three ($n=23$) strongly agreed and agreed, respectively (Figure 5.1). Although the students indicated that adaptation to university life was not complex, the data shows that they experienced several challenges consistent with the findings of existing literature.

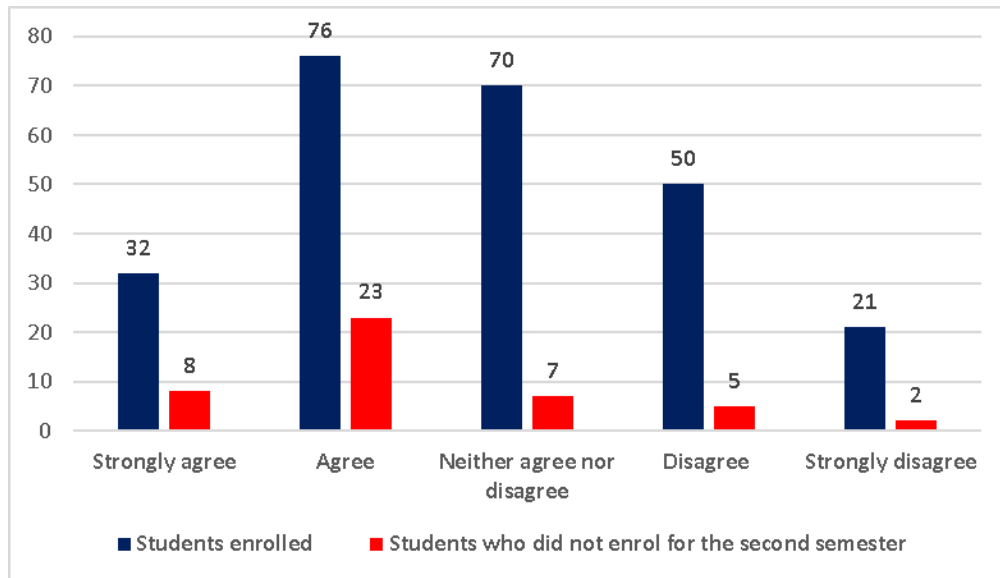


Figure 5.1: Adaptation to university life

As Namibia's only university of science and technology, NUST's vision has always been to move toward a more blended model of teaching and learning, consisting of a combination of face-to-face and online teaching and learning (Namibia University of Science and Technology Strategic Plan: 2014-2018; 2013) to maximise learning and to meet the needs of students for increased flexibility and enhanced quality of learning. As a result of the above thrust and the university offering distance education, the university uses an open-source platform as its LMS. Students enrolled articulated that familiarising themselves with the LMS was easier than students who did not enrol for the second semester (Figure 5.2).

5.2.2 Familiarisation with the LMS

Considering that the university fully migrated to online learning rapidly, students were asked how easy or difficult it was to get to know the LMS used by NUST. More than half of the enrolled students found it very easy and easy. It was more difficult for students who did not register for the second semester, as eleven ($n=11$) and nine ($n=9$) found it difficult and very difficult, respectively (Figure 5.2).

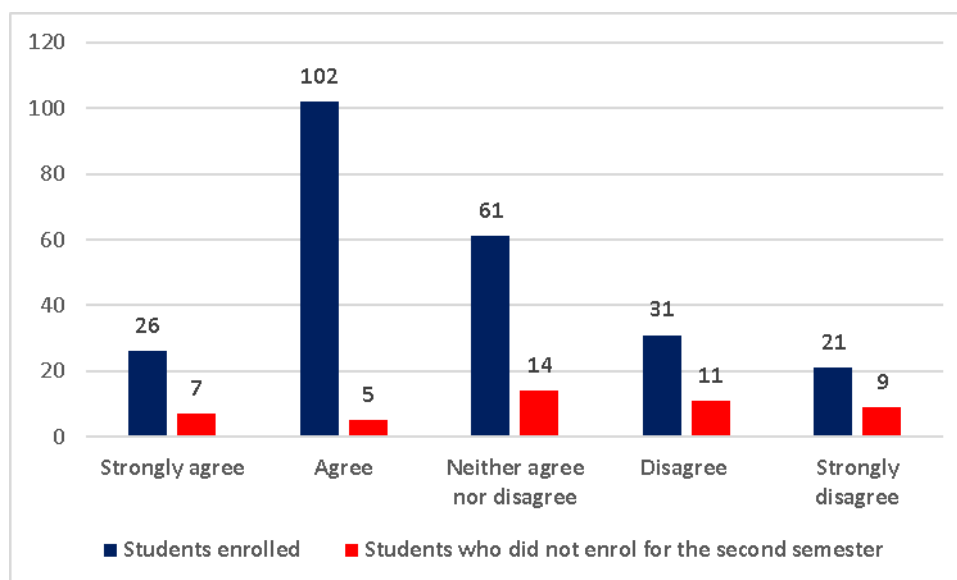


Figure 5.2: Familiarisation with the LMS

For the students who did not register for the second semester, the familiarisation data stipulates that the LMS used by NUST is easy to use. The data is supported by a recent study conducted at NUST by Kaisara et al. (2021) on the e-learning challenges faced by students during COVID-19. The study shows that students experienced challenges regarding the e-learning platform layout, such as having difficulty finding information and not understanding the platform. Another identified challenge is e-learning accessibility, such as students finding it difficult to log in and open the platform (Kaisara et al., 2021). Al-Kumaim et al. (2021) also identify the new online learning environment's inadaptability and lack of familiarity as an obstacle.

5.2.3 Migration to online learning

To determine the students' experience migrating from face-to-face to online teaching and learning, students were asked to indicate how easy or difficult they found the migration. Most students, eighty-five ($n=85$) and forty-nine ($n=49$) enrolled students and nineteen ($n=19$) and thirteen ($n=13$) students who did not register for the second semester, found the migration from face-to-face to online learning very difficult and difficult, respectively (Figure 5.3). The data concurs with the Department of Higher Education and Training, South Africa (2020) that first-year students had to move to remote learning after only a few weeks of exposure to higher education and that many first-year students were not familiar with technology nor had engaged much with the institution's LMS system. This is supported by Turnbull et al. (2021), who

highlight online competence as a challenge when students migrated from face-to-face to online learning during the COVID-19 pandemic.

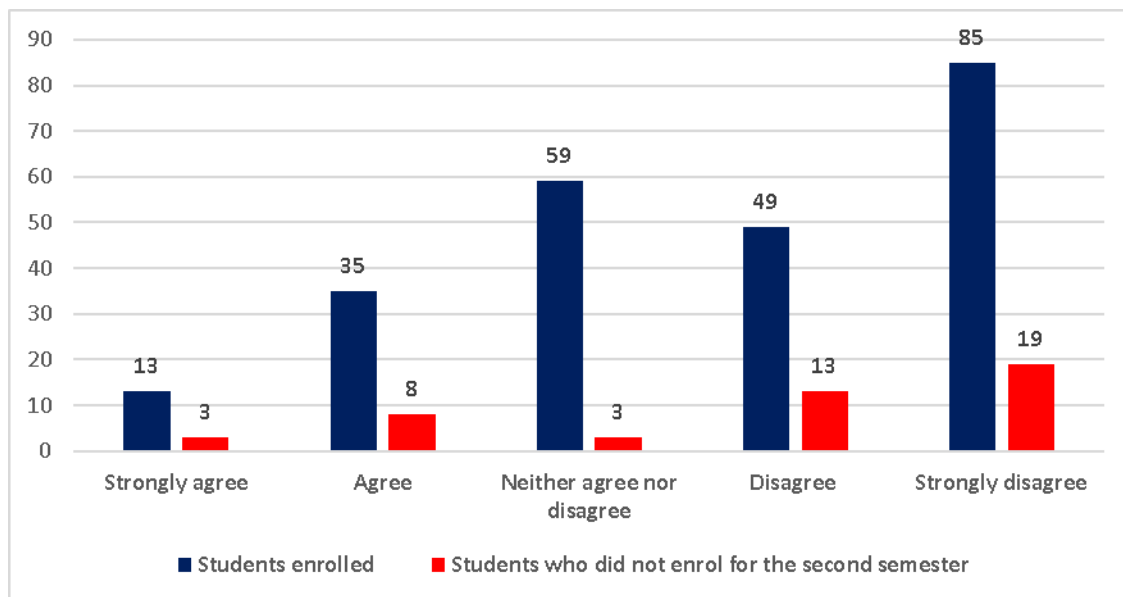


Figure 5.3: Migration to online teaching and learning

5.2.4 Preference for face-to-face learning

Given that students had used online learning for six months, students were asked whether they preferred face-to-face to online learning. One-hundred and seven ($n=107$) and forty-three ($n=43$) enrolled students strongly agreed and agreed that they preferred face-to-face to online learning, respectively. Twenty-five ($n=25$) and eleven ($n=11$) students who did not enrol for the second semester also strongly agreed and agreed that they preferred face-to-face to online learning, respectively (Figure 5.4).

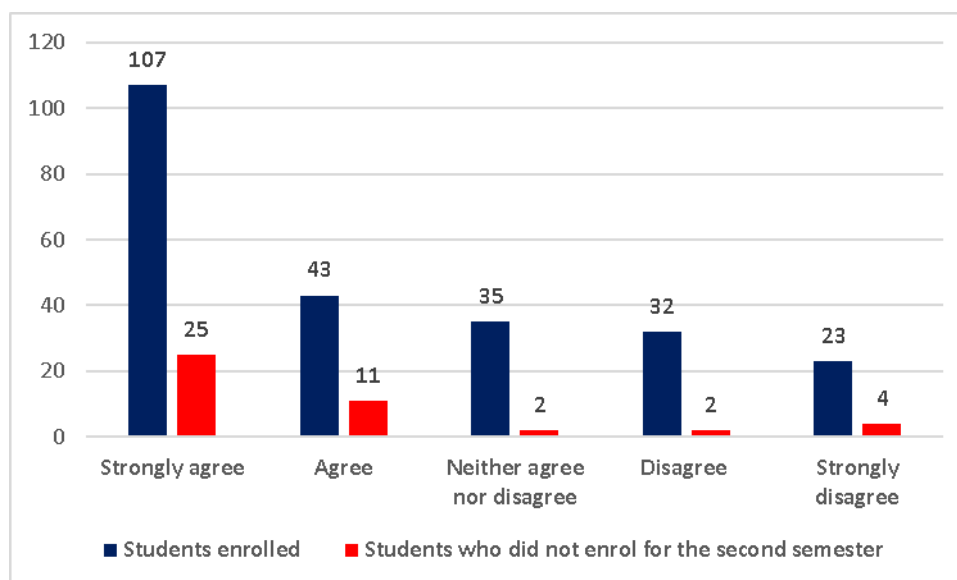


Figure 5.4: Preferred mode of learning: face-to-face over online

The preference data is supported by the qualitative data; participants explicitly expressed: ‘...*not being able to attend face to face lessons is really a disaster...*’ and ‘*I need face-to-face lessons as I am struggling to keep up on my own...*’. This concurs with Adnan and Anwar (2020), who argue that online learning did not motivate students to learn as students need face-to-face interaction with their instructors.

Although surprising at first glance, deeper reflection indicates that this finding may be expected. Considering that many students come from disadvantaged socio-economic backgrounds, exacerbated by the COVID-19 pandemic, many students had difficulty keeping up with online learning. Shifting to online teaching and learning had an adverse psychological impact on the students. Students felt isolated and unmotivated borne out by research conducted by Carreon and Manansala (2021) and Chinna et al. (2021). Additionally, the data shows that technology factors, under-preparedness of students, and material and cultural factors were major challenges experienced by the participants. The above challenges would suggest less preference for online learning..

5.3 Major Challenges with Online Teaching and Learning

Table 5.1 outlines the themes and sub-themes emerging from the data, that show the major challenges experienced by students. The three themes that emerged strongly from the data were technology, academic preparedness, and psychological and personal factors.

Table 5.1: Major challenges with online teaching and learning

Themes	Sub-themes
Technology factors	Lack of devices
	Unreliable, slow or no internet access
Under-preparedness of students	Transition to university
	Adjusting to lecturing style
	Time management
	Heavy workload
	Self-directed learning
	Prior content knowledge
Psychological factors	Attention and motivation
	Isolation
	Resilience and self-efficacy

Literature shows that the effective implementation of online learning depends on several critical factors, one of which is technological factors (Aristovnik et al., 2020; Almaiah, et al., 2020). The data reveals that many students did not have devices, and many had unreliable, slow or no internet access.

5.3.1 Theme one: Technology challenges

Beyond having access to devices, and to effectively engage with educational technology, students need adequate data and a reliable network. Students returned home when the University cancelled face-to-face classes. Many students come from low-income households, making online learning difficult as online learning environments usually require a computer and a reliable internet connection (Van Lancker & Parolin, 2020). This is supported by a needs analysis

conducted by the National Council for Higher Education in 2020, which concluded that many students in Namibia do not have access to laptops or computers and cannot afford the cost of data.

5.3.1.1 Sub-theme one: Lack of devices and unreliable, slow or no internet access

The socio-economic status of some students determines the ownership of devices and the ability to pay for the internet. As the data show, most of the students live independently, and most of the students who did not register for the second semester paid for their studies. Furthermore, access to reliable internet is a concern for students, as is reflected in their responses:

‘Electronic devices are not available, no stable internet connection.’

‘Internet is the main challenge, because I don’t really get enough datum to my work online.’

‘Since we do not have Wi-fi at home, I do most of my schoolwork at night between 12 and 4, due to the fact that the that free data bundles are free then.’

‘When we had to attend online classes and was struggling with data and not having a laptop and all that.’

Lack of devices and unreliable, slow, or no internet seem to be common barriers to online learning (Mahlaba, 2020; Mishraa et al., 2020; Maatuk et al., 2021). Moreover, 14% of the students who did not register for the second semester did not continue their studies due to the above.

The lack of devices and unreliable, slow or no internet resulted in some students not keeping up with attending classes and engaging with their learning programmes as some of the participants wrote:

‘Having to do School work was difficult whenever there were assignments or test to write. Also having problems attending classes because I did not have access to a phone nor a laptop leading to no work done.’

Another participant wrote: *‘Missing of online classes and tests, lacking of data and electronic devices e.g laptop.’*

These comments show that the lack of technology had a negative impact on the studies of some students. The study reveals that online readiness has negatively impacted students' experiences in the online teaching and learning space. Literature shows that the online mode of study is easily accessible and can reach rural and remote areas. However, it increased the inequality divide in the Namibian context even more as the data shows that one of the significant challenges of online learning at NUST is the lack of technology. This is consistent with the findings of Mahlaba (2020) who highlights that students and lecturers not having enough data to access material needed during COVID-19. Given the socio-economic background of many of our students who live in conditions that are not conducive to learning, and even though they receive data and internet devices, some do not have the skills to use them. Unfortunately, addressing these challenges is not easy, given the digital divide.

5.3.2 Theme two: Under-preparedness of students

Many first-year students entering university find the transition from high school to university challenging as they are not prepared and lack the required skills, such as summarising, synthesising, and critical thinking, needed for success in higher education (Tirney et al., 2015; Mayet, 2016; Fomunyam, 2019; Bray & Williams, 2020). Moreover, the literature further reveals that the under-preparedness of first-year students entering university is attributed to high schools not preparing students adequately for university (Mavunga, 2014; Wollscheid et al., 2021).

The under-preparedness of first-year students entering NUST has been highlighted as a major challenge in the University's Strategic Plans (Namibia University of Science and Technology Strategic Plans, 2009-2013; 2014-208; 2021-2025). Furthermore, the newly revised Namibian high school curriculum, which allows Grade 11 learners entry into University, is envisaged to pose significant challenges, given that under-preparedness was a challenge for students who had

Grade 12 entering NUST. UNAM was reluctant in 2021 to admit the Grade 11 learners as they then believed that the legacy programmes do not adequately prepare learners for university studies (Windhoek Observer, 11 February 2021). UNAM has, however, changed their stance, by admitting Grade 11 learners this year, 2022 (New Era, 25 February 2022).

The data reveals that even though students were at university for eight months (at the time the survey was administered), some respondents were still *‘figuring things out’* and *‘getting to know things’*. Admittedly, COVID-19 had an impact on the students transitioning.

5.3.2.1 Sub-theme one: Transitioning to university

Successful student transition from secondary school is paramount to first-year student success (Douglas et al., 2018). The data shows that students were still not familiar with the University, as participants expressed their transitioning challenges:

‘Getting to know some of the things.’

‘I didn’t know how to get information for myself I was struggling to deal with a lot of work on different modules.’

‘...But forget that a student is still figuring things out needs a helping hand...’

‘In the beginning it was difficult adjusting to the new ways of teaching.’

‘Not aware of passmark calculations, as a first year I know nothing much.’

‘Still not easy to adapt to university life.’

It is standard practice that NUST offers a three-day orientation session to all first-year students through its Student Services Department. These orientation sessions include activities such as a welcome from the Vice-Chancellor, an introduction to the library, finance department, ICT, and the introduction to the different faculties. To enhance engagement, new students also have the

opportunity to engage socially by attending a barbeque and participating in outdoor games. To gain students' perspective on the orientation programme offered at the beginning of the year to new students, students were asked whether they attended the orientation and if they would like an additional orientation session – be it departmental or any other orientation offered later during the year.

The majority of students attended orientation – one-hundred and eighty-six ($n=186$) enrolled students and twenty-six ($n=26$) students who did not register for the second semester. When asked whether they would like their respective Departments to offer a separate orientation session, surprisingly, only seventy-one ($n=71$) enrolled students and fourteen ($n=14$) students who did not enrol for the second semester said yes. However, one-hundred and twenty-eight ($n=128$) enrolled students and twenty-nine ($n=29$) students who did not enrol for the second year indicated that they would like some sort of orientation session later during the year (Figure 5.5).

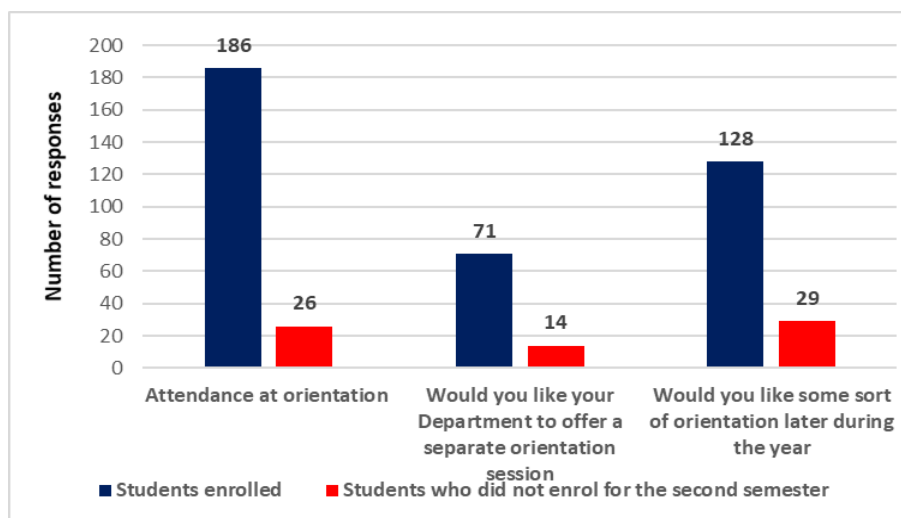


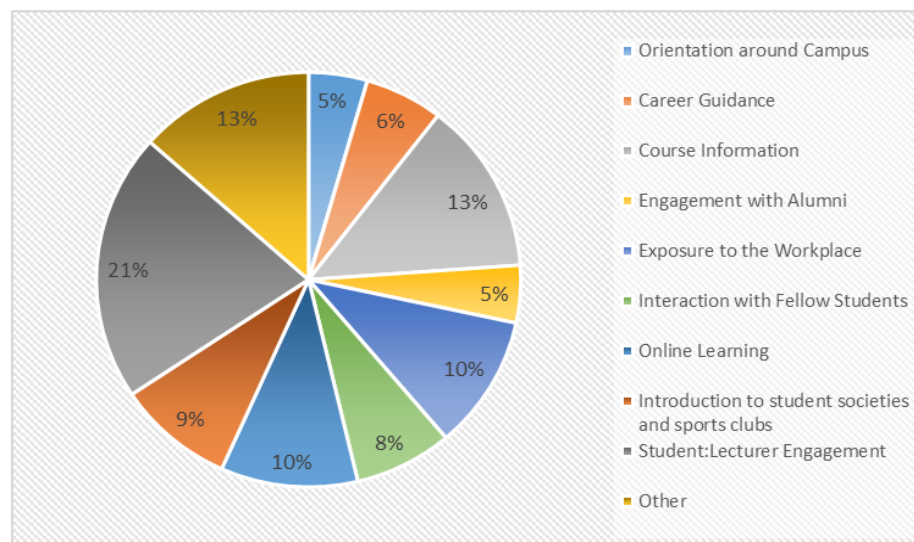
Figure 5.5: Orientation attendance and offering of a separate orientation session

Students were asked why they had not attended the orientation session. Work responsibilities and being out of town featured prominently, followed by being busy with late registration, not having time and lastly not having information on the orientation session or not knowing that attendance is important (Table 5.2).

Table 5.2: Reasons for not attending orientation

Reasons for not attending orientation	Number of responses
Work responsibilities	15
Out of town	15
Did not know or did not know attendance is important	7
Busy with late registration	5
Lack of time or not available	4

The findings represented in Figure 5.5 concur with recent studies arguing that student orientation cannot be a once-off event (Morgan, 2014; Douglas et al., 2018; Nyar, 2020). Based on the data, it is evident that the University needs to offer orientation more than once a year. Students were, therefore, asked what activities they would like to have included in a separate orientation session. Figure 5.6 shows their responses.

**Figure 5.6: Activities to be included in a separate orientation session**

Participants indicated that they would like to have orientation around campus as some participants wrote that they would like ‘*Specific lecturer rooms*’, ‘*Visiting the respective classes*’, ‘*Visiting the respected classes not just the building*’. The data concurs with a study led by Denney (2015) on transitioning from secondary school to university, which found that orientation around campus for first-year students was a challenge. Denney (2015) shows that

even though orientation around campus is expected at the beginning while students get accustomed to their new surroundings, the above is not the case as the students who participated in Denney's study were five months at the university.

Participants further stated that they would like engagement with alumni '*Deep engagement with those that completed the same course to share their experiences*', '*We have to be introduced to the world of management with a motivational speech from successful NUST graduates*'. Such statements align with the claim by Gillan (2018) that involving alumni can give current students additional support and inspiration to complete their degrees.

Furthermore, some participants indicated that they would like career guidance: '*An in-depth on how this programme will help me gain the upper hand in the job market, what is required of me to graduate well*', '*Discussing what we can major in*', '*Maybe what career will one get after done with studies*'. The data shows that the students' desire for career guidance is consistent with Gordon's (2006) suggestion that students, even those who decide on a major before arriving on campus, need career advice. Richișeanu-Năstase & Stăiculescu (2015) state that one of the most important sources of anxiety for students is their professional future.

Participants also indicated that they would like more information on the courses they are doing '*...What we should remember before ever regretting to have taken or chosen our field of study always*', '*An intro into our field of study...*', '*Letting students know more about the courses they're going to do...*'. The data is worrisome given that students have already been at university for eight months.

A recurring activity participants proposed is exposure to the workplace: '*Qualified Auditors and CA to come to campus*', '*Mentorship with CEOs of logistics companies*', '*Taking students to any of the companies, just to give them an understanding on how those people (graduated and currently working), perform or what is expected from them*'. Buzzeo and Cifci (2017) show that exposure to the workplace can assist in career decision-making and gaining an understanding of the world of work.

5.3.2.2 Sub-theme two: Time management

First-year students with strong executive functioning skills (time management, organisation, self-regulated study skills etc.), are more likely to be successful at university (Ahrens et al., 2019). Time management emerged strongly as a challenge for respondents. Seven ($n=7$) and twenty-seven ($n=27$) enrolled students and four ($n=4$) and fourteen ($n=14$) students who did not register for the second semester found managing their time very easy and easy, respectively. Furthermore, seventy-eight ($n=78$) enrolled students and fifteen ($n=15$) students who did not register for the second semester found it neither easy nor difficult, while seventy-seven ($n=77$) and fifty-two ($n=52$) enrolled students who found it difficult and very difficult. Ten ($n=10$) and one ($n=1$) students who did not register for the second semester found managing their time difficult and very difficult, respectively (Figure 5.7).

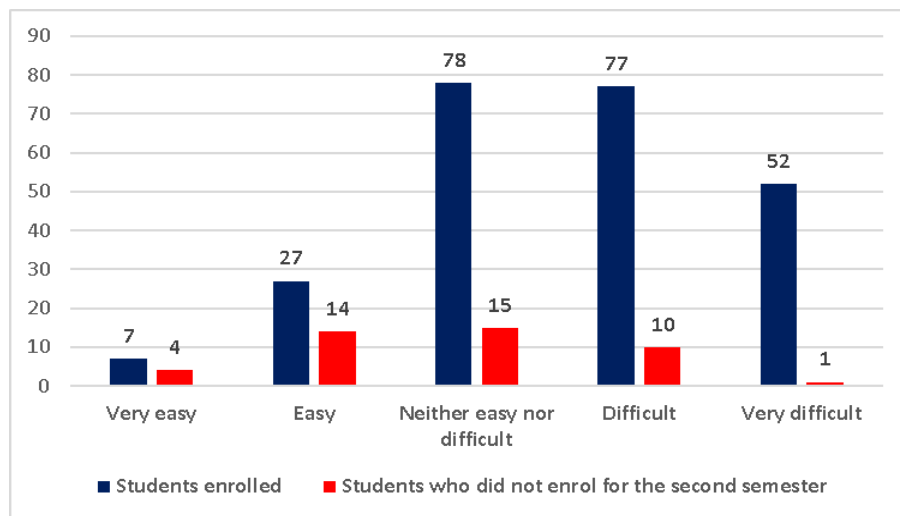


Figure 5.7: Time management

Moreover, respondents found it difficult to prepare for tests or assignments. Ninety-six ($n=96$) and thirty-eight ($n=38$) enrolled students and eleven ($n=11$) and four ($n=4$) students who did not register for the second semester found this task difficult and very difficult, respectively (Figure 5.8).

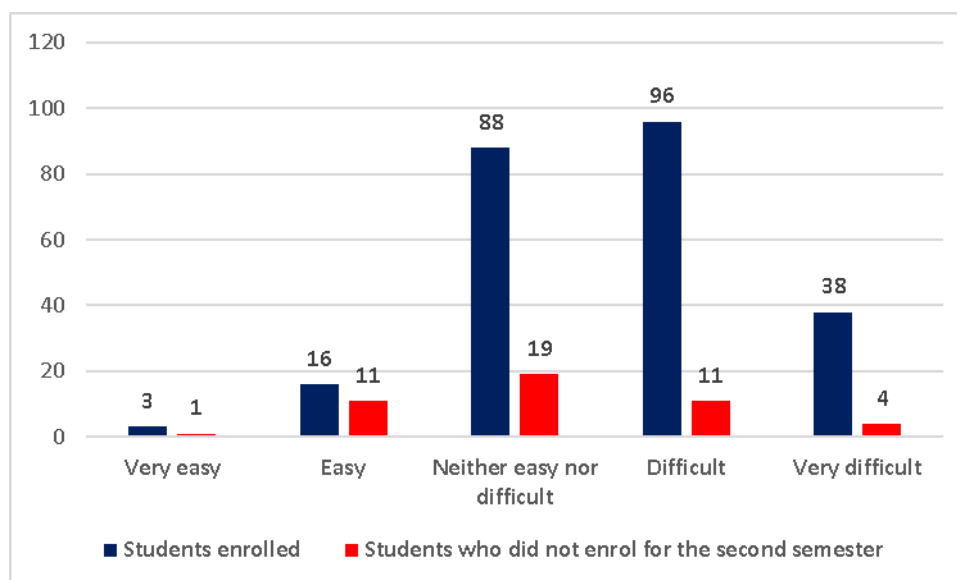


Figure 5.8: Students perceptions about preparing for tests or assignments

The quantitative data are supported by the qualitative data received from participants. For example, some participants wrote:

'I'm having problems with managing my time.'

'Lack of time as I am faced with a lot of modules covering a lot of units.'

'Managing the time to study.'

'NUST doesn't give enough time for us to study...'

'Not many, just that the work in university is more compared to that of high school.'

'Too much work which I did not expect. When I was in high school I thought university life is the best.'

Literature also shows that time management is an essential component of students' readiness for online learning, as shown in the models developed for students' e-learning readiness (Dray et al., 2011; Demir & Yurdugül, 2015). Furthermore, recent studies show that time management

challenges students during online learning (Barrot et al., 2021; Hayat et al., 2021). The literature shows that time management predates the transition to online learning (Conley, 2008; Adams & Blair, 2019). There is an assumption that online learning provides a potential solution to this challenge because it adds flexibility, defined by Naidu (2017: 269) as '*flexible learning* as a state of being in which learning, and teaching are free from the limitations of the time, place, and pace of study'. Nevertheless, time management proves challenging in the online learning environment, albeit in slightly different ways. The data shows that students struggle to manage their time and feel pressured by the number of tests and examinations written within a specific time as one participant wrote: '*Being overloaded with work and tests written on the same dates*'. While online learning is supposed to decrease workload, Aristovnik, et al. (2020) found that students' workload had become larger or significantly larger.

The data of this study reveals that students felt overwhelmed by the excessive workload, as discussed in the next section. The data is consistent with the findings of Aristovnik et al. (2020) showing that the most significant proportion of students reported that their workload had become larger or significantly more prominent. Oceania, Europe and North America reported an increase in the workload. Research shows that students struggle to manage their time due to more significant workload and having to take responsibility for their work (Denney, 2015), which the COVID-19 pandemic has exacerbated.

5.3.2.3 Sub-theme three: Heavy academic workload

Armstrong-Mensah et al., 2020 indicate that the transition to purely online classes increased student's academic workload during COVID-19. One of the reasons for the overload could be that lecturers are concerned about not finishing the syllabus, resulting in fear and panic among educators regarding how to complete the programme of study (Allam et al., 2020). Al-Kumaim et al. (2021) state that the design of teaching plans remained unchanged even though COVID-19 required universities to change their teaching and communication. They argue that some university instructors and students had little experience or training in using, assessing and managing online teaching. Bao (2020) supports this by stating that some instructors and students are facing extra challenges because of a lack of online teaching and learning experience. Another

reason given by Al-Kumaim et al. (2021) for the overload is that staff and students must deal with multiple online learning platforms.

The heavy workload was a recurring theme in participants' responses:

'Overloaded with assignment and test due to coronavirus.'

'I feel I fear the quantity of work...'

'I feel very overwhelmed by it all, it is a lot of work in short time periods...'

'... I am faced with a lot of modules covering a lot of units.'

'The workload is too much.'

Academic workload is considered one of the main stressors for students, as it has been shown (Tempski, et al. 2012) to account for increased stress levels in students. The data in the present study shows that the workload has a negative impact on the students, for example, one participant expressed: *'Lots of work and too much stress'* and another wrote: *'Not being able to handle my load of school work.'*

The then Acting Vice-Chancellor of NUST sent a communique to staff and students indicating that NUST must cease face-to-face lectures in March 2020 following the state of emergency declared by the Namibian President to curb the spread of COVID-19. Fully online teaching and learning commenced on the 15th of May 2020. As a result, students had missed out on almost two months of work. Although the academic year was extended, it still placed pressure on lecturers to have their curricula covered for the first semester. Taking into consideration that staff and students had to adapt to online learning, this may have resulted in increased workload as shown in the following quotes, with one student writing: *'Keeping up with work, Due to COVID-19 we have been inflicted with a lot of work and test...'* and another student indicating the holiday was perhaps too long: *'Given too long holidays (2 months)'*. However, there may have

been other reasons for the perceived increased workload. Studying at home can bring many challenges, for instance, taking responsibility for ones' learning (Mahlaba, 2020; Maphalala et al., 2021). This means that one must efficiently adapt their studying habits to minimise stress and feelings of overload. In other words, students need to become more self-directed in the approach to learning.

5.3.2.4 Sub-theme four: Self-directed learning

With the migration to online learning, students have entered uncharted territory in their education, where they have been given more responsibility for their learning than usual (Mahlaba, 2020). Self-directed learning is, amongst others, a good predictor of academic performance (Cazan & Schiopca, 2014; Khiat, 2017); it enhances motivation, performance, self-efficacy and support (Boyer et al., 2014).

Self-directed learning was highlighted as a challenge based on the responses received from students:

'... most of the modules this year was just self-studying'

'I feel as though I am left out to dry and there is no one to guide me especially now that everything is online.'

'Online education is a real turn off, I haven't learnt anything productive online it is really a struggle no knowledge is passed over.'

'THAT EVERYTHING DEPENDS ON YOURSELF PERSONALLY. IF YOU MISS CLASSES, YOUR OWN FAULT'

Cazan & Schiopca (2014); Khiat (2017); and Du Toit-Brits & Van Zyl (2017) show that self-directed learning was necessary for students to succeed academically prior to COVID-19. Mahlaba (2020) admits that lecturers should not keep students' permanently dependent on them for their learning, as lecturers will not always be there to provide learning. In the online context,

teaching and learning shifts from being teacher-centred to being student-centred. However, this is not the case as learner-centred teaching is a global challenge (Du Plessis, 2020). According to Weimer (2015), it takes dedication and ingenuity to adopt learner-centred teaching approaches, but their incorporation can improve student learning and strengthen academic programmes. Bao (2020) and Al-Kumaim et al., 2021 show that there was no time to change teaching plans when COVID-19 struck. The data of this study suggests that the lecturers assumed that first-year students would automatically be able to handle the change in teaching and learning. Evidently this is not the case, as the students struggled with self-directed learning, managing their time and the heavy academic workload. The literature review, supported by the data of this study, shows that students lack the requisite skills of self-directed learning, time management and managing their academic workload. This can result in a lack of motivation and confidence, affecting students' academic performance.

5.3.2.5 Sub-theme five: Adjustment to lecturing style

Effective online faculty members have a direct and essential role in influencing the student experience since instructors are often the 'face' of an online course (Roddy et al., 2017:59). According to Terras and Ramsay (2015), the pedagogical requirements for faculty include mastering technical skills through training, additional preparation for online assessments, flexibility and a learner-centred teaching approach.

Anderson (2003) confirms that educators should be able to use technology tools to achieve teaching goals, including methods of teaching and learning, lesson planning and assessments. The educator should be a subject specialist that uses different tools and methods to facilitate learning. However, given the rapid shift to online learning, many lecturers may have lacked the necessary training and skills needed as is evident in the responses received from participants:

'I do not understand some of the work because the lecturers are too fast sometimes.'

'Trying to understand the lecturer.'

'Some topics I'm not fully understanding and the lecture moves to the next chapter.'

‘...when attending classes lecturers are always ahead with what it’s displayed on the slide due to network.’

Gulbahar and Kalelioglu (2015) point out that lecturers are essential to successful e-learning implementation, and they should have the appropriate skills and experience for the effective implementation of online and blended learning. Gulbahar et al. (2015) continue that being an experienced instructor and having advanced technology skills does not necessarily lead to an instructor becoming an effective e-instructor. The issue of staff preparedness and online pedagogical competency will be discussed later but was not explored fully as it fell outside the scope of the study.

Similarly, Demir et al. (2015) observe that pedagogical competency is essential for lecturers' online readiness. Internet connection and internet fees, course delivery and teaching strategies, evaluation, time constraints, and monitoring and motivating students were the primary challenges faced by lecturers during emergency teaching and learning (Junus et al., 2021). According to Lichoro (2015), faculty members do not feel adequately prepared to teach online. Coman et al. (2020) further show that lecturers' teaching style is inappropriately adapted to the online learning environment. Abdelmola et al. (2021) state that transforming subject material into an e-learning experience, designing e-learning materials for students with different learning abilities, staying up to date with modern technology and the availability of devices were major obstacles affecting lecturers' online readiness.

5.3.2.6 Sub-theme 6: Prior content knowledge

Ambrose, Bridges, DiPietro, Lovett, & Norman (2010) state that prior knowledge facilitates new learning. Ambrose et al. (2010) continue that one of the conditions that can impede learning is insufficient prior knowledge. According to Ambrose et al. (2010) when students lack relevant background knowledge, learning is likely to be fragmented and incomplete. Students will struggle to identify the meanings of new terminology, differentiate main ideas from detail, grasp how one idea relates to another, and build a coherent representation of the lecture material. There is a significant relationship between academic performance and prior content knowledge

(Muda et al., 2013; Marinaccio, 2017; Papageorgiou & Carpenter 2019). Anecdotal evidence at NUST shows that students struggle with courses such as Basic Science and Accounting. In some instances, students enter university without a science background and since Basic Science is a core course, students are required to take this course. Similarly, for Accounting, students need to not have Accounting on secondary school level when registering for qualifications in Accounting. The student's responses shows that some struggled to understanding the work or modules and based on the anecdotal evidence this would imply that students lack the relevant background knowledge:

'I don't understand some modules especially the Basic Science.'

