A framework to support academically ‘at-risk’ students to enhance student success: A Faculty of Health Sciences case study.

Submitted in fulfilment of requirements of the PhD: Health Sciences in the Faculty of Health Sciences at the Durban University of Technology.

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ABSTRACT

Aim:

The aim of this study was to determine the efficacy of the Faculty of Health Sciences' referral and support system in relation to student preparedness, need and academic progress and to design a transferable framework to support students who are academically at-risk.

Methods:

Within the context of a case study, an embedded mixed methods research design was used. The qualitative strand consisted of recorded interviews with students who had been through the Faculty's referral system for academic support. Interviews were transcribed and coded into themes and sub-themes. Activity Theory was utilised as the theoretical framework. The quantitative strand focused on historical cohort data in relation to throughput, success and drop-out rates. The data represented two time periods under study: 2007-2009 (pre-intervention) and 2012-2014 (post/ongoing-intervention). The Mann Whitney U test was used to compare differences between the two student samples. A bivariate correlation analysis of the data was followed by a trend analysis; subsequently the slopes test was used to determine if there was a significant difference in the slopes for pre- and post/ongoing-intervention trend lines.

Results:

Various themes and sub-themes emerged indicating that students were underprepared for university-level study. Students expressed that they had difficulty in making the transition from high school to university. At school they learned to remember for replication, whereas the expectation at university was that they would learn for understanding and application. Managing the various time demands in relation to the volume and complexity of their course of study, together with their personal and family life, was a major obstacle. The students expressed that English as the language of learning was problematic when it was not their home-language.

The Faculty of Health Sciences referral system for student academic support was regarded with mixed feelings when they were first referred, however the students acknowledged that on reflection it was what they needed to assist them to overcome their academic difficulties. The participants in this study further articulated that the support they had received kept them from dropping out.

Analysis of the historical student cohort data revealed that the drop-out rate for the FHS is decreasing much quicker than before the support system intervention was implemented. This is significant in that it statistically supports the stated experiences of the participating students that being referred for academic support helped them to remain in their course of study.

Tensions were revealed in the FHS activity system, primarily in relation to what the students (*Subject*: academically at-risk) were not prepared for at university (*Object*: articulation gap and transition). Other tensions included those between the referred students and the AD personnel and methods (*Community* and *Tools*), as well as amongst the *Community* members in relation to roles and communication (*Division of Labour*).

Conclusions:

This research study elicited rich data from students indicating that the Faculty of Health Sciences referral support programme was effective in assisting students to make better academic progress. Students articulated that the programme had helped them to remain in the course of study instead of dropping out, and that many of their peers had been similarly assisting. The retention of students reported qualitatively was supported by quantitative data that showed a decrease in the drop-out rate over time that was not by chance.

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DECLARATION

I, Gillian Cruickshank, hereby declare that this thesis is wholly my own work, and that all the references to the best of my knowledge, are accurately reported. This work has not been submitted for a degree at any other university

_____ _____

Signature **Date**

DEDICATION

For my children.

Trevor Jonathan Cruickshank
Southport, England.
‘Third tree from the left.’

Tiffany May Cruickshank
Belfast, Northern Ireland.
‘But sure we will be grand.’

and my elder daughter
Hazel Elizabeth Cruickshank
10th May 1984 – 27th April 2013
London, England.
With me always.

AWARENESS…

Just as a flower which seems beautiful and has colour, but has no perfume, so are the fruitless words of the man who speaks them, but does them not.

Buddhist saying.

Zotan, Pasha, Zoof and Brandy

Spirit essence by my side

Protect, comfort, lead and guide,

Two to left, two to right

Walk with me by day, by night.

I thank you.

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CHAPTER 1
THE INTRODUCTION

1.1 CONTEXT OF THE STUDY

As the first member of my family to obtain post-school qualifications, the road has been fraught with obstacles, fears, delays, uncertainties, confusion and lack of belief. Arriving in South Africa from England in December 1965 at the age of eight with my parents, older brother and younger sister, I was thrust into a foreign world where the cultures, languages and perspectives were vastly different from what I had grown up with to that point. The schools I attended in Port Elizabeth taught traditional language subjects for the 1960's, being English and Afrikaans, the latter becoming something of a torturous experience as I tried to wrap my tongue around the unfamiliar sounds and learn the grammar and spelling that did not appear to me to be logical in structure. The learning environment was confusing and I found myself constantly perplexed, unsure, and even out of my depth about how to learn and 'give back' the knowledge in formal assessments.