'Lacked understanding...'

'Not understanding the material properly.'

'Not understanding work in a particular module. That leads to poor performance in assessment.'

'To understand my courses.'

'Just having to read and understand some accounting concepts that are not so complex but yet can get very confusing.'

'Taking a completely new subject Accounting the lecturers assuming all the students were at the same level.'

'Challenging work accounting: understanding the theory.'

As mentioned before, first-year students are required to take six core institutional courses – basic science, computer user skills, language in practice, information competence, basic mathematics and contemporary issues. Although mathematics and English are compulsory subjects in the high school curriculum, other subjects such as science are not. Of the seventeen undergraduate

qualifications offered by the FMS, only seven qualifications require a D symbol at the Namibia Senior Secondary Certificate (NSSC) Ordinary level in mathematics or accounting (for the Bachelor in Accounting and Chartered Accountancy degree). The Bachelor of Business Management and Economics degree requires a student should have a minimum D symbol in Grade 12/NSSC Ordinary mathematics. The Bachelor of Marketing degree - Transport Management and Logistics and Supply Chain Management require a D or E-symbol at NSSC Ordinary level or a 4 at NSSC Higher level (for the latter qualification). Whereas for the Bachelor of Entrepreneurship and Marketing and Logistics degree, mathematics at NSSC Ordinary or Higher level (International General Certificate of Secondary Education or Higher International General Certificate of Secondary Education) is recommended (Namibia University of Science and Technology, 2021).

Namibia's Ministry of Education, Arts and Culture (2019) show that 38.5% of students who completed the NSSC Ordinary level obtained A* to D (pass) symbols in physical sciences, 41% in mathematics and 34.2% for biology. This suggests that learners struggle with science subjects, and it does not become easier when they enter university. Anecdotal evidence suggests that students do not see the need for them to do for instance basic science when they are enrolled for a qualification in Human Resources Management.

However, admission requirements are not the only factor affecting prior content knowledge. Tinto (2016) highlights the classroom as an important factor in enhancing content knowledge and skills. He describes classroom attributes, such as clear expectations, timely support, feedback on assessment, engaging pedagogies and enhancing teaching skills as important. The data of this study concur with Tinto (2016) as it highlights the challenges of student-lecturer interaction and lecturing style. Moreover, disruptions in learning due to COVID-19 impacts the academic performance of high school students. Dorn et al. (2020) show that the COVID-19 pandemic left students on average five months behind in mathematics and four months behind in reading by the end of the school year, affecting students' prior knowledge of when entering university. This should be carefully scrutinised in the coming years.

The impact of COVID-19 on higher education requires universities, now more than ever, to consider how best support the underprepared student entering university. According to Pownall et al. (2021), universities will need to assist students with the challenges brought by COVID-19 to reacclimatise them to academic work following a period of prolonged educational disruption, negotiate mental health consequences of COVID-19, and remain sensitive to the inequities of educational provision that students have experienced as a result of COVID-19.

5.3.3 Theme three: Psychological factors

Online learning may pose some challenges due to the nature of its delivery which can lead to demotivation, minimal participation or even withdrawal of the learners (Aduayi-Akue et al., 2017). According to Chiu and Hew (2018), the critical role of students' self-regulation, motivation and positive learning dispositions are accentuated in the online learning environment. The aggregated stress and anxiety from COVID-19 may easily demotivate and disengage student learning as prior studies have highlighted that negative emotions may inhibit learning (Pekrun et al., 2017). The data reveals that students had trouble concentrating and staying motivated and they felt isolated and unsupported socially and educationally.

5.3.3.1 Sub-theme one: Attention and motivation

Hartnett (2016) states that motivation in online learning is a complex phenomenon. Gustiania (2020) states that motivation plays a crucial role for learners in online learning and that there is a dynamic interplay between learner motivation and positive classroom experiences in online settings (Meşe & Sevilen, 2021). According to Brocato et al. (2015), instructors should consider different methods than those used in traditional settings to engage students in online learning. A high level of frustration emerges when a course is organised poorly, and students spend too much time searching for necessary information. Unclear expectations or changing learning goals frequently during the class demotivates students and causes confusion about course objectives (Duncan et al., 2013). Students' motivation increases in a class when they have an opportunity to interact with peers, as well as the instructor, and gain exposure to other perspectives (Duncan, et al., 2013). Instructors must participate actively and engage with students, which means they must be available for learners and gain their trust and confidence (Brocato et al., 2015). Student motivation increases when learners can construct relative knowledge and demonstrate learning.

Thus, student motivations towards online learning are enhanced with clear organisation, communication, interaction and presence of the instructor (Abramenka, 2015). The data shows that some students struggled to focus and to remain motivated as participants wrote as their main challenge(s):

'I can't pay attention in online classes.'

'I don't concentrate well on online learning.'

'Keeping focus.'

'I have a problem of keeping myself motivated so I often have more down than up. I wish there was someone who I could talk to about who would understand me and not think I'm being lazy.'

'Lack of motivation.'

The data concurs with the findings of the study conducted by the Department of Higher Education and Training, South Africa (2020), which shows that students had difficulty staying focused while learning remotely. Furthermore, the above is consistent with the studies conducted by Rahmat (2019), and Simamora (2020), which show that the students who lack motivation were greatly affected by external factors such as the learning environment, time management, improper internet connection and gadgets. The current study demonstrates clearly that students found technology, the conduciveness of the learning environment and engagement with their lecturers challenging, which can significantly impact their motivation levels.

5.3.3.2 Sub-theme two: Isolation

Students and staff struggled with the imposed restrictions and shift to online education. Students found it difficult to adapt to new expectations for university life and reported missing out on professional and social experiences (Knight et al., 2021). Knight et al. (2021) argue that students exhibited varied emotional responses to self-isolation; some felt unaffected whilst others experienced lowered mood and loneliness. According to Lim and Vighnarajah (2018), academic isolation and social isolation are strongly associated with poorer university learning experiences

compared to psychological isolation. Student isolation proffers an extensive negative relationship with university learning (Lim et al., 2018).

One aspect that could have exacerbated feelings of isolation might have been the strict measures that were put in place during lockdown to curb the spread of COVID-19. These measures included the prevention of social gatherings and suspending face-to-face classes. The data shows that even though students engaged through the available digital platforms, they felt alone and isolated as student-lecturer engagement is compromised online:

‘I feel as though I am left out to dry and there is no one to guide me especially now that everything is online.’

‘I wish there was some I could talk to...’

‘...it’s quite difficult to go home and study on my own without any guidance.’

‘Sometimes, when I fail to understand certain things, I struggle because there is no one to help me around where I stay.’

These statements support recent studies, which show that isolation causes stress and affects students’ academic achievement and mental health (Croft et al., 2010; Vaughn et al., 2016; Ishii et al., 2018; Limón-Vásquez et al., 2020).

Current literature reviewed suggests that it is unlikely that universities will go back to full face-to-face teaching and that a hybrid approach is more likely post-COVID-19 (Witze et al., 2020; Benito et al., 2021). This aligns to NUST’s vision to offer blended teaching and learning, but careful consideration must be given to how this will be achieved as the data shows that online teaching and learning pose significant challenges and widens educational inequities (see Chapter 6 for discussion).

5.3.3.3 Sub-theme 3: Resilience and Self-efficacy

Bandura (1993) defines self-efficacy as people's beliefs in their capabilities to produce designated levels of performance that exercise influence over events affecting their lives. The data show that despite students experiencing several challenges, most did not drop out. One-hundred and thirty ($n=130$) enrolled students and thirty-five ($n=35$) students who did not enrol for the second semester pursued university as they believe university contributes to the fulfilment of their potential. Furthermore, one-hundred and seventy-eight ($n=178$) enrolled students and twenty-nine ($n=29$) students who did not enrol for the second semester believed that university could improve their chances of getting a good job (Figure 5.17). The data concurs with literature that students pursue higher qualifications for economic (Hout, 2012; Chan, 2016; Ma et al., 2019) and non-economic reasons (Kiziltepe, 2010; Lagemann & Lewis, 2015).

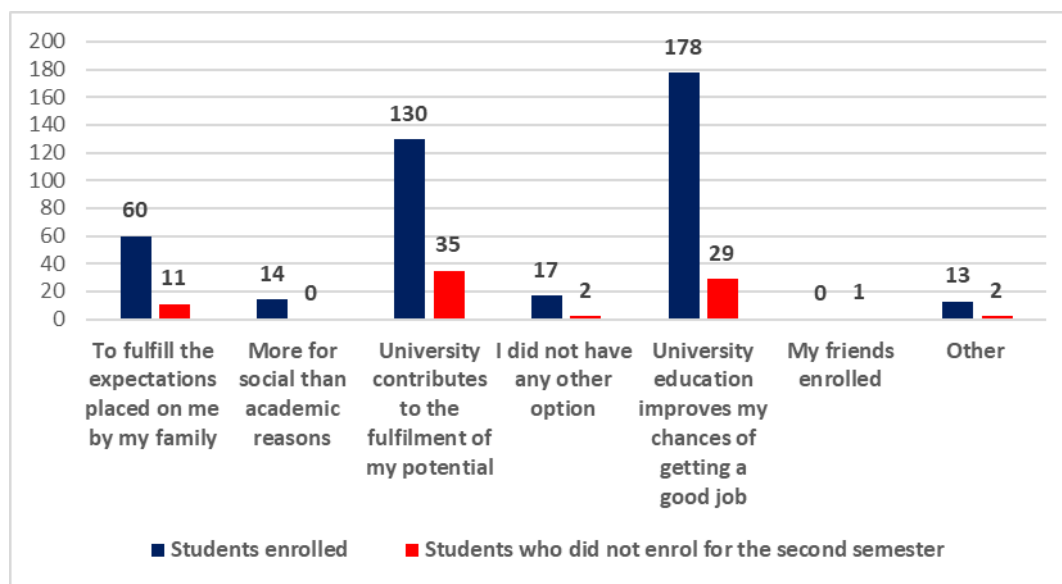


Figure 5.9: Reasons for pursuing higher qualifications

The reasons provided for pursuing higher qualifications is supported by the data indicating that many students have high aspirations in terms of pursuing higher qualifications. Ninety-seven ($n=97$) and one-hundred and seven ($n=107$) students intend to pursue PhD or Master's qualifications, respectively (Figure 5.18). The data demonstrate that students pursued higher education for their own process of development and the economic benefits, thereby improving their socio-economic status.

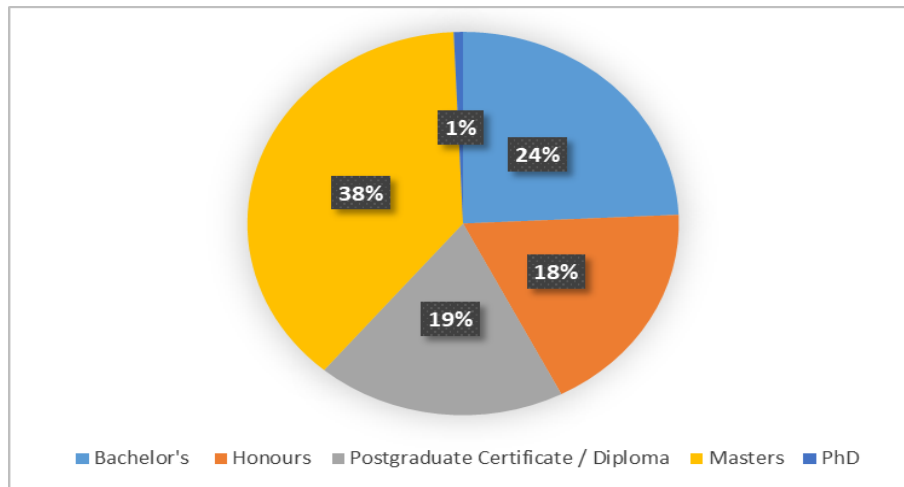


Figure 5.10: Intentions to pursue higher qualifications

The data reveals that first-year students are faced with several challenges that can impact their academic performance (e.g., time management, self-directed learning, academic workload, etc.). The self-efficacy data shows that despite these challenges, students still believed in themselves enough to envisage pursuing higher qualifications. Bandura et al. (2003), Sahin and Cetin (2017) and Lannin et al. (2019) also shows that self-efficacy is important in controlling stress. The data shows that despite the hardships students experience, they still belief in themselves and their capabilities and they still believe that they can pursue further studies, which imply they have high levels of resilience and self-efficacy.

5.4 Student Engagement

Student engagement is an essential component of the FYE. It is key to successful teaching and learning, irrespective of the content delivery mechanism's content and format (Khan et al., 2017). Student engagement increases student satisfaction and motivation to learn, reduces the sense of isolation and improves student performance in online courses (Martin & Bolliger, 2018). Kennedy (2020) and Anderson (2003) argue that student engagement in online learning is dependent on interaction.

5.4.1 Student-student engagement

According to Black and MacKenzie (2008), students form meaningful and supportive relationships with or without the interventions of the institution. Student groups play a major role, whether formally affiliated ones like student associations, sports groups and other clubs and societies, or more organic friendship groups that form in the contexts of student learning spaces, social spheres or where students live (Black & MacKenzie, 2008). To determine peer interaction, this study considered how easy or difficult it is for first-year students to interact with fellow students. One-hundred and forty-nine ($n=149$) enrolled students and eighteen ($n=18$) students who did not enrol for the second semester found interaction with peers very easy and easy (Figure 5.9).

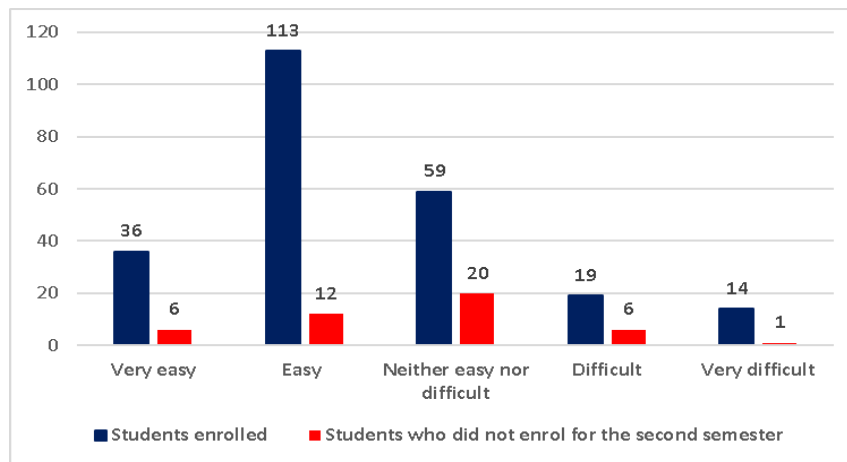


Figure 5.11: Interaction with fellow students

Mostly, students interacted with each other through academic collaborations during COVID-19. Very few, only twenty-six ($n=26$) enrolled students indicated that interaction happens through students' clubs or societies or sports activities (Figure 5.10). This question was omitted from the survey for students who did not enrol for the second semester, since I did not know when students left the university.

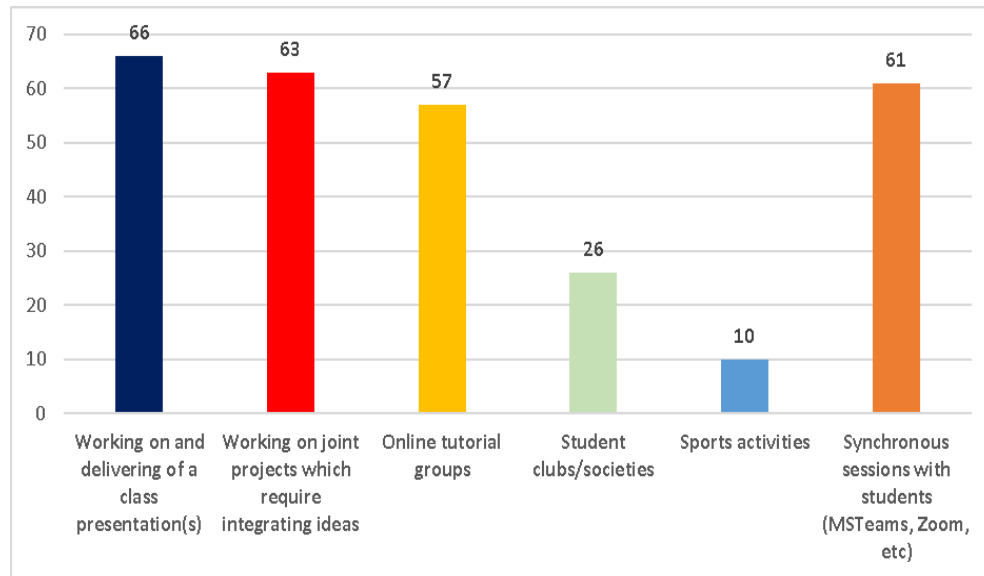


Figure 5.12: Forms of engagement

Tinto (1993) shows that social integration is as important as academic integration during the first year at university. Surprisingly, one-hundred and eighteen ($n=118$) enrolled students and eighteen ($n=18$) students who did not enrol for the second semester indicated that it was very easy and easy to make friends, during COVID-19 (Figure 5.11).

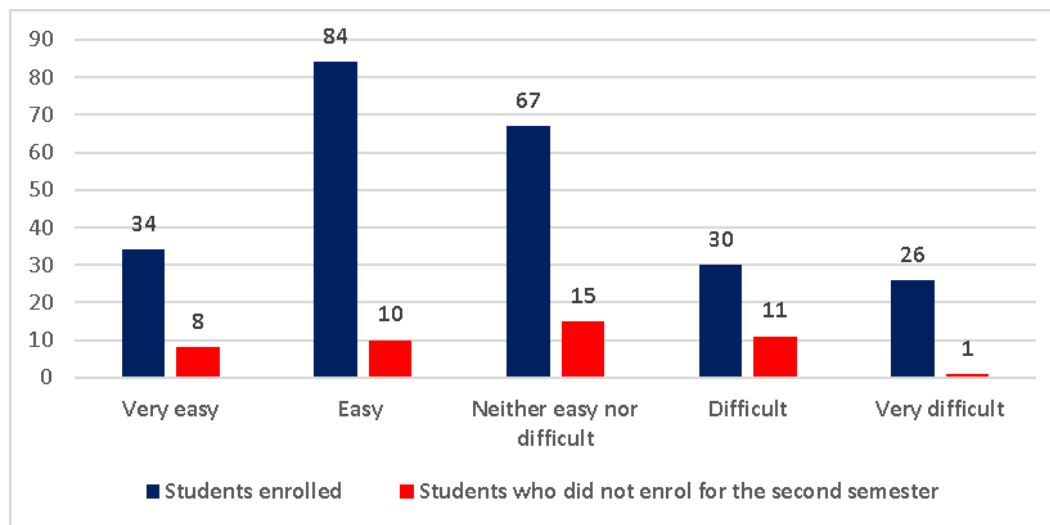


Figure 5.13: Making friends

5.4.2 Student-lecturer engagement

Figures 5.12, 5.13, and 5.14 show that student-lecturer interaction is significantly challenging. The migration to online teaching and learning exacerbated this as online learning tends to be isolating (Ali & Smith, 2015). According to Tinto (1993), frequent contact between students and academic staff outside the classroom is a predictor of retention and facilitates students' academic and social integration in their institutions. Engagement between student and lecturer is important, and students were asked to agree or disagree with the statement: '*I engage regularly with my lecturers outside of class*'. Students do not regularly engage with their lecturers outside of class; almost half of the students, ninety-two ($n=92$) and eighty-seven ($n=87$) enrolled students and twenty-three ($n=23$) and eight ($n=8$) students who did not register for the second semester, disagreed and strongly disagreed with the statement, respectively (Figure 5.12).

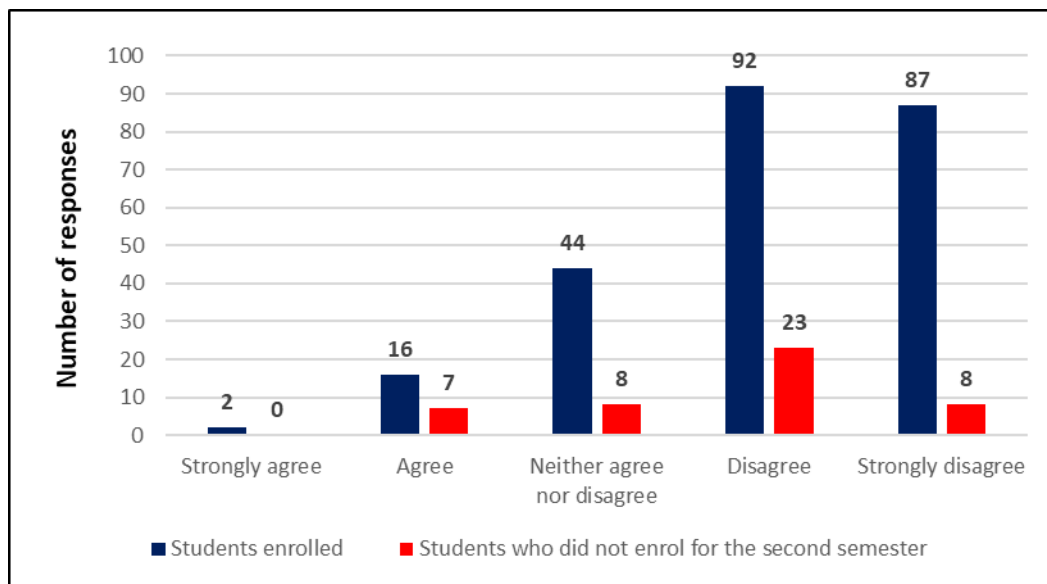


Figure 5.14: Level of ease of interaction with lecturers

To better understand student and lecturer interaction, students were further asked how many times they engaged with their lecturers outside of the classroom. Eighty-nine ($n=89$) enrolled students and twenty ($n=20$) students who did not register for the second semester stated that they had engaged with their lecturers only between not at all and twice. Three hundred and one ($n=103$) enrolled students and eighteen ($n=18$) students who did not register for the second semester indicated that they had never engaged with their lecturers (Figure 5.15).

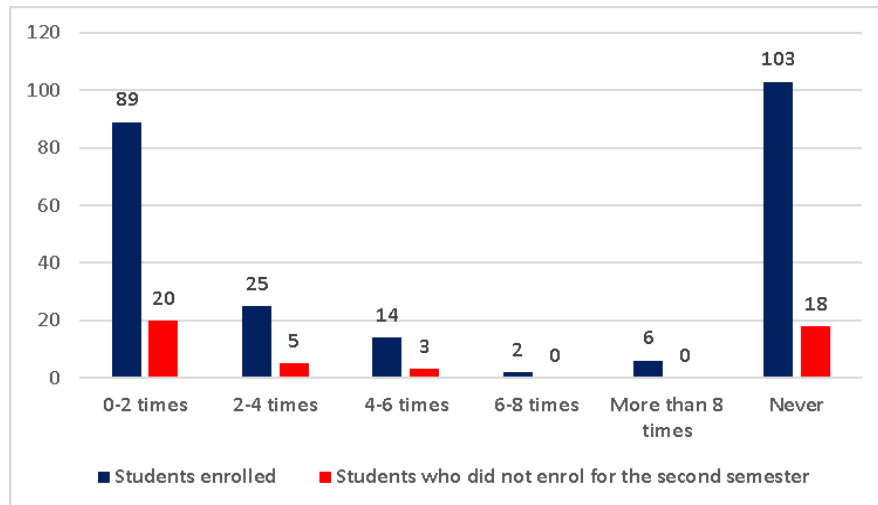


Figure 5.15: Number of times students engaged with faculty outside of class

A follow-up question was asked to determine how easy or difficult students found interaction with their lecturers. Few students, seven ($n=7$) enrolled and three ($n=3$) that did not register for the second semester, found interaction very easy (Figure 5.16). This will be critically discussed in Chapter 6.

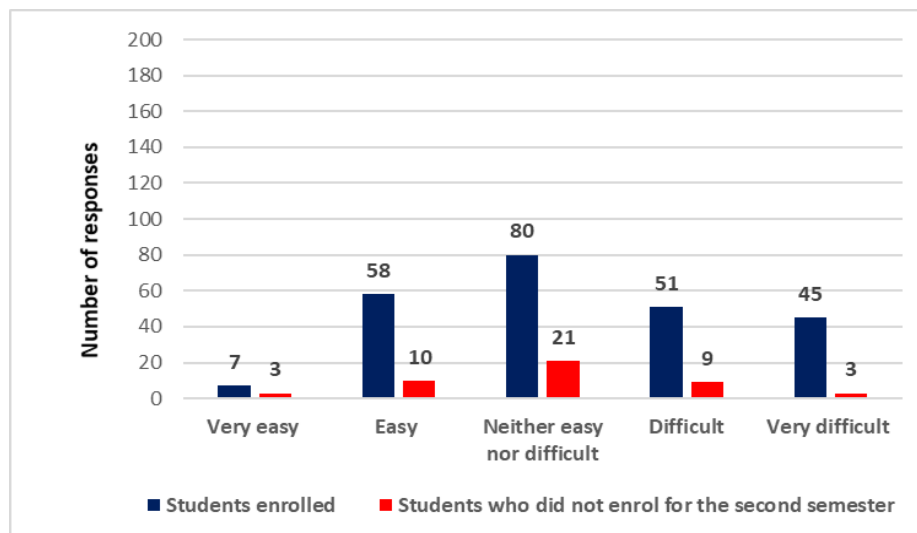


Figure 5.16: Ease of interaction with faculty

It is apparent that synchronous teaching is common, as one of the students wrote: ‘...*some lecturers keep on talking continuously for a whole hour and expect us to understand all at once and the next day just continue with the next chapter.*’ Considering that the FMS is the Faculty

with the biggest student numbers (a total of two thousand three hundred and thirty four, first year registered students for 2020), it is not surprising that online student-lecturer interaction is a problem. Taft et al. (2019) argue that class size may depend on the educational framework – constructivist-objectivist continuum, community of inquiry model and Bloom’s taxonomy, but in most stances the optimal number of students in online classes range from 15 to 30 students. Taft et al. (2019) further state that classes larger than 30 students would resemble the characteristics of one-way student-instructor communication, which is evident in this study.

As evident in the current study’s findings, student-lecturer interaction in the online teaching and learning environment presents many obstacles to optimal learning. The data is consistent with the literature, which states that engaging students presents a particular challenge in online learning environments (Khan et al., 2017; Venton & Pompano, 2021). The data shows limited engagement in terms of students discussing their grades with their lecturers. Most of the enrolled students ($n=155$) and twenty-nine ($n=29$) students who did not enrol for the second semester disagreed and strongly disagreed that they discuss their grades with their lectures (Figure 5.17).

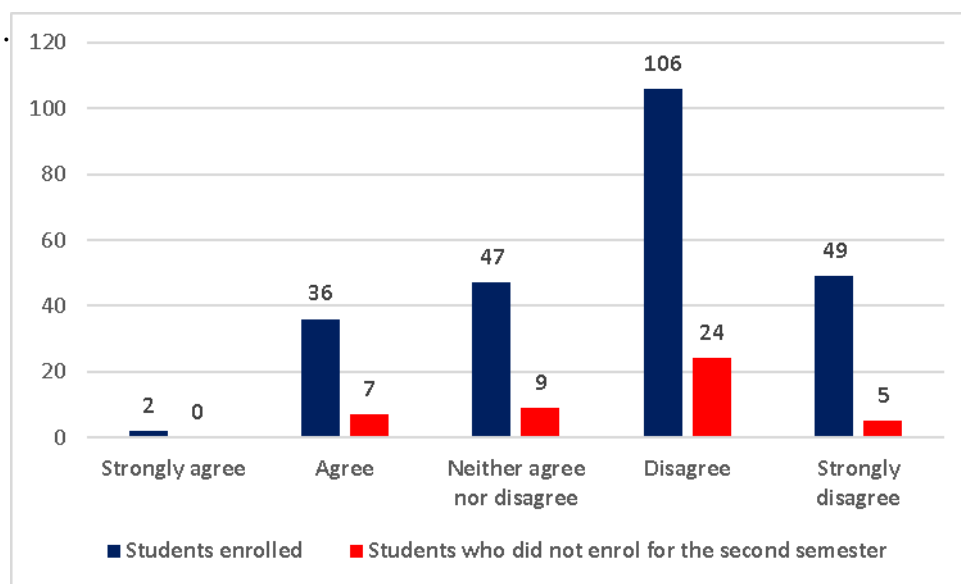


Figure 5.17: Discussion of students’ grades with lecturers

Furthermore, twelve ($n=12$) and seventy-two ($n=72$) enrolled students, and one ($n=1$) and sixteen ($n=16$) students who did not register for the second semester strongly agreed and agreed

that they received prompt feedback from lecturers on their academic performance, respectively (Figure 5.18).

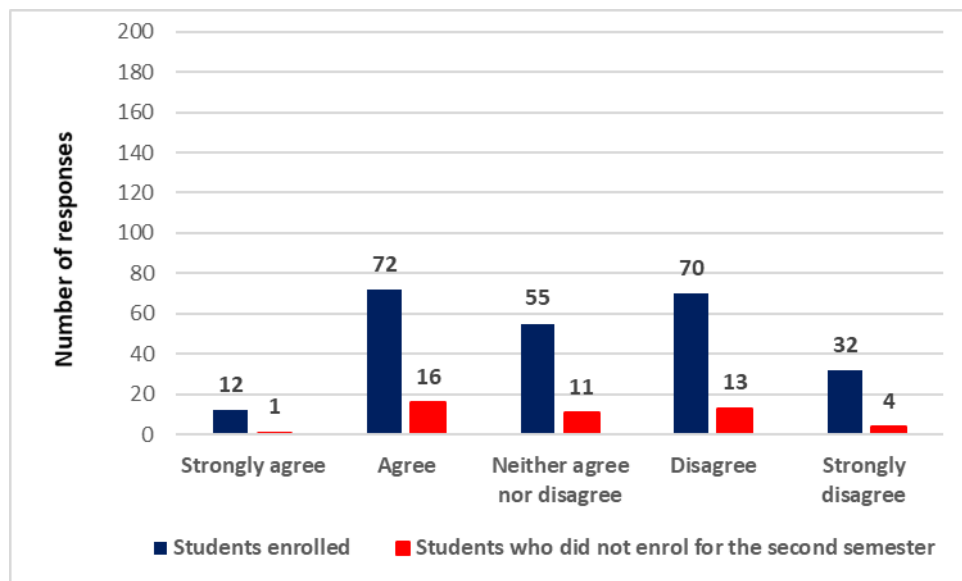


Figure 5.18: Prompt feedback from lecturers on students' academic performance

Moreover, Xhomara and Bara (2018) found that lecturer feedback about students' academic performance strongly influences the academic progress of students. Interaction with faculty on academic and psychosocial matters is crucial. According to Hart-Baldrige (2020), quality academic advising is key to student success and the faculty adviser is valuable in the adviser-student interaction. In recent years, academic advising has moved to the centre of student success initiatives (Thomas, 2017; McGill et al., 2020). McGill et al. (2020) state that faculty are responsible for course advising, mentoring students within their academic unit and monitoring degree progression. The data provide crucial insight into how first-year students in FMS experience engagement with lecturers in the Faculty. Taking into consideration the challenges first-year students experience as highlighted by this study, it is important for first-year students to have regular contact with faculty, even more so given the migration to online learning. The regular interactions will play a role in minimising student isolation.

5.5 Institutional Support

Institutions have implemented several strategies to support first-year students to succeed at university (Tinto, 2012; Naidoo & Lemmens, 2015; Combrink & Oosthuizen, 2020), thereby increasing retention, performance and student satisfaction (Larkin et al., 2016). Evidence shows that there is an optimistic link among first-year students' academic performance and the active use of the support systems (Hannover Research, 2014)

5.5.1 Academic support services

To support all its students, NUST offers some academic support services through its Student Service Department. However, as mentioned before, these services are not used optimally. Two-hundred and thirty-five ($n=235$) enrolled students and forty-three ($n=43$) students who did not register for the second semester did not make use of the available academic support services (Figure 5.19).

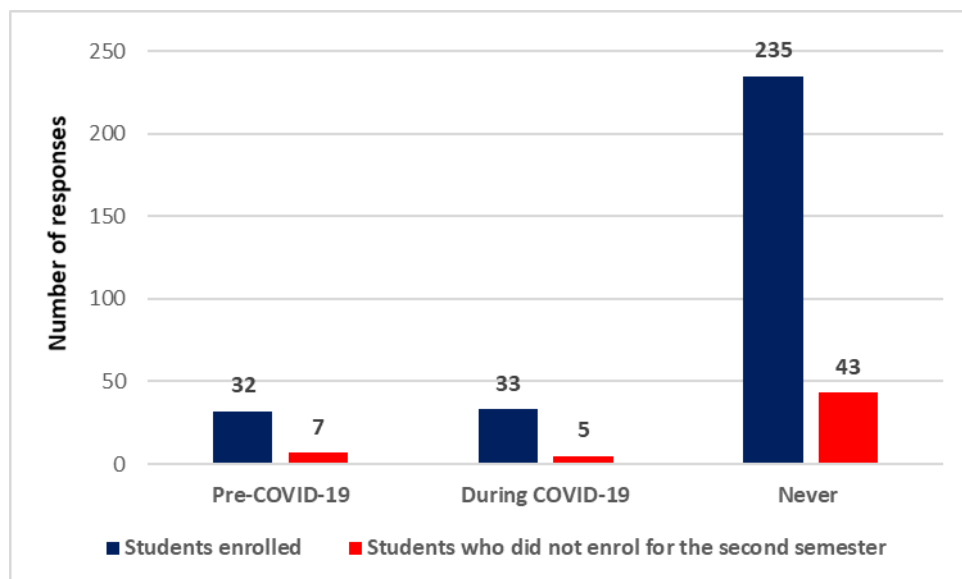


Figure 5.19: Usage of available academic support services

The data reflected in Figure 5.20 concurs with that of Dietsche (2012) who states that despite relatively high student-reported need, most university students did not utilise most campus services. To determine the barriers for utilisation of the available academic support services, students were requested to provide reasons for not making use of the academic support services.

One-hundred and twenty-seven ($n=127$) enrolled students and twenty-two ($n=22$) students who did not enrol for the second semester were unaware that the services existed. Furthermore, ninety ($n=90$) enrolled students and sixteen ($n=16$) students who did not enrol for the second semester did not know where to go or who to contact (Figure 5.20). The results concur with Harryba et al. (2012) who highlighted the unawareness of services as a challenge to accessing support services.

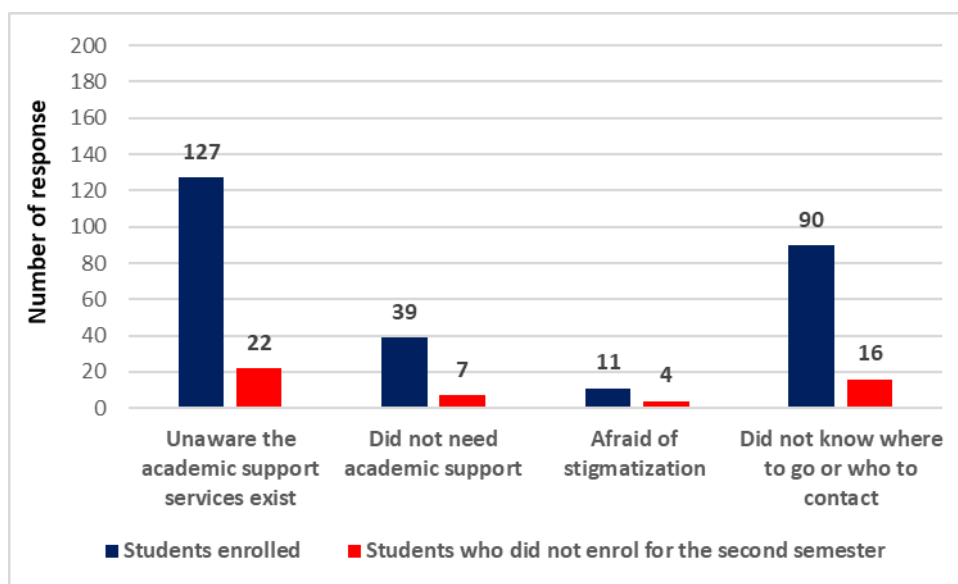


Figure 5.20: Reasons for not making use of academic support services

Survey respondents were asked to share what academic support services their respective Departments offer. Seventy-seven ($n=77$) enrolled students and twelve ($n=12$) students who did not enrol for the second semester indicated that their Departments offered individual academic consultations. In addition, eighty-six ($n=86$) enrolled students and nineteen ($n=19$) students who did not enrol for the second semester stated that their Departments offered focus group consultations (Figure 5.21). The data shows that peer mentoring and peer tutoring is almost non-existent and that seventy-four ($n=74$) enrolled students and fifteen ($n=15$) students who did not enrol for the second semester indicated that their Departments did not offer any academic support services.