Primary school eventually ended and then high school flew by, with me just keeping my head above water, constantly worrying and stressing about how to learn all the 'stuff' they wanted us to learn, and having panic attacks in major tests and the term-end exams; somehow, a matric pass materialised. As a blue-collar family, my parents were not in a financial position to pay university fees, which meant that after high school the working world beckoned so that I could support myself and contribute to the family budget.

After undertaking part-time studies as a mature-age adult, over time I found myself employed in higher education and working in the sphere of student academic support, initially in the institutional residences and then subsequently engaged across four of the six faculties at my institution. I recognised in many students the issues that I had previously faced: language difficulties; not really knowing how to learn or how to best present knowledge in formal assignments, tests and exams; and trying to perform through panic attacks during assessments. In seeing so

many students struggling to make sense of the educational environment and battling to navigate through the channels of 'learning' and successful assessment, I recognised the need for students to be given an opportunity to understand how to effectively use appropriate learning tools and techniques to make better progress. I struggled to cope with learning as I was not taught **how** to learn, and I did not want to be someone who complained about students but did nothing: I wanted to make a difference. My personal battle with education and learning was the motivation to provide students with a nurturing and collaborative learning environment. I envisaged a guidance and support system that would enable students to adapt and transcend learning boundaries and mystique for successful completion of their chosen qualification. The student academic support programme came into being through my vision to 'make a difference' in conjunction with the will of the Faculty of Health Sciences to 'make a difference'.

1.2 BACKGROUND TO ACADEMIC DEVELOPMENT PRACTICE IN THE FACULTY OF HEALTH SCIENCES

1.2.1 Institutional positioning of Academic Development

In February 2010 Academic Development at the Durban University of Technology (DUT) was decentralised from the Centre for Excellence in Learning and Teaching (CELT) to the faculties. One Academic Development Practitioner (ADP) was allocated per faculty, and I chose the Faculty of Health Sciences (FHS). At that time, the faculty had expressed concern about the apparent lack of student preparedness for higher education studies. This lack of preparedness, or articulation gap (Scott 2014; Lewin and Mawoyo 2014), exists regardless of race group and socio-economic status. Having a Master's degree in Higher Education majoring in student affairs and development, and with fourteen years' experience in the Student Services sector, I raised the issue of foregrounding student support in the faculty. As confirmed by Mr G.H. Bass (FHS: Deputy Dean 2008-2015; Acting Dean January 2010 to March 2011) in a discussion on 7th November 2017, the Faculty view was that good delivery of student support would be possible only if it was based directly in the faculty. Subsequently, programmes and mechanisms of support were designed and presented to Heads of Department for further consideration.

1.2.2 Development of student academic support in the Faculty of Health Sciences

In consultation across the faculty, the programmes and support interventions were explained in detail, so that all aspects could be interrogated and opened for questioning. Bass further articulated that with the success I had with the residence tutoring programme (2005-2008) when based in Student Governance & Development, the faculty was of the opinion that the support programmes I was proposing for managing students who were academically at-risk could be successful in the FHS. With the approval of academic Heads of Department and the Acting Dean, the support programmes were implemented in the second semester of 2010. In subsequent years, support was provided for the full academic year.

There are two elements to the support programme: the Surviving & Thriving (S&T) socio-academic support programme and the 'at-risk' referral system. Academic departments allocate one period a week in their first-year first semester timetable for students to participate as a class in S&T. Students are able to discuss their general concerns with the AD personnel and can obtain guidance on how to overcome difficulties in settling in at university and coping with the academic workload.