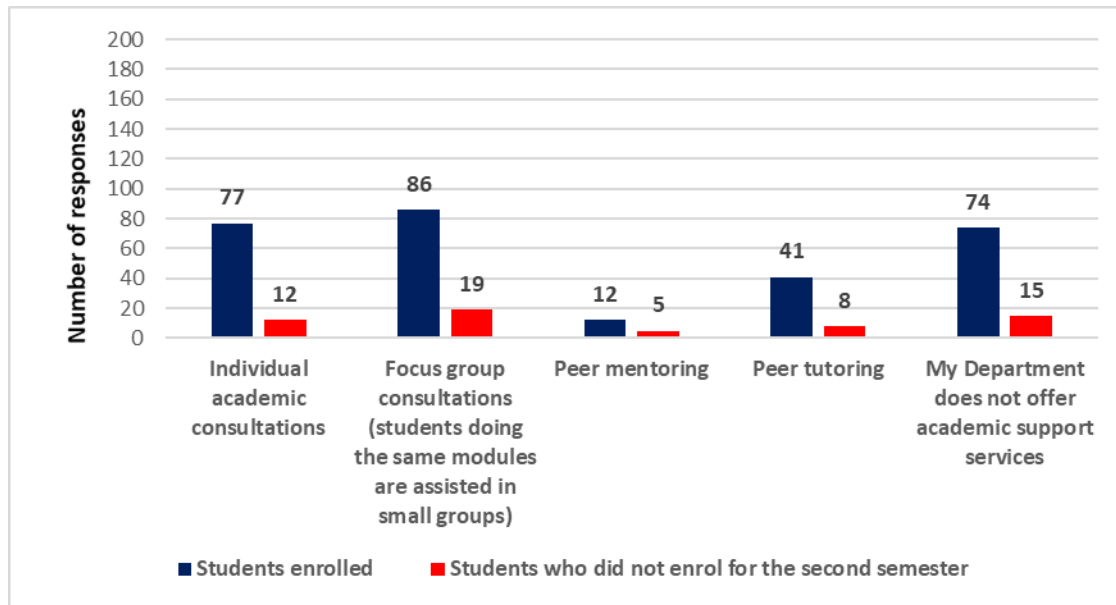


Figure 5.21: Academic support services offered by academic departments in the FMS

5.5.2 Social support services

The university creates several avenues to enhance social engagement amongst students and to look after the students' well-being. NUST provides activities such as stress management, self-esteem and other support services to cater for the students' well-being. The University also has over twenty student societies to enhance engagement amongst students through networking and learning. The study's respondents were asked whether they used the well-being support services. Similar to the usage of the academic support services, most of the enrolled students (two-hundred and fifty-three ($n=253$)) and forty-nine ($n=49$) students who did not enrol for the second semester have never used the available support services (Figure 5.22).

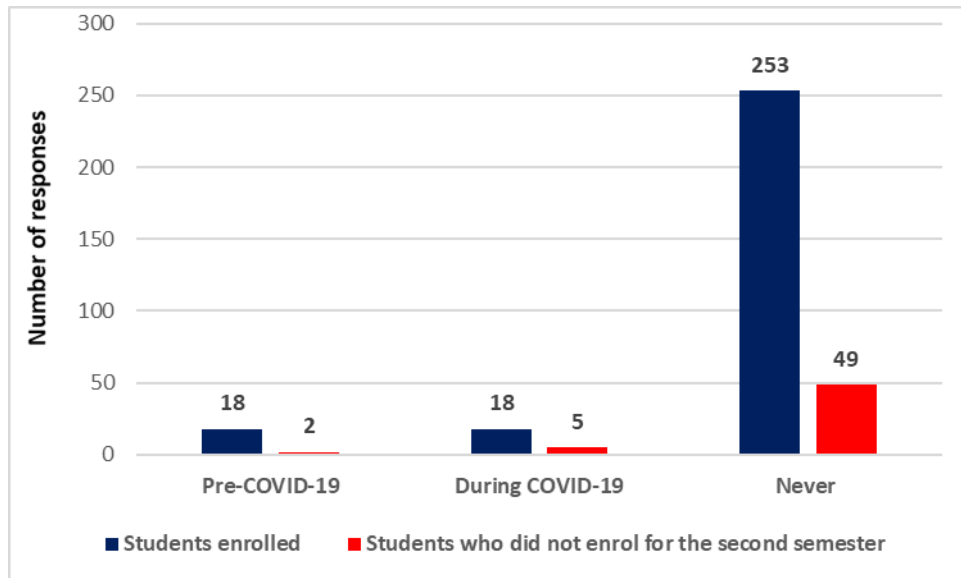


Figure 5.22: Usage of social support services

Students were additionally asked to provide their reasons for not using the social support services offered by NUST. Similar to the results for using the academic support services, one-hundred and twenty ($n=120$) enrolled students and twenty-six ($n=26$) students who did not enrol for the second semester indicated that they were unaware that the services exist. Sixty-six ($n=66$) enrolled students and eleven ($n=11$) students who did not enrol for the second semester did not know where to go or who to contact (Figure 5.23).

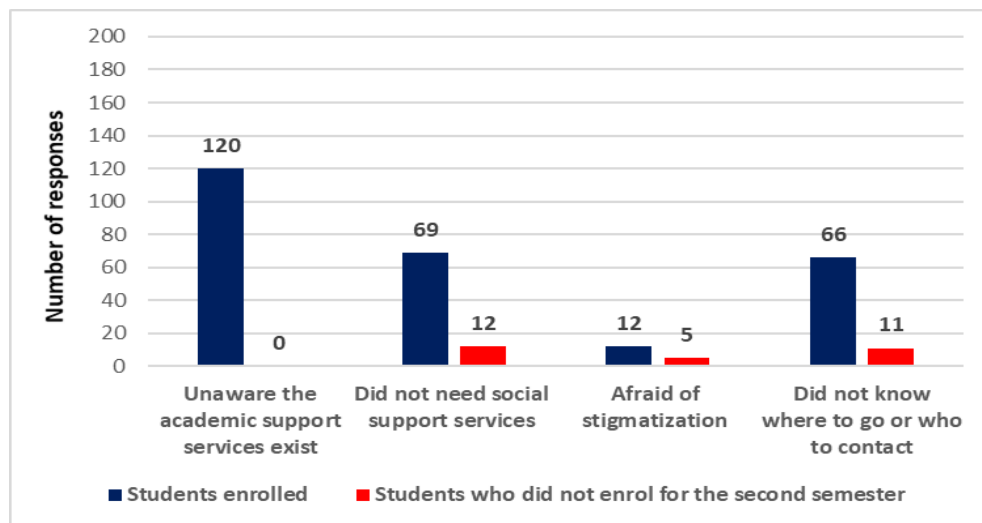


Figure 5.23: Reasons for not making use of social support services

NUST does not have a centralised and comprehensive student-focused academic support unit. The Writing Centre and Mathematics Tutor Centre are housed within the different faculties. The Student Service Department houses the Early Alert Programme, offering social support services, career guidance and student development workshops such as study skills, note-taking, time management, examination preparation and test anxiety. Unfortunately, only one staff member in the Department is responsible for the latter. Moreover, the data show that the FMS offered some academic support, although it is not very extensive. These points are crucial considering the literature review shows that a comprehensive approach to student support must be a shared responsibility between support services staff, faculty and external partners (McDonnel & Soricone, 2014).

5.5.3 Belonging to student societies and clubs

Involvement in extra-curricular activities helps students develop personal and social skills that positively affect academic and professional training, well-being, and the development of attitudes toward community involvement (Díaz-Iso et al., 2020). When students were asked whether they belonged to student societies/sports clubs, sixty-five ($n=65$) enrolled students and four ($n=4$) students who did not enrol for the second semester said yes. Furthermore, only twenty ($n=20$) enrolled students and one ($n=1$) student who did not enrol for the second semester belonged to a sports club (Figure 5.24). The data concur with Dickinson et al. (2020), who state that students may be faced with barriers that inhibit their involvement, including a lack of available time or financial resources.

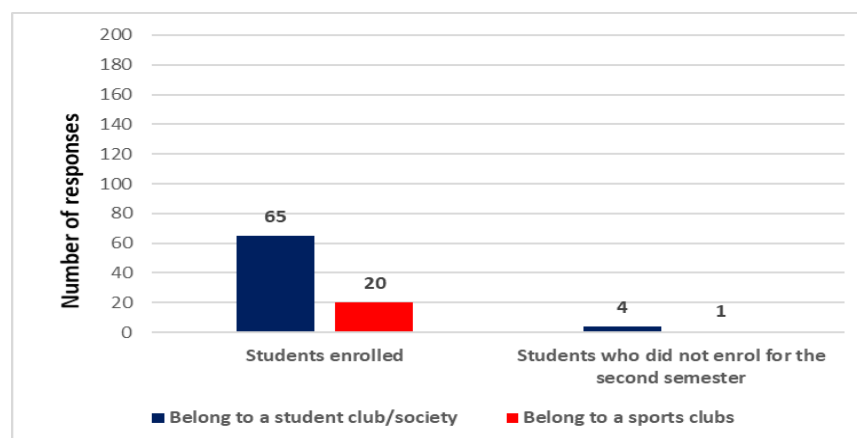


Figure 5.24: Belonging to a student club/society/sports club

Students were requested to provide reasons for non-participation. The main reasons provided were lack of visibility of sports clubs/societies ($n=39$), lack of time ($n=30$), personal ($n=17$), COVID-19 ($n=16$), not interested ($n=10$), institutional factors and interest ($n=9$) and work obligations ($n=9$) (Table. 5.3).

Table 5.3: Reasons for not belonging to student clubs/society/sports club

Reasons for not belonging	Number of responses
Time	30
Lack of visibility of sports clubs/societies	39
Personal	17
COVID-19	16
Not interested	10
Institutional factors and interest	9
Work obligations	9

Personal reasons, such as: *‘Too busy, and want to focus on academics’* and *‘I’ve been occupied by my problems to the point that I don’t take part in any activity’* were given for non-participation. Institutional factors and positions were expressed, such as: *‘I’ve never heard of that at NUST we don’t even have a sports field’*, *‘NUST doesn’t have a gym and no rugby’* and *‘The clubs don’t really match what my interests are’*. The latter concurs with Stewart (2017) who states that a lack of facilities meant that training and games were played across the city, travel time and cost of travel were barriers to some of the unengaged students as their studies and finances were impacted upon.

5.6 Conclusion

The data discussed in this chapter demonstrates strongly that some students who enter university are underprepared and that the transition to university is challenging. The data further illustrates that some of the students lack the necessary executive functioning skills and that despite battling to adjust, they do not make use of the available social and academic support services for various reasons. The data shows that the students experienced significant challenges with online learning, engaging with lecturers, lack of motivation, isolation and personal challenges.

However, the data also demonstrates that most of the students enrolled have high aspirations in terms of pursuing higher qualifications. Students not only enrol to ensure a good career but also because they believe that the University will assist them in achieving their full potential. The results of Chapters 4 (pre-entry attributes) and 5 (challenges students experienced) will be discussed in detail in Chapter 6.

6 *CHAPTER 6: DISCUSSION*

6.1 Introduction

I was raised with the conviction that education is critical and a means to a better life. The World Bank's 2021 Poverty and Equity Brief, indicates that Namibia's income and wealth distribution inequality is 59.1%. According to the World Population Review (2021), this is the second-highest in the world. Higher education is considered imperative to change one's socio-economic status. Indeed, education is seen as an equaliser that can open doors to employment and resources and enhance skills. Entry into university is therefore important to students. However, research shows that students are more likely to drop out in their first year at university. Universities globally have therefore developed first-year programmes to assist students in navigating their first year at university.

In this chapter, the results presented in Chapters 4 and 5 are discussed against the background of the study's main aims and research questions. The literature discussed in Chapter 2 are used to discuss the results and to distinguish the meaning and implications thereof. This study was guided by the core research questions aligned to Tinto's student departure framework and the discussions therefore focus on addressing these questions. The first question investigated what factors affect first year student success. These factors are aligned to Tinto's student departure model. The second question explored the factors contributing to first-year student dropouts. The third question explored why existing support (academic and social) systems are not optimally used. The fourth and fifth questions examined the absence of first-year support systems or those that need strengthening in the FMS; and what strategies can be developed and implemented to enhance the FYE in FMS. I will first discuss the pre-entry attributes, which were found to have a significant impact on the academic performance of first-year students. The two main reasons (finances and online teaching and learning) provided by the students who did not enrol for the second semester will then be discussed, followed by a discussion on the challenges of under-preparedness, psychological factors, student engagement and self-efficacy. The chapter concludes with a discussion on institutional support, including the underutilisation of existing academic and social support services and the support services that need to be enhanced in the FMS.

6.2 Pre-Entry Attributes

Globally, entry to universities is predominantly based on prior attainment of good grades in pre-university educational institutions (Zanini & Rodeiro, 2015; Shehry & Youssif, 2017; Wikström & Wikström, 2017). At NUST, undergraduate students are admitted based on their pre-university academic results through general admission, mature-age entry and advanced standing (Namibia University of Science and Technology, 2022). General admission refers to applicants who have a final year school leaving certificate or current Grade 11 (Namibia only) or Grade 12 learners. Mature-age entry refers to applicants who are at least 23 years old on the 1st of January of the academic year for which admission is sought. Prospective students must have at least a Junior Secondary Certificate (Standard 8/Grade 10), show evidence that they have worked for at least three years, and have passed the NUST Numeracy and English Language Proficiency tests. Furthermore, students are admitted through advance standing¹ (although only a small number of students are admitted through mature age and advance standing).

However, there is a plethora of literature that reports that there are other factors that should be considered for entry into university. The current study used Tinto's longitudinal model of student departure to establish which factors contribute to first-year students' dropout in the FMS at NUST. I use Tinto's model as it brings together a range of factors – pre-entry attributes, goals and commitments and institutional experience. This study investigated the impact of ten pre-entry attributes on students' academic performance using Tinto's model.

The pre-entry attributes include the demographic characteristics of students (age and gender); academic characteristics (type of high school students attended, high school results, choice of qualification and prior qualifications); the socio-economic status (regional representation, first-generation status, living arrangements and conduciveness of the learning environment). The study found that for the students enrolled, the pre-entry attributes of the demographic cluster (age and gender), academic cluster (type of high school and high school marks) and the socio-economic status cluster (region, source of finance and living arrangements) affects student's academic performance. The study further found that for the students who did not register for the

¹ Advance standing refers to admitting applicants with credits on completed qualifications from other accredited institutions of higher learning to higher study levels within a programme.

second semester, only two pre-entry attributes in the academic cluster – type of high school and high school marks – affect their academic performance. This implies that the two groups – enrolled students and students who did not enrol for the second semester – are influenced by different pre-entry attributes. The discussion that follows will include the pre-entry attributes of age and gender (for enrolled students), type of high school and high school marks (for enrolled students and the students who did not enrol for the second semester), region, source of finance and living arrangements (for enrolled students) that impact student's academic performance. The discussion excludes the pre-entry attributes that were found to have no effect on student's academic performance.

6.2.1 Demographic characteristics

The demographic cluster consists of two variables: age and gender, which form part of Tinto's (1993) pre-entry attributes, and for this study were found to have a statistically significant relationship at p.000 and p.001, respectively, to the academic performance of first-year students. To cater for the diverse needs of the first-year students, the data demonstrates that the Faculty should consider a different approach to support the first-year students. Furthermore, the literature reviewed shows that there is an increase in the number of mature students entering university globally. Although it is not entirely the case with NUST, the data reveals the heterogeneity of the student population, in terms of age, prior educational experience, personal and work circumstances, and motivation levels, and this requires a range of approaches and a flexible support system.

When first-year students enter university, they enter with certain academic characteristics. These characteristics have an impact on their performance in the first-year. This study investigated if there were any statistical significance in terms of the type of high school; high school marks; choice of qualification and prior qualifications, on the academic performance of students.

6.2.2 Academic characteristics

Type of high school (at a statistically significant level p.000) and high school results (at a statistically significant level of p.000) were statistically significant for academic performance. While studies maintain that students from private high schools tend to perform better than

students from public schools (Parajuli, et al 2017) the findings of this study do not concur. Several Namibian high schools do not have a technological infrastructure, might have insufficient learning materials and lack quality teachers (especially in the rural areas). The data shows that even though most of the students ($n=336$) are from public schools and most probably have experienced some of these challenges, the majority performed well academically. NUST, as part of its community services, offers tutoring services to some high schools in the STEM fields. However, given limited resources in the past, the outreach was done on a small scale. Investing resources and strengthening these tutoring services to include courses perceived as challenging in the FMS can positively impact students entering university. However, the needs of the high school students entering university should be known. By being aware of these needs, the university can develop and implement strategies to address them and thereby enhance the FYE.

The data shows that students who entered university with high grades at high school also obtained high grades in the first semester with statistically significant factor of $p=.000$ and $p=.034$, for student enrolled and those students who did not enrol for the first semester. Farrington et al. (2012) state that high school grade point average (referred to in our context as high school results) measures not only the content knowledge and cognitive skills but also other competencies that fall under the rubric of non-cognitive factors, including non-academic skills, social and emotional learning, soft skills, and 21st-century competencies. Such competencies include self-control, tenacity, academic motivation, metacognitive strategies, etc. Similarly, Bowers (2011) and Brookhart et al. (2016) state that grades are assigned based on a potentially wide-ranging array of tasks, measured over time, capturing academic knowledge, skills, behaviours and effort and incorporating teacher judgement. The fact that grades are based on various factors with judgement from many different teachers makes them potentially highly variable across contexts. At the same time, the fact that they are based on several raters (teachers) across a wide range of relevant tasks could make them very reliable as indicators of academic readiness for college, where students will also be asked to do a range of tasks with different expectations assessed by many different instructors (Allensworth & Clark, 2020).

While high school grades are good predictors of academic achievement, the results of this study show that despite students entering university with good grades, pointing toward students having

the skills that Farrington et al. (2012) refers to, students' still experienced challenges. Surely, this shows the complexity of the first year at university. The different avenues through which students are admitted to the University were outlined in Section 6.2. Some universities use additional admission criteria, for instance in South Africa, the NBT was commissioned by Higher Education South Africa with the task of assessing the academic readiness of potential first-year university students as a supplement to high school reports on learning achieved in content-specific courses. However, the NBT has been subject to public debates. Many people are firm of the opinion that a high school exit score is representative of adequate preparation for university study (Centre for Educational Testing for Access and Placement, 2019), researchers such as Mabizela and George (2020) and Mabizela and Green-Thompson (2019) show that students graduated in minimum time.

Furthermore, and unfortunately, Namibia does not have Further Education Colleges and lacks a robust Technical, Vocational, Education and Training sector. These two avenues can assist in addressing inequality and prepare students for the workplace environment or enhance articulation into higher education. Many times, the students who did not meet the entry requirements into university have nowhere to go and end up on the streets, unemployed. The latter contributes to an increase in the youth unemployment rates further increasing the social inequality.

6.2.3 Socio-economic status

Families with lower socio-economic status have fewer financial and educational resources. This deficit in family resources adversely affects children's well-being. Bradley and Corwyn (2002) state that socio-economic status is associated with health, cognitive and socio-emotional outcomes. Claro et al. (2016) argue that students from low-income families are less likely to have a growth mindset than their wealthier peers but that those who did hold a growth mindset were appreciably buffered against the deleterious effects of poverty on achievements. The students who come from less affluent families often do not have enough money for their day-to-day necessities. In some instances, these students are expected to financially assist their families, negatively impact on the well-being of students and their academic performance.

The data demonstrate that despite students coming from the regions perceived as the poorest in Namibia and moving away from home, this did not negatively affect their academic performance as $n=29$ out of the fifty-four enrolled students from the highest poverty regions, obtained 60% and above in the first semester. The Namibian rural population was 47.97% in 2020 (The World Bank, 2021). The regions of Kavango (East and West), Kunene, Ohangwena, Omaheke and Zambezi are the poorest according to the Namibia Multidimensional Poverty Index Report (2021). Furthermore, these regions have the highest youth (15-24 years) unemployment rates of Kavango East (26.1%), Kavango West (13.9%), Kunene (21%), Ohangwena, (12.2%), Omaheke (22.8%) and Zambezi (19.5%). The UNAM and NUST have regional centres in Ohangwena, Kunene, Kavango East and Zambezi. The IUM established a campus in the Kavango West region. More than four thousand applications were submitted to NUST from these regions for the 2020 academic year, of which only 1394 students were registered for the 2020 academic year (MIIR, 2021). This represents a mere 11% enrolment of students from these regions. While it is unclear why such a small number of students registered, it is clear that students want to pursue higher education, and, therefore, expanding higher education is important but that there are multiple obstacles for students such as inadequate resources.

Most students received loans or grants from the NSFAP, which is not surprising, given that the regions have been experiencing drought since 2019, which was aggravated by COVID-19. Most of these students cannot rely on their families for financial support. The perceived economic benefits of attending university feature strongly in the findings, which shows that students want to better their lives as well as that of their families, and students believe that having a qualification would ensure this. Likewise, students from these regions also enrolled as they believed attending university would fulfil their potential. The results shows that most of the students believed that university education improves their chances of getting a good job and that it contributes to the fulfillment of their potential. Therefore, suggesting that, given these reasons, students are encouraged to study harder and achieve better results. However, it must be remembered that these students, especially those who received loans, will have to repay these loans over some time. Moreover, once these students graduate, it is unlikely that they will return to their respective regions, given the availability of work opportunities. This means that despite students graduating and receiving a salary, competing responsibilities, such as loan repayments,

accommodation, transport and living expenses, would not immediately alleviate student's poverty. As mentioned before, as a result of the low level of socio-economic status, only a small number ($n=93$) of first-year students live with their parents. The above results in students living on their own and/or with their families which in some cases can have financial implications for these students. Furthermore, living arrangements has been shown to affect students' academic performance.

Research conducted by Timmons (2014), Maina and Aji (2017) and Sikhwari et al. (2020) show that students who live on campus perform academically better than students who live off-campus. The current study shows that despite ($n=158$) students living off-campus and some not having conducive study environments, their academic performance was still good. These students may have high levels of self-efficacy, which is consistent with the findings of Iqbal et al. (2020). Since the University will adopt blended and online approaches to teaching and learning, students will return to campus for some classes in future. This could have implications for students obtaining transport to and from campus. As shown by the qualitative results of this study, it adds additional financial pressure on students. Student accommodation at NUST is a problem. Similar to South Africa's Department of Higher Education, mentioned in the literature review, Namibia's Ministry of Higher Education, Training and Innovation has acknowledged the student accommodation problem. At the annual Public-Private Partnership conference held last year, MHETI agreed that NUST has inadequate accommodation facilities to accommodate all students and that students spend considerable resources on rental fees coupled with transportation fares. The Ministry shared its intention to develop the student village through the Public Private Partnership (PPP) route on a design, finance, build, operate, maintain and transfer basis, assisting those students who have indicated that their environment is not conducive to learning as well as alleviating some of the financial burdens, such as transportation costs.

6.3 Factors contributing to first-year students not enrolling for the second semester

Financial and online teaching and learning were highlighted as the key external factors that prevented students from enrolling in the second semester. Although online teaching and learning is not part of Tinto's longitudinal model of student departure, the survey was conducted eight months after the first case of COVID-19 was detected in Namibia in March 2020 and thus

occurred in the context of the university's migration to online teaching and learning. While some students attended the first-year orientation offered in February 2020, first-year students were only on campus for just over one month and had no opportunity to fully familiarise themselves with the University. Admittedly, COVID-19 affected the experience of the first-year students, however, the literature review shows that some of these challenges existed prior to the pandemic. Moreover, since this research study was not about COVID-19, even though it was administered during COVID-19, I am cautious to make recommendations based on COVID-19 as these recommendations would not really contribute towards the research problem in that COVID-19 is not that dangerous anymore. The students had to adapt to online teaching and learning under significant pressure to continue their studies. Access to devices, data and connectivity were highlighted as financial challenges that negatively impacted students' experience in terms of online teaching and learning.

6.3.1 Finances

Phillip et al. (2014) show that high levels of inequality negatively affect both the quality and sustainability of economic growth. While most academic institutions, even in prosperous industrialised nations, face financial problems, such challenges are more keenly felt in Africa than elsewhere as a result of factors such as budget cuts, the decline in international support for higher education, donor funding and many more (Hayward and Ncayiyana, 2014).

Students in this study come from a wide range of social and cultural backgrounds, which can significantly impact students' decision to stay at university or to drop out. Most students ($n=226$) came from urban areas (Khomas, Erongo, Karas and Hardap) where the main source of income is through salaries and/or wages, unlike in rural areas where subsistence farming is the main source of income. The NUST enrolment reports (Namibia University of Science and Technology 2015b; 2016b; 2017; 2018a; 2019a; 2020a; 2021a) show that students from urban areas have higher participation rates than disadvantaged groups from rural areas.

Financial barriers present a consistent obstacle for enrolled students and those who did not enrol for the second semester. Student poverty and the lack of sufficient funding have consistently been cited as reasons for academic failure and progression difficulties (Council for Higher

Education, South Africa, 2010). The findings of this study show that finances are a great source of worry for students. Multiple students reported that even though they received financial aid, they had challenges in addressing and meeting other financial needs such as purchasing data and devices, accommodation costs and other living expenses. One hundred and seventy-eight students in this research study indicated that they pursued higher education to change their economic status at a personal level and to improve the standard of living of their family members. However, it is difficult to achieve this when economic conditions impact their ability to achieve academic success, with the data indicating that students with such concerns become preoccupied with finding ways of addressing and meeting the other financial obligations. The data show that while NUST was left with no other option but to migrate to online teaching and learning, the students already struggling financially were the worst affected by the shift.

Access to the internet, data and devices created a digital divide where students with resources could continue their studies unhindered and the students struggling financially had to find the necessary means to continue or at the end, could not continue with their studies. As universities embraced online and blended teaching and learning, the COVID-19 pandemic worsened the digital divide, increasing inequities in access to education. Many students rely on loans and grants to finance their studies; however, these grants and loans are often not sufficient and students lack the finances to maintain connectivity. Furthermore, the data shows that, even though most of the students ($n=255$) received the NSFAF funding, the funding is not enough to cater for all their educational needs. As a result, some students cannot afford learning materials, data and devices for online teaching and learning.

The data reveals that ($n=255$) of the students enrolled and those who did not enrol for the second semester, received loans and grants, however, not all the students can be assisted by the NSFAF. Namibian Financial Students Assistance Fund Policy (2005) affirms this and stipulates that due to the limited financial resources and the increasing number of students, NSFAF might find it difficult to provide financial assistance to all eligible students to access tertiary education. In 2021, close to 20 000 students applied for funding for the 2021 academic year, but only about 16 000 qualified for NSFAF funding (Nakale, 2021). Additionally, NSFAF has been confronted with many challenges over the past years. These challenges included a less than efficient

recovery arrangement, negative publicity and allegations of maladministration, an underperforming Loans and Grants Administration Management System, and budget over commitments due to increasing beneficiary numbers and frequent board meetings (NSFAF Annual Report 2018/2019). Consequently, delays in processing new applications, recalling award letters, delayed payments to students and institutions of higher learning, lack of sound institutional management, transparency and accountability resulted (New Era, 2018). As a result of the continuous challenges, the Namibian Cabinet recently announced the reintegration of the NSFAF under the Ministry of Higher Education, Training and Innovation (Windhoek Observer, 2021). However, this move has been condemned by the President of the Student Union of Namibia, who stated that for equity, quality and democracy, the NSFAF should be an independent body to avoid politicising it (Windhoek Observer, 2021).

Furthermore, an article in one of Namibia's local newspapers states that when NSFAF was a directorate in the Ministry of Higher Education, it did not have any systems to ensure efficiency and transparency. The article continues that the evidence then showed that the lack of capacity is proved by the fact that loans worth N\$1.65 billion could not be recovered to date due to poor recordkeeping then (New Era, 2018). If the above issues are not addressed, reintegrating the NSFAF anywhere would not make a difference. These challenges negatively impact prospective students, since the funds allocated to students in previous years cannot be recovered, and as a result, a smaller number of students obtain loans or grants.

Namibia's economy has been performing poorly since 2016 because of poor performance in construction and mining, the persistent drought, and the weakening demand for Namibian exports (African Development Bank, 2021). The COVID-19 pandemic in 2020 aggravated the financial challenges with many people losing their jobs and taking salary cuts. Moreover, as a result of the slow economic growth, universities and other entities such as the NSFAF, falling under MHETI, received diminished subsidies. NUST received N\$821 204 198 (Namibia University of Science and Technology, 2018) in 2018 and N\$493 600 000 for the 2021/2022 financial year (Sioka, 2021). The University's financial challenge is exacerbated by its inability to increase tuition fees, given stagnating economic growth, and increasing unemployment leading to reduced household incomes. Due to the poor economic performance, many students

will not be able to afford higher education and many students enrolled will have no other option but to leave university. Unfortunately, many of these students come from the regions with the highest poverty rates.

A recent report by the Russel Group, an organisation representing twenty-four leading universities in the United Kingdom, states that unless concerted action is taken to address social, cultural and economic barriers that disadvantaged students face, the long-term targets to eliminate gaps in access to universities will not be met. Government, universities, schools, Vocational Training Centres, local authorities and employers must work closely to develop a cross-government strategy addressing inequalities in universities (Turhan & Stevens, 2020). In South Africa, research conducted by Timmis et al. (2019) also highlights the importance of government and universities collaborating to address inequalities in higher education. Furthermore, Higher Education South Africa (2009) reports that recent national policy shifts in higher education in South Africa mean that higher education institutions must align and coordinate their strategies with the State's reprioritisation of socio-economic development goals that favour the poor and socially marginalised. Hooper (2016) demonstrates that universities can play a positive role in supporting social mobility if they make a meaningful strategic commitment and adopt sustained strategies for access, retention and graduate success. Hooper (2016) continues that government also has a role in supporting universities to do this, through policy and the work of public bodies in the higher education sector. The literature shows that inequality cannot be addressed by one stakeholder only; it highlights the importance of all stakeholders collaborating to address this critical issue.

As discussed earlier in the review of the literature, higher education institutions have implemented several initiatives to reduce inequalities. These initiatives include widening access, improving retention through specialised support, improving graduate success by adjusting institutional practices and processes, for instance, interrogating entry processes, curriculum design and assessment procedures, to ensure students' diverse learning and employment needs are met. Other initiatives include creating opportunities for students, universities and local communities to discuss economic and social development and local and regional skills policies and producing knowledge on the causes and consequences of inequality. Universities in South

Africa have also widened access, referred to in the literature as ‘massification’. However, according to Mngomezulu (2015), as more students enrol at tertiary institutions, several problems arise, such as lack of funding, decreased teaching quality and poor graduate students. Okalany and Adipala (2016) also show that the immediate consequences of massification have been half-baked graduates due to reduced practical sessions, inadequate library and laboratory facilities, high staff to student ratios, limited classroom space and limited time for faculty to conduct research. Moreover, Adetiba (2019:1) challenges what he calls ‘conservative thinking’ that attainment of higher education is among the most critical determinants of the upward movement of the fortunes/success of average South Africans. He argues that the massification of higher education in South Africa, contrariwise, is unlikely to boost the upward social mobility of South Africans, most especially the youth. Rather due to poor planning and implementation, massification may engender the production of unemployable graduates. While Namibia is experiencing the same challenge as described by Adetiba, albeit on a small scale, there are several strategies that can be implemented.

Namibia has several national development plans aimed at, among others, creating a knowledge-based society. Higher education is a driver of social and economic transformation; however, addressing the inequalities in higher education has been neglected. To my knowledge, there is currently no strategy or regulatory framework in place to address this issue. Moreover, higher education fraternities tend to work in silos with limited collaboration. Jairos (2020) states: *‘Conversely, the old mentality of encouraging a dichotomy between “us” and “others” is counterproductive and a dangerous approach in the fast-changing environment that calls for strong and renewed collaborations among institutions.’* As a case in point, the Ministry of Gender Equality, Poverty Eradication and Social Welfare was established to enhance Namibia’s socio-economic development; however, its five-year strategic plan does not mention higher education.

Inequality needs to be tackled urgently, but it cannot be attributed to a single factor given its complexity. Transformation to provide equal opportunities in higher education is needed at national and institutional levels. This implies that, on a national level, cooperation and engagement between all stakeholders in higher education are essential. Given Namibia’s high

skills shortages, there is a growing demand for higher education to address widening access and success. Although widening access to higher education proves challenging, there is a need in Namibia, based on the number of applications the University receives annually and the actual number of registrations referred to earlier in the study. As part of NUST's strategic direction, widening access through the establishment of satellite campuses (Namibia University of Science and Technology: Strategic Plan: 2021-2025) has been identified as one of the university's strategic objectives. Widening access in the regions would also contribute to alleviating the financial pressures students currently experience, especially the students from rural areas. However, the university will have to invest significantly in attaining physical and educational infrastructure, as students do not have the necessary facilities, i.e., connectivity at home, human resources and technological infrastructure since the University's strategic direction is to move to blended and online learning. The establishment of a robust Technical Vocational Education and Training (TVET) sector is an important component to provide some relief for universities as well as address the issue of social inequalities. Currently, the TVET sector is fragmented, and the system lacks the capacity to enrol enough trainees, trainees lack foundational skills and it does not guarantee a smooth transition to employment or to entrepreneurship (UNESCO, 2016). The TVET Higher Education and Innovation Policy Review, conducted by UNESCO in 2016, shows that there is urgency to review Namibia's TVET sector to, amongst others, address inequality and to diversify the provision of higher education, by providing a greater diversity of learning opportunities to include TVET students.

One must remain cognisant that anecdotal evidence shows that many students could not afford registration and tuition fees to enter university prior to COVID-19. Affordability of registration and tuition fees is more of a disadvantage to many student populations who are interested in studying further in different fields as they may not have financial support (Sazita et al., 2018). Indeed, in 2018, Mandela Kapere, the Executive Chairperson of the National Youth Council noted that tertiary institution fees in Namibia have become unaffordable to many students, especially those from underprivileged homes. He proposed a funding model that could follow a public partnership approach to remove the obstacle preventing the progress of the academically deserving and the underprivileged student and avoid sending capable young people to the 'street' (New Era, 2018). The South African Ikusasa Student Financial Aid Programme is an example of

such a partnership, established to provide financial assistance to poor and middle-income students with contributions received from donors from the private and public sectors. Other partners in this programme include several higher education institutions, the Department of Higher Education and Training, the National Treasury, the Department of Trade and Industry and the National Research Foundation.

Undeniably, the university plays a crucial role in addressing social inequalities. While NUST is not in the position to offer financial aid to its students like other universities in South Africa (the Tshwane University of Technology, University of Cape Town, UFS, etc.) and with the mounting financial pressure, a solution toward sustainable student finance will need to involve appropriate public-private partnerships. Additionally, access to robust support services once students enter university is important.

Apart from finances, online teaching and learning was identified as the other main reason why first-year students did not enrol for the second semester. This is discussed next.

6.3.2 Online teaching and learning

It is difficult to imagine that teaching and learning will return to how things were before COVID-19. The analysis of online teaching and learning advantages shows there is an opportunity not to waste. By embracing technology, institutions can create learning and teaching environments that are more flexible and adaptable to disruptions (socio-economic, political and technological) that characterise the 21st century workplace and world. Embracing technology allows for academics to redefine their role as teachers, for institutions to be more responsive and for students to become self-reliant and independent learners (Department of Higher Education and Training, South Africa, 2020).

As indicated in the literature review, several learning theories and models for blended and online teaching and learning have evolved, most of which derive from the major learning theories – Cognitivism, Behaviourism and Social Constructivism (Picciano, 2017). Blended and online teaching and learning requires a new paradigm, a pedagogical shift in the way universities teach and learn. Evidently, it is not easy to adapt to online teaching and learning in response to a

sudden pandemic such as COVID-19 without encountering difficulties and challenges. Indeed, there is no doubt that the sudden shift to online teaching and learning was challenging for all students, academic staff and support staff (Department of Higher Education and Training, South Africa, 2020). The lack of access to digital devices, data and the required network exposed the extent of the digital divide. For many students, particularly those in areas with poor network connectivity, those who did not have appropriate devices for studying, or those who did not have adequate data, the migration to online teaching and learning was even more challenging.