The second element, the at-risk referral system, focuses on working directly with students on a one-to-one basis for academic support. Students are referred by their department when the student is not making good progress and is having difficulty coping with the demands and challenges of higher education. The referral system is designed to support any FHS student, at any level, who faces difficulty in actualising their potential within the chosen course of study. Implementation of the student support programme across the faculty is effected in collaboration with the individual academic departments. The at-risk referral practice makes no distinction between students regarding race, socio-economic background, or any other demographic factors. Focus is placed on the student and the specific learning needs that require support for that particular student to make academic progress. The only criterion for a referral is that the student is

registered for the academic year of study, at any level within the relevant home programme.

Support is available to any registered student in the faculty, whether referred by his/her department, a faculty committee, or via self-referral. A student in the faculty is considered to be academically at-risk if he/she fails theory tests and assignments for one or more subjects for which the student is registered for that academic year. Other identifiers for individual referral for support include notable changes in normal behaviour over a period of time; persistent lack of participation in class; difficulties with written assignments in relation to academic writing and referencing; and anything else that indicates to the lecturer that the student is not managing and requires guidance and support. It is of significance that lecturers are better able to get to know the students in their classes due to the smaller class sizes when compared with other faculties in the institution.

Once referred, the student will attend for individual consultations with the Academic Development personnel. The initial consultation is to establish the problem areas causing difficulty and to design a customised plan of action for support. Each plan of action is specific to the learning needs of the referred student, so that problematic issues are dealt with directly and individually. Monthly feedback is given to the referring department on general progress of the student in terms of attendance and responsiveness to AD interventions. Confidentiality of the student is maintained by not revealing any personal information he/she may have shared during the consultations. Feedback reports could include that the student had been referred to Student Counselling, or any other relevant service sector within the institution, but would not go into any details of such onward referral.

At the first consultation the student is assessed with regard to his/her existing approach to learning. Once specific problem areas are identified an action plan is drawn up by the AD staff together with the student. The plan covers the type of support offered to the student over a period of time that is specific to the learning needs of that particular individual. Subsequent consultations implement the support plan. Whilst the support is offered to the student, it is not a one-way

mechanism of the AD personnel 'giving' to a passively receiving student. The student is asked to be an active participant in the support process: he/she is given tasks to do and methods to implement within the course of study to enable a change in behaviour and approach. This process also entails feedback by the student on what he/she has changed or implemented in the intervening time since the previous consultation, and how he/she is making progress in class and assessments. Topic areas utilised within individual action plans are shown in Table 1.

Table 1: Skills topics used with at-risk students within individual consultations.

Study	Writing	Tests	Life
Time Management	**Basic conventions**	**Planning ahead**	**Adapting to university**
Question analysis	**Form and function**	**Setting goals**	**Choosing friends**
Methods to suit learning styles	**Subject context**	**Effective use of past papers**	**Personal responsibility for learning**
Computer literacy	**Cautions about plagiarism**	**Test writing strategies**	**Listening and questioning skills**
Reading academic texts	**The 'golden thread'**	**Time budget**	**Stress management**
Note-taking techniques	**Paraphrasing**	**Assessing question priority**	**Coping skills**
Presentation skills	**Referencing**	**Skeleton plans for answers**	**Critical thinking skills**
Mnemonics and mind maps	**Research writing**	**Answer review**	**Work ethic**

Some topics are appropriate for referred students from any level of study, however some topics are more suitable for first year students (eg. adapting to university) whilst others are more relevant for senior students (eg. research writing). Action plans vary according to presenting student need and the level of study.

Students may also self-refer for support if they feel at any stage that they are having difficulties in making academic progress, which can occur prior to formal assessments and for varied reasons. In the early days of the AD referral system (2010/2011), it began to emerge during consultations that some students were

identifying for themselves that they were having difficulty bridging the gap between high school and university-level study. As reported to the ADP by students, the problematic areas they faced included: a lack of understanding of what type of learner they were; study skills limited to rote learning for memorisation only; not effectively managing the demands on their time; not understanding academic/scientific writing or referencing; and a lack of 'thinking' skills.

Frequently, students also encounter difficulties of a psycho-social nature; in such cases the student is referred to Student Counselling for professional therapy, whilst also attending academic support consultations for the problematic learning areas he/she is encountering. After tests, failing students are screened by the subject lecturer to ascertain if the difficulty is related to subject-content, in which case the lecturer will take appropriate steps to assist the student with understanding the subject. If the student has other difficulties, for example inappropriate learning techniques, or lack of time commitment to learning, etc. then the student is referred for AD support. Referrals are made through the at-risk system from the first failure occurrence, or at any time when the lecturer identifies the student as not making good academic progress.

Overall, the system provides students with individualised support so that new skills sets are inculcated. This is an important point, as the focus of the FHS AD unit is on the student and what they have learned, and can do, that they could not do before. Hendriksen *et al.* (2005) highlighted this as a crucial element in academic development practice: focusing on what the student has gained from the services, instead of focusing on what the unit will do.

1.2.3 Staffing of the Academic Development unit

The structure of the AD unit in the faculty, and operational collaboration with faculty departments, is a key factor in delivering efficient and effective support services to students. Currently there is one permanent post of Academic Development Practitioner (ADP), with four Academic Development Advisers (ADA) on contract. Maintaining the sustainability of the AD unit is problematic with only one permanent post and reliance on external funding (grants) for contract

positions. The negative impact of depending on grant funding that is not guaranteed year-on-year was also noted by Boughey (2007a): when jobs are lost then academic development units also lose expertise and activities are reduced.

Currently, one ADA is assigned to the Language Lab and one to provide support services for a faculty programme (+/- 400 students from first to fourth year) based at one of the Pietermaritzburg campuses. This means that the ADP and two ADA's are based in Durban to provide academic support services for the Faculty of Health Sciences (thirteen programmes with approximately 2400 students from first-year to Master's level). Each staff member is responsible for a cluster of programmes; the programme allocations are displayed in Table 2.

Table 2: Allocation of AD personnel across the Faculty of Health Sciences.

Designation	Academic Programmes/Service Area	AD Staff Physical Location
Academic Development Practitioner	• Child & Youth Care • Dental Technology • Emergency Medical Care & Rescue • Radiography • Postgraduate Nursing	Durban
Academic Development Adviser	• Biomedical Technology • Chiropractic • Clinical Technology • Dental Assisting	Durban
Academic Development Adviser	• Environmental Health • Homoeopathy • Medical Orthotics & Prosthetics • Somatology	Durban
Academic Development Adviser	Undergraduate Nursing	Pietermaritzburg
Academic Development Adviser: Language Specialist	Language Lab (services available to all students within the faculty).	Durban

Furthermore, the ADP and one ADA also have formal lecturing commitments on modules for a Health Sciences academic programme, Faculty General Education, which is currently housed within the AD ambit and managed by the ADP. The ADP has extensive commitments within the faculty in relation to committee membership and various activities in support of students, as well as being an active member of institutional committees for student support and success. Whilst the Postgraduate Nursing, Undergraduate Nursing, Dental Assisting and Medical Orthotics & Prosthetics programmes are not part of this study for reasons stated in section 1.8, they are serviced for student support in the same way as the other programmes. Support is also provided to postgraduate students at Master's and Doctoral level by the AD unit in relation to research writing and referencing.

1.3 PROBLEM STATEMENT

Faculty discussions elicited that many students were struggling to cope with the academic work and did not appear to have the necessary skills required at university to be independent and critical thinkers. It was of concern that students were displaying a weak ability to critically engage with theoretical content and then apply that knowledge to practice and problem-solving, with rote learning for memorisation the predominant way to 'study'. Students require a set of basic skills to be successful at university. These skills include, but are not limited to: active listening; effective note-taking; summarising; time management; study techniques; academic writing and referencing; critical thinking; and application of knowledge. Without these basic skills students may struggle to make sense of learning in the higher education environment, which emphasises engagement, independent learning, and application. This disjuncture between school and university learning is referred to as the articulation gap (Lewin and Mawoyo 2014; Scott 2014).