This study shows that even though students were not familiar with the LMS used by NUST, one hundred and forty students indicated that familiarisation was not a problem. This could be due to most students being Generation Z students (individuals born between 1996 and 2012 and being more technologically astute) (Shwieger & Ladwig, 2018). Although familiarisation did not pose a challenge, migration was a challenge. Students had to adapt, without much guidance and in a very short period, to the online teaching and learning environment. The challenge in terms of the migration could be due to students' competencies in online learning. The results suggest that the training offered to students immediately after the University migrated to online teaching and learning was not sufficient. Moreover, to my knowledge, no additional training on online teaching and learning, apart from technical support services, was offered to first-year students. Nash (2009) states that students entering university need a basic level of computer proficiency. However, in Namibian schools, internet access is a problem. Ileka (2018) shows that most Namibian high schools face several challenges in terms of integrating technology into teaching and learning, including limited ICT tools, lack of skills, geographical disadvantages, digital divide and financial constraints. Namibia's National Development Plan-5 reports that in 2015 only 25% of the schools had broadband infrastructure. Additionally, the Ministry of Education, Arts and Culture (2019) EMIS report shows that 302 schools are without electricity, particularly in the regions with the highest poverty rates, and no electricity hampers integrating ICT into teaching and learning.

A lack of digital competencies (skills and literacy), especially during this time, can have a detrimental effect on students' academic performance as well as affect their decision to stay or leave university, which is evident in this study. In certain instances, the University is the only

place where some students can access the internet and a computer to do their schoolwork, which made it difficult during COVID-19. These students lack the necessary digital skills and digital literacy defined by Bali (2016) as ‘Digital skills focus on what and how’ whereas ‘Digital literacy focuses on why, when, who, and from whom’. Even though the University made study materials available through other media such as study packs, which were distributed at the University’s Centre for Open and Lifelong Learning, some students still decided not to enrol for the second semester. The competency of technology use including the access to technology and the other challenges, which will be discussed later in the chapter, highlights the impact these factors have on the students’ experience in terms of online teaching and learning. It is therefore important for the University to not only assess the students’ digital competencies but also their readiness for online learning prior to commencing classes. This would provide the institution with valuable information to identify the factors affecting students’ online readiness and to develop and implement strategies to assist students in the online environment. By doing so, the University would address the challenges such as lack of motivation, isolation and the under-preparedness of students.

As shown by Palvia et al. (2018), national-level factors that affect online teaching and learning include industry and governments. Industry and government sectors determine the employability of graduates from online programmes. Palvia et al. (2018), continue that governments make regulations regarding all educational programmes and initiatives including online education. Other country factors include laws, ICT capacity, internet/mobile technology diffusion, income divide, and digital divide. Currently there are no clear stipulations by NUST’s regulatory bodies – MHETI, NCHE and the National Qualifications Authority – with reference to blended and online teaching and learning. There are no standards for quality, quality control, development of e-resources, e-content and flexibility (where institutions across the globe can share courses across their curricula). If the enabling environment is not effective, it can seriously hamper the implementation of a dynamic blended and online teaching and learning environment.

6.3.2.1 Online readiness of students

While the study did not focus on assessing the online readiness of the students, lecturers and the institution, it would be remiss, especially in assessing the students’ online readiness, if omitted in

this study since many of the challenges are online related. Some students were not ready for online teaching and learning as the data attest that students had difficulty in self-directed learning and managing their time; access to technology was highlighted as a significant challenge, some students lacked motivation, and some lacked competency in technology usage. Furthermore, the data provides essential information on the challenges first-year students experienced in the FMS regarding online teaching and learning. The University has acknowledged, in its strategic plans, that comprehensive support to enhance the students' experience is needed. This does not imply that additional financial costs must be incurred but that the current support structures in place are strengthened and expanded and all staff at the institutional level – administrators, faculties and students – work together to achieve this. Understanding how best to gauge student readiness or preparedness for online study is a critical institutional responsibility (Roddy et al., 2017). Online learners need to understand the dynamics in an online setting and how online learning works, interactions, relations, perceptions, the role of learners and instructors. Learners should understand the instructor's role as a facilitator or a guide (Vonderwell & Savery, 2004).

6.3.2.2 Online readiness of lecturers and NUST

Although the online readiness of lecturers and the institution were not assessed *per se*, student-lecturer engagement and the lecturing style along with the communication from the Acting Vice-Chancellor dated, 08 April 2020, shows that the lecturers and the University were not ready for online teaching and learning. As mentioned previously, my study was not focused on assessing the online readiness of lecturers and the University, and therefore in-depth research on the factors affecting the online readiness of lecturers and the University is required to inform the University's policies and strategies to be revised, developed and implemented.

The two factors, finances and online teaching and learning are the main factors that contributed to students not registering for the second semester and emerged strongly as a challenge for the students enrolled. The study revealed several other challenges students experienced, as discussed next.

6.4 Under-preparedness of Students

The under-preparedness of students entering university was an issue before COVID-19. COVID-19 worsened the situation, as students did not have the opportunity to adapt to the typical university experience as they had to deal with the *new normal* learning environment and lacked the necessary preparations for adaptation to the online learning environment.

The data informed that transitioning and navigating student life is difficult, even more so as a result of COVID-19. To support effective transition from high school to college, higher education academic staff and administrative staff need to make first-year students feel like they matter (Schlossberg, 1989). Matthews et al. (2018) show that providing support services that meet the needs of all students on their transition to university helps to facilitate student retention.

Typically, once students arrive at university, they spend much of their first two weeks navigating selection (of subjects for specific qualifications), registration, orientation and social events designed to help their transition to a new academic culture that is likely to differ substantially from the one they were accustomed to at school. For students from rural areas, it also involves adapting to living away from home for the first time as well as getting accustomed to the family they live with. Even though most students ($n=212$), enrolled and those who did not enrol for the second semester, attended orientation at the beginning of the 2020 academic year (the university only stopped classes in March), they were still not familiar with how things worked, which infers that the orientation did not adequately prepare the first-year students for university life. The orientation session is a once-off three-day event, with one day allocated to social activities. This study confirms that some students accessing higher education lack competencies for dealing with their studies and shows that students were not prepared to adapt to the independence, expectations, workload, or competencies (such as time management and self-directed learning skills) they experienced. This, in turn, made students feel overloaded and stressed. Providing comprehensive orientation services ensures students are adequately informed and linked to ongoing support services (Roddy et al., 2017). Currently, very limited engagement happens between NUST and high schools prior to recruitment, which normally happens in July or August. However, to provide the required support, it is important for the Faculty to know its students and their expectations prior to enrolling. Penn-Edwards and Donnison (2011) show that many

universities offer academic pre-engagement programmes to high school learners, such as the Griffith University Early Start to Tertiary Studies (GUEST) Program (Griffith University, 2022), and the University of Queensland Enhanced Studies Programme (University of Queensland, Australia, 2022). According to Wyatt et al. (2014), students who participate in pre-engagement programmes tended to have higher rates of post-secondary success in terms of four-year college enrolment, retention and graduation.

The Faculty of Health Sciences at NUST offers tutoring services in mathematics to high school learners, albeit very limited. The other form of engagement happens when students receive communication from the University informing them of the outcome of their applications and providing them with important information that should assist them, for example, the guide for prospective students (Namibia University of Science and Technology, 2022). However, given that students are not familiar with university, often they do not understand the content presented to them. No engagement occurs between the prospective students and Faculties prior to selection and students registering.

Becoming an online learner places different demands on students (Roddy et al., 2017). The current study has shown that some students were unprepared as they struggled with time management, self-directed learning and the heavy academic workload. In this case, the heavy academic workload can be firstly because students lost almost two months of class, as online teaching and learning only commenced in May 2020 after the university closed in March 2020. Secondly, given this loss in time and some lecturers' inexperience in online teaching and learning, lecturers wanted to ensure the course content in the syllabi was covered for the 2020 academic year in the time available. Moreover, given the lack of time, lecturers simply transferred their syllabi, which they used in their face-to-face classes to teach learners in the online environment, which means they did not have ample time to make use of the varied online resources available to enhance their online teaching and learning. Admittedly, the teaching and engagement styles of lecturers in the online teaching and learning environment was adversely affected by COVID-19.

Thirdly, the challenges students experienced in terms of managing their time; balancing their home, work and study responsibilities, the heavy academic workload and taking responsibility for their learning, clearly have resulted in students feeling overloaded. This finding implies that some students do not have the skills deemed necessary to make the transition and adaptation to university easier. A lack of these skills could add to the stressors students already have.

The fourth challenge in terms of under-preparedness relates to prior content knowledge. Prior content knowledge is shown to be important in the FMS and it is proposed that the Faculty rethink its admission requirements. This will not necessarily require increasing the admission points, but for the Faculty to reconsider pre-requisite subjects. For instance, currently a prospective student can have either mathematics or accounting if they would like to enrol for a qualification in Accounting. Papageorgiou et al. (2019) demonstrate that having accounting knowledge prior to enrolling for a qualification in Accounting at university is beneficial to students. The data shows that disciplinary support is needed to assist the underprepared student.

6.5 Psychological Factors

Students had difficulty paying attention and remaining motivated in the online space. Noticeably, external factors play a significant role in a student's motivation. The lack of resources, the challenges pertaining to students managing their time, the heavy academic workload, balancing family, work and studies, living arrangements and taking more responsibility for their learning, worsened by limited support, negatively affected students' motivational levels. The absence of a proper classroom setting, as well as some of the students feeling overwhelmed at times, can result in major distractions. Students spend a lot of time on their computers, and they may get distracted online, such as visiting their social media pages or chatting with friends while classes are in session. Additionally, the data show that the students living at home were expected to attend to house tasks instead of preparing for tests or assignments and attending classes. However, one must be mindful of the lecturers' role in keeping students engaged. Brown (2021), and Lee and Ransom (2011) show that lecturers are critical in online teaching and learning. Teaching staff are responsible for the environment they construct, whether that environment is online or on-campus (Pittaway, 2012).

University students are unique with active and social life habits based on relationships and contacts, physical and university activities, travel and gatherings (Villani et al., 2021). COVID-19 changed their lives drastically considering that they were at their houses and could go nowhere as a result of the national restrictions. This contributed to some students feeling isolated, which concurs with research conducted by Mese and Sevilen (2021), Kwaske and McLennan (2021) and Limón-Vázquez et al. (2020) showing that social interaction is important in online teaching and learning, as it can increase student engagement, motivation and help improve student performance. Limón-Vázquez et al. (2020) further identified that social isolation generates stress and affects the academic achievement and mental health of the population. The current study shows that student-to-student engagement did not pose a challenge, as students engaged with other students through various activities such as jointly working on projects or class presentations, online tutorial groups, student clubs or societies and sports activities (albeit a very small number of students for the last three) and through synchronous sessions with students. Other means of communication included WhatsApp groups and discussions over the telephone. This implies that despite engaging with fellow students through the different platforms, social interactions were missed and clearly it is important to students. Nugent et al. (2019) show that the social dynamics of learning can be leveraged to enhance the learning experience. Learning by university students is situated in, and enriched by, their social interactions with others, and learning and teaching are highly social activities. In traditional classrooms, students can with each other and their lecturers (Nugent et al., 2019).

The current study's data suggests that the restrictions imposed, which included social isolation, caused students to feel less connected to their friends and the University. Furthermore, even though the data shows that synchronous teaching and learning occurred, it is evident that there was no and/or limited real-time interaction between lecturers and learners. The interaction refers to teaching methods which encourage discovery learning, heuristic and research methods. Dynamic and communicative teaching methods, also called interactive teaching methods, motivate learning (Senthamarai, 2018). Senthamarai (2018) continues that by using interactive techniques and strategies, the students become more engaged in learning; retain more information, thus becoming more satisfied. According to Abykanova et al. (2016:12529) interactive learning is about students assimilating information by way of real-world, intensive

learning, as opposed to dull cramming of ‘dead’ information. It is a hyperactive social process wherein the student is not just a learner but is someone who creates ‘living’ information, being led by the teacher down the right path to getting the best results, based on the harmonious assimilation of knowledge that is in demand in present-day society. At the same time, the student and the teacher act as equal subjects of the learning process. Kutbiddinova et al. (2016) show that greater interaction of students with the teacher and classmates, and the dominance of the activity of students in the learning process. The students actively participate in educational activities, simulate professional situations, perform creative and research tasks, engage in discussions with fellow students, learn to substantiate their point of view using arguments and discuss the strategies for effective behaviour in conflict situations. The teacher’s activity gives way to the activity of students, and the teacher’s task is to create conditions for the students’ initiative. It is worth noting that the interactive methods do not substitute lectures but contribute to better mastering of the lecture material and, most importantly, forming opinions, attitudes and behaviour skills. Students were only at university for slightly more than a month, and some of them did not have the opportunity to form friendships or participate in extramural activities, which could have enhanced social interaction. Additionally, they did not have enough time to get to know their faculty. Anderson (2003), Kennedy (2020) and Kwaske and McLennan (2021) show that interaction between learner and instructor through the community of inquiry, learner and learner through collaborative learning, and learner and content through asynchronous or synchronous learning are the cornerstones of effective online teaching and learning. As seen in the blended and online learning models presented in the literature review, these student engagement types form an integral part of the models.

The findings of this study show that despite some students facing several challenges, they persist with their studies. Literature shows that students persist because they are motivated, resilient, self-regulating, self-reflective, goal-directed, conscientious, engagement-oriented, self-efficacy, supported financially and emotionally, and they find a good fit, are connected to resources, have a sense of belonging and engage with the curriculum (Gore & Wiseman, 2014; Tinto, 2017). Based on the findings of the current study and given that most students would like to pursue further qualifications, it implies that they believe they have what it takes to be successful,

confirming that these students have high levels of resilience and self-efficacy. The data implies that students are figuring out ways to overcome the disadvantaged situations they are exposed to.

6.6 Student Engagement

In this study, student-student engagement seems not be problematic, however, student-lecturer engagement proves challenging. Student-lecturer engagement is essential irrespective of the mode of delivery. It becomes even more important in online teaching and learning as students have fewer opportunities to be engaged with the institution. According to the Universities South Africa (2018) publication, student-lecturer engagement has shown a worrying decline. Data collected from two annual student engagement surveys – BUSSE and Southern African Survey of Student Engagement – show that first-year students do not expect to spend much time with their lecturers beyond the classroom, although half of them do expect to at least discuss their academic performance with their lecturers (Universities South Africa, 2018). As alluded to before, anecdotal evidence shows that student-lecturer engagement was a challenge preceding COVID-19. Roddy et al. (2017) show that lecturers must be able to communicate effectively, manage technology, deliver and assess content, monitor student progress, and identify and follow up on issues or barriers to minimise the likelihood of student disengagement or withdrawal.

The data illustrates that students experienced challenges in engaging with lectures and that most students had little or no engagement with their lecturers. While the data suggests that online teaching and learning occurred in a more synchronous environment, and although this type of environment allows for real-time interactions between lecturers and students, this was not the case. With the increase in online teaching and learning, new demands have caused the faculty role to expand. While maintaining mastery of the subject matter and pedagogy, faculty now are challenged to learn and apply ever-changing course technologies, maintain currency in emerging learning media, assume new teaching role tasks and adapt course structures to online learning environments using current instructional designs (Jones, 2015). A study conducted by Crabtree et al. (2021) with academic and professional staff on the barriers in terms of student engagement highlighted a lack of resources (in terms of staffing and finding adequate spaces), operational issues (increase in student numbers and the resulting class sizes), staff buy-in, centralised structures and dis-jointed systems. The latter refers to a lack of coordination and a joined

approach to delivering engagement activities. These barriers resonate at NUST as staff are expected to conduct research, publish and engage in community service activities (pre-COVID-19) in addition to their teaching load. Furthermore, the FMS has the biggest student numbers and the lack of engagement policies, frameworks or guidelines make staff buy-in difficult. Additionally, there are no structures in place to enhance student engagement and one should remember that given the diverse student body, a one-size-fits-all approach is not effective (Crabtree et al., 2021). While I am conscious of the many demands, the role of faculty is and has changed to become more involved in the curriculum, instruction and assessment, and strategic planning and governance (Times Higher Education, 2021).

The lack of student-lecturer engagement in online teaching and learning is worrisome, given that in the online teaching and learning space, the assumption is that communication should be easier, as there are several free online tools that can be used to enhance online engagement. The data infers that these tools are not used optimally. The teaching style for online teaching and learning involves different innovative methodologies to engage with students. Moreover, one might expect that as lecturers become more familiar with the LMS, they might be inspired to begin to use it in a more interactive and creative way. Al-Senaidi et al. (2009) show that a lack of time and support are given commonly as barriers to the underutilisation of a LMS.

This study did not explore learner-content interaction, shown by Moore (1993) as important, as it fell outside the scope of the study.

6.7 Institutional Support Services

The data shows that first-year students face several academic and non-academic barriers to university success. Scholars such as Tinto (2012) and Maunder (2018) show the importance of social integration as an essential component for better adjustment to university life. NUST offers various academic and social support services, however, these are not optimally used. One of the aims of this study was therefore to determine why first-year students are not optimally using the existing academic and social support services offered by NUST. Student retention and completion is impacted by how well universities target and communicate their support services. Universities that identify the support required for first-year students early, have a better chance

of retaining those students (Matthews et al., 2018). Although NUST offers numerous academic and social support services at institutional level, first-year support is limited. The underutilisation of the existing support services is discussed in the following sections.

6.7.1 Orientation

Orientation is an important intervention service that can help new students adapt and successfully transition to university. So much so that recent researchers (for example, Nyar (2020) and Douglas et al. (2018)) speak of extended orientation to include activities such as re-orientation and re-introduction as well as outduction (when students graduate). As mentioned before, NUST offers a three-day compulsory orientation session for first-year students. During the three days, the different faculties and departments present an overview of their services and processes. The data clearly shows that the once-off orientation session in February 2020 was insufficient as many students did not know who to contact when they experienced challenges or had queries. The data further shows that students would like to have an additional orientation session and have highlighted orientation around campus, career guidance, course information, engagement with alumni, exposure to the workplace, interaction with fellow students, online learning, introduction to student societies and sports clubs and student-lecturer engagement as activities to be included in the separate orientation session. The University should rethink its orientation model to improve its effectiveness.

6.7.2 Academic support services

NUST's academic support services include the Early Alert Programme, Mathematics Tutoring Centre and the Writing Centre. The Early Alert Programme is facilitated by the SSD, and the last two support services are offered in the Faculty of Health and Applied Sciences and the Faculty of Human Sciences, respectively. Other academic support services offered by the SSD include career guidance, student counselling (academic probation, subject selection, anxiety counselling, psychometric testing, etc.) and academic development (time management, study skills, examination preparation, concentration, procrastination). According to my knowledge, limited first-year specific academic support services are offered to students at the first-year level. For instance, in October 2021 the University offered tutors to first-year students who struggled with mathematics, statistics and accounting. The data shows that students need strong support to gain

the skills to succeed at university – these skills include time management, becoming self-directed learners and managing their academic workloads. Despite the academic support services offered by the institution, most of the first-year students who took part in this study didn't use them because they did not know about them or did not know where to go or who to contact. The data further illustrates that some FMS Departments offer academic support comprising of individual academic consultations, focus group consultations (where students doing the same modules are assisted in small groups), to a small extent, peer mentoring and tutoring. Some first-year students indicated that no academic support services were offered by their departments.

McDonnel and Soricone (2014) show that a comprehensive approach to student support requires collaboration across multiple departments and external partners. Evidently, the support services offered by the SSD and the FMS are fragmented. Although there are Early Alert Programme coordinators, getting students to use the services is challenging given that not many students use the service. Academic and student affairs divisions should collaborate and ideally develop a seamless integration of services and programmes for the success and achievement of the student body they serve (O'Connor, 2012). Some strongly agree that increasing collaboration and promoting stronger partnerships between academic and student affairs is vital, as such partnerships would serve as mutually beneficial bridges between the services provided to students at any university (Bloland et al., 1994; Kuh et al., 1994; Kuh, 1996; Bourassa & Kruger, 2001). Particular attention needs to be given to the expectations and use of what is known as 'concurrent' student support, forms of academic support (such as tutorials, workshops, online resources and mentorship) that are made available to students while they are engaged in particular courses in the curriculum (Scott, 2017:9). Concurrent support is beneficial in many ways but is bound to take the existing curriculum content and structure as a given. This means that if the overall design of the curriculum is not well-matched with the profile and needs of the students, the effectiveness of concurrent support is limited (Scott, 2017).

6.7.3 Social support services

Students require more than academic skills to successfully navigate their way through university. As well as academic support, NUST offers extensive social support services. These services focus on the student's mental health, social welfare counselling, social welfare development

workshops, (including self-esteem, date rape and sexual harassment, violence against women and children, alcohol and substance abuse), stress management and mentoring. Students said they were unaware that the support services exist, while some said they did not need social support and others indicated that they did not know where to go or who to contact. Again, this would imply that the services offered by the SSD are not visible to the students.

One would assume that because of COVID-19, more students would have sought help, which is not the case in the data even though the students had been on campus for eight months. This implies that the support services are not adequately advertised. Perry et al. (2020) comment that many students do not understand the services available and therefore do not take advantage of them. Thus, even if the SSD market the support services extensively, there is no guarantee that students will use them. Research shows that student support service staff assume that students possess sufficient 'knowledge, social skills and motivation' to seek out and make use of support services, yet this assumption may not be valid (Karp et al., 2008). One of the biggest challenges preventing giving students the support they need is that services are disconnected – even located in multiple buildings across campus – and a lack of coordination can leave students unclear on where to go for the help they need. Furthermore, some services may not be available at times convenient for part-time students (McDonnel and Soricone, 2014).

6.8 Alignment with Tinto's Longitudinal Model of Student Departure

According to Tinto's longitudinal model of student departure, pre-entry attributes, students' goals and commitment, external commitments, students' institutional commitments and ability to interact with the academic and social systems at the institution are the key factors that demarcate students' persistence at university. The data of this study shows that pre-entry attributes, goals and commitments and academic performance are important factors in students' persistence in the Namibian context. They further show that social and academic integration (outlined in red in Figure 6.1) do not affect academic performance or drive first-year students to drop out in the FMS.

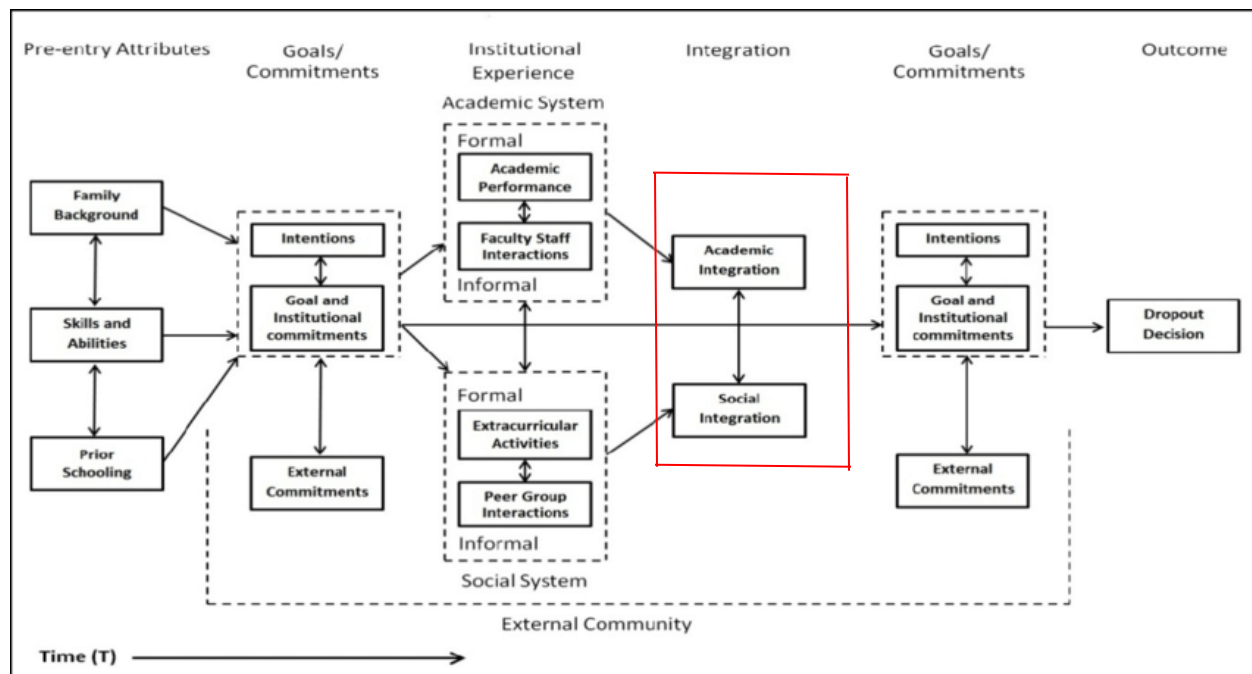


Figure 6.1: Tinto's longitudinal model of student departure (Tinto, 1993)

The findings of this study concur with Tinto's model in terms of the pre-entry attributes as seven out of the ten pre-entry attributes were found to be factors impacting students' academic performance. The data shows that the pre-entry attributes of family background, especially socio-economic status has a significant impact on students' decision to drop out. It featured as one of the major reasons students did not enrol for the second semester. Furthermore, a lack of funding was repeatedly highlighted as a major challenge. While the study did not explicitly explore the skills and abilities of the students, the study's results show that students lacked certain skills such as self-regulated learning, time management and coping with a heavy academic workload. Although the study was conducted when students were using online teaching and learning, these challenges are also relevant in the face-to-face teaching and learning environment (Denny, 2015; Du Toit-Brits & Van Zyl, 2017). The absence of these skills shows that students were not prepared for the workload and for taking responsibility for their work.

Tinto's model considers academic and social integration to be important determinants of student persistence. Tinto (1993) argues that academic and social interactions between students and faculty, non-teaching staff and peers in formal and informal settings affects students' initial objectives and commitments that are adjusted according to what they experience in the new

environment. While we do not know what the students' initial commitments were prior to joining NUST, clearly, they were determined to pursue higher qualifications. The literature shows that social integration contributes to higher adjustments to university life, students' confidence and a sense of belonging (Council for Higher Education, 2010; Maunder, 2018). However, this study shows that social integration does not seem to be a factor affecting students' academic performance. Because academic and social integration seem not to affect students' academic performance does not necessarily mean that it cannot play an important role. It could also mean that, as described by Tinto (1998), academic and social integration do not play a significant role yet, because of the low levels of integration.

6.9 Future Research

The findings of this study have made me realise how diverse, in terms of age, gender, and socio-economic background the University's student body is and how crucial sustained support is. In future, I would like to investigate the expectations of young and mature students when entering university. To gather empirical evidence, I would like to investigate what high schools are doing regarding the preparation of learners for higher education. Findings from such an investigation would assist in identifying and addressing learning challenges and possible adaptation challenges prospective students might have. Further research is also required to gain perceptions from the staff as well. This would include Faculty as well as staff of the existing support services, Early Alert Programme, Mathematics Tutoring Centre and the Writing Centre, to understand what challenges, if any, they may face. This would enable one to have a clear picture from both sides – the students and staff. Furthermore, to provide a comprehensive picture on the first-year student dropout at NUST, further research is required to include first-year students of all Faculties. Future research to explore which characteristics affect students' levels of resilience is also needed. Family support and the impact it has on the academic performance of first-year students would also be an area to be researched in future. Another area to be researched in future would be whether enhanced academic and social integration would positively affect students' academic performance.

6.10 Conclusion

This in-depth study has shown that students' first-year at NUST is influenced by several factors at individual, institutional and national levels. At the national level, the inequality in tertiary education and support in terms of online teaching and learning are the most important factors that affect first-year student dropout. At the institutional level, student engagement, teaching and learning initiatives to develop more student-centred and interactive learning approaches, effective academic preparation, continuous faculty development in terms of online teaching and learning are considered the most important. Furthermore, successful implementation of any first-year interventions or project depends on support from the University and Faculty leadership and the proactive involvement of all support and teaching staff. Notwithstanding the above, implementing a comprehensive student support model is complicated as it requires coordination and collaboration across multiple departments and the model must be flexible to adapt to the students' needs. The results of this study demonstrate that the first year at NUST is related to several individual factors as well. For example, the preparedness of students and pre-entry attributes (age, gender, high school results, type of high school, regional representation and source of finance) are among the most crucial factors influencing students' academic performance.

7 CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS

7.1 Introduction

This study provides deep insights into understanding the internal and external factors affecting first-year full-time and part-time student dropouts in the FMS at the NUST. Prior to this study, evidence of first-year students' dropout was purely anecdotal. The study, therefore, contributes to an evidence-based understanding of the first-year student experience and dropouts in the Namibian context and shows that resilience and self-efficacy are important in student persistence. Most importantly, this study has the potential to directly assist prospective full and part-time first-year students who are entering university. Despite the limitations of this study, such as the study focussed only on full and part-time students from FMS, several policy and educational implications can be drawn from the findings.

Recognising that first-year students face many challenges, and although many of these arise outside the curricular space, their impact on students' academic performance cannot be understated. The literature reviewed shows that attention to the first year at university has been a priority for universities globally. By helping students manage or overcome these challenges, universities can help students persist with their education and reach their academic potential. This study's findings suggest that NUST develop and implement institutional practices and policies geared towards first-year students' success. The findings further raise several implications for NUST and the FMS to enhance the FYE, and, while acknowledging that NUST has limited resources and addressing all student challenges is neither practical nor feasible, the question becomes: Which challenges facing first-year students should be addressed?

Ensuing these findings, first-year student success is complex, and various internal and external factors affect first-year students' academic performance. This study has identified two major challenges as factors why students did not enrol for the second semester: the socio-economic conditions of first-year students and online teaching and learning. The study highlights the challenges first-year students experienced: student under-preparedness (transitioning to university, time management, heavy academic workload, adjusting to the lecturing style, self-directed learning, prior content knowledge), psychological factors (motivation and isolation) and

student-lecturer engagement. Although not all variables within this study significantly affected academic performance, most of the variables (for enrolled students) confirmed that the pre-entry attributes of age, gender, type of high school, high school marks, regional presentation, source of finance and living arrangements were factors affecting students' academic performance. Based on these results, recommendations will be made below. The recommendations are closely aligned to the research questions of this study and Tinto's framework of student departure.

7.2 Pre-Entry Attributes

7.2.1 Demographic characteristic

The data suggest that the FMS needs to understand its student body, which can be achieved by implementing first-year expectation surveys. Alternatively, it is proposed that the University continues with the BUSSE. Once the results of these surveys are available, it is proposed that first-year student profiles be created, providing lectures with an understanding of who their students are. Students can be requested to indicate whether they would have any problem in terms of sharing their personal information with the lecturers. If not, lecturers can be requested to sign a confidentiality agreement, to protect the students' information and to outline that the information will be used only for its intended purpose and nothing else. These profiles can assist lecturers greatly in understanding how their students learn, their strengths and possible challenges. By knowing the above, the lecturer can enhance his/her instruction to better assist the students. Furthermore, to enhance the FYE, it is recommended that the classroom environment and curricula be responsive to the student body's diversity in terms of age, gender, and socio-economic status. NUST needs to recognise the diversification of its student body as the one-size-fits-all model of teaching and learning has become redundant. To meet the needs of the diverse student body and enhance student success, the data strongly hints toward NUST exploring a transformed curriculum to include, among others, academic and social integration of students, better student-lecturer engagement, improved support for student success and academic literacy development and aligning curricular and co-curricular support. Furthermore, systems, policies and practices that support effective curriculum design, management, implementation and evaluation are required at institutional level.

7.2.2 Academic characteristics

Based on the data, it is proposed that NUST invest resources and strengthen the tutoring services currently offered to high schools to include courses perceived as difficult in the FMS. Once FMS has identified the courses students normally struggle with during their first-year at NUST, it is proposed that the University engage with high schools to discuss the modalities pertaining to the offering of these courses. For instance, the courses can be offered online in the regions who have the capacity and who is regarded as having high socio-economic status. It is further proposed that NUST engage with MHETI, to finance the costs of travelling for face-to-face tutoring sessions in the regions with low socio-economic status. There must also be engagement with high schools to ensure students meet in one place when these tutoring sessions take place, to save costs and time, as well. The pre-preparation will be advantageous once students enter university. However, the expectations of high school students entering university should be understood. By being aware of these expectations, the faculty can distinguish realistic from unrealistic expectations. Based on the realistic expectations, the Faculty can develop and implement strategies to meet students' expectations (realistic). The unrealistic expectations will provide the Faculty, through student mentors or tutors, the opportunity to explain university life to prospective students. The data suggests the University can develop and implement an academic preparation programme as part of the proposed First-Year Programme to enhance its pre-engagement strategy with prospective students.

7.2.3 Socio-economic status

The University and the Faculty should be aware of students' needs from the different regions and prioritise resources to help students cope. Financial stress can lead to other stresses, negatively impacting the students' academic performance. Financial stress affects other areas of a student's life. Finances, therefore, cannot be detached from the student experience. It is proposed that the University's support structure include a staff member in the SSD who can coordinate activities when financial aid becomes available for students. Often, companies will advertise full bursaries for university students and students might miss the communication for these opportunities. Student accommodation at the University is another challenge to be resolved. There should be a

concerted effort from the University to work with stakeholders including the Ministry of Higher Education, Training and Innovation, to provide affordable accommodation to its students.

The data shows the influence these pre-entry attributes have on first-year students who participated in this study. Higher education institutions have started to use predictive analytical techniques (Bloemer et al., 1998) to analyse demographic and performance data to predict whether a student will enrol at an institution, stay on track in their courses or require support so they don't fall behind. Additionally, predictive analytics allow universities to tailor their advising services. While there is consensus among researchers that there is not one solution to improve student success (Kuh et al., 2011; Morris et al., 2014), the FMS can start by using predictive analytics based on pre-entry attributes to enhance the FYE.

7.3 Factors Preventing First-year Students' Enrolment for the Second Semester

7.3.1 Finances

The COVID-19 pandemic has amplified the existing inequalities in higher education. The literature reviewed shows that higher education is seen as critical in addressing inequality. Student success, therefore, whether it is measured by grades, retention statistics, or qualification completion rates, should be a concern to not only universities but to governments, higher education policymakers, leaders and practitioners. The findings of this study highlight that a collaborative approach between key stakeholders is needed to support universities in improving student success. Fundamentally, the MHETI is responsible for addressing the inequality in higher education and ensuring the necessary enablers, for example, sufficient funding allocations to NUST, are in place for students to succeed at university. As discussed in Chapter 6, the MHETI can provide enabling strategies, policies and frameworks with goals and priorities and ensure that government subsidy is sufficient to cater for online teaching and learning and student support activities at NUST. Given that student financial aid is crucial to student success and falls outside the ambit of NUST, a change to the allocation of funds is required. This needs to be reflected in the NSFAP policy to include the resources necessary for online teaching and learning, especially for students from lower socio-economic circumstances, to improve participation and alleviate students' financial pressures.

NUST provides access to students through satellite campuses in rural regions to address inequality. However, access alone cannot address inequality and student success. According to Scott (2017), access without success is a hollow achievement. Lessons can be learnt from South African universities, as the literature shows that the mass provision of higher education without proper support results in low retention and throughput.

While NUST is responsible for producing graduates, the study shows a need for cooperation and assistance among key stakeholders. Consequently, the findings of this study suggest several strategies, including reviewing, developing, implementing and monitoring strategies, policies and frameworks aimed at addressing inequality and enhancing first-year student success at three levels, namely, Ministry of Higher Education, Training and Innovation, institutional (NUST) and at Departmental (FMS).

7.3.2 Online teaching and learning

This study's data allows us to reflect on what online or blended teaching and learning could look like at NUST in the future. Embracing technology offers an opportunity for academics to redefine their roles and for students to become self-reliant and independent learners. However, to achieve this, academic staff support is needed to design learning experiences that take full advantage of digital platforms and expand their pedagogical repertoire to include collaboration and student-centred learning design, thereby supporting the growth of blended learning. Teaching practices are evolving, and student-centred approaches to instruction are pertinent. In the online learning space, the shifting nature of the instructor has changed from transmitter of knowledge to facilitator and curator. This requires the University to place academic staff strategically and re-evaluate their roles. Without adequate access to sustained support and the tools and resources essential to design the student-centred teaching and learning environment, academic staff will be challenged to create these experiences. Managing the changing teaching practice requires NUST to intentionally design faculty support that is not bound by location or time.

Given that NUST's strategic direction is also aligned with transforming its teaching and learning into blended and online teaching and learning environments, there is a need to undertake a

critical examination of the *as-is* situation to develop affordable blended and online teaching and learning model for NUST. NUST can ensure campus-wide support by assessing the needs, negotiating funding and investing in the essential technologies to fit the University's blended and online teaching and learning strategy. It is proposed that the existing institutional online learning policies, including teaching and learning and curriculum frameworks, in consultation with industry, be revised to guide the development and sustainability of the blended and online teaching and learning environments to ensure graduate employability. Assessing and determining the best technologies and delivery methods for blended and online learning courses are also needed. Academic staff lies at the heart of any educational change process (Bruggeman et al., 2021); therefore, prioritising digital skills and course development and online teaching for them is crucial. Moreover, Philipsen et al. (2019) state that academic staff beliefs about technology and pedagogy are crucial for successfully implementing online teaching and learning. Student success depends on the continuous development of their digital literacy skills. In developing NUST's blended and online teaching and learning strategy, no student should be deprived of education due to their location, social class and ethnicity (Dhawan, 2020). These changes cannot and will not happen overnight, but the University can carefully strategise through consultations with the key stakeholders the implementation of blended and online teaching and learning at NUST.

In the absence of national standards for quality, quality control, development of e-resources, e-content and flexibility (where institutions across the globe can share courses across their curricula), it is proposed that the regulatory bodies in cooperation with universities and industry develop blended and online teaching and learning strategies at national level so that everyone can enjoy the benefits of quality education *via* e-learning (Cojocariu et al. (2014). Furthermore, unless the MHETI addresses the issues of the digital divide, social inequality and investment in universities' technological infrastructure, we will not be able to reap the benefits that online teaching and learning have to offer. Devices, data and network access are critical enablers for Namibia's online teaching and learning. Without the basic learning infrastructure, it is impossible to benefit from technology. Currently, the digital divide keeps those who do not have access to these resources away from engaging optimally with their studies. As the University

moves towards blended and online teaching and learning, students from lower socio-economic backgrounds need to be supported optimally to access the basic learning infrastructure.

7.4 Under-preparedness of Students

The study findings highlight that some first-years are not academically ready upon entering university, which places students at risk of failing and dropping out. The literature review supported by the findings of this study shows that the FYE is crucial for student persistence. As seen in the literature review, UJ and NMU have developed FYE programmes to assist first-year undergraduate students to adjust to the university environment and prepare them to be successful. The findings of this study suggests that there is a need for a strongly supported FYE programme in the FMS to improve the first-year student experience and reduce student drop out.

Designing an effective model for first-year student support starts with understanding the needs and expectations of students on entering university. Evidently, underprepared students require academic support to be successful. I, therefore, propose the FYE programme (outlined in Figure 7.1) that suggests that engagement commences at high school level pre-entry into university to support students with the transition. Based on the findings of this study, several other activities are included in the proposed FYE programme to assist students during their first year to transition to their second year and ultimately graduate. The proposed FYE programme aims to facilitate students' knowledge of and access to university resources to navigate university life and ease the transition. The proposed FYE programme focuses on preparing students at all levels: from the level of high school when they apply to the university, arrival and orientation at NUST, and once they are at university, after they have registered. The proposed FYE programme is based on Cuseo (2013), who described ten evidence-based target areas which are critical in the practice of a comprehensive first-year experience program. These include: program mission; new student orientation; classroom teaching and learning; academic advisement; the curriculum; academic support services; the cocurriculum (student support services); faculty-student contact outside the classroom; administrative leadership, policies, and practices; and program assessment. He also added that successful first-year programming must be intentional and purposeful, mission-driven, student-centered, intrusive, proactive, diversified, holistic,

developmental, collaborative, systemic, durable, and empirically based (Cuseo, 2013). The proposed FYE programme is developed on the following principles:

- a. **Embrace the diversity of all students** – the FYE programme articulates a strong commitment to diversity. It will allow first-year students in the FMS to engage and collaborate effectively.
- b. **Assist students in developing academic and social skills to navigate university life successfully** – the FYE programme will assist students to navigate the institutional resources and will strengthen the additional academic support services offered at departmental level.
- c. **Enhance student-faculty and student-student engagement** – the FYE programme aims to enhance student-faculty and student-student engagement through academic advising, peer mentoring and tutoring services.
- d.

The proposed FYE programme outlines the existing support services and the proposed services. It also aims to provide prospective students with a visual picture of what they need to do to be successful in their first year at university. It proposes engagement starting with prospective students prior to them entering university so that students will be familiar with the University and their Faculty pre-registration. Furthermore, it would give students a better understanding when they attend orientation. The engagement with high schools can be done by NUST staff or the school's career guidance teacher. If the latter option is chosen, the career guidance teachers should visit the institution and engage with staff to understand the importance of preparing students for university. Engagement should include career guidance sessions with the prospective students during which NUST staff share qualification information and discuss careers with respect to qualification alignment. Engagement sessions could include information on support services, financial aid and accommodation. It is also important to understand the expectations of students before they arrive at university to meet their needs. Engagement can happen online or sessions can be arranged at the different regional centres. It is further proposed that the University design and implement an online academic preparatory course pre-registration. The students who do not have the online resources should be encouraged to make use of the resources

available at the NUST regional centres. This course can be credit-bearing and should be completed before students register.

Once recruitment is finalised and students receive their provisional admission communication letter, the letter can guide the prospective students to a FYE webpage, created as part of the FMS website. The webpage should include a welcoming message from the Dean, introduction to the Heads of Department and Section Heads, FYE student ambassadors and the Departmental FYE coordinators. Furthermore, it is proposed that the Faculty considers the development of a FYE student chatbot programmed to include Frequently Asked Questions and other features. A chatbot can respond to first-year student's questions instantly and be available 24/7. It is further proposed that the webpage link to videos of senior students sharing their FYEs. It is also recommended that the FMS appoint FYE coordinators (existing staff) as well as FYE student ambassadors. Faculty can be given a reduced workload and student ambassadors can be given certificates and acknowledged at a special event to be arranged by the Faculty at the end of the year. The Departmental FYE Coordinators would be responsible for creating first-year student profiles per Department. The profiles should include the pre-entry attributes that are expected to affect the student's performance and the students' expectations – the latter can be obtained from a survey to be administered during registration. Based on the survey's results, strategies can be developed and implemented and communicated to staff. The Departmental FYE Coordinators will further be responsible for identifying and referring students to the support services offered by the SSD and the Academic Support Unit. The FYE student ambassadors will assist students during registration and will be available to mentor students. Taking into consideration that senior students who serve as mentors and/or tutors also have their own workload, a carefully designed timetable will have to be developed in consultation with the senior students. Importantly, institutional policies and guidelines should inform peer to peer mentorship and tutoring. Prospective students can be given the opportunity to indicate upon registration whether they would like to have a FYE student ambassador. The FYE student ambassadors will also assist with first-year faculty student events and activities. The Departmental FYE Coordinators and student ambassadors will also be involved in communicating the existing support services.

Importantly, there should be an office to deal with issues pertaining to financial aid. This central office should provide information on the NSFAP as well as inform students on financial aid available. The proposed office can communicate information about bursaries, scholarships and other financial assistance offered to students and should be open to engaging with students struggling financially to see how these students can be assisted. The provisional admission letter can also contain financial aid and accommodation information.

Once students have registered and immediately after the three-day institutional orientation, it is proposed that each Department offer an additional two half-day orientation session, including a meet and greet of students, their Dean and the Department staff. The Departments can run parallel sessions, where they once again provide an overview of the qualifications, as well as invite CEOs and alumni to speak to the students. CEOs can talk about the industry, the skills required and motivate the students, and the alumni can talk about the importance of university in preparing students for employment. The Departments can also arrange for visits to industry, where for instance, students can visit PriceWaterHouse Cooper (PWC) to expose them to the world of work. At the orientation session, faculty support services and an introduction to the various faculty student societies can also be shared. The orientation session can be concluded by the students playing a finish line board game, whereby they would be exposed to the possible challenges they would experience during their time at university. Once these challenges are presented, they must come up with solutions to get to the finish line (graduation).

The Faculty should identify lecturers that could serve as academic advisers in their respective departments. Furthermore, the Faculty should consider the appointment and training of senior students as peer tutors and mentors to assist first-year students throughout their first-year, based on the previously mentioned conditions, for example, that a timetable is carefully designed for the mentor and/or tutor session to take place based on the availability of senior students. A second semester 'check-in' Departmental orientation session is proposed for Departments to assess whether there are challenges students are struggling with to develop and implement strategies to enhance the first-year student experience. It would be important for the Faculty to continuously improve the FYE programme based on feedback received from first-year students.

While there is some student support offered, a comprehensive and collective approach is needed to enhance the FYE in the FMS. The literature review shows that this cannot be done by Departments or Faculty alone: it must be a collective effort. Given that the University has identified the need to have an Academic Support Unit, there should be clear structures and policies to guide first-year student success and retention drawing on best practices documented in this thesis. The strategies proposed in the discussions and recommendations should be approached with a clear message that we have to do more, with less.

7.5 Psychological Factors

Psychological factors are a multidimensional construct (Beharu, 2018). The findings of this study show that while some students had difficulty remaining motivated and some felt isolated, they persisted. Psychological factors, therefore, are important in first-year student retention. The results of this study have some implications for teaching practice. The data implies that the institution may need to re-examine the current teaching pedagogy for enhancing interactive learning and ensures that all faculty use it. The latter can only be achieved if the recommendations highlighted in Section 6.5 are considered. Given that there are no studies relating to the psychological well-being of students in Namibia, including the mental health of first-year students, the Faculty needs to understand its students better by administering surveys at the beginning of the year and identifying students who might be at-risk. Wyatt, Oswalt and Ochoa (2017) show that mental health issues (stress, depression and anxiety) “all had a perceived impact on students’ academic success”. The institution can assist students displaying mental challenges, by understanding and addressing how the institution can contribute toward alleviating the mental state of students. The above is critical to meet the needs of students successfully. It is essential that the Departmental FYE Coordinators, proposed in the FYE programme, are equipped with the necessary skills to assist the students who struggle psychologically.

A key insight from the data is that Namibian students have remarkable resilience and self-efficacy. As the literature review highlights, there are a range of possible factors that determine persistence. To optimally support these students, NUST needs to include digital skills and literacy development to ensure that 21st-century graduates are equipped with the necessary skills to empower them to succeed and be ready for the world of work. This study makes a strong case to adopt an approach to use the pre-entry attributes of age, gender, type of high school, high school marks, region, source of finance and living arrangements, which were found to significantly impact students’ academic performance, as predictive analytics for enhanced student support initiatives. Moreover, as NUST increasingly enrolls more students, resourcing such as teaching and learning, infrastructure and so forth puts increasing financial pressure on the university therefore rendering analytics is crucial to plan and design intervention strategies to enhance first-year student success. Researchers such as Robbins et al. (2018) show that resilience

can be predicted by characteristics such as levels of self-esteem, exposure to stressful events, attachment avoidance and anxiety in parental relationships. Identifying ways to improve the students' resilience, especially the students identified as at-risk early in the year, can be explored within the University.

7.6 Student Engagement

It is apparent that mapping student engagement activities is important and has been identified as a gap in the FMS. However, this cannot be done at the Faculty level alone. It is proposed that the University develop a student engagement framework to enhance a culture of engagement, see students as partners, allow students to engage in their own learning and respond to diversity, among others. The development of such a framework should be a result of extensive engagement with faculty to understand and buy into the student engagement initiatives. Apart from the proposed student engagement framework, academic staff should also, again, have continuous development opportunities to enhance their engagement with learners inside and outside the classroom.

7.7 Institutional Support

Based on the results of this study, an additional orientation session is required. The orientation activities should include the activities identified by the study's participants – orientation around campus, career guidance, course information, engagement with alumni, exposure to the workplace, interaction with fellow students, online learning, introduction to student societies and sports clubs and student-lecturer engagement. The reasons provided by students as to why they did not attend the first-year orientation show that there is a need for the University to consider online orientation for the students who cannot be physically present. This orientation can be uploaded, allowing all students to access it at any time. It is also recommended that the University develop a first-year app that can assist students in navigating the campus.

Based on this study's findings, it is proposed that the SSD should assist the student societies to get more students involved in the different student activities. Furthermore, it is proposed that to achieve optimal visibility, the Department and student society leaders find ways to enhance the prominence of the societies and sports clubs. The Department can also further explore the

student's sport interests when entering university, and if there is enough interest, for instance, in a specific sport, it must be explored. Although the University does not have sports facilities on campus and uses external facilities, students should be made aware that there are sports clubs, and a dynamic sports environment must be created. There are strong links between students' informal social interaction and their learning since social networks can be a source of social and academic resources to support study (Hommes et al., 2012).

It is important that the FMS offer a separate orientation session to include the suggestions offered by first-year students in this study. However, the Faculty should consider having a second-semester orientation to identify the challenges students may still struggle with. Once these challenges are clear, strategies should be developed and implemented to handle the challenges. The University's strategic plan outlines the establishment of an academic unit responsible for student academic support. This would imply that the SSD would be responsible for offering social support services and the academic unit would offer academic support services. This would mean that services such as career guidance and academic development would move to the academic unit. The establishment of the academic unit is a good starting point to enhance coordinated support services in terms of academic support. However, the unit will have to coordinate and collaborate across multiple faculties and a model will have to be developed that is flexible enough to adapt to all students' needs. Academic staff should be made aware of the importance of their contribution to supporting first-year students and the important role they play in terms of the curriculum and offering of additional support.

Furthermore, constant communication, through multiple avenues, such as in-class presentations and messaging through the different institutional social media platforms should be embarked on to make faculty and students aware of the available opportunities and resources. These activities need not necessarily be conveyed by staff but by involving senior students. It is further proposed that the University also consider the schedules of part-time students to facilitate their access to the support services at convenient times and venues. These are only some activities that the University can implement to enhance the FYE. To assist first-year students in successfully navigating their university experience, in the first year, it is important for the FMS to consider piloting the proposed FYE programme to support the academic success of a demographically

diverse student population as they transition to university, and to build a foundation that will promote sustained persistence towards a timely graduation and reducing student dropout.

7.8 Conclusion

This study highlights the complexity of the first-year students' experience. It shows that different combinations of factors affect different students to differing extents. By addressing some of these issues highlighted in this study, NUST will be addressing the most pressing and common issues. This study shows that variables such as pre-entry attributes are aligned to Tinto's student departure framework and while other variables such as academic and social integration seem not to affect students' performance, they cannot be overlooked, as it may enhance the academic performance of students if enhanced.

Furthermore, this study advocates for the necessary structural enablers, such as policies and frameworks, to enhance first-year student success at national and institutional levels and for NUST to reimagine first-year student success and to enhance the FYE. I contend that if we want to address the social inequalities and be the knowledge-based society our national development plans envisage, a concerted effort to transform the higher education landscape is needed at national and institutional levels. I have reached the end of a challenging, exciting and fulfilling research journey. While this study has provided the basis for answering my research questions, it suggests where further research should be conducted. It is my sincerest hope that the findings of this study will influence and enhance the quality of first-year student success in the FMS at NUST.

BIBLIOGRAPHY

Abdelmola, A., Makeen, A., Hanafi, H.M. & Ageeli, E.I. (2021) E- learning during COVID-19 pandemic, faculty Perceptions, challenges, and recommendations. *MedEdPublish* 10(1) <https://doi.org/10.15694/mep.2021.000112.1>

Abykanova, B., Nugumanova, S., Yelezhanova, S., Kabylkhamit, Z., & Sabirova, Z. (2016). The use of interactive learning technology in institutions of higher learning. *International Journal of Environmental & Science Education*, 11(18), 12528-12539.

Abramenka, Vladimir, "Students' Motivations and Barriers to Online Education" (2015). [Masters Theses] <https://scholarworks.gvsu.edu/theses/776>

Adams, R. V., & Blair, E. (2019). Impact of time management behaviors on undergraduate engineering students' performance. *SAGE Open*, 9(1). <https://doi.org/10.1177/2158244018824506>

Adedoyin, O. B., & Soykan, E. (2020). Covid-19 pandemic and online learning: the challenges and opportunities. *Interactive Learning Environments*. <https://www.doi.org/10.1080/10494820.2020.1813180>

Adetiba, T. C. (2019, September 10-13). *Massification of higher education in South Africa, the good, the bad and the ugly* [Paper presentation]. 50th International Academic Conference, Paris.

Adnan, M., & Anwar, K. (2020). Online learning amid the COVID-19 pandemic: Students' perspectives. *Journal of Pedagogical Sociology and Psychology* 2(1), 45-51. <http://www.doi.org/10.33902/JPSP.2020261309>

Aduayi-Akue, J., Lotchi, K., Parveen, S., Onatsu, T. & Pehkonen-Elmi, T. (2017) Motivation of online learners. <https://verkkolehdet.jamk.fi/ev-peda/2017/01/25/motivation-of-online-learners/>
African Development Bank (2021) African Economic Outlook 2021. From Debt Resolution to

Growth: The Road Ahead for Africa.
https://www.afdb.org/sites/default/files/documents/publications/afdb21-01_aeo_main_english_complete_0223.pdf

Ahrens, B., Lee, M., Zweibruck, C., Tumanan, J., Larkin, T., & Beck, A. (2019). The role of executive function skills for college-age students. *Graduate Independent Studies - Communication Sciences and Disorders*. <https://ir.library.illinoisstate.edu/giscsd/19>

Akaslan, D., & Law, E.C. (2011). Measuring student e-learning readiness: A case about the subject of electricity in higher education institutions in Turkey. *International Conference on Web-Based Learning: Advances in Web-Based Learning* 209-218. https://www.doi.org/10.1007/978-3-642-25813-8_22

Alford, K. L., & Griffin, T. J. (2013, November 4). *Teaching unprepared students: The importance of increasing relevance*. Faculty Focus. <https://www.facultyfocus.com/articles/effective-teaching-strategies/teaching-unprepared-students-the-importance-of-increasing-relevance/>

Ali, A., & Smith, D. (2015). Comparing social isolation effects on students attrition in online versus face-to-face courses in computer literacy. *Issues in Informing Science and Information Technology*, 12, 11-20.

Al-Kumaim, N. H., Alhazmi, A. K., Mohammed, F., Gazem, N. A., Shabbir, M. S., & Fazea, Y. (2021). Exploring the impact of the COVID-19 pandemic on university students' learning life: An integrated conceptual motivational model for sustainable and healthy online learning. *Sustainability*, 13(5). <https://www.doi.org/10.3390/su13052546>

Allam, S. N. S., Hassan, M. S., Mohideen, R. S., Ramlan, A. F., & Kamal, R. M. (2020). Online distance learning readiness during Covid-19 outbreak among undergraduate students. *International Journal of Academic Research in Business and Social Sciences*, 10(5), 642–657.

Allensworth, E. M., & Clark, K. (2020). High school GPAs and ACT scores as predictors of

college completion: Examining assumptions about consistency across high schools. *Educational Researcher*. 49(3),198-211. <https://www.doi.org/10.3102/0013189X20902110>

Almaiah, M.A., Al-Kwasawneh, A., & Althunibat, A. (2020). Exploring the critical challenges and factors influencing the E-learning system usage during COVI-19 pandemic. *Education and Information Technologies* (2020) 25:5261–5280. <https://doi.org/10.1007/s10639-020-10219-y>

Alperin, M., Gaydos, L., & Phillips, J. (2020). The role of orientation programs to prepare students for online learning: A case study from an executive MPH Program. *Pedagogy in Health Promotion*, 6(4), 239-245. <https://www.doi.org/10.1177/2373379920953375>

Al-Senaidi, S., Lin, L. & Poirot, J. (2009). Barriers to adopting technology and learning in Oman. *Computer & Education*, 53(3), 575-590.

Al-Sheeb, B. A., Abdulwahed, M. S., & Hamouda, A. M.(2017). Impact of first-year seminars on student engagement, awareness, and general attitude towards higher education. *Journal of Applied Research in Higher Education*, 10(1), 15-30. <https://doi.org/10.1108/JARHE-01-2017-0006>

Amani, J. (2016). Do Tanzanian undergraduate students choose or hunt for their degree programmes? *International Journal of Higher Education*, 5(2), 74-81. <https://www.doi.org/10.5430/ijhe.v5n2p74>

Anders, J., Green, F., Henderson, M., & Henseke, G. (2020). Determinants of Private School Participation: all about the money? *British Educational Research Journal*. 46(5), 967-992.

Anderson, T. (2003). Getting the mix right again: An updated and theoretical rational for interaction. *International Review of Research in Open and Distributed Learning*, 4(2). <https://doi.org/10.19173/irrodl.v4i2.149>

Arhin, V. (2018). Relationship between career aspirations and study behaviours among second year distance learners of the University of Cape Coast, Ghana. *African Educational Research Journal*, 6(3), 173-180. <https://www.doi.org/10.30918/AERJ.63.18.043>

Aristovnik, A., Keržič, D., Ravšelj, D. Tomaževič, D., & Umek, L. (2020) Impacts of the COVID-19 pandemic on life of higher education students: A global perspective. *Sustainability*, 12(20). <https://www.doi.org/10.3390/su12208438>

Arkorful, V., & Abaidoo, N. (2015). The role of e-learning, advantages and disadvantages of its adoption in higher education. *International Journal of Instructional Technology and Distance Learning*, 12(1), 29-42.

Armstrong-Mensah, E., Ramsey-White, K, Yankey, B., & Self-Brown, S. (2020). COVID-19 and distance learning: Effects on Georgia State University School of Public Health students. *Public Health*. <https://www.doi.org/10.3389/fpubh.2020.576227>

Artemiou, E., Adams, C.L., Vallevand, A., Violato, C., & Hecker, K. G. (2013). Measuring the effectiveness of small-group and web-based training methods in teaching clinical communication: a case comparison study. *Journal of Veterinary Medical Education*, 40(3), 242-251. <https://www.doi.org/10.3138/jvme.0113-026R1>

Arthur, E. K., Sam, T., Osei, G. A., & Kattah, G. (2019). Comparative analysis of male and female students' academic performance in financial accounting: A survey in the Cape Coast Metropolis. *International Journal of Social Science and Humanities*, 7(1), 150-164.

Asaqli, E. (2020). Online education: A change or an alternative? *Creative Education*, 11(11), 2384-2403. <https://www.doi.org/10.4236/ce.2020.1111175>

Asoodar, M., Atai, M. R., Vaezi, S., & Marandi, S. S. (2014). Examining effectiveness of communities of practice in online English for academic purposes (EAP) assessment in virtual classes. *Computers & Education*, 70(1), 291-300. <https://doi.org/10.1016/j.compedu.2013.08.016>

Atlas.ti. (2022). Atlas.ti 22 Windows Quick Tour.
<https://doc.atlasti.com/QuicktourWin.v22/Intro/Introduction.html>

Atalay, K. D., Can, G. F., Erdem, S. R., & Müderrisoglu, I. H. (2016). Assessment of mental workload and academic motivation in medical students. *Journal of the Pakistan Medical Association*, 66(5), 574-578.

Australian Government. (2014). 2014 Appendix 4 – Attrition, success and retention.
<https://docs.education.gov.au/node/38149>

Avallone, A. (2018, July 18). Who you know: Building students' social capital. Next Generation learning challenges. <https://www.edweek.org/leadership/opinion-who-you-know-building-students-social-capital/2018/07>

Badre, A. (2020). Writing the Results Presentation Chapter. [Webinar series]
https://www.researchgate.net/publication/343140354_Writing_the_Results_Presentation_Chapter

Bailey, T., & Jaggars, S. (2016). When college students start behind. *The Century Foundation*.
<http://hdl.handle.net/10919/83634>

Bailey, T., & Phillips, L. (2016). The influence of motivation and adaptation on students' subjective well-being, meaning in life and academic performance. *Higher Education Research and Development*, 35(2), 201-216.

Balan, A. K., Jacintos, A. R., & Montemayor, T. A. (2020). The influence of online learning towards the attention span and motivation of college students. *Researchgate*.
https://www.researchgate.net/profile/Thomas-Montemayor/publication/348916010_The_Influence_of_Online_Learning_towards_the_Attention_Span_and_Motivation_of_College_Students/links/6178c8ae0be8ec17a9354f68/The-Influence-of-Online-Learning-towards-the-Attention-Span-and-Motivation-of-College-Students.pdf

Bali, M. (2016). Knowing the difference between digital skills and digital literacies, and teaching both [Web blog post]. *International Literary Association*. <https://literacyworldwide.org/blog/literacy-daily/2016/02/03/knowning-the-difference-between-digital-skills-and-digital-literacies-and-teaching-both>

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28(2), 117–148. https://doi.org/10.1207/s15326985ep2802_3

Bandura, A. (1994). *Self-efficacy*. In V. S. Ramachaudran (Ed.), *Encyclopedia of human behavior* (Vol. 4, pp. 71-81). Academic Press.

Bandura, A., Caprara, G.V., Barbaranelli, C., Gerbino, M., & Pastorelli, C. (2003). Role of affective self-regulatory efficacy in diverse spheres of psychosocial functioning. *Child Development*, 74(3), 769-782.

Bao, W. (2020). COVID-19 and online teaching in higher education: A case study of Peking University. *Human Behaviour & Emerging Technologies*, 2(2), 113-115.

Barrot, J. S., Llenares, I. I., & Del Rosario, L. S. (2021). Students' online learning challenges during the pandemic and how they cope with them: The case of the Philippines. *Education and Information Technologies*, 26(6), 7321-7338.

Bawa, P. (2016). Retention in online courses: Exploring issues and solutions—A literature review. *Sage Open*, 6(1), 2158244015621777.

Beattie, I. R., & Thiele, M. (2016). Connecting in class? College class size and inequality in academic social capital. *The Journal of Higher Education*, 87(3), 332-362.

Behr, A., Giese, M., Teguim Kamdjou, H. D., & Theune, K. (2021). Motives for dropping out from higher education—An analysis of bachelor's degree students in Germany *European Journal of Education*, 56(2), 325-343.

Beharu, W.T. (2018) Psychological Factors Affecting Students Academic Performance Among Freshman Psychology Students in Dire Dawa University. *Journal of Education and Practice*, 9(4), 59-65.

Behrens, S. (2021) The Influences of Social Capital on College Enrollment for First-Generation College Students. [PhD Dissertation] https://repository.stcloudstate.edu/edad_etds/84

Belaineh, M. S. (2017). Students' conception of learning environment and their approach to learning and its implication on quality education. *Educational Research and Reviews*, 12(14), 695-703.

Benito, Á., Dogan Yenisey, K., Khanna, K., Masis, M. F., Monge, R. M., Tugtan, M. A., ... & Vig, R. (2021). Changes that should remain in higher education post COVID-19: A mixed-methods analysis of the experiences at three universities. *Higher Learning Research Communications*, 11, 4.

Benton, S.L. & Pallett, W.H. (2013) Class size matters: Essay on importance of class size in higher education. Inside Higher Ed, 29 January. Available at: <https://www.insidehighered.com/views/2013/01/29/essayimportance-class-size-higher-education>.

Bernard, R. M., Borokhovski, E., Schmid, R. F., Tamim, R. M., & Abrami, P. C. (2014). A meta-analysis of blended learning and technology use in higher education: From the general to the applied. *Journal of Computing in Higher Education*, 26(1), 87-122.

Bernardo, A., Esteban, M., Fernández, E., Cervero, A., Tuero, E., & Solano, P. (2016). Comparison of personal, social and academic variables related to university drop-out and persistence. *Frontiers in Psychology*, 7, 1610.

Bettinger, E. P., Boatman, A., & Long, B. T. (2013). *Student supports: Developmental education and other academic programs. The Future of Children*, 23(1), 93-115.

Bickerstaff, S., Barragan, M., & Rucks-Ahidiana, Z. (2017). Experiences of earned success: Community college students' shifts in college confidence. *International Journal of Teaching and Learning in Higher Education*, 29(3), 501-510.

Biggs, T., & Tang, C. (2011). *Teaching for quality learning at university*. McGraw-Hill Education.

Black, F.M. & MacKenzie, J. (2008) Quality Enhancement Themes: The First Year Experience. Peer Support in the first year. https://www.enhancementthemes.ac.uk/docs/ethemes/the-first-year/peer-support-in-the-first-year.pdf?sfvrsn=2562f981_8

Blanchet, R. (2016). Predicting first-semester college student success at a small technology college. *St Fisher College Education Doctoral*. Paper 261. https://fisherpub.sjfc.edu/education_etd/261/

Bloemer, J., De Ruyter, K., & Peeters, P. (1998). Investigating drivers of bank loyalty: A complex relationship between image, service quality and satisfaction. *International Journal of Bank Marketing* 16, 276-286.

Boland, P. A., Stamatakos, L. C., & Rogers, R. R., (1994). Reform in student affairs: A critique of student development. ERIC Counseling & Student Services Clearinghouse. University of North Carolina, School of Education. ED 366 862.

Bonaldo, L., & Pereira, L. N. (2016). Dropout: Demographic profile of Brazilian university students. *Procedia-Social and Behavioral Sciences*, 228, 138-143.

Boton, E. C., & Gregory, S. (2015). Minimizing attrition in online degree courses. January 2015. *Journal of Educators Online* 12(1), 62-90.

Bound, J., & Turner, S. (2011). Dropouts and diplomas: The divergence in collegiate outcomes. *Handbook of the Economics of Education* (Vol. 4, pp.573-613). Elsevier.

Bourassa, D. M., & Kruger, K. (2001). The national dialogue on academic and student affairs collaboration. *New Directions for Higher Education*, 116, 9-38.

Bowers, A. J. (2011). What's in a grade? The multidimensional nature of what teacher-assigned grades assess in high school. *Educational Research and Evaluation*, 17(3), 141-159.

Bowyer, K. (2012). A model of student workload. *Journal of Higher Education Policy and Management*, 34(3), 239-258.

Boyer, S. L., Edmondson, D. R., Artis, A. B., & Fleming, D. (2014). Self-directed learning: A tool for lifelong learning. *Journal of Marketing Education*, 36(1), 20-32.

Boylan, H. R. (2001). Making the case for developmental education. *Research in Developmental Education*, 12(2), 1-4.

Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology*, 53(1), 371-399.

Brahm, T., Jenert, T., & Wagner, D. (2017). The crucial first year: Students' motivation at a Swiss Business School - a longitudinal study. In *Academy of Management Proceedings*, 2015(1), 12649. Briarcliff Manor, NY 10510: Academy of Management.

Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), *APA handbook of research methods in psychology, Vol. 2. Research designs: Quantitative, qualitative, neuropsychological, and biological*. <https://doi.org/10.1037/13620-004>

Braxton, J.M., & Lien, L.A. (2000)). *The viability of academic integration as a central construct in Tinto's interactionist theory of college student departure*. In J.M. Braxton (Ed.), *Reworking the student departure puzzle* (pp. 11-28). Vanserbilt University Press

Bray, A., & Williams, J. (2020). Why is physics hard? Unpacking students' perceptions of physics. In *Journal of Physics: Conference Series*, 1512(1), 012002.

Briggs, A. R., Clark, J., & Hall, I. (2012). Building bridges: understanding student transition to university. *Quality in Higher Education*, 18(1), 3-21.

Brocato, B., Bonanno, A. & Ubig, S.G. (2015) Student perceptions and instructional evaluations: A multivariate analysis of online and face-to-face classroom settings. *Education Information Technology* <https://www.doi.org/10.1007/s10639-013-9268-6>

Brookhart, S. M., Guskey, T. R., Bowers, A. J., McMillan, J. H., Smith, J. K., Smith, L. F., Stevens, M. T., & Welsh, M. E. (2016). A century of grading research: Meaning and value in the most common educational measure. *Review of Educational Research*, 86(4), 803-848.

Brown, W. S. (2021). Successful strategies to engage students in a COVID-19 environment. *Frontiers in Communication*, 6, 641865. <https://www.doi.org/10.3389/fcomm.2021.641865>

Bruggeman, B., Tondeur, J., Struyven, K., Pynoo, B., Garone, A. & Vanslambrouck, S. (2021). Experts speaking: Crucial teacher attributes for implementing blended learning in higher education. *The Internet and Higher Education*, 48, 100772. <https://www.doi.org/10.1016/j.iheduc.2020.100772>

Butcher, J. (2020). *Unheard: The voices of part-time adult learners*. Higher Education Policy Institute. <https://www.hepi.ac.uk/wp-content/uploads/2020/02/Unheard-The-voices-of-part-time-adult-learners.pdf>

Buzzeo, J. & Cifci, M. (2017). Work experience, job shadowing and workplace visits. What

works? The Careers & Enterprise Company.
<https://resources.careersandenterprise.co.uk/sites/default/files/2021-09/Work%20experience%2C%20job%20shadowing%20and%20workplace%20visits.%20What%20works.pdf>

Carlsen, A., Holmberg, C., Neghina, C., & Owusu-Boampong, A. (2016). Closing the Gap. Opportunities for distance education to benefit adult learners in higher education. <https://files.eric.ed.gov/fulltext/ED573634.pdf>

Capps, R. (2012). Supporting adult student persistence in community colleges. *Change: The Magazine of Higher Learning*, 44(2), 38-44.

Carprara, G., Vecchione, M., Barbaranelli, C., & Alessandri, G. (2013). Emotional stability and affective self-regulatory efficacy beliefs: Proofs of integration between trait theory and social cognitive theory. *European Journal of Personality*, 27(2), 145-154.

Carreon, A. D., & Manansala, M. M. (2021). Addressing the psychosocial needs of students attending online classes during this Covid-19 pandemic. *Journal of Public Health*, 43(2), e385-e386.

Caruana, V., Ploner, J., Sue, C., & Stevenson, J. (2014). Promoting students resilient thinking in diverse higher education learning environments: Review report commissioned by the HEA Subject Centre for Anthropology, Sociology and Politics (C-SAP).

Casanova, J. R., Cervero Fernández-Castañón, A., Núñez Pérez, J. C., Almeida, L. S., & Bernardo Gutiérrez, A. B. (2018). Factors that determine the persistence and dropout of university students. *Psicothema*, 30. <https://www.doi.org/10.7334/psicothema2018.155>

Cazan, A., & Schiopca, B. (2014). Self-directed learning, personality traits and academic achievement. *Procedia - Social and Behavioral Sciences* 127, 640-644.

Center for Community College Student Engagement. (2016). *Expectations meet reality: The underprepared student and community colleges. 2016 National Report*. University of Texas at Austin, Program in Higher Education Leadership.

Centre for Educational Testing for Access and Placement. (2019). The National Benchmark Tests National Report: 2019 Intake Cycle. <https://nbt.uct.ac.za/sites/default/files/NBT%20National%20Report%202019.pdf>

Chan, R. Y. (2016). Understanding the purpose of higher education: An analysis of the economic and social benefits for completing a college degree. *Journal of Education Policy, Planning and Administration*, 6(5), 1-40.

Chapman, A. (2017). Using the assessment process to overcome Imposter Syndrome in mature students. *Journal of Further and Higher Education*, 41(2), 112-119.

Chaubey, A., & Bhattacharya, B. (2015). Learning management system in higher education. *International Journal of Science Technology & Engineering*, 2(3), 2349-784X

Chen, J., & Hossler, D. (2017). The effects of financial aid on college success of two-year beginning nontraditional students. *Research in Higher Education*, 58(1), 40-76.

Chinna, K., Sundarasan, S., Khoshaim, H. B., Kamaludin, K., Nurunnabi, M., & Baloch, G. M. (2021). Psychological impact of COVID-19 and lock down measures: An online cross-sectional multicounty study on Asian university students. *PLoS ONE*, 16(8), e0253059.

Chiu, T. K. F., Jong, M. S. Y., & Mok, I. A. (2020). Does learner expertise matter when designing emotional multimedia for learners of primary school mathematics? *Educational Technology Research and Development*, 68(5), 2305-2320.

Chiu, T.K.F. & Hew, T.K.F. (2018) Factors influencing peer learning and performance in MOOC asynchronous online

discussion forum. *Australasian Journal of Educational Technology*, 2018, 34(4).

Cicekci, M. A., & Sadik, F. (2019). Teachers' and students' opinions about students' attention problems during the lesson. *Journal of Education and Learning*, 8(6), 15-30.

Cicha, K., Rizun, M., Rutecka, P., & Strzelecki, A. (2021), COVID-19 and higher education: First-year students' expectations toward distance learning. *Sustainability*, 13(4), 1889.

Ciobanu, A. (2013). the role of student services in the improving of student experience in higher education. *Procedia - Social and Behavioral Sciences*, 92,169-173.

Claro, S., Paunesku, D., & Dweck, C. S. (2016). Growth mindset tempers the effects of poverty on academic achievement. *Proceedings of the National Academy of Sciences*, 113(31), 8664-8668.

Cliniciu, A. O. (2013). Adaptation and stress for the first year university students. *Procedia-Social and Behavioral Sciences*, 78, 718-722.

Cojocariu, V. M., Lazar, I., Nedeff, V., & Lazar, G. (2014). SWOT analysis of e-learning educational services from the perspective of their beneficiaries, *Procedia-Social and Behavioral Sciences*, 116, 1999-2003.

Collier, P. (2017). Why peer mentoring is an effective approach for promoting college student success. *Metropolitan Universities*, 28(3), 9-19.