Through informal discussions with students it emerged that the basic skills required of a university student were not inculcated at the secondary level of their education. Within the referral practice of the AD unit of the FHS various issues have been observed as causing difficulties for students in making academic progress. These include: not understanding how to study; not knowing how to

plan and structure available time outside of lectures and practical sessions; not being able to make sense of the factual information in relation to application of knowledge in problem solving; not understanding how to analyse test/exam questions; lack of ability to summarise information; and a lack of academic writing skills. Insufficient or inappropriate learning skills affects student progress, which in turn has a negative impact on retention, dropout, throughput and success.

This study was prompted by the need to understand how student learning and success can be promoted and improved. Whilst this study focuses on the at-risk referral system of a particular faculty at the selected University of Technology, the problems it aims to address are common amongst most higher education institutions in South Africa. The inter-relationship of the variables is complex. There is therefore a need to advance the understanding of those complex relationships, student learning and progress. Considering the relationship variables together with the FHS referral system and the articulation gap will provide knowledge that can be utilised to design a framework for at-risk student support informed by student perspectives and experiences.

1.4 RESEARCH STUDY RATIONALE

Whilst the Faculty of Health Sciences implements a perceived successful system of academic development and support for its students, the actual impact of this is not known. Additionally, although the system is applied systematically an official framework for at-risk student identification and intervention does not exist. This framework can only be developed through an evidence base derived from engagement with the participants of the activity, and the relevant evidence that speaks to outcomes. In order to design an appropriate framework for academic support of at-risk students, the efficacy of the current Faculty of Health Sciences' at-risk referral system needed to be assessed. Such an assessment considered issues such as:

- The level of preparedness of students for the academic demands of higher education study.

- How the students' level of preparedness for higher education has enabled or obstructed their academic progress.
- Whether the referral and intervention approach of the FHS provided appropriate support for students to make good academic progress.
- How students viewed the faculty's referral and support system in relation to their need as students.

These issues were key elements to be taken into consideration in establishing the aim and objectives of this study.

1.5 AIM OF THE STUDY

The aim of this research is to study the impact of the Faculty of Health Sciences' referral and support system in relation to student preparedness, need, and academic progress, in order to design a transferable academic support framework for students.

1.6 OBJECTIVES OF THE STUDY

In order to achieve the aim of this study, the objectives are to:

Objective 1

To investigate the level of preparedness of students for higher education studies.

Objective 2

To investigate the relevance and impact of academic support on students in relation to their level of preparedness for higher education studies, success at university, as well as the student perspectives on the 'at risk' referral and support system.

Objective 3

To determine the trends in success, throughput and drop-out rates over the two selected time periods, pre-intervention (2007-2009) and ongoing intervention (2012-2014).

Objective 4

To design a framework for academic support that can be effective in assisting students to make academic progress and thereby improve pass and success rates.

The first two objectives are addressed through student interviews in the qualitative strand of this study. The third objective focuses on historical data from the DUT Management Information Systems (MIS) records in the quantitative aspect of this study. The fourth objective, the design of the transferable framework, will arise from the analysis and interpretation of the results emanating from the first three objectives. In the context of this study 'impact' in Objective 2 means whether at-risk students' perspectives and approaches were changed or unchanged, and whether/how their academically at-risk status was affected.

1.7 ASSUMPTIONS

The assumptions made in this study are:

- That the historical data made available by the DUT MIS department would be accurate and complete at the time that it is accessed.
- That students identified as eligible would agree to participate in the interview phase of this study.
- That consenting students would actively participate in the interviews and would respond in good faith to the questions.

1.8 DELIMITATIONS

The following delimitations were identified in this study:

- Two undergraduate programmes were not included in this study: Undergraduate Nursing and Medical Orthotics & Prosthetics were new programmes commencing in 2010 and 2012 respectively. No data would therefore be available for the pre-implementation period of 2007-2009.

- Postgraduate Nursing was excluded from the study as it is a specialised programme for nurses already qualified and practicing in the health care sector.

- As Dental Assisting is a one-year certificate programme, it was not appropriate to include it in this study.

1.9 SIGNIFICANCE OF THE STUDY

A transferable framework for student academic support has the potential to guide higher education practitioners in their attempts to provide programmes and interventions that bridge the articulation gap between high school and university level study. Concomitantly, the framework would assist institutions in their efforts to improve the pass, throughput and success rates of all undergraduate students.