Coman, C., Țîru, L. G., Meseșan-Schmitz, L., Stanciu, C., & Bularca, M. C. (2020). Online teaching and learning in higher education during the coronavirus pandemic: Students' perspective. *Sustainability*, 12(24), 10367.

Combrink, H.M. & Oosthuizen, L. L. (2020). First-year student transition at the University of the Free State during COVID-19: Challenges and insights. *Journal of Student Affairs in Africa*, 8(2), 31-44.

Conley, C. S., Kirsch, A. C., Dickson, D., & Bryant, F. B. (2014). Negotiating the transition to college: Developmental trajectories and gender differences in psychological functioning, cognitive-affective strategies, and social well-being. *Emerging Adulthood* 2(3), 195-210.

Conley, D.T. (2008). Rethinking college readiness. *New directions for higher education*, 2008(144), 3-13.

Costa-Santos, C., Vieira-Marques, P., Costa-Pereira, A., Ferreira, M. A., & Freitas, A. (2018). Do students from public schools fare better in medical school than their colleagues from private schools? If so, what can we learn from this? *BMC Medical Education* 18(1), 1-7.

Cotton, R. E., Nash, T., & Kneale, P. (2017). Supporting the retention of non-traditional students in higher education using a resilience framework. *European Educational Research Journal*, 16(1), 62-79.

Council for Higher Education. (2013). A proposal for undergraduate curriculum reform in South Africa: A case for a flexible curriculum structure. *Report of the Task Team on Undergraduate Curriculum Structure*. CHE, Pretoria.

Cox, B. E., & Orehovec, E. (2007). Faculty-student interaction outside the classroom: A typology from a residential college. *The Review of Higher Education*, 30(4), 343-362.

Crabtree, R. M., Briggs, P., & Woratschek, H. (2021). Student engagement and barriers to implementation: the view of professional and academic staff. *Perspectives: Policy and Practice in Higher Education*, 25(4), 144-150,

Craft, J. A. (2019). Academic performance of low SES students at an Australian university satellite campus. *Studies in Higher Education*, 44(8), 1372-1385.

CraftDeFreitas, S.C, & Rinn, A. (2013). Academic achievement in first generation college students: The role of academic self-concept. *Journal of the Scholarship of Teaching and Learning*, 13(1).

Crawford, C. (2016). *Socio-economic differences in university outcomes in the UK: drop-out, degree completion and degree class* (No. W14/31). IFS Working Papers. Cresswell, J. (2003). *Research design qualitative, quantitative and mixed methods approaches*. Sage Publications.

Cresswell, J. W., & Clark, V. L. (2011). *Designing and Conducting Mixed Methods Research*. 2nd Edition

Croft, N., Dalton, A., & Grant, M. (2010). Overcoming isolation in distance learning: Building a learning community through time and space. *Journal for Education in the Built Environment*, 5(1), 27-64.

Cuseo, J. (2013, September). A comprehensive first-year experience: Ten target areas for institutional self-assessment of programs and practices. Paper presented at “Developing a Comprehensive First-year Experience Program: Strategic Support, Foundational Framework, & Campus Buy-In.” Boulder, CO: Innovative Educators.

Cuseo, J. (2015). Academic Support Strategies for Promoting Student Retention and Achievement during the First-year of College and Beyond. <https://www.doi.org/10.13140/RG.2.1.3230.9929>

Darvas, P., Gao, S., Shen, Y., & Bawany, B. (2017). *Sharing higher education's promise beyond the few in sub-Saharan Africa*. World Bank Publications. <https://www.doi.org/10.1596/978-1-4648-1050-3>

Dawborn-Gundlach, M., & Margetts, K. (2018). Measures of the adjustment of mature-age, undergraduate students to university. *Journal of Global Education and Research*, 2(1), 17-32.

Deloitte. (2017). Success by design. Improving outcomes in American higher education. *CDS Review*, 84(4), 12-18. <https://www2.deloitte.com/us/en/insights/industry/public-sector/improving-student-success-in-higher-education.html>

DeMinck, D. K. (2017). Female student affairs professionals and work-life balance. *Culminating Projects in Higher Education Administration*. 16. https://repository.stcloudstate.edu/hied_etds/16

Demir, Ö., & Yurdugül, H. (2015). The exploration of models regarding e-learning readiness: Reference model suggestions. *International Journal of Progressive Education*, 11(1).

Denny, E. (2015). Transition from second level and further education to higher education (focused research report no. 6). National Forum for the Enhancement of Teaching and Learning in Higher Education.

Department of Higher Education and Training, South Africa. (2011). Report on the Ministerial committee for the review of the provision of student housing at South African universities. https://www.gov.za/sites/default/files/gcis_document/201409/ministerial-committee-report-student-housing0.pdf

Department of Higher Education and Training, South Africa. (2020). Students' access to and use of learning materials: Survey Report 2020. https://www.usaf.ac.za/wp-content/uploads/2021/02/DHET_SAULM-Report-2020.pdf

Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems*, 49(1), 5-22.

Dhillon, J. K., McGowan, M., & Wang, H. (2008). How effective are institutional and departmental systems of student support? Insights from an investigation into the support available to students at one English university. *Research in Post-Compulsory Education*, 13(3), 281-293.

Díaz-Iso, A., Eizaguirre, A., García-Olalla, A. (2020). Understanding the role of social interactions in the development of an extracurricular university volunteer activity in a developing country. *International Journal of Environmental Research and Public Health*, 17(12), 4422.

Dickinson, J., Griffiths, T. L., & Bredice, A. (2020). ‘It’s just another thing to think about’: encouraging students’ engagement in extracurricular activities. *Journal of Further and Higher Education*, 45(6), 744-757.

Dietsche, P. (2012). Use of campus support services by Ontario college students. *Canadian Journal of Higher Education*, 42(3), 65-92.

Dorn, E., Hancock, B., Sarakatsannis, J., & Viruleg, E. (2020). COVID-19 and student learning in the United States: The hurt could last a lifetime. *McKinsey and Company*, 1.

Douglas, H. E., Rubin, M., Scevak, J., Southgate, E., Macqueen, S., & Richardson J. T. (2020). Older women, deeper learning: Age and gender interact to predict learning approach and academic achievement at university. In *Frontiers in Education*, 5, 158. <https://www.doi.org/10.3389/feduc.2020.00158>

Douglas, T., Rogers, M., & Ahuja, K. (2018). Challenging the perceptions of orientation in higher education: student perspectives of a transition initiative. In *41st HERDSA Annual International Conference* (Vol. 41, pp. 69-80).

Dray, B. J., Lowenthal, P. R., Miskiewicz, M. J., Ruiz-Primo, M. A., & Marczyński, K. (2011). Developing an instrument to assess student readiness for online learning: A validation study. *Distance Education*, 32(1), 29-47.

Duncan, D. (2005). *Clickers in the classroom: How to enhance science teaching using classroom response systems*. Pearson Education.

Duncan, H. E., Range, B., & Hvidston, D. (in Press). Exploring student perceptions of rigor online: Towards a definition of rigorous learning. *Journal on Excellence in College Teaching*.

Du Toit-Brits, C. (2018). Towards a transformative and holistic continuing self-directed theory. *South African Journal of Higher Education*, 32(4), 51-65.

Du Toit-Brits, C., & Van Zyl, C. M. (2017). Embedding motivation in the self-directedness of first-year teacher students. *South African Journal of Higher Education*, 31 (1), 50-65.

Dweck, C. S. (2006). *Mindset: The new psychology of success*. Random House.

Dwivedi, A., Dwivedi, P., Bobek, S., & Zabukovšek, S. (2019). Factors affecting students' engagement with online content in blended learning. *Kybernetes*, 48(3). <https://www.doi.org/10.1108/K-10-2018-0559>

Education Counts. (2016). Retention and achievement. http://www.educationcounts.govt.nz/statistics/tertiary_education/retention_and_achievement

Edwards, N. (2015). An analysis of the characteristics of self-directed learners and strategies to enhance self-directed learning in education systems: transcending boundaries. In *The Asian Conference on Education 2015 Official Conference Proceedings*.

Ehrich, J., Howard, S. J., Mu, C., & Bokosmaty, S. (2016). A comparison of Chinese and Australian university students' attitudes towards plagiarism. *Studies in Higher Education*, 41(2), 231-246.

Eita, J. H., Appolus, M., Ndimbira, J. M., & Schumann, C. (2002). Namibia Vision 2030. <https://www.namfisa.com.na/wp-content/uploads/2017/10/Vision-2030.pdf>

Eitemüller, C., & Habig, S. (2020). Enhancing the transition? – effects of a tertiary bridging course in chemistry. *Chemistry Education Research and Practice*, 21(2), 561-569.

Ellis, K.C. (2014) Academic Advising Experiences of First-Year Undecided Students: A Qualitative Study. *NACADA Journal Volume*, 34(2).

Elkins, S.A., Braxton, J.M. & James, G.W. (2000). Tinto's Separation Stage and Its Influence on First-Semester College Student Persistence. *Research in Higher Education*, 41(2), 251-268

English, J. (2016). Inequality and Poverty in Namibia: A Gaping Wealth Gap. <https://borgenproject.org/inequality-and-poverty-in-namibia/>

Erberber, E., Stephens, M., Mamedova, S., Ferguson, S., & Kroeger, T. (2015). Socioeconomically disadvantaged students who are academically successful: Examining academic resilience cross-nationally. Policy Brief No. 5. *International Association for the Evaluation of Educational Achievement*. http://www.iea.nl/policy_briefs.html

Evensen, K. (2017). Benefits and level of satisfaction a first-year orientation program delivers for freshmen in college. *Master of Arts in Higher Education (MAHE) Theses*. 92. <https://pillars.taylor.edu/mahe/92>

Farrell, O., & Brunton, J. (2020). A balancing act: a window into online student engagement experiences. *International Journal of Educational Technology in Higher Education*, 17(1), 1-19.

Farrington, C. A., Roderick, M., Allensworth, E., Nagaoka, J., Keyes, T. S., Johnson, D. W., & Beechum, N. O. (2012). *Teaching adolescents to become learners. The role of noncognitive factors in shaping school performance: A critical literature review*. Consortium on Chicago School Research. 60637.

Finch, D., & Jacobs, K. (2012, September). Online education: Best practices to promote learning. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 56, No. 1, pp. 546-550). SAGE Publications. <https://www.doi.org/10.1177/1071181312561114>

Fomunyan, K. G. (2019). Students and institutional preparedness for educational encounters: views of the margin. *Education Systems Around the World*. <https://www.doi.org/10.5772/intechopen.82148>

Frade, N. (2017). Tutoring and mentoring. *Journal of Student Affairs in Africa*, 5(2), ix-xi.

Frawley, T. (2005). Gender bias in the classroom: Current controversies and implications for teachers. *Childhood Education*, 81(4), 221-227.

Frenette, M., & Chan, P. C. W. (2015). *Academic outcomes of public and private high school students: What lies behind the differences? Analytical Studies Branch Research Paper Series*. Statistics Canada.

Gagnon, M. C. J., Durand-Bush, N., & Young, B. W. (2016). Self-regulation capacity is linked to wellbeing and burnout in physicians and medical students: Implications for nurturing self-help skills. *International Journal of Wellbeing*, 6(1), 101-116.

Galla, B. M., Shulman, E. P., Plummer, B. D., Gardner, M., Hutt, S. J., Goyer, J. P., D'Mello, S. K., Finn, A. S., & Duckworth, A. L. (2019). Why high school grades are better predictors of on-time college graduation than are admissions test scores: The roles of self-regulation and cognitive ability. *American Educational Research Journal*, 56(6), 2077–2115.

García-Morales, V. J., Garrido-Moreno, A., & Martín-Rojas, R. (2021). The transformation of higher education after the COVID disruption: Emerging challenges in an online learning scenario. *Frontiers in Psychology*, 12, 196.

Garrison, N. J., & Gardner, D. S. (2012). Assets first generation college students bring to the higher education setting. *Paper Presented at the Association for the Study of Higher Education (ASHE) Annual Conference, November 15th, 2012, Las Vegas, Nevada.*

Garza, K. K., Bain, S. F., & Kupczynski, L. (2014). Resiliency, self-efficacy, and persistence of college seniors in higher education. *Research in Higher Education Journal*, 26.

Gherhes, V., Stoian, C.E., Fărcaș, M.A., Stanici, M. (2021) E-Learning vs. Face-To-Face Learning: Analyzing Students' Preferences and Behaviors. <https://www.doi.org/10.3390/su1308438>

Gichere, F., Adem, A., & Adenya, R. (2019). Determining the mean differences in students' performance based on type of accommodation. *International Journal of Education and Research*, 7(1), 11-20.

Gilar-Corbi, R., Pozo-Rico, T., Castejón, J. L., Sánchez, T., Sandoval-Palis, I., & Vidal, J. (2020). Academic achievement and failure in university studies: motivational and emotional factors. *Sustainability*, 12(23), 9798.

Gillan, C. B. (2018). *Increasing alumni engagement at Delaware Technical Community College* [PhD Thesis]. ProQuest. <https://www.proquest.com/openview/67067accd261cc847441e56dc61a67f4/1?pq-origsite=gscholar&cbl=18750>

Goegan, L. D., & Daniels, L. M. (2019). Academic success for students in postsecondary education: The role of student characteristics and integration. *Journal of College Student Retention: Research, Theory & Practice*, 23(3), 659-685.

Gonta, I., & Bulgac, A. (2019). The adaptation of students to the academic environment in university. *Romanian Journal for Multidimensional Education*, 11(3).

Gordon, N. (2014). *Flexible pedagogies: Technology-enhanced learning*. The Higher Education Academy. <https://www.doi.org/10.13140/2.1.2052.5760>

Gordon, V. N. (2006). *Career advising: An academic advisor's guide*. John Wiley & Sons.

Gore, P., & Wiseman, J. (2014). The Retention-Focused Institution

Grillo, M. C., & Leist, C. W. (2013). Academic support as a predictor of retention to graduation: New insights on the role of tutoring, learning assistance, and supplemental instruction. *Journal of College Student Retention: Research, Theory and Practice*, 15(3), 387-408.

Griffith University (2022). Griffith University Early Start to Tertiary Studies. <https://www.griffith.edu.au/apply/undergraduate-study/high-school-students/guests-on-campus-or-online>

Guilmette, M., Mulvihill, K., Villemare-Krajden, R., & Barker, E. T. (2019). Past and present participation in extracurricular activities is associated with adaptive self-regulation of goals, academic success, and emotional wellbeing among university students. *Learning and Individual Differences*, 73(8), 8-15.

Gulbahar, Y., & Kalelioglu, F. (2015). Competencies for e-Instructors: How to qualify and guarantee sustainability. *Contemporary Educational Technology*, 6(2), 140-154.

Gustiania, S. (2020). Students Motivation in Online Learning During COVID-19 Pandemic Era: A Case Study. *Holistic Journal*. 12 (2), 2657-1897.

Gustiani, S., Ardiansyah, W., & Simanjuntak, T. (2022). Motivation in online learning amidst Covid-19 pandemic era: Students' intrinsic and extrinsic factors. In *5th FIRST T3 2021 International Conference (FIRST-T3 2021)* (pp. 168-175). Atlantis Press.

Hangula, L., Kamwi, M. K., Likando, G., & Shanyanana, R. N. (2018). Higher education systems and institutions, Namibia. In J. Shin, P. Teixeira (Eds.), *The International Encyclopedia of Higher Education Systems and Institutions* (pp. 1-7). Springer.

Hanson, M. (2021). *College dropout rates*. Education Data Initiative.
<https://educationdata.org/college-dropout-rates>

Hanover Research (2014). Strategies for Improving Student Retention.:
<https://www.hanoverresearch.com/media/Strategies-for-Improving-Student-Retention.pdf>

Harris III, F., & Harper, S. R. (2015). Matriculating masculinity: Understanding undergraduate men's precollege gender socialization. *Journal of the First-Year Experience & Students in Transition*, 27(2), 49-65.

Hart-Baldrige, E. (2020). Faculty advisor perspectives of academic advising. *NACADA Journal*, 40(1), 10-22.

Harryba, S. A., Guilfoyle, A. M., & Knight, S. (2012). Understanding the challenges of accessing university support services: The perspectives of staff members and international students. *The International Journal of Learning*, 18(6), 263-289.

Hartnett, M. (2016). *Motivation in online education*. Springer.

Hassel, S., & Ridout, N. (2018). An investigation of first-year students' and lecturers' expectations of university education. *Frontiers in Psychology*, 8, 2218.

Hay, D. B., Tan, P.L., & Whaites, E. (2010). Non-traditional learners in higher education: comparison of a traditional MCQ examination with concept mapping to assess learning in a dental radiological science course. *Assessment & Evaluation in Higher Education*, 35(5), 577-595, DOI: 10.1080/02602931003782525

Hayat, A. A., Keshavarzi, M. H., Zare, S., Bazrafcan, L., Rezaee, R., Faghihi, S. A., Amini, M., & Kojuri, J. (2021). Challenges and opportunities from the COVID-19 pandemic in medical education: a qualitative study. *BMC Medical Education*, 21(1), 1-13.

Hayward, F. M., & Ncayiyana, D. J. (2014). Confronting the challenges of graduate education in Sub-Saharan Africa and prospects for the future. *International Journal of African Higher Education*, 1(1).

Heale, R., & Twycross, A. (2015). Validity and reliability in quantitative studies. *Evidence-Based Nursing* 18(3), 66-67.

Heikkilä, A., & Lonka, K. (2006). Studying in higher education: students' approaches to learning, self-regulation, and cognitive strategies. *Studies in Higher Education*, 31(1), 99-117. <https://www.doi.org/10.1080/03075070500392433>

Heinesen, E. (2018). Admission to higher education programmes and student educational outcomes and earnings—Evidence from Denmark. *Economics of Education Review*, 63, 1-19.C

Heublein, U. (2014). Student Drop-out from German Higher Education Institutions. *European Journal of Education*. 49(4), 497-513, <https://www.doi.org/10.1111/ejed.12097>

Hill, Y., Lomas, L., & Macgregor, J. (2003). Students' perceptions of quality in higher education. *Quality Assurance in Education*, 11(1), 15-20.

Hodara, M., & Lewis, K. (2017). *How well does high school grade point average predict college performance by student urbanicity and timing of college entry?* Regional Educational Laboratory Northwest.

Hommes, J., Rienties, B., De Grave, W., Bos, G., Schuwirth, L. & Scherpbier, A. (2012). Visualising the invisible: a network approach to reveal the informal social side of student learning. *Advances in Health Sciences Education*, 17(5), 743-757.

Hooper, D. (2016). *Supporting thriving communities: The role of universities in reducing inequality*. University Alliance.

Hout, M. (2012). Social and economic returns to college education in the United States. *Annual Review of Sociology*, 38, 379-400.

Hovdhaugen, E. (2015). Working while studying: the impact of term-time employment on dropout rates. *Journal of Education and Work*, 28(6), 631-651.
<https://www.doi.org/10.1080.13639080.2013.869311>

Hu, M., Li, H., Deng, W., & Guan, H. (2016, September). Student engagement: one of the necessary conditions for online learning. In *2016 International Conference on Educational Innovation through Technology (EITT)* (pp. 122-126). IEEE.

Huang, X., & Hsiao, E-L., (2012). Synchronous and Asynchronous Communication in an Oline Environment: Faculty Experiences and Perceptions. *Quarterly Review of Distance Education*, 13(1), 1528-351.

Hunter, M. S., (2006). Fostering student learning and success through first-year programs. *Peer Review*, 8(3).

Ileka, A. (2018). The Impact of Teaching and Learning through Information Communication Technology (ICT) at Secondary Schools: A Case Study of Secondary Schools in Namibia.

Imlach, A. R., Ward, D. D., Stuart, K. E., Summers, M. J., Valenzuela, M. J., King, A. E., ... & Vickers, J. C. (2017). Age is no barrier: predictors of academic success in older learners. *Science of Learning*, 2(1), 1-7.

International Association of Universities. (2020). *Regional/national perspectives on the impact of COVID-19 on higher education*. <https://iau-aiu.net/IAU-releases-Global-Survey-Report-on-Impact-of-Covid-19-in-Higher-Education>.

Iqbal, M., Morrissey, H., & Patrick, B. (2020). The influence of accommodation on the academic performance of university students. *International Journal of Current Research*, 12(4), 10900-10907.

Ishii, T., Tachikawa, H., Shiratori, Y., Hori, T., Aiba, M., Kuga, K., & Arai, T. (2018). What kinds of factors affect the academic outcomes of university students with mental disorders? A retrospective study based on medical records. *Asian Journal of Psychiatry* 32, 67-72.

Jairos (2020). Opinion - Collaboration of tertiary institutions a catalyst for development. New Era. <https://neweralive.na/posts/opinion-collaboration-of-tertiary-institutions-a-catalyst-for-development>

James, R, Krause, K-L, & Jennings (2010). The First Year Experience in Australian Universities: Findings from 1994 to 2009. Centre for the Study of Higher Education, The University of Melbourne.
<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.723.8190&rep=rep1&type=pdf>

Javed, F. (2020). Adaptation challenges faced by Pakistani university entrants. *Student Success*, 11(2), 41-51.

Jeffreys, M.R. (2015). Jeffreys's nursing universal retention and success model: overview and action ideas for optimizing outcomes A-Z. *Nurse Education Today*, 35(30), 425-431

Johnson, B. (2008). Teacher-student relationships which promote resilience at school: A microlevel analysis of students' views. *British Journal of Guidance & Counselling*, 36(4), 385-398.

Johnson, J., & Rochkind, J. (2009). *With their whole lives ahead of them: Myths and realities about why so many students fail to finish college*. Public Agenda. <http://www.publicagenda.org/TheirWholeLivesAheadofThem>

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational researcher*, 33(7), 14-26.

Jones, H. E., Manze, M., Ngo, V., Lamberson, P., & Freudenberg, N. (2021). The impact of the COVID-19 pandemic on college students' health and financial stability in New York City: Findings from a population-based sample of City University of New York (CUNY) students. *Journal of Urban Health*, 98(2), 187-196.

Junus, K.; Santoso, H. B.; Putra, P. O. H.; Gandhi, A. & Siswantining, T. (2021). Lecturer readiness for online classes during the pandemic: A survey research. *Education Sciences*, 11(3), 139.

Kaisara, G., & Bwalya, K. J. (2021). Investigating the E-learning challenges faced by students during COVID-19 in Namibia. *International Journal of Higher Education*, 10(1), 308-318.

Kandinko, C. B. & Mawer, M. (2013). *Student expectations and perceptions of higher education*. King's Learning Institute.

Kang'ethe, S. M., & Muhoro, P. (2014). Exploring the importance of early alert Programs in improving learning in selected public universities in South Africa. *Mediterranean Journal of Social Sciences*, 5(23), 1099-1101.

Karataş, K., & Arpacı, I. (2021). The role of self-directed learning, metacognition, and 21st century skills predicting the readiness for online learning. *Contemporary Educational Technology*, 13(3).

Karataş, K., & Başbay, M. (2014). Predicting self-directed learning readiness level in terms of critical thinking disposition, general self-efficacy and academic achievement. *Elementary Education Online*, 13(3), 916-933.

Karinga, M. P., Justus, K. N., & Zachary, N. (2019). Academic performance of mature age students in universities and associated factors. *African Journal of Emerging Issues*, 1(9), 34-47.

Karp, M. M., O'Gara, L., & Hughes, K. L. (2008). *Do support services at community colleges encourage success or reproduce disadvantage? An exploratory study of students in two community colleges*. CCRC Working Paper No. 10. Community College Research Center, Columbia University.

Kawase, E., Hashimoto, K., Sakamoto, H., Ino, H., Katsuki, N., Iida, Y., Umekage, T., Fukuda, R., & Sasaki, T. (2008). Variables associated with the need for support in mental health check-up of new undergraduate students. *Psychiatry and Clinical Neurosciences*, 62(1), 98-102.

Kebritchi, M., Lipschuetz, A. & Santiago, L. (2017). Issues and challenges for teaching successful online courses in higher education: A literature review. *Journal of Educational Technology Systems*, 46(1), 4-29.

Kennedy, G. (2020). *Seven ways to improve students' online learning experiences in your subject*. The Melbourne CSHE Teaching and Learning Series. https://melbourne-cshe.unimelb.edu.au/__data/assets/pdf_file/0011/3357164/improving-online-learning_final.pdf

Khan, A., Egbue, O., Palkie, B., & Madden, J. (2017). Active learning: Engaging students to maximize learning in an online course. *Electronic Journal of E-Learning*, 15(2), 107-115.

Khiat, H. (2017). Academic performance and the practice of self-directed learning: The adult student perspective. *Journal of Further and Higher Education*, 41(1), 44-59.

Kitching, H. J., & Hulme, J. A. (2013). Bridging the gap: facilitating students' transition from pre-tertiary to university psychology education. *Psychology Teaching Review*, 19(2), 15-30.

Kızıltepe, Z. (2010). Purposes and identities of higher education institutions, and relatedly the role of the faculty. *Eurasian Journal Of Educational Research*, 40, 113-132.

Knight, H., Carlisle, S., O'Connor, M., Briggs, L., Fothergill, L., Al-Oraibi, A., Yildirim, M., Morling, J.R., Corner, J., Ball, J., Denning, C., Vedhara, K., & Blake H. (2021). Impacts of the COVID-19 Pandemic and Self-Isolation on Students and Staff in Higher Education: A Qualitative Study. *Int J Environ Res Public Health*, 18(20):10675, doi: 10.3390/ijerph182010675.

Kohan, N., Arabshahi, K. S., Mojtahedzadeh, R., Abbaszadeh, A., Rakhshani, T., & Emami, A. (2017). Self-directed learning barriers in a virtual environment: a qualitative study. *Journal of Advances in Medical Education & Professionalism*, 5(3), 116.

Kolster, R., & Kaiser, F. (2015). *Study success in higher education: male versus female students*. CHEPS Working Paper series; No. 2015-07. Center for Higher Education Policy Studies (CHEPS). <https://doi.org/10.3990/4.2589-9716.2015.07>

Kraleva, R., Sabani, M., & Kralev, V. (2019). An analysis of some learning management systems. *International Journal on Advanced Science, Engineering and Information Technology*, 9(4), 1190-1198.

Kucharčíková, A. (2013). The quality improvement of the university education. *Procedia - Social and Behavioral Sciences*, 106(2013), 2993–3001. <https://doi.org/10.1016/j.sbspro.2013.12.345>

Kuh, G. D. (1996). Guiding principles for creating seamless learning environments for undergraduates. *Journal of College Student Development*, 37(2), 135-148.

Kuh, G. D., Douglas, K. B., Lund, J. P., Ramin-Gyurmek, J., & Fife, J. D. (1994). *Student learning outside the classroom: Transcending artificial boundaries* (Vol. 8). ERIC Clearinghouse on Higher Education.

Kuh, G. D., Kinzie, J., Schuh, J. H., & Whitt, E. J. (2011). *Student success in college: Creating conditions that matter*. John Wiley & Sons.

Kutbiddinova , R. A., Eromasova , A. A., & Romanova, M. A. (2016). The use of interactive methods in the educational process of the higher education institution. *International Journal of Environment and Science Education*, 11(14), 6557-6572.

Kwaske, I., & McLennan, K. (2021). *Why social interaction is important in online learning* [Blog]. Tulane University. <https://sopa.tulane.edu/blog/why-social-interaction-important-online-learning>

Lagemann, E. C., & Lewis, H. (2015). *What is college for? The public purpose of higher education*. Teachers College Press.

Lannin, D. G., Gyll, M., Cornish, M. A., Vogel, D. L., & Madon, S. (2019). The importance of counseling self-efficacy: physiologic stress in student helpers. *Journal of College Student Psychotherapy*, 33(1), 14-24.

Larkin, K., Rowan, L., Garrick, B. & Beavis, C. (2016). Student perspectives on first year experience initiatives designed for pre-service teachers in their first weeks of university study.

Journal of University Teaching & Learning Practice, 13(1), 7.
<https://www.doi.org/10.14453/jutlp.v13i1.7>

Larsen, M. R., Sommersel, H. B., & Larsen, M. S. (2013). *Evidence on dropout phenomena at universities*. Danish Clearinghouse for Educational Research.

Leach, L., Neutze, G., & Zepke, N. (2001). Assessment and Empowerment: Some critical questions. DOI:[10.1080/02602930120063457](https://doi.org/10.1080/02602930120063457)

Lee, J. M., & Ransom, T. (2011). *The educational experience of young men of color: A review of research, pathways and progress*. College Board Advocacy & Policy Center.
<http://youngmenofcolor.collegeboard.org/sites/default/files/downloads/EEYMCResearchReport.pdf>

Lee, K. F., Ang, C. S., & Dipolog-Ubanan, G. (2019). My first year in the university”: Students’ expectations, perceptions and experiences. *Journal of Social Science Research*, 14, 3134-3145.

Leibowitz, B., Van der Merwe, A., & Van Schalkwyk, S. (Eds.). (2009). *Focus on first year success: Perspectives emerging from South Africa and beyond*. African Sun Media.

Lekena, L. L., & Bayaga, A. (2018). Trend analysis of first year student experience in university. *South African Journal of Higher Education*, 32(2), 157-175. Lembani, R. L. (2019). *Country report on Namibian university education – 2019*. National Research Foundation and UNISA.
http://ideaspartnership.org/userassets/IDEAS_Namibia_Country_Report_2019_FINAL.pdf

Levin, K. A. (2006). Study design III: Cross-sectional studies. *Evidence-based dentistry*, 7(1), 24-25.

Lichoro, D. M. (2015). *Faculty preparedness for transition to teaching online courses in the Iowa Community College Online Consortium* [Doctoral dissertation, Iowa State University].

Lim, S.Y.J., & Vighnarajah (2018). Influence of Student Isolation on Students' University Learning Experiences: Perspectives of Academic, Social and Psychological Development. SHS Web of Conferences. <https://doi.org/10.1051/shsconf/20185305005>

Limón-Vázquez, A. K., Guillén-Ruiz, G., & Herrera-Huerta, E.V. (2020). The social isolation triggered by COVID-19: Effects on mental health and education in Mexico. *Health and Academic Achievement-New Findings*. <https://doi.org/10.5772/intechopen.93886>

LimeSurvey Quick Start Guide (2021). https://manual.limesurvey.org/Quick_start_guide_-_LimeSurvey_3.0%2B

Littlefield J. (2018). *The difference between synchronous and asynchronous distance learning*. ThoughtCo. <https://www.thoughtco.com/synchronous-distance-learning-asynchronous-distance-learning-1097959>

Liu, M., Gu, K., Wong, T. K., Luo, M. Z., & Chan, M. Y. (2015). Perceived stress among Macao nursing students in the clinical learning environment. *International Journal of Nursing Sciences*, 2(2), 128-133.

Lovat, A., & Darmawan, I. G. N. (2019). The academic performance of Vocational Education and Training pathway university students and the effects of gender and age. *Australian Journal of Education*, 63(3), 307-321.

Loye, A. S., Frenette, E., & Kobiané, J. F. (2020). Effect of pre-entry attributes on academic persistence in science and technology in Burkina Faso: A survival analysis. *Learning and Individual Differences*, 83, 101938.

Lucas, A. (2009). Using peer instruction and i-clickers to enhance student participation in calculus. *Primus*, 19(3), 219-231.

Ma, J., Pender, M., & Welch, M. (2016). *Education pays 2016: The benefits of higher education for individuals and society*. Trends in Higher Education Series. <https://research.collegeboard.org/media/pdf/education-pays-2019-full-report.pdf>

Maatuk, A. M., Elberkawi, E. K., Aljawarneh, S., Rashaideh, H., & Alharbi, H. (2021). The COVID19 pandemic and elearning: challenges and opportunities from the perspective of students and instructors. *Journal of Computing in Higher Education*, 34, 21-38.

Mabizela, S. & Green-Thompson, L. (2019). Exploring the association of the National Benchmark Test results with the academic performance of medical students who completed the degree in minimum time. *Journal of Education*. <http://dx.doi.org/10.17159/2520-9868/i75a04>

Mabizela, S. & George, A. (2020) Predictive validity of the National Benchmark Test and National Senior Certificate for the academic success of first-year medical students at one South African university. *BMC Med Educ* **20**, 152 (2020). <https://doi.org/10.1186/s12909-020-02059-8>

Maertz, K. (n.d.) *Identifying, helping and referring students in distress*. Counselling & Clinical Services University of Alberta. <https://www.ualberta.ca/human-resources-health-safety-environment/media-library/health-and-wellbeing/mental-health/other/guidestudentsindistress.pdf>

Mahan, D., Wilson, K. B., Petrosko, J. M., & Luthy, M. R. (2014). Is retention enough? Learning and satisfaction of first-generation college seniors. *Kentucky Journal of Higher Education Policy and Practice*, 3(1), Article 1.

Mahlaba, S. C. (2020). Reasons why self-directed learning is important in South Africa during the COVID-19 pandemic. *South African Journal of Higher Education*, 34(6), 120-136.

Maina, J. J., & Aji, J. Y. (2017). Influence of accommodation on the academic performance of architecture students. *Built Environmental Journal*, 14(2), 47-59.

Makoni, M. (2010). *South Africa: Universities raise admission standards*. University World News. Africa Edition.

<https://www.universityworldnews.com/post.php?story=2010080618132494>

Management Information and Institutional Research. (2018) <http://statistics.nust.na/?q=contact-us>

Management Information and Institutional Research. (2020) <http://statistics.nust.na/?q=contact-us>

Management Information and Institutional Research. (2021) <http://statistics.nust.na/?q=contact-us>

Maphalala, M. C., Mkhasibe, R. G., & Mncube, D. W. (2021). Online learning as a catalyst for self-directed learning in universities during the COVID-19 pandemic, *Research in Social Sciences and Technology*, 6(2), 233-248.

Marble, S. C., Fulcher, A., & Toman, J. (2016). Advantages and disadvantages of asynchronous online extension programming for delivering master producer content. *HortTechnology*, 26(5), 584-587.

Maria, K., & Awan, A. G. (2019). Impact of sociocultural factors on academic performance of students in district Multan-Pakistan. *Global Journal of Management, Social Sciences and Humanities*, 5(3), 425-452.

Marinaccio, G. T. (2017). The effect of high school accounting on the selection of college major, performance, satisfaction, and retention. *Honors Theses and Capstones*. 353. <https://scholars.unh.edu/honors/353>

Martin, F., & Bolliger, D.U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning* 22(1), 205-222.

Matthews, T., Danese, A., Caspi, A., Fisher, H. L., Goldman-Mellor, S., Kepa, A., Moffitt, T. E., Odgers, C. L., & Arseneault, L. (2019). Lonely young adults in modern Britain: findings from an epidemiological cohort study. *Psychological Medicine*, 49(2), 268-277.

Matthews, D., Milgate, G., & Clarke, L. (2018). Assessment of university support services for regional and remote students on transition to university: final report. Australian Council for Educational Research (ACER). https://research.acer.edu.au/higher_education/61

Matsolo, M. J., Ningpuanyeh, W. C., & Susuman, A. S. (2018). Factors Affecting the Enrolment Rate of Students in Higher Education Institutions in the Gauteng province, South Africa. *Journal of Asian and African Studies*, 53(1), 64–80. <https://doi.org/10.1177/0021909616657369>

Maunder, R.E. (2018). Students' peer relationships and their contribution to university adjustment: The need to belong in the university community. *Journal of Further and Higher Education*, 42(6), 756-768. <https://www.doi.org/10.1080/03098877X.2017.1311996>

Mavunga, G. (2014). The contribution of under-preparedness to low first year success rates as perceived by lecturers and second year students and at a comprehensive South African university. *Mediterranean Journal of Social Sciences*, 5(20), 1748-1748.

Mayet, R. (2016). Supporting at-risk learners at a comprehensive university in South Africa. *Journal of Student Affairs in Africa*, 4(2), 1-12.

McDonnel, R. P., & Soricone, L. (2014). *Promoting persistence through comprehensive student support*. Jobs for the Future. <https://eric.ed.gov/?id=ED561305>

McGill, C. M., Ali, M., & Barton, D. (2020). Skills and competencies for effective academic advising and personal tutoring. *Frontiers in Education*, 5, Article 135.

McHugh, M.L. (2013). The chi-square test of independence. *Biochemia Medica*, 23(2), 143-149.

McLaughlin, J.E., Khanova, J., Persky, A., Hathaway, N., & Cox, W. (2017). Design, implementation, and outcomes of a three-week pharmacy bridging course. *American Journal of Pharmaceutical Education*, 81(7), Article 6313.

Means, B., & Neisler, J. (2020). *Suddenly online: A national survey of undergraduates during the COVID-19 pandemic*. Digital Promise.