CHAPTER 2
THE REVIEW OF LITERATURE

2.1 INTRODUCTION

Literature for this chapter was reviewed in the context of the topic area of education, student academic development, methodology, and the selected theoretical framework. The initial sections present a discussion on higher education and the relevance of academic development in retaining and supporting students to make better academic progress through to completion and graduation. Arguments are made and evidence presented in relation to the articulation gap, transitioning from secondary to higher education, and access with success. Further discussion revolves around the responsibility for learning, including students' motivation to learn and approaches to learning. Subsequent sections present the background to global and South African academic development, including student support programmes within the context of student academic development.

The methodology will be presented and discussed, including its relevance within education research. Approaches and methods are considered in the context of research designs in education studies and the linkage of traditional quantitative/qualitative approaches in relation to mixed methods research. Within an overview of mixed methods research, the philosophy of pragmatism is discussed together with the variations within a mixed methods design. The advantages and disadvantages of mixed methods research is also highlighted. Activity Theory (AT) as the theoretical framework for this study will then be presented. An overview outlines and discusses the theory's development from the initial Vygotskian concept of mediation and also explains the constituent elements of AT.

2.2 HIGHER EDUCATION

2.2.1 South African Education: Curriculum and Transformation

The post-apartheid higher education system in South Africa embarked on curriculum transformation in order to widen access to education for those who were previously disadvantaged (Smit 2012). The movement for a "system-wide transformation" (Ng'ethe, Subotzky and Afeti 2008: 117) to achieve greater enrolment in higher education was, however, not a simple process. As the Council on Higher Education (CHE) indicated, there were "major obstacles in the way of achieving these national targets as well as the broader goal of raising the overall level of 'educatedness' in the country" (Council on Higher Education 2013: 33). The enormity of this task was succinctly posited by Lewin and Mawoyo (2014: 10), in their statement that "factors influencing access and success at university are complex and multi-dimensional".

Student access with success is therefore driven by a national imperative to improve the quality and productivity of the higher education system (Lewin and Mawoyo 2014). In the South African context, the need to provide support to students for academic success once they have gained access to higher education was expressed by Coughlan (2006). Tinto (2014) further asserted that providing access without appropriate support structures does not assist underprepared students to be academically successful.

Disturbingly, low throughput and success rates have resulted in a low number of graduates in relation to the number of students entering higher education in the post-apartheid years (Council on Higher Education 2013). The throughput rates in South Africa therefore do not reflect the success that the country needs for social and economic growth, and indeed the data shows that "the South African higher education system is a low-participation, high attrition system" (Council on Higher Education 2014b: 7). Other South African entities have raised low success and high attrition rates in the higher education system (Higher Education South Africa Portfolio Committee 2011; Inyathelo: The South African Institute for Advancement 2014). De Kadt (2015) highlighted this issue as a serious challenge warranting

intense focus by all South African institutions of higher learning. It is worth noting at this point that within DUT the FHS has performed well in relation to success rates. For the years 2007-2009 and 2011-2013 the FHS was the leading faculty for success rates, with percentages in the high eighties (Table 3).

Table 3: Comparison of faculty success rates over selected time periods.

Success rates by servicing faculty for periods 2007-2009 and 2011-2013						
Servicing faculty	**2007**	**2008**	**2009**	**2011**	**2012**	**2013**
Accounting and Informatics	74%	75%	76%	79%	79%	81%
Applied Sciences	77%	80%	76%	77%	78%	81%
Arts and Design	85%	85%	84%	85%	84%	88%
Engineering and the Built Environment	74%	71%	71%	72%	72%	73%
Health Sciences	87%	89%	88%	88%	87%	89%
Management Sciences	77%	74%	74%	76%	79%	71%

Interestingly, increased access to higher education without a concomitant increase in completion rates is not limited to South Africa. Tinto (2012) defined a similar problem affecting the United States of America (USA) since access to the USA higher education system was improved from the 1980's. As Tinto (2012: 4) stated in the USA context, "while enrolments have more than doubled, overall completion rates have increased only slightly, if that". This parallels the South African experience as indicated by the CHE (2013: 40), in that "growth in enrolment has been accompanied by high failure and dropout rates, which undermines graduate output". In considering South African education, Fisher and Scott (2011: 12) highlighted education in South Africa as having "deep-seated failings throughout the school system".

2.2.2 The Articulation Gap

Educational system issues in schools are negatively affecting higher education student success; this has become known as the articulation gap (Lewin and Mawoyo 2014; Scott 2014). Leibowitz and Bozalek (2014) reported that whilst spending had increased on schooling in the post-apartheid years, outcomes had not concomitantly improved. As posited by a number of authors (Fisher and Scott

2011; Higher Education South Africa Portfolio Committee 2011; Smit 2012; Inyathelo: The South African Institute for Advancement 2014), the articulation gap causes difficulty for many students entering higher education.

It is not just on entry that gaps in basic skills and knowledge cause problems for new entrants. The difficulties continue through the years of study leading to problems with comprehension, thereby resulting in poor academic performance overall (McGhie 2014). The outcome is that a high number of students struggle to adapt to the academic environment when at university (Dhunpath, Nakabugo and Amin 2013; Essop, Nxesi and Mputhing 2013; Manee, Khoiee and Eghbal 2015). This may result in students dropping out or being academically excluded (Badat 2010; Jansen 2012; Council on Higher Education 2013), thereby leading to an “alarming under-performance of the South Africa higher education system" (Fisher and Scott 2011: 9). Cele and Menon (2006) expressed concern at underperformance in South Africa’s universities, whilst underperformance was emphasised by the CHE (2013: 44) when stating that “much of the poor performance in higher education can be attributed to the articulation gap between school and higher education”. Adjusting from secondary to higher education has been raised by numerous studies in South Africa and globally (Beder 1998; McInnis 2001; Lindblom-Ylänne 2004; Porter and Swing 2006; Hanover Research 2011; Young-Jones *et al*. 2013; Manee, Khoiee and Eghbal 2015).

2.2.3 Transitioning from secondary to higher education

Achieving a smooth transition from secondary education to the rigours of higher education is important on a number of levels, both in the micro and macro contexts. Firstly, it is important for the individual student in terms of his/her academic performance and progress. As reported by McGhie (2014), one of the factors negatively affecting student transition from high school to university is that the challenge of transition is often too great, resulting in failing or dropping out of their studies. Secondly, the importance of new student transitioning has both an immediate and long-term impact for each institution of higher learning in terms of retention versus drop-out, thus affecting graduation rates and funding (Council on Higher Education 2015). Thirdly, the importance of successful student transition

into higher education is important for the overall objectives of post-apartheid curriculum reform in South Africa, viz. access with success to completion and graduation (Council on Higher Education 2013). South African studies that considered the transition phase from secondary to higher education include those of Ogude, Kilfoil and du Plessis (2012), and McGhie (2014).

Cross and Carpentier's (2009) study at the University of the Witwatersrand identified three main areas of difficulty reported by students who were struggling to cope: the amount of coursework; the pace and intensity at which the course progressed; and being independent learners. Transition programmes at first-year level are important for providing an environment that is conducive to constructive adaptation from school to university (Fowler and Boylan 2010). The authors argue that such programmes should not be limited to the orientation phase; they should be ongoing throughout the first year to play a critical role in a student-centred approach towards adaptation to the higher education environment. Ongoing programmes of support were also highlighted by Penn-Edwards and Donnison (2011), as the orientation phase tends to focus on providing institutional and structural rules and information rather than knowledge and skills for learning. Bridging the articulation gap and making the transition from secondary to higher education is an issue with which other countries are also grappling.