Mese, E. & Sevilen, Ç. (2021). Factors influencing EFL students' motivation in online learning: A qualitative case study. *Journal of Educational Technology and Online Learning*, 4(1), 11-22.

Mercado, C. (2008). Readiness assessment tool for an e-learning environment implementation. *Special Issue of the International Journal of the Computer, the Internet and Management*, 16(11), 18.1-18.11.

Mikkonen, J., & Ruohoniemi, M. (2011). How do veterinary students' motivation and study practices relate to academic success? *Journal of Veterinary Medical Education*, 38(3), 298-304.

Milun, T., Mardešić, J., & Kovač, G. (2016). *Do gender and age impact student success?*

University Department of Professional Studies, University of Split.

https://bib.irb.hr/datoteka/931745.Do_gender_and_age_impact_student_success.pdf

Ministry of Education, Arts and Culture (2019). Enrolment management information systems (EMIS) education statistics.

[https://www.google.com/search?q=Ministry+of+Education%2C+Arts+and+Culture+\(2019\).+Enrolment+management+information+systems+\(EMIS\)+education+statistics.&rlz=1C1GCEU_enNA1006NA1006&oq=Ministry+of+Education%2C+Arts+and+Culture+\(2019\).+Enrolment+management+information+systems+\(EMIS\)+education+statistics.+&aqs=chrome..69i57.1464j0j15&sourceid=chrome&ie=UTF-8](https://www.google.com/search?q=Ministry+of+Education%2C+Arts+and+Culture+(2019).+Enrolment+management+information+systems+(EMIS)+education+statistics.&rlz=1C1GCEU_enNA1006NA1006&oq=Ministry+of+Education%2C+Arts+and+Culture+(2019).+Enrolment+management+information+systems+(EMIS)+education+statistics.+&aqs=chrome..69i57.1464j0j15&sourceid=chrome&ie=UTF-8)

Mishra, A., Gupta, T., & Shree, A. (2020). Online teaching-learning in higher education during lockdown period of COVID-19 pandemic. *International Journal of Educational Research Open*, 1, 100012.

Mngomezulu, B. (2015). The challenges of massification of higher education and its ramification with a focus on Africa: What role can industry play? *International Technology, Education and Development Conference*, pp. 3123-3130.

Mngomezulu, S., Dhunpath, R., & Munro, N. (2017). Does financial assistance undermine academic success? Experiences of ‘at risk’ students in a South African university. *Journal of Education*, 68, 131-148.

Moen, P., & Schaefer, K., (2021, April 12). *Long-life learning and the age-integration of higher education*. Stanford Social Innovation Review. <https://www.doi.org/10.48558/57FE-BQ38>

Mofatteh, M. (2021). Risk factors associated with stress, anxiety, and depression among university undergraduate students. *AIMS Public Health*, 8(1), 36.

Moftakhari, M. M. (2013). Evaluating e-learning readiness of Faculty of Letters of Hacettepe [Unpublished Masters thesis, Hacettepe University]. Hacettepe Üniversitesi.

Momanyi, J.M., Too, J., & Simiyu, C. (2015). Effect of students’ age on academic motivation and academic performance among high school students in Kenya. *Asian Journal of Education and E-learning*, 3(5).

Moodley, P., & Singh, R. J. (2015). Addressing student dropout rates at South African universities. *Alternation Special Edition*, 17, 91-115.

Moore, M. G. (1993). Three types of interaction. In K. Harry, M. John, & D. Keegan (Eds.), *Distance education: New perspectives* (pp. 19-24). Routledge.

Morris, A., Hutchinson, K., Kelly, J., Lamendola, N., Moran, T., Mordaci, J., Northwood, H., Ruffer, R., Veeder, S., Vogler-Elias, D., & Zappia, J. (2014). *Retention and student success task force status report June 2014*.
https://www2.naz.edu/files/1214/1659/5958/RSS_Task_Force_Status_Report_June_2014_1.pdf

Morgan, M. (2014). Supporting student transitions: The practitioner model - improving and enhancing the first year student experience. In S. Lawther, E. Foster, D. Nutt, (Eds.), *The European First Year Experience Conference 2014: conference proceedings, Nottingham Trent University, 9-11 June 2014*. Nottingham Trent University.

Morrow-Howell, N., Galucia, N., & Swinford, E. (2020). Recovering from the COVID-19 pandemic: A focus on older adults. *Journal of Aging and Social Policy*, 32(4-5), 526-535.

Muda, S., Hussin, A. H., Johari, H., Sapari, J. M., & Jamil, N. (2013). The key contributing factors of non-accounting students' failure in the introduction to financial accounting course. *Procedia - Social and Behavioral Sciences*, 90, 712-719.

Murray, M. (2014). Factors affecting graduation and student dropout rates at the University of KwaZulu-Natal. *South African Journal of Science*, 110(11/12), 6.

Murphy, E., Rodríguez-Manzanares, M. A., & Barbour, M. K. (2011). Asynchronous and synchronous online teaching: Perspectives of Canadian high school distance education teachers. *British Journal of Educational Technology* 42(4), 583-591.

Muslim, M. H., Karim, H. A., & Abdullah, I. C. (2012). Satisfaction of students' living environment between on campus and off-campus settings: A conceptual overview. *Procedia-Social and Behavioral Sciences*, 68, 601-614.

Musser, T., Pierre, T., Wilson, D., & Schwartz, M. (2017). Experiences of male undergraduates that lead to academic failure. *Nacada Journal*, 37(1), 87-98.

Mutelo, S., & Angula, N. (n.d.) The adoption and implementation of e-learning at Namibia University of science and technology for both students and lecturers: A Namibian experience. *Academia Journal*.

https://www.academia.edu/22864265/The_adoption_and_implementation_of_E_Learning_at_Namibia_University_of_science_and_technology_for_both_Students_and_Lecturers_A_Namibian_Experience_Sinte_Mutelo_and_Nikodemus_Angula

Naidoo, P., Motala, N., & Joubert, R. W. E. (2013). Matriculation scores as an indicator of academic success in an occupational therapy education programme. *South African Journal of Occupational Therapy*, 43(1), 21-25.

Naidoo, A., & Lemmens, J. C. (2015). Faculty intervention as support for first-year students. *Journal of Student Affairs in Africa*, 3(2), 17-32.

Naidu, S. (2017). Openness and flexibility are the norm, but what are the challenges? *Distance Education*, 38(1), 1-4.

Nakale, A. (2021). *NSFAF keeps thousands waiting ... funding fiasco leaves 23 000 students in limbo*. New Era Live. <https://neweralive.na/posts/nsfaf-keeps-thousands-waiting>

Namibia Financial Students Assistance Fund Policy (2005). <http://lgamis.nsfaf.na/documents/10180/13510/New+Award+Policy/291e9b41-1c49-4a29-af64-e1f3b2d89eaa>

Namibia Multidimensional Poverty Index Report (2021). <https://ophi.org.uk/namibia-mpi-report-2021/#:~:text=The%20average%20intensity%20of%20poverty,incidence%20and%20intensity%2C%20is%200.191.>

Namibia News Digest. (2020). *COVID-19: Higher Education Ministry launches stimulus package*. <https://www.namibianewsdigest.com/covid-19-higher-education-ministry-launches-stimulus-package/>

Namibia Statistics Agency. (2018). *Namibia labour force survey*. Namibia Statistics Agency. https://d3rp5jatom3eyn.cloudfront.net/cms/assets/documents/NLFS_2018_Report_Final_.pdf

Namibia University of Science and Technology. (2012). *Annual report 2012*. <https://www.nust.na/sites/default/files/documents/Polytechnic%20Annual%20Report%202012.pdf>

Namibia University of Science and Technology. (2013). *Annual report 2013*. <https://www.nust.na/sites/default/files/documents/PON%20AR%202013.pdf>

Namibia University of Science and Technology. (2014). *Annual report 2014*. <https://www.nust.na/sites/default/files/documents/AR%202014%20NOV15.pdf>

Namibia University of Science and Technology. (2015). *Annual report 2015*. <https://www.nust.na/sites/default/files/documents/Annual%20Report%202015.pdf>

Namibia University of Science and Technology. (2015b). *Enrolment report 2015*. <http://statistics.nust.na/sites/default/files/statistics-file/2015-enrolment-report-final.pdf>

Namibia University of Science and Technology. (2016a). *Annual report 2016*. <https://www.nust.na/sites/default/files/documents/Annual%20Report%202016.pdf>

Namibia University of Science and Technology. (2016b). *Enrolment report 2016*. <http://statistics.nust.na/sites/default/files/statistics-file/2016%20NUST%20Enrolment%20Report.pdf>

Namibia University of Science and Technology. (2017). *Enrolment report 2017*.
<http://statistics.nust.na/sites/default/files/statistics-file/2017%20NUST%20Enrolment%20Report-Sep.pdf>

Namibia University of Science and Technology. (2018a). *Enrolment report 2018*.
<http://statistics.nust.na/sites/default/files/statistics-file/2018%20Enrolment%20Report.pdf>

Namibia University of Science and Technology. (2018b). *Strategic plan-4: 2014 -2018*.
<https://www.nust.na/sites/default/files/documents/NUST%20Strategic%20Plan%204.pdf>

Namibia University of Science and Technology. (2018c). *Annual Report 2018*.
<https://www.nust.na/sites/default/files/documents/Annual%20Report%202018.pdf>

Namibia University of Science and Technology. (2019a). *Enrolment report 2019*.
http://statistics.nust.na/sites/default/files/statistics-file/2019%20%20Enrolment%20Report_v2.pdf

Namibia University of Science and Technology. (2019b). Unpublished. *Mid-term review July 2019*.

Namibia University of Science and Technology. (2020a). *Enrolment Report 2020*.
<http://statistics.nust.na/sites/default/files/statistics-file/2020%20NUST%20Enrolment%20Report%20%28Final%29.pdf>

Namibia University of Science and Technology. (2020b). *Faculty of Management Sciences yearbook*. <https://www.nust.na/sites/default/files/documents/FMS-Yearbook2020.pdf>

Namibia University of Science and Technology. (2020c). *General information and regulations*. (2020).
https://www.nust.na/sites/default/files/documents/eYearbook%202021%20Part%201_GeneralInfo%26Regulations_final.pdf

Namibia University of Science and Technology. (2021a). *Enrolment report 2021*. <http://statistics.nust.na/sites/default/files/statistics-file/2021%20Enrolment%20Report.pdf>

Namibia University of Science and Technology Profile 2021b. Unpublished

Namibia University of Science and Technology. (2018). Unpublished. *Faculty of Management Sciences strategic plan: 2019 -2023*.

Namibia University of Science and Technology. (2022). *Guide for prospective students*. <https://www.nust.na/sites/default/files/documents/Guide%20to%20Prospective%20Students%202022.pdf>

Naong, M. N., Zwane, M. G., Mogashoa, L. G., & Fleischmann, E. (2009). Challenges of teaching first-year students at institutions of higher learning. *International Education Studies*, 2(2), 170-179.

Nash, J. (2009) Computer skills of first-year students at a South African university. Proceedings 2009 Annual Conference of the Southern African Computer Lecturers' Association. <https://doi.org/10.1145/1562741.1562752>

National Council for Higher Education. (2012). Unpublished. *Comprehensive and holistic review and reform of the entire higher education system in Namibia in relation to its contribution to the achievement of Vision 2030*.

National Council for Higher Education. (2017). 2017 Namibia Higher Education Statistical Yearbook. http://www.nche.org.na/sites/default/files/documents/nhesy_2017.pdf

National Planning Commission (2016). Fifth National Development Plan (NDP-5) 2017/2018-2021/2022. <https://www.npc.gov.na/national-plans/national-plans-ndp-5/>

Nelson Mandela University. (2015). *Student success at a glance 2015*. Pdf

Nelson Mandela University. (2018). *Student success at a glance 2018*. Pdf

Nelson, K. & Clarke, J. (2014) The First Year Experience: Looking back to inform the future. *HERDSA Review of Higher Education*. www.hersa.org.au/herdsa-review-higher-education-vol-1/23-46

New Era. (2018a). *Re-integrating NSFAF into higher education ministry*. <https://neweralive.na/posts/re-integrating-nsfaf-into-higher-education-ministry>

New Era. (2018b). *Many can't afford tertiary education – Kapere*. <https://neweralive.na/posts/many-cant-afford-tertiary-education-kapere>

New Era. (2022). *UNAM to take in Grade 11s*. <https://neweralive.na/index.php/in/posts/unam-to-take-in-grade-11s>

Nigussie, T. A., & Injibara, E. (2019). The effect of time management practice on the academic achievement: A Case of Dire Dawa University, Ethiopia. *European Journal of Business and Management*, 11(4), 43-50.

Ninoriya, S., Chawan, P.M., & Meshram, B. B. (2011). CMS, LMS and LCMS for e-learning. *International Journal of Computer Science Issues*, 8(2), 644.

NSFAF Annual Report 2018/2019. www.nsfaf.com

Nugent A., Lodge, J. M., Carroll, A., Bagraith, R., MacMahon, S., Matthews, K., & Sah, P. (2019). *Higher education learning framework: An evidence informed model for university learning*. The University of Queensland. <https://eprints.qut.edu.au/207793/>

Nutt, D. & Calderon, D. (2009) International Perspectives on the First-Year Experience in Higher Education. The First-Year Experience Monograph Series No. 52.

Nyar, A. (2020). How to improve university orientation: Seven good practice strategies for South Africa. *Journal of Student Affairs in Africa*, 8(2), 123-135

O'Carroll, J., Ennis, C., Loscher, K., Ryan, D., & Dixon, N. (2017). *Strategies for enhancing the mature student experience in higher education*. Technological University Dublin. <https://arrow.tudublin.ie/ltpgdprp/9/>

O'Connor, J. S. (2012). Factors that support or inhibit academic affairs and student affairs from working collaboratively to better support holistic students' experiences: A phenomenological study [Ed.D. Dissertation]. ProQuest. <https://core.ac.uk/download/pdf/190335894.pdf>

OECD. (2008). *Education at a glance*. <https://www.oecd.org/education/skills-beyond-school/41284038.pdf>

Okalany, E., & Adipala, E. (2016). Financing a massified African higher education: Emerging approaches and issues. In *Fifth African Higher Education Week and RUFORUM Biennial Conference 2016, "Linking agricultural universities with civil society, the private sector, governments and other stakeholders in support of agricultural development in Africa"*, Cape Town, South Africa, 17-21 October 2016 (pp. 21-29). RUFORUM.

Oliver, R., & Herrington, J. (2001). *Teaching and learning online: A beginner's guide to e-learning and e-teaching in higher education*. Centre for Research in Information Technology and Communications. <https://ro.ecu.edu.au/ecuworks/6832/>

Onuekwusi, C. (2015). Influence of age and content area on students' achievement in chemistry. *Journal of Education*, 3(1), 1-7.

Owen, S., & Sawhill, I. (2013). *Should everyone go to college?* Center on Children and Families at Brookings. <https://www.brookings.edu/research/should-everyone-go-to-college/>

Paideya, V., & Dhunpath, R. (2018). Student academic monitoring and support in higher education: a systems thinking perspective. *Journal of Student Affairs in Africa*, 6(1), 33-48.

Palvia, S., Aeron, P., Gupta, P., Mahapatra, D., Parida, R., Rosner, R., & Sindhi, S. (2018). Online education: Worldwide status, challenges, trends, and implications. *Journal of Global Information Technology Management*, 21(4), 233-241.

Pan American Health Organization and World Health Organization. (2020). *Epidemiological update: Coronavirus disease (COVID-19)*. <https://www.paho.org/en/documents/epidemiological-update-coronavirus-disease-covid-19-9-november-2020>

Papageorgiou, E. & Carpenter, R. (2019). Prior accounting knowledge of first-year students at two South African Universities: Contributing factor to academic performance or not? *South African Journal of Higher Education*, 33(6), 249-264.

Parajuli, M., & Thapa, A. (2017). Gender differences in the academic performance of students. *Journal of Development and Social Engineering*, 3(1), 39-47.

Parkes, M., Stein, S., & Reading, C. (2015). Student preparedness for university e-learning environments. *The Internet and Higher Education*, 25, 1-10.

Parsons, E. (2016). Does attending a low-achieving school affect high-performing student outcomes? *Teachers College Record*, 118(8), 1-36.

Pascarella, E. T. (1980). Student–faculty informal contact and college outcomes. *Review of Educational Research*, 50(4), 545–595. <https://doi.org/10.2307/1170295>

Pather, S. (2013). Social and academic integration of first-year at-risk students in a mathematics intervention programme. In *Canada International Conference on Education, Toronto*.

Pather, S., & Dorasamy, N. (2018). The mismatch between first-year students' expectations and experience alongside university access and success: A South African university case study. *Journal of Student Affairs in Africa*, 6(1), 49-64.

Pekrun, R., Lichtenfeld, S., Marsh, H. W., Murayama, K., & Goetz, T. (2017). Achievement emotions and academic performance: Longitudinal models of reciprocal effects. *Child Development*, 88(5), 1653–1670. <https://doi.org/10.1111/cdev.12704>

Pellizzari, M., & Billari, F. C. (2012). The younger, the better? Age-related differences in academic performance at university. *Journal of Population Economics*, 25(2), 697-739.

Penn-Edwards, S., & Donnison, S. (2011). Engaging with Higher Education Support: a first year student teacher transition model. *European Journal of Education, Research, Development and Policy*. 46(4), 566-580. <https://doi.org/10.1111/j.1465-3435.2011.01501.x>

Pittaway, S. M. (2012). Student and Staff Engagement: Developing an Engagement Framework in a Faculty of Education. *Australian Journal of Teacher Education*, 37(4). <http://dx.doi.org/10.14221/ajte.2012v37n4.8>

Perry, C. J., Lausch, D. W., McKim, C., & Weatherford, J. (2020). Knowledge, use, and perceived value of university student services: International and domestic student perceptions. *Journal of International Students*, 10(3), 613-628.

Perveen, A. (2016). Synchronous and asynchronous e-language learning: A case study of virtual university of Pakistan. *Open Praxis* 8(1), 21-39.

Philip, K., Tsedu, M., & Zwane, M. (2014). *The impacts of social and economic inequality on economic development in South Africa*. United Nations Development Programme. <https://www.tips.org.za/research-archive/external-journals/item/2838-the-impacts-of-social-and-economic-inequality-on-economic-development-in-south-africa>

Philipsen, B., Tondeur, J., Pareja Robline, N., Vanlamsbrouck, S., & Zhu, C. (2019). Improving teacher professional development for online and blended learning: A systematic meta-aggregative review. *Educational Technology Research and Development*, 67(5), 1145-1174.

Phrasisombath, K. (2009). *Sample size and sampling methods* [Presentation]. Faculty of Postgraduate Studies and Research University of Health Sciences.

Picciano, A. G. (2017). Theories and Frameworks for Online Education: Seeking an Integrated Model. *Online Learning*, 213, 166-190.

Pirmohamed, S., Debowska, A., & Boduszek, D. (2017). Gender differences in the correlates of academic achievement among university students. *Journal of Applied Research in Higher Education*, 9(2), 313-324.

Porter, L., Bailey Lee, C., & Simon, B. (2013). Halving fail rates using peer instruction: A study of four computer science courses. In *Proceeding of the 44th ACM Technical Symposium on Computer Science Education* (pp. 177-182).

Pownall, M., Harris, R., & Blundell-Birtill, P. (2021). Supporting students during the transition to university in COVID-19: Five key considerations and recommendations for educators. *Psychology Learning & Teaching*, 21(1), 3-18.

Preston, B. (2014). *State school kids do better at uni*. The Conversation, 17. <https://theconversation.com/state-school-kids-do-better-at-uni-29155>

Rahmat, N.H. (2019). An Investigation of Self-Determination Factors among Post-graduate Students. *American Journal of Education and Learning*. 4(1), 135-146

Radunzel, J. (2021). Examining retention and transfer in relation to incoming student data for first-generation and continuing-generation students: What differences exist?. *Journal of College Student Retention: Research, Theory & Practice*, 23(2), 214-242.

Redford, J., & Mulvaney Hoyer, K. (2017). *First generation and continuing-generation college students: A comparison of high school and postsecondary experiences*. Statistics in Brief. <https://nces.ed.gov/pubs2018/2018009.pdf>

Redmond, P., Abawi, L. A., Brown, A., Henderson, R., & Heffernan, A. (2018). An online engagement framework for higher education. *Online Learning*, 22(1), 183-204.

Reyes-Chua, E., Sibbaluca, B. G., Miranda, R. D., Palmario, G. B., Moreno, R. P., & Solon, J. P. T. (2020). The status of the implementation of the e-learning classroom in selected higher education institutions in region IV-A amidst the COVID-19 crisis. *Journal of Critical Reviews*, 7(11), 253-258.

Reynolds, J., & Cruise, S. (2020). Factors that influence persistence among undergraduate students: An analysis of the impact of socioeconomic status and first-generation status. *Interchange*, 51(2), 199-206.

Ricks, J. R., & Warren, J. M. (2021). Experiences of successful first-generation college students with college access. *Journal of School Counseling*, 19(8), Article 8.

Richițeanu-Năstase, E-R. & Stăiculescu, C. (2015) The impact of career factors on students' professional insertion. What measures to be taken by the university? The 6th International Conference Edu World 2014 "Education Facing Contemporary World Issues", 7th - 9th November 2014. *Procedia - Social and Behavioral Sciences*, 180 (2015), 1102 – 1108

Robbins, A., Kaye, E., & Catling, J.C. (2018). Predictors of student resilience in higher education. *Psychology Teaching Review*, 24(1)

Roddy, C., Amiet, D. L., Chung, J., Holt, C., Shaw, L., McKenzie, S., Garivaldis, F., Lodge, J. M., & Mundy, M. E. (2017). Applying best practice online learning, teaching, and support to intensive online environments: An integrative review. *Frontiers in Education*, 2, Article 59.

Rohayani, A. H. (2015). A literature review: readiness factors to measuring e-learning readiness in higher education. *Procedia Computer Science*, 59, 230-234.

Roslan, N. S., & Halim, A. S. (2021). Enablers and barriers to online learning among medical students during COVID-19 pandemic: An explanatory mixed-method study. *Sustainability*, 13(11), 6086.

Rowley, J. (2014). Designing and using research questionnaires. *Management Research Review*, 37(3)

Rožman, L., Lešer, V. J., Širca, N. T., Dermol, V., & Skrbinjek, V. (2014). Assessing student workload—tough nut to crack. In *Paper delivered at the Human Capital without Borders: Knowledge and Learning for Quality of Life, International Conference* (pp. 25-27).

Rummel, C. (2015). An exploratory study of psychology graduate student workload, health, and program satisfaction. *Professional Psychology: Research and Practice*, 46(6), 391.

Rutenfrans, J. W. (2017). *Pre-university programs and study success: a case study at the Pre-U of University of Twente* [Master's thesis, University of Twente].

Şahin, F., & Çetin, F. (2017). The mediating role of general self-efficacy in the relationship between the big five personality traits and perceived stress: A weekly assessment study. *Psychological Studies*, 62(1), 35-46.

Sazita, V. N., Lwendo, B. S., & Iguna, K. (2018). An assessment of public sector involvement and management support in tertiary education institutions of Namibia: Challenges and prospects. *Journal of Entrepreneurial Organizational Management*, 7(3) 1000246. <https://www.doi.org/10.4172/2169-026X.1000246>

Schunk, D. H., & Mullen, C. A. (2012). Self-efficacy as an engaged learner. *Handbook of Research on Student Engagement* (pp. 219-234). Springer. https://www.doi.org/10.1007/978-1-4614-2018-7_10

Schuller, T. & Watson, D. (2009). *Learning through life*. Niace. <https://shop.niace.org.uk>

Schlossberg, N. K. (1989). Marginality and mattering: Key issues in building community. *New Directions for Student Services*, 48, 5–15. <https://doi.org/10.1002/ss.37119894803>

Scott, I. (2017). Designing the South African higher education system for student success. *Journal of Student Affairs in Africa*, 6(1), 1-17.

Scully, G., & Kerr, R. (2014). Student workload and assessment: Strategies to manage expectations and inform curriculum development. *Accounting Education*, 23(5), 443-466.

Selesho, J. M. (2012). Making a successful transition during the first year of university study: Do psychological and academic ability matter?, *Journal of Social Sciences*, 31(1), 1-10.

Senthamarai, S. (2018) Interactive teaching strategies. *Journal of Applied and Advanced Research*, 3(Suppl. 1), 36–S38 <https://dx.doi.org/10.21839/jaar.2018.v3S1.166>

Severiens, S. & Ten Dam, G. (2012). Leaving college: A gender comparison in male and female-dominated programs. *Research in Higher Education*, 53(4), 453-470.

Shehry, A. A., & Youssif, S. M. A. (2017). Factors affecting academic performance of undergraduate students at Najran Preparatory Year for Girls-Najran University 2015-2016. *International Journal of Asian Social Science*, 7(1), 1-18.

Shwieger, D., & Ladwig, C. (2018). Reaching and retaining the next generation: Adapting to the expectations of Gen Z in the classroom. *Information Systems Education Journal*, 16(3), 45.

Sikhwari, T. D., Dama, N. G., Gadisi, A. M., & Matodzi, T. C. (2020). A comparative study of the academic performance of resident and nonresident students at a rural South African university. *Journal of Student Affairs in Africa*, 8(1), 1-12.

Simamora, R. M. (2020.) The challenges of online learning during the COVID-19 pandemic: An essay analysis of performing arts education students. *Studies in Learning and Teaching*, 1(2), 86-103.

Sioka, D. (2021) Budget motivation speech appropriation: Financial year 2021/2022. https://www.parliament.na/wp-content/uploads/2021/07/Vote36_GenderEquality.pdf

Singh, V., & Thurman, A. (2019). How many ways can we define online learning? A systematic literature review of definitions of online learning (1988-2018). *American Journal of Distance Education*, 33(4), 289-306.

Smith, K. (2016). *Girls may perform better at school than boys – but their experience is much less happy*. The Conversation. <https://theconversation.com/girls-may-perform-better-at-school-than-boys-but-their-experience-is-much-less-happy-63161>

Sorensen, C. (2014). Classrooms without walls: A comparison of instructor performance in online courses differing in class size. *MERLOT Journal of Online Learning and Teaching*, 10(4), 569-576.

Sorensen, C. (2015). An examination of the relationship between online class size and instructor performance. *Journal of Educators Online*, 12(1), 140-159.

Sosu, E. M., & Pheunpha, P. (2019). Trajectory of university dropout: Investigating the cumulative effect of academic vulnerability and proximity to family support. In *Frontiers in Education*, 4, Article 6.

South African Council for Higher Education. (2010). *Access and throughput in South African higher education: three case studies*. https://www.che.ac.za/sites/default/files/publications/Higher_Education_Monitor_9.pdf

Sprung, J. M., Rogers, A. (2021). Work-life balance as a predictor of college student anxiety and depression. *Journal of American College Health*, 69(7), 775-782.

Srairi, S. (2021). An analysis of factors affecting student dropout: The case of Tunisian universities. *International Journal of Educational Reform*, 31(2), 168-186.

Stark, E. (2019). Examining the role of motivation and learning strategies in student success in online versus face-to-face courses. *Online Learning*, 23(3), 234-251.

Staten, S. D. (2016). *Relationship between living environment and first-year student academic achievement and persistence*. Electronic Theses and Dissertations. Paper 2612. <https://www.doi.org/10.18297/etd/2612>

Stewart, S., Lim, D. H., & Kim, J. (2015). Factors influencing college persistence for first-time students. *Journal of Developmental Education*, 38(3), 12-20.

Stewart, I.M. (2017). Reasons explored for non-engagement in student sport and physical activity, at a post-1992 University.

Sutton, C. E. (2019). Mature students and social isolation: Being excluded or choosing to be alone?. In E. Boeren, N. James (Eds.), *Being an adult learner in austere times* (pp. 97-122). Palgrave Macmillan.

Sweeney, M. M. (2011). Initiating and strengthening: College and university instructional physical activity programs. *Journal of Physical Education, Recreation & Dance*, 82(4), 17-21.

Taft, S.H., Kesten, K., & El-Banna, M.M. (2019). One size does not fit all: Toward an evidence-based framework for determining online course enrollment sizes in higher education. *Online Learning*, 23(3), 188-233.

Taherdoost, H. (2016). Sampling methods in research methodology; how to choose a sampling technique for research. *International Journal of Academic Research in Management*, 5(2), 18-27.

Talbot, G. L. (1990). Personality correlates and personal investment of college students who persist and achieve. *Journal of Research & Development in Education*, 24, 53-57.

Tamannaefar, M., & Shahmirzaei, S. (2019). Prediction of academic resilience based on coping styles and personality traits. *Journal of Practice in Clinical Psychology*, 7(1), 1-9.

Tanga, M., & Maphosa, C. (2018). Academic hurdles facing undergraduate students at one South African University. *Research in Higher Education Journal*, 35.

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2, 53-55. <https://doi.org/10.5116/ijme.4dfb.8dfd>

Tembon, Mercy; Fort, Lucia. (2008). Girls' Education in the 21st Century : Gender Equality, Empowerment, and Economic Growth. Directions in development; human development. Washington, DC. World Bank. .
<https://openknowledge.worldbank.org/handle/10986/6554>

Tempski, P., Bellodi, P. L., Paro, H. B., Enns, S. C., Martins, M. A., & Schraiber, L. B. (2012). What do medical students think about their quality of life? *BMC Medical Education*, 12(1), 1-8.

Terras, M. M., & Ramsay, J. (2015). Massive open online courses (MOOCs): Insights and challenges from a psychological perspective. *British Journal of Educational Technology*, 46(3), 472-487.

Thomas, C. (2017). Academic advising and institutional success. *Academic Advising Today*; 40(1). <https://nacada.ksu.edu/Resources/Acdemic-Advising-Today/View-Articles/cademic-Advising-and-Institutional-Success.aspx>

The World Bank (2021). Rural Population (% of total population) – Namibia. <https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS?locations=NA>

The World Bank (2021). Poverty & Equity Brief Namibia. https://databank.worldbank.org/data/download/poverty/987B9C90-CB9F-4D93-AE8C-750588BF00QA/AM2020/Global_POVEQ_NAM.pdf

Tirney, W. G., & Duncheon, J. C. (Eds.). (2015). *The problem of college readiness*. SUNY Press.

Times Higher Education. (2021). The Changing Face of Higher Ed Part 8: The Changing Role of Faculty Part 2. <https://changinghighered.com/the-changing-role-of-faculty-part-2/>

Timmis, S., Mqgwashu, E. M., Naidoo, K., Muhuro, P., Trahar, S. M., Lucas, L., Wisker, G., & de Wet, T. (2019). Encounters with coloniality: Students' experiences of transitions from rural contexts into higher education in South Africa. *Critical Studies in Teaching and Learning*, 7(2), 76-101.

Timmons, L. (2014). The uncritical commute: The impact of students' living situations while at university. University of Glasgow. School of Psychology. <http://www.psy.gla.ac.uk/~steve/localed/docs/LukeTimmons.pdf>.

Tinto V. (1993). *Leaving college: Rethinking the Causes and Cures of Student Attrition*, 2nd Edn. Chicago, IL: University of Chicago Press

Tinto, V. (1998). Colleges as communities: Taking research on student persistence seriously. *The Review of Higher Education* 21(2), 167-177.

Tinto, V. (2004). *Student retention and graduation: Facing the truth, living with the consequences*. Occasional Paper 1. Pell Institute for the Study of Opportunity in Higher Education.

Tinto, V. (2012a). *Completing college. Rethinking institutional action*. University of Chicago Press.

Tinto, V. (2012b). Enhancing student success: Taking the classroom success seriously. *The International Journal of the First Year in Higher Education*, 3(1), 1-8.

Tinto, V. (2014). Tinto's South Africa lectures. *Journal of Student Affairs in Africa*, 2(2), 5-28.

Tinto, V. (2016) From retention to persistence. *Inside Higher Education*, 26.

Tinto, V. (2017a). Reflections on student persistence. *Student Success*, 8(2), 1-9.

Tinto, V. (2017b). Through the eyes of students. *Journal of College Student Retention: Research, Theory & Practice*, 19(3), 254-269.

Tomul, E., & Polat, G. (2013). The effects of socioeconomic characteristics of students on their academic achievement in higher education. *American Journal of Educational Research*, 1(10), 449-455.

Trautwein, C., & Stolz, K. (2015). "Press on regardless!"—The role of volitional control in the first year of higher education. *Zeitschrift für Hochschulentwicklung*, 10(4), 123-143.

Tullis, J. G., & Goldstone, R. L. (2020). Why does peer instruction benefit student learning? *Cognitive Research*, 5, Article 15. <https://www.doi.org/10.1186/s41235-020-00218-5>

Turhan, C., & Stevens, S. (2020, May 27). *Pathways for potential: How universities, regulators and Government can tackle educational inequality*. Russel Group. <https://russellgroup.ac.uk/media/5858/pathways-for-potential-full-report-may-2020.pdf>

Turnbull, D., Chugh, R., & Luck, J. (2021). The use of case study design in learning management system research: A label of convenience?. *International Journal of Qualitative Methods*, 20. <https://doi.org/10.1177/16094069211004148>

Turner, G. (2014). Is it statistically significant? The Chi-square test [Presentation]. http://www.ox.ac.uk/media/global/wwwoxacuk/localsites/uasconference/presentations/P8_Is_it_statistically_significant.pdf

United Nations Educational, Scientific and Cultural Organization (2016). TVET, Higher Education and Innovation. Policy Review Namibia. <https://unesdoc.unesco.org/ark:/48223/pf0000245818>

UNESCO. (2000). The Dakar framework for Action, Education for All: Meeting Our Collective Commitments. Paris: UNESCO

University of Johannesburg. (2018). Annual report (2018). <https://www.uj.ac.za/about/registrar-portfolio/Documents/UJ-AnnualReport2018.pdf>

University of Stellenbosch. (2016). *Faculty of Economics and Management Sciences annual report 2016*. http://www.sun.ac.za/english/faculty/economy/Documents/EMS_Annual_Report_2016.pdf#search=Faculty%20of%20Economics%20and%20Management%20Sciences%2C%20Integrated%20Annual%20Report%202016

University of the Free State. (2014). *Strategic plan: 2015-2020*. https://www.ufs.ac.za/docs/default-source/all-documents/ufs-strategic-plan-2015---2020.pdf?sfvrsn=b41aff21_0

University of the Free State (2017). Unpublished. *NUST Beginning University of Survey of Student Engagement*

University of Queensland (2022). Enhanced Studies Program. <https://esp.uq.edu.au/>

Van Herpen, S.G.A., Meeuwisse, M., Hofman, W. A., Severiens, S. E., & Arends, L. R. (2017). Early predictors of first-year academic success at university: pre-university effort, pre-university self-efficacy, and pre-university reasons for attending university. *Educational Research and Evaluation*, 23(1-2), 52-72.

Van Herpen, S.G.A., Meeuwisse, M., Hofman, W.H.A., & Severiens, S.E. (2020) A head start in higher education: the effect of a transition intervention on interaction, sense of belonging, and academic performance, *Studies in Higher Education*, 45:4, 862-877, DOI: 10.1080/03075079.2019.1572088

Van Lancker, W., & Parolin, Z. (2020). COVID-19, school closures, and child poverty: a social crisis in the making. *The Lancet Public Health*, 5(5), e243-e244.

Van Rooij, E., Jansen, E. P., & Van de Grift, W. J. (2018). First-year university students' academic success: The importance of academic adjustment. *European Journal of Psychology of Education*, 33(4), 749-767.

Vanthournout, G., Gijbels, D., Coertjens, L., Donche, V., & Van Petegem, P. (2012). Students' persistence and academic success in a first year professional bachelor program: The influence of students' learning strategies and academic motivation. *Education Research International*, 2012, Article 152747.

Van Zyl, A. (2010). *The predictive value of pre-entry attributes for student academic in the South African context*. [Doctoral dissertation, University of Johannesburg].

Van Zyl, A. (2015). Why is there a high dropout rate in South African Universities.

Van Zyl, A., Gravett, S., De Bruin, G. P. (2012). To what extent do pre-entry attributes predict first year student academic performance in the South African context?. *South African Journal of Higher Education*, 26(5), 1095-1111.

Van Zyl-Schalekamp, C. V., & Mthombeni, P. (2015). Social-background factors affecting the academic success of first year sociology students at the University of Johannesburg, South Africa. *Journal of Sociology and Social Anthropology*, 6(1), 31-44.

Vaughn, A. A., Drake, R. R., & Haydock, S. (2016). College student mental health and quality of workplace relationships. *Journal of American College Health*, 64(1), 26-37.

Venton, B. J., & Pompano, R. R. (2021). Strategies for enhancing remote student engagement through active learning. *Analytical and Bioanalytical Chemistry*, 413, 1507-1512.