In a global context the difficulty of making a successful transition from high school to higher education has been problematic for Australian education, as proffered by Peat, Dalziel and Grant (2001) and Pitkethly and Prosser (2001). Both studies focused on first-year students, as this is where the immediate impact of the high school/higher education articulation gap manifests. A further Australian study declared that "within Australia, student attrition remains a significant issue" (O'Shea *et al.* 2015). The adjustment of first-year students in Iran to academic life at university was the focus of Manee, Khoiee and Eghbal's (2015) study. Similarly, Porter and Swing (2006) and Young-Jones *et al*. (2013) considered the impact of the transition phase on American students. Rivers (2005) included the transitional aspect in her report on outcomes of undergraduate study in New Zealand. All the above studies proposed supportive interventions to assist students to successfully

navigate the transitional phase, with the intention of promoting student retention and obviating attrition for ‘access with success’.

2.2.4 Higher Education: Access with success

Within the context of bridging the articulation gap for an efficacious transition from secondary to higher education, is the retention and success of students. Student success at university is regarded as consistent academic progress through to graduation. Access without success is evidenced by high drop-out and failure rates. The CHE (2014b: 9) has stated that “South Africa, too, must make students and student success the focal point of higher education”. As emphasised in the DUT Strategic Plan 2015-2019 (Durban University of Technology 2014), Strategic Focus Area 1 includes the provision of enabling environments for student success. As echoed by Grayson (2014: 3), “promoting student success is not about being ‘touchy-feely’ – it is a serious academic activity”. Tinto (2014) affirmed this further in positing that an institution is obliged to provide the best possible support systems for students to attain academic success after gaining access to higher education. McKenna (2010) acknowledges that students entering a university environment are underprepared, and that from the outset mechanisms of support are essential in enabling new students to gain epistemological access to the new ways of meaning and learning.

Retention and success has become a focal point also emphasised over time (Shelton 2003; Jeffreys 2007; Badat 2010; McEnroe-Petitte 2011; O’Shea *et al*. 2015). Global concern regarding retention and success was raised by Crosling, Heagney and Thomas (2009) and Vanthournout *et al.* (2012), in the context of broader participation in higher education. Pulliam and Sasso (2016) articulated the point of institutional strategies and capacity for transition and retention. An English university has implemented institution-wide changes in terms of a realignment of teaching strategies for supporting and improving student success (Hamlyn *et al.* 2017).

In the South African context, Fisher and Scott (2011) and the CHE (2013) expressed that although broader access to higher education was being achieved,

this was not necessarily leading to retention and success. Whilst institutions of higher learning are grappling with retaining students and supporting them to be successful (Dobele *et al.* 2013), a point of interest is that of responsibility for student success. McGhie (2014: 110) advanced the argument that the student needs to have the "will to learn…to assume responsibility for his or her learning". Retention and success can therefore be viewed as a concomitantly shared responsibility between higher education institutions and the students enrolled within them.

2.3 RESPONSIBILITY FOR LEARNING

2.3.1 The role of the student

Student responsibility for learning and completion can be deemed as the epicentre of student-centredness within a transformative curriculum. The CHE (2013) has made the case for transformation of the curriculum in South African higher education, as well as for improving quality through the Quality Enhancement Project (Council on Higher Education 2015). Placing students at the centre of learning, as espoused in the above two reports, does not absolve students of responsibility for their own progress. Crosling, Heagney and Thomas (2009) stated that the thrust of student-centredness is that students need to play an active role in the learning process. Furthermore, as highlighted by Field and Duffy (2014) universities *expect* students to be responsible for their learning. Tinto (2012) emphasised that students need to be fully engaged and responsible within the classroom environment and for their subsequent learning experiences. In student centred learning the student needs to be actively involved and committed to engaging in deep learning and understanding, concomitantly taking responsibility for the learning process through increasing learning autonomy and interdependence with the facilitator (O'Neill and McMahon 2005).

The South African study by Cross and Carpentier (2009) noted that lecturers reported a lack of student involvement in the learning process. More particularly, the specific issues of absenteeism and the lack of time allocated for their studies was raised as problematic and hindering student academic progress and success. In linking student independence and academic success, Field and Duffy (2014)

stated strongly that the effort a student puts into his/her learning cannot be controlled by staff. The authors further expressed that such control vests with the student as an independent and critical learner, however staff do have responsibility for providing an environment that promotes and supports active learning.

Student