Villani, L., Pastorino, R., Molinari, E., Anelli, F., Ricciardi, W., Graffigna, G., & Boccia, S. (2021). Impact of the COVID-19 pandemic on psychological well-being of students in an Italian university: a web-based cross-sectional survey. *Globalization and Health*, 17(1), 1-14.

Vonderwell, S., & Saver, J. (2004) Online learning: Student role and readiness. *Turkish Online Journal of Educational Technology*, 3(3), 38-42

Voyer, D., & Voyer, S.S. (2014). Gender differences in scholastic achievement: a meta-analysis. *Psychological Bulletin* 140(4), 1174.

Wallner, A. M. & Nissen, T. (2018). *Do living conditions affect first year dropout? An empirical investigation of dropout from higher education in Denmark during the scholastic year 2016-2017*. [Masters Thesis, University of Copenhagen]. <https://www.eva.dk/sites/eva/files/2019-04/Master%20thesis%20Wallner%20Nissen.pdf>

Wangeri, T., Kimani, E., & Mutweleli, S. M. (2012). Transitional challenges facing university first year students in Kenyan public universities: A case study of Kenyatta University. *Interdisciplinary Review of Economics and Management*, 1(2), 43-50

Watson, W., Esquivel-Swinson, A., & Montemayor, R. (2018). Collaborative impact and professional development: Effective student services for immigrant populations amid growing inequality. *Community College Journal of Research and Practice*, 42(11), 778-782.

Weimer, M. (2015) A summary Learner-centered teaching: Five key changes to practice. <https://cte.tamu.edu/getattachment/Faculty-Teaching-Resource/Program-ReDesign/Orientation-and-Team-Formation/Book-Summary-Learner-Centered-Teaching-by-Maryellen-Weimer.pdf.aspx>

Westrick, P. A., Le, H., Robbins, S. B., Radunzel, J. M., & Schmidt, F. L. (2015). College performance and retention: A meta-analysis of the predictive validities of ACT® scores, high school grades, and SES. *Educational Assessment*, 20(1), 23-45.

Wikström, C., & Wikström, M. (2017). Group differences in student performance in the selection to higher education: tests vs grades. In *Frontiers in Education*, 2, Article 45.

Windhoek Observer. (2021). *Unam's admission stance condemned*. <https://www.observer24.com.na/unams-admission-stance-condemned/>

Windhoek Observer. (2021). *Nanso finally speaks on NSFAP 'dissolvement'*. <https://www.observer24.com.na/nanso-finally-speaks-on-nsfaf-dissolvement/>

Witze, A. (2020). Universities will never be the same after the coronavirus crisis. *Nature*, 582(7811), 162-165.

Wollscheid, S., Lødding, B., & Aamodt, P. O. (2021). Prepared for higher education? Staff and student perceptions of academic literacy dimensions across disciplines. *Quality in Higher Education*, 27(1), 20-39.

World Population Review (2021) Gini coefficient by country 2021. Retrieved from <https://worldpopulationreview.com/country-rankings/gini-coefficient-by-country>

Woodfield, R., Earl-Novell, S., & Solomon, L. (2005). Gender and mode of assessment at university: should we assume female students are better suited to coursework and males to unseen examinations? *Assessment & Evaluation in Higher Education*, 30(1), 35-50.

Wong, B. (2018). By chance or by plan? The academic success of nontraditional students in higher education. *Aera Open*, 4(2), 2332858418782195.

Workman, J., & Heyder, A. (2020). Gender achievement gaps: the role of social costs to trying hard in high school. *Social Psychology of Education*, 23(6), 1407-1427.

Wyatt, J., Smith, K. & Proesler, N. (2014) The Benefits of Early Engagement in the College-Preparation Process: Implications for Practitioners. <https://files.eric.ed.gov/fulltext/ED556463.pdf>

Xhomara, N., & Bara, G. (2018). The Relationship between Lecturer Feedback about Academic Performance and Academic Progress of Students. *European Journal of Education*, 1(2), 7–14. <https://doi.org/10.26417/ejed.v1i2.p7-14>

Ya, S. W. (2020). *Education during COVID-19* (Policy Brief No. 19). IDEAS, Institute for Democracy and Economic Affairs. https://www.researchgate.net/publication/340860261_Education_during_COVID-19

Yamagata-Lynch, A. (2014). Blending online asynchronous and synchronous learning. *International Review of Research in Open and Distance Learning*, 15(2), 189-212.

Yan, Z., & Sendall, P. (2016). First year experience: How we can better assist first-year international students in higher education. *Journal of International Students*, 6(1), 35-51.

Yomtov, D. Plunkett, S. W., Efrat, R., & Marin, A. G. (2017). Can peer mentors improve first-year experiences of university students? *Journal of College Student Retention: Research, Theory and Practice*, 19(1), 25-44. <https://www.doi.org/10.1177/1521025115611398>

Yorke, M., & Longden, B. (Eds.). (2004). *Retention and student success in higher education*.

Zanini, N. & Rodeiro, C.V. (2015). The role of the A* grade at A level as a predictor of university performance in the United Kingdom. *Oxford Review of Education*, 41(5), 647-670.

Zhao, C. M., & Kuh, G. D. (2004). Adding value: Learning communities and student engagement. *Research in higher education*, 45(2), 115-138

Zhang, Q. (2014). Assessing the effects of the instructor enthusiasm on classroom engagement, learning goal orientation, and academic self-efficacy. *Communication Teacher*, 28(1), 44-56.

Zhang, W., Wang, Y., Yang, L., & Wang, C. (2020). Suspending classes without stopping learning: China's education emergency management policy in the COVID-19 outbreak. *Journal of Risk and Financial Management*, 13(3), 55.

Zikmund, W. G., Babin, B., Carr, J., & Griffen, M. (2003). Basic data analysis: Descriptive statistics. *Health Economics Research Method*, 2.

Zimba, F. (2015). Manifestations of Namibian Boy's Underachievement in Education. *Forum on Public Policy Online*, 2015,

ANNEXURE 1

ADMISSION REQUIREMENTS

Department	Qualification	General Admission Requirements	Additional Requirements
Accounting, Economics and Finance	Bachelor of Accounting	√	Minimum of 25 points out of five subjects which includes: Mathematics or Accounting and English based on the University's admission point system, using a combination of NSSC ordinary level and/or NSSC Higher level subjects with at least a E-symbol at NSSC at ordinary level in English and at least a D symbol at NSSC Ordinary level in Mathematics or Accounting
	Bachelor of Accounting (Chartered Accountancy)	√	A minimum of 30 points out of 5 subjects which include Mathematics and English, based on the University's admission point system, using a combination of NSSC Ordinary Level and/or NSSC Higher Level subjects, with at least an E-symbol at NSSC ordinary level in English and at least a D symbol at NSSC Ordinary level in Mathematics
	Bachelor of Economics	√	In addition, students should have a minimum D symbol in Grade 12 NSSO Mathematics
Hospitality and Tourism	Bachelor of Hospitality Management	√	Students will be required to attend an interview as the final stage in the admission process
	Bachelor of Tourism Management	√	
Management	Bachelor of Business Management	√	Mathematics is a required subject
	Bachelor of Entrepreneurship	√	Mathematics at NSSC ordinary or higher level (IGCSE or HIGCSE) is recommended
	Bachelor of Human Resources Management	√	None

	Business and Information Administration	√	Candidates who qualify to be exempted from Business Applications 1 will undertake a proper pre-assessment which will test their practical knowledge in: a. Keyboard competence and accuracy b. Speed ability of 15wpm c. Basic knowledge of MSWord
Marketing and Logistics	Bachelor of Marketing	√	Mathematics is a recommended subject
	Bachelor of Transport	√	Candidates are required to have passed Mathematics with at least an E-Symbol at NSSC ordinary level or a 4 at NSSC Higher level
	Bachelor of Sport Management	√	Applicants who have successfully completed the entire bridging programme for Sports Management offered by NUST, through the CED, will also be eligible for admission into the degree.
	Bachelor of Logistics and Supply Chain Management	√	In addition, candidates are required to have passed Mathematics with at least an E-symbol at NSSC ordinary level or a 4 at NSSC higher level

Note: List excludes pre NQF qualifications and qualifications phasing out

ANNEXURE 2



Dear Student

My name is Indepentia de Walddt and I am a PhD student in Education at the University of the Witwatersrand, Johannesburg. As part of my studies, I have to undertake a research project, and I am investigating first-year full and part-time student dropouts in the Faculty of Management Sciences (FMS).

The main aim of the research is to understand internal and external factors resulting in the first-year full and part-time student dropouts in FMS. As part of this project, I would like to invite you to take part in answering this questionnaire. It is envisaged that the questionnaire will take around 20 minutes to complete.

There will be no personal costs to you if you participate in this project. You will not receive any direct benefits from participation but there are no disadvantages or penalties if you do not choose to participate or if you withdraw from the study. The information will be completely confidential and the information you provide will not be disclosed to anyone else. I will be using a pseudonym (false name) to represent your participation in my final research report. If you experience any distress or discomfort at any point in this process, you may stop or resume another time.

If you need some support or counselling services following the completion of this questionnaire, these are available free of charge at the Student Services Department. The name of the counsellor is Ms Alta McNally and the contact details for the counselling services are: tel no. +264 61 207 2543 or email: amcnally@nust.na or Ms Lizelle Miller, tel no. +264 61 207 2270 or email: lmiller@nust.na

This study has received ethical clearance from the University of Witwatersrand (H20/05/08) and Institutional permission from the Namibia University of Science and Technology (NUST). If you would like more information on the study or have any questions, please feel free to contact me at: 1889955@students.wits.ac.za

By clicking the NEXT button means that you voluntary agree to participate in this survey.



Section A: DEMOGRAPHIC INFORMATION

A1. Kindly indicate your age group.

- 18-24 years ☐
- 25-34 years ☐
- 35-44 years ☐
- 45 and above ☐

A2. Gender

- Female ☐
- Male ☐

A3. What is your marital status?

- Single, never married ☐
- Married or domestic partnership ☐
- Widowed ☐
- Divorced ☐
- Separated ☐



A4. Please indicate the region you are from.

- Erongo ☐
- Hardap ☐
- Karas ☐
- Kavango West ☐
- Kavango East ☐
- Kunene ☐
- Khomas ☐
- Ohangwena ☐
- Omaheke ☐
- Omusati ☐
- Oshana ☐
- Oshikoto ☐
- Otjozundjupa ☐
- Zambezi ☐
- Other ☐

Other

Section B: BACKGROUND INFORMATION

B1. Which type of high school did you graduate from?

- Public / GRN ☐
- Private ☐
- Home-schooled ☐
- Other ☐



B2.	What were most of your high school marks?	
		0-29% ☐
		30-39% ☐
		40-49% ☐
		50-59% ☐
		60-69% ☐
		70-79% ☐
		80-90% ☐
		90-100% ☐
B3.	Did you attend any other university and/or completed a course(s) or qualification prior to joining NUST?	
		Yes ☐
		No ☐
B4.	Did you register through the Mature Age Scheme?	
		Yes ☐
		No ☐
B5.	Are you one of the first children in your family studying at tertiary level (family means parents, siblings and close relatives)?	
		Yes ☐
		No ☐
B6.	If your answer to the previous question is no, please indicate who else attended university?	
	One of my parents attended university	☐
	Both my parents attended university	☐
	One or more of my brothers and sisters attended university	☐
	Other members of my family attended university	☐



B7. Where do you live while studying?

- With parents ☐
- University accommodation ☐
- Own accommodation ☐
- Sharing a flat/apartment ☐
- With family ☐
- Other ☐

B8. To what extent do you agree with the following statement: "My current living environment is conducive for learning"

- Strongly Agree ☐
- Agree ☐
- Neither agree nor disagree ☐
- Disagree ☐
- Strongly disagree ☐

B9. Who is paying for your studies?

- NSFAF ☐
- Parents ☐
- Other family members ☐
- Myself ☐
- Employer ☐
- Other ☐

B10. Why did you pursue university education?

- To fulfil the expectations placed on me by my family ☐
- My friends enrolled ☐
- I did not have any other option ☐
- University education improves my chances of getting a good job ☐
- University education contributes to the fulfilment of my potential ☐
- More for social than academic reasons ☐



Other

☐

Other

B11. Please provide the name of your Department.

Accounting, Economics and Finance

☐

Hospitality and Tourism

☐

Marketing and Logistics

☐

Management

☐

B12. Please provide the name of the qualification you are enrolled for.

Bachelor of Economics

☐

Diploma in Business Process Management

☐

Bachelor of Tourism, Innovation and Development

☐

Bachelor of Accounting

☐

Bachelor of Tourism Management

☐

Bachelor of Accounting (Chartered Accounting)

☐

Bachelor of Business Management

☐

Bachelor of Business and Information Administration

☐

Bachelor of Culinary Arts

☐

Bachelor of Entrepreneurship

☐

Bachelor of Human Resources Management

☐

Bachelor of Logistics and Supply Chain Management

☐

Bachelor of Office Management and Technology

☐

Bachelor of Marketing

☐

Bachelor of Sports Management

☐

Bachelor of Transport Management

☐



B13. How important is it for you to graduate?

- Very important ☐
- Somewhat important ☐
- Not important ☐

B14. What is the highest qualification you intent to acquire?

- Bachelor's degree ☐
- Honours Degree ☐
- Postgraduate Certificate/Diploma ☐
- Master's Degree ☐
- PhD ☐

B15. What were most of your results in the first semester?

- 0-49% ☐
- 50-59% ☐
- 60-69% ☐
- 70-74% ☐
- 75% and above ☐

B16. Please describe your current employment status.

- I am self-employed ☐
- I am a full-time student ☐
- I am employed ☐
- I am a part-time student ☐

Section C: USE OF EXISTING ACADEMIC AND SOCIAL SUPPORT SERVICES

C1. Have you made use of the academic support services available at NUST?

- Pre-COVID-19 ☐
- Never ☐
- During COVID-19 ☐

C2. If your answer to the previous question is yes, please indicate which of the academic support services you have made use of?

Other ☐

Early Alert Programme (Engagement with academic staff when you have obtained low marks, was absent from class for a long time, handed in missing, incomplete, or poorly completed homework assignments) ☐



Mathematics Tutoring Centre	☐
Writing Centre	☐
Peer Mentoring	☐
Academic Advising	☐
Student Academic Development Workshops (Study skills, student leadership and first Friday Leadership Workshops)	☐

C3. If you have not made use of any of the above academic support services, please provide the reasons.

Unaware that academic support systems exists ☐

I did not know where to go or to contact ☐

I am afraid to be stigmatized ☐

Did not need academic support ☐

Other ☐

Other

C4. Which of the following academic support services does your Department offer?

Individual Academic Consultations ☐

My Department does not offer academic support services ☐

Peer Tutoring ☐

Peer Mentoring ☐

Focus Group Consultations (Students doing the same module are assisted in small groups) ☐

Other ☐

Other

C5. Have you made use of the available social support services at NUST?

Pre-COVID-19 ☐

During COVID-19 ☐



Never ☐

C6. If your answer to the above question is yes, please indicate which of the following social support services you have made use of?

- Health Services ☐
- Social Welfare Services (Relationships, Date Rape and Sexual Harassment and Stress Management Workshops) ☐
- Career Guidance Services ☐
- HIV/AIDS Peer Counselling ☐
- Other ☐

C7. If you have not made use of the available social support services, please provide the reasons.

- Unaware that social support systems exists ☐
- Did not know where to go or who to contact ☐
- Did not need social support ☐
- I am afraid to be stigmatized ☐
- Other ☐

Other

Section D: ACADEMIC AND SOCIAL INTEGRATION

D1. To what extent do you agree with the following statement: "I adapted easily to university life"

- Strongly agree ☐
- Agree ☐
- Neither agree nor disagree ☐
- Disagree ☐
- Strongly Disagree ☐



D2. What are the major challenges, if any, you experience in terms of your studies?

D3. Did you enrol for your first choice of qualification?

Yes ☐

No ☐

D4. If your answer to the previous question is no, please provide the reasons.

Did not meet the entry requirements for the desired qualification ☐

Limited intake in qualification ☐

Enrolled for the qualification my parents decided on ☐

Other qualifications seemed too demanding ☐

Other ☐

Other

D5. Kindly indicate how easy or difficult the following has been for you.

	Very Easy	Easy	Neither easy nor difficult	Difficult	Very difficult
Making friends	☐	☐	☐	☐	☐
Managing my time	☐	☐	☐	☐	☐
Balancing home, work and university responsibilities	☐	☐	☐	☐	☐
Preparing for tests/assignments	☐	☐	☐	☐	☐
Interaction with lecturers	☐	☐	☐	☐	☐
Interaction with fellow students	☐	☐	☐	☐	☐
Moving from face-to-face to online learning	☐	☐	☐	☐	☐



	Very Easy	Easy	Neither easy nor difficult	Difficult	Very difficult
Getting to know the Learning Management System (MOODLE)	☐	☐	☐	☐	☐

D6. How do you engage with fellow students?

Working on and delivering of a class presentation(s)	☐
Working on joint projects which require integrating ideas	☐
Online tutorial groups	☐
Student clubs/societies	☐
Sport activities	☐
Synchronous sessions with students (such as MSTeams, Zoom etc)	☐
Other	☐

Other

D7. Kindly indicate whether you agree or disagree with the following statements.

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly disagree
I am fully aware of what my lecturers expect from me	☐	☐	☐	☐	☐
I prefer a blended learning approach (combination of online and face-to-face learning)	☐	☐	☐	☐	☐
I prefer face-to-face classes to online learning	☐	☐	☐	☐	☐
I actively contribute towards discussions during class	☐	☐	☐	☐	☐
The lecturing style of my lecturers are engaging and interesting	☐	☐	☐	☐	☐
I engage regularly with my lecturers outside of class	☐	☐	☐	☐	☐
I am proficient in English, understand my lecturers and have no problems in understanding and answering assignments and tests	☐	☐	☐	☐	☐
I find my studies stimulating and interesting	☐	☐	☐	☐	☐
I receive prompt written or oral feedback from academic staff on my academic performance	☐	☐	☐	☐	☐
I discuss my grades or assignments with my lecturers	☐	☐	☐	☐	☐



D8.	How many hours of the week do you engage with your lecturers outside of class?	
	0-2 times	☐
	2-4 times	☐
	4-6 times	☐
	6-8 times	☐
	More than 8 times	☐
	Never	☐

D9.	How do you engage with lecturers outside of class?	
	Face-to-face meetings	☐
	Use e-mail to communicate with lecturer(s)	☐
	Via whatsapp / text message	☐
	Telephonically	☐
	I do not engage with lecturers outside of class	☐
	Other	☐
	Other	

D10.	Did you attend the institution's orientation programme offered earlier in the year?	
	Yes	☐
	No	☐

D11.	If your answer to the previous question is yes, how did you experience the orientation?	
	Very good	☐
	Good	☐
	Average	☐
	Poor	☐
	Very poor	☐



D12. If your answer to the previous question is no, please provide reasons for not attending.

D13. Would you like your Department to offer a separate orientation session?

Yes ☐
No ☐

D14. If your answer to the previous question is yes, which activities would you like to have included.

D15. Would you like some type of orientation to be repeated later in the year?

Yes ☐
No ☐

D16. Do you belong to any student clubs or societies at NUST?

Yes ☐
No ☐

D17. Do you belong to a NUST sports club?

Yes ☐
No ☐

D18. If you do not belong to a student club/society/sport club, please provide the reasons.



D19. Have you ever considered dropping out?

Yes ☐
No ☐

D20. If your answer to the above question is yes, please provide the reason(s).

Work commitments ☐

Financial reasons ☐

Health reasons ☐

Family responsibilities ☐

Other ☐

Other

Section E: INSTITUTIONAL EXPERIENCES

E1. To what extent would you agree with the following statements.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
My interactions with administrative departments (Library, Finance, Student Services, Office of the Registrar, etc) have always been good	☐	☐	☐	☐	☐
I fully understand how the University works	☐	☐	☐	☐	☐
I receive timely communication from my lecturers on changes to dates for assignments, tests, etc.	☐	☐	☐	☐	☐
I would still have chosen NUST, if I had to choose again	☐	☐	☐	☐	☐
My queries are always promptly dealt with by lecturers in my Department	☐	☐	☐	☐	☐
I receive timely communication from the University on issues affecting students	☐	☐	☐	☐	☐

E2. Please rate your overall experiences at NUST.

Very good ☐
Very poor ☐
Poor ☐
Average ☐
Good ☐



E3. Would you be interested to participate further in the research study through a follow-up interview?

Yes ☐

No ☐

E4. If your answer to the above question is yes, please provide your contact details (Email address and Cellphone number).

Thank you for taking time to complete the survey. I value the information you have provided. If you wish to receive a summary of the research report, I will be happy to send it to you.

ANNEXURE 3



Dear Student

My name is Indepentia de Walddt and I am a PhD student in Education at the University of the Witwatersrand, Johannesburg. As part of my studies, I have to undertake a research project, and I am investigating first-year full and part-time student dropouts in the Faculty of Management Sciences (FMS).

The main aim of the research is to understand internal and external factors resulting in the first-year full and part-time student dropouts in FMS. As part of this project, I would like to invite you to take part in answering this survey envisaged to take around 20 minutes to complete.

There will be no personal costs to you if you participate in this project. You will not receive any direct benefits from participation but there are no disadvantages or penalties if you do not choose to participate or if you withdraw from the study. The information will be completely confidential and the information you provide will not be disclosed to anyone else. If you experience any distress or discomfort at any point in this process, you may stop or resume another time.

If you need some support or counselling services following the completion of this survey, these are available free of charge at the Student Services Department. The name of the counsellor is Ms Alta McNally and the contact details for the counselling services are: tel no. +264 61 207 2543 or email: amcnally@nust.na or Ms Lizelle Miller, tel no. +264 61 207 2270 or email: lmiller@nust.na

This study has received ethical clearance from the University of Witwatersrand (H20/05/08) and Institutional permission from the Namibia University of Science and Technology (NUST). If you would like more information on the study or have any questions, please feel free to contact me at: 085 749 8447 or 1889955@students.wits.ac.za

By clicking the NEXT button means that you voluntary agree to participate in this survey.



Section A: DEMOGRAPHIC INFORMATION

A1. Kindly indicate your age group

18-24 years ☐

25-34 years ☐

35-44 years ☐

45 and above ☐

A2. Gender

Female ☐

Male ☐

A3. What is your marital status?

Single, never married ☐

Married or domestic partnership ☐

Widowed ☐

Divorced ☐

Separated ☐



A4. Please indicate the region you are from

- Erongo ☐
- Omaheke ☐
- Omusati ☐
- Oshana ☐
- Oshikoto ☐
- Otjozundjupa ☐
- Zambezi ☐
- Hardap ☐
- Karas ☐
- Kavango West ☐
- Kavango East ☐
- Kunene ☐
- Khomas ☐
- Ohangwena ☐
- Other ☐

Other

Section B: BACKGROUND INFORMATION

B1. Which type of high school did you graduate from?

- Public/GRN ☐
- Private ☐
- Home-schooled ☐
- Other ☐



B2.	What were most of your high school marks?	0-29% ☐ 30-39% ☐ 40-49% ☐ 50-59% ☐ 60-69% ☐ 70-79% ☐ 80-89% ☐ 90-100% ☐
B3.	Did you attend any other university and/or completed a course(s) or qualification prior to joining NUST?	Yes ☐ No ☐
B4.	When you registered at NUST, did you register through the Mature Age Scheme?	Yes ☐ No ☐
B5.	Were you one of the first children in your family to study at tertiary level (family means parents, siblings and close relatives)?	Yes ☐ No ☐
B6.	If your answer to the previous question is no, please indicate who else attended university?	One of my parents attended university ☐ Other members of my family attended university ☐ One or more of my brothers and sisters attended university ☐ Both my parents attended university ☐



B7. Where did you live while studying?

- With parents ☐
- University accommodation ☐
- Own accommodation ☐
- Sharing a flat/apartment ☐
- With family ☐
- Other ☐

Other

B8. To what extent would you agree with the following statement: "My living environment while I studied was conducive for learning"

- Strongly agree ☐
- Agree ☐
- Neither agree nor disagree ☐
- Disagree ☐
- Strongly disagree ☐

B9. Who paid for your studies?

- NSFAF ☐
- Parents ☐
- Other family members ☐
- Myself ☐
- Employer ☐
- Other ☐

Other

B10. What were the main reason(s) you pursued university education?

- To fulfil the expectations placed on me by my family ☐



	My friends enrolled	☐
	I did not have any other option	☐
	I believed University education would improve my chances of getting a good job	☐
	I believed University education would contribute to the fulfilment of my potential	☐
	More for social than academic reasons	☐
	Other	☐
Other		

B11. Please provide the name of the Department you were enrolled in.

	Accounting, Economics and Finance	☐
	Hospitality and Tourism	☐
	Marketing and Logistics	☐
	Management	☐



B12. Please provide the name of the qualification you were enrolled for

- | | |
|---|--------------------------|
| Diploma in the Theory of Accounting | ☐ |
| Bachelor of Accounting (Chartered Accountancy) | ☐ |
| Diploma in Business Process Management | ☐ |
| Bachelor of Office Management and Technology | ☐ |
| Bachelor of Sports Management | ☐ |
| Bachelor of Tourism Management | ☐ |
| Bachelor of Tourism, Innovation and Development | ☐ |
| Bachelor of Transport Management | ☐ |
| Bachelor of Accounting | ☐ |
| Bachelor of Business Management | ☐ |
| Bachelor of Logistics and Supply Chain Management | ☐ |
| Bachelor of Business and Information Administration | ☐ |
| Bachelor of Culinary Arts | ☐ |
| Bachelor of Entrepreneurship | ☐ |
| Bachelor of Economics | ☐ |
| Bachelor of Hospitality Management | ☐ |
| Bachelor of Human Resources Management | ☐ |
| Bachelor of Marketing | ☐ |

B13. What were most of your results in the first semester?

- | | |
|---------------|--------------------------|
| 0-49% | ☐ |
| 50-59% | ☐ |
| 60-69% | ☐ |
| 70-74% | ☐ |
| 75% and above | ☐ |

B14. Please indicate your employment status whilst you were enrolled at NUST.

- | | |
|---------------------------|--------------------------|
| I was a full-time student | ☐ |
| I was a part-time student | ☐ |
| I was employed | ☐ |
| I was self-employed | ☐ |



Section C: USE OF EXISTING ACADEMIC AND SOCIAL SUPPORT SERVICES

C1. During your time at NUST, did you make use of the academic support services available?

Pre-COVID-19 ☐

During COVID-19 ☐

Never ☐

C2. If your answer to the previous question is yes, please indicate which of the following academic support services you made use of?

Early Alert Programme (Engagement with academic staff when you have obtained low marks, was absent from class for a long time, handed in missing, incomplete, or poorly completed homework assignments) ☐

Student Academic Development Workshops (Study skills, student leadership and first Friday Leadership Workshops) ☐

Academic Advising ☐

Peer Mentoring ☐

Writing Centre ☐

Mathematics Tutoring Centre ☐

Other ☐

Other

C3. If you have not made use of any of the above academic support services during your time at NUST, please provide the reasons.

Unaware that academic support systems exist ☐

Did not need academic support ☐

I was afraid of being stigmatized ☐

I did not know where to go or who to contact ☐

Other ☐

Other



C4. During your time at NUST, which of the following academic support services did your Department offer?

Individual Academic Consultations

☐

My Department did not offer academic support services

☐

Peer Tutoring

☐

Peer Mentoring

☐

Focus Group Consultations (Students doing the same module are assisted in small groups)

☐

Other

☐

Other

C5. During your time at NUST, did you make use of the available social support services?

Pre-COVID-19

☐

Never

☐

During COVID-19

☐

C6. If your answer to the above question is yes, please indicate which of the following social support services you made use of?

Health Services

☐

Social Welfare Services (Relationships, Date Rape and Sexual Harassment and Stress Management Workshops)

☐

Career Guidance Services

☐

HIV/AIDS Peer Counselling

☐

Other

☐

Other

C7. If you have not made use of the available social support services, please provide the reasons.

Unaware that social support systems exist

☐

Did not know where to go or who to contact

☐

I was afraid of being stigmatized

☐



Did not need social support ☐

Other ☐

Other

Section D: ACADEMIC AND SOCIAL INTEGRATION

**D1. To what extent would you agree with the following statement:
"During my time at NUST, I adapted easily to University life"**

Strongly agree ☐

Agree ☐

Neither agree nor disagree ☐

Disagree ☐

Strongly disagree ☐

**D2. During your time at NUST, what were your major challenges,if any,
in terms of your studies?**

D3. Were you enrolled for your first choice of qualification?

Yes ☐

No ☐

D4. If your answer to the previous question is no, please provide the reasons.

Did not meet the entry requirements for the desired qualification ☐

Other qualifications seemed to demanding ☐

Enrolled for the qualification my parents decided on ☐

Limited intake in qualification ☐



Other



Other

D5. During your time at NUST, kindly indicate how easy or difficult the following were for you.

	Very Easy	Easy	Neither easy nor difficult	Difficult	Very difficult
Moving from face-to-face to online learning	☐	☐	☐	☐	☐
Making friends	☐	☐	☐	☐	☐
Balancing home, work and university responsibilities	☐	☐	☐	☐	☐
Preparing for tests/assignments	☐	☐	☐	☐	☐
Interaction with lecturers	☐	☐	☐	☐	☐
Interaction with fellow students	☐	☐	☐	☐	☐
Managing my time	☐	☐	☐	☐	☐
Getting to know the Learning Management System (MOODLE)	☐	☐	☐	☐	☐

D6. During your time at NUST, how did you engage with your fellow students?

Worked on and delivered a class presentation(s) ☐

Worked on joint projects which required integrating ideas ☐

Online tutorial groups ☐

Student clubs/societies ☐

Sport activities ☐

Synchronous sessions with students (such as MSTeams, Zoom etc) ☐

Other ☐



Other



D7. Kindly indicate whether you agree or disagree with the following statements. During your time at NUST:

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I was fully aware of what my lecturers expected from me	☐	☐	☐	☐	☐
I am proficient in English, understood my lecturers and had no problems in understanding and answering assignments and tests	☐	☐	☐	☐	☐
I found my studies stimulating and interesting	☐	☐	☐	☐	☐
I received prompt written or oral feedback from lecturers on my academic performance	☐	☐	☐	☐	☐
I discussed my grades or assignments with my lecturers	☐	☐	☐	☐	☐
I engaged regularly with my lecturers outside of class	☐	☐	☐	☐	☐
The lecturing style of my lecturers were engaging and interesting	☐	☐	☐	☐	☐
I actively contributed towards discussions during class	☐	☐	☐	☐	☐
I preferred face-to-face classes to online learning	☐	☐	☐	☐	☐
I preferred a blended learning approach (combination of online and face-to-face learning)	☐	☐	☐	☐	☐

D8. How many hours of the week did you engage with your lecturers outside of class?

0-2 times	☐
2-4 times	☐
4-6 times	☐
6-8 times	☐
More than 8 times	☐
Never	☐

D9. How did you engage with your lecturers outside of class?

Via whatsapp/text message	☐
Used e-mail to communicate with my lecturers	☐
I did not engage with lecturers outside of class	☐
Telephonically	☐
Face-to-Face meetings	☐



Other

☐

Other

D10. Did you attend the institution's orientation programme offered earlier in the year?

Yes

☐

No

☐

D11. If your answer to the previous question is yes, how did you experience the orientation?

Very good

☐

Good

☐

Average

☐

Poor

☐

Very poor

☐

Other

☐

Other

D12. If your answer to the previous question is no, please provide reasons for not attending.

D13. In your opinion, do you think the Department you were enrolled in should offer a separate orientation session?

Yes

☐

No

☐



D14. If your answer to the previous question is yes, which activities do you think should be included?

D15. Do you think some type of orientation should be repeated later in the year?

Yes ☐

No ☐

D16. Did you belong to any student clubs or societies at NUST?

Yes ☐

No ☐

D17. Did you belong to a NUST sports club?

Yes ☐

No ☐

D18. If you did not belong to a student club/society/sport club, please provide the reason(s).

Section E: INSTITUTIONAL EXPERIENCES

E1. To what extent would you agree with the following statements. During my time at NUST:

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
My interactions with administrative departments (Library, Finance, Student Services, Office of the Registrar, etc) were always good	☐	☐	☐	☐	☐
I would still choose NUST, if I had to choose again	☐	☐	☐	☐	☐
I received timely communication from the University on issues affecting students	☐	☐	☐	☐	☐
My queries were always promptly dealt with by lecturers in my Department	☐	☐	☐	☐	☐



	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I received timely communication from my lecturers on changes to dates for assignments, tests, etc	☐	☐	☐	☐	☐
I fully understood how the University worked	☐	☐	☐	☐	☐

E2. Please provide the main reason(s) for not continuing with your studies.

E3. Do you plan to continue with your studies at NUST in the future?

Yes ☐

No ☐

Maybe ☐

Thank you for taking time to complete the survey. I value the information you have provided. If you wish to receive a summary of the research report, I will be happy to send it to you.

ANNEXURE 4



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

13 Jackson Kaujeua Street
Private Bag 13388
Windhoek
NAMIBIA

T: +264 61 207 2118
F: +264 61 207 9118
E: registrar@nust.na
W: www.nust.na

Office of the Registrar

01 October 2019

Ms Independia de Waldt
Email: idewaldt@nust.na
Windhoek
NAMIBIA

Dear Ms de Waldt

RE: CONSENT TO CONDUCT YOUR RESEARCH WITH THE NAMIBIA UNIVERSITY OF SCIENCE AND TECHNOLOGY STAFF AND STUDENTS

Your email dated 01 October 2019 bears reference.

Approval is hereby granted for you to conduct the research on "*An Investigation into First-Year Full and Part-Time Student Dropouts in the Faculty of Management Sciences at the Namibia University of Science and Technology*" in the Namibia University of Science and Technology. Any information gathered during the research is to be used for the purpose of the study only and must be treated as confidential. The results of the study should be shared with the University. Individual information of staff and students will not be made available, nor will biographical information of students be made available in such a way that individual students can be identified.

You are advised to contact the Dean of Management Sciences, Prof Harold Campbell, to compile a list of possible respondents to your data collection instrument.

I wish you all the best with your research.

Yours sincerely,

**Mr Maurice Garde
REGISTRAR**

CC:

Dean: FMS
Deputy Vice-Chancellor: Academic Affairs
Assistant Registrar: Academic





**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

Faculty of Management Sciences

Office of the Dean

13 Jackson Kaujeva Street
Private Bag 13388
Windhoek
NAMIBIA

T: +264 61 207 2220
F: +264 61 207 9220
E: fms@nust.na
W: www.nust.na

28 August 2019

TO WHOM IT MAY CONCERN

The Faculty of Management Sciences (FMS), hereby grants Ms Independia De Waldt, a PhD in Education candidate, at the University of Witwatersrand, South Africa, permission to conduct her research, themed: "An Investigation into First-Year Full and Part-Time Student Dropouts in the Faculty of Management Sciences at the Namibia University of Science and Technology".

The first-year dropout rate in the FMS is a serious concern that the Faculty needs to address if it wants to achieve the objectives set out in the Namibia University of Science and Technology's NSPS, strategic plan. Currently, the Faculty accounts for 45% of the University students' enrolment. This contributes to the high first-year overall dropout rate of the University.

This in-depth research should have the potential to contribute to:

- a. enhancing the first-year experience in the FMS,
- b. improving the overall retention rate of the Faculty,
- c. linking the existing fragmented support systems offered in the Faculty into a comprehensive and integrated First-Year Experience (FYE) framework, and
- d. impact educational practices within the Faculty.

For these reasons, the Faculty grants Ms De Waldt permission to conduct her research and ensure her of the Faculty's commitment to supporting her research endeavours.

For any additional information, please feel free to contact the Office of the Dean.

Yours faithfully

Prof Harold Campbell
Dean: Management Sciences
Namibia University of Science and Technology



ANNEXURE 6



Research Office

HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)
R14/49 De Waldt

CLEARANCE CERTIFICATE

PROTOCOL NUMBER: H20/05/08

PROJECT TITLE

An investigation into First-Year Full and Part-Time Student Dropouts in the Faculty of Management Sciences at the Namibia University of Science and Technology

INVESTIGATOR(S)

Mrs I De Waldt

SCHOOL/DEPARTMENT

Education/

DATE CONSIDERED

22 May 2020

DECISION OF THE COMMITTEE

Approved
Risk Level: Low

EXPIRY DATE

28 September 2023

DATE 29 September 2020

CHAIRPERSON


(Professor J Knight)

cc: Supervisor : Dr L Dison and Dr K Padayachee

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10004, 10th Floor, Senate House, University. Unreported changes to the application may invalidate the clearance given by the HREC (Non-Medical)

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to completion of a yearly progress report.**

Signature _____

Date _____/_____/_____

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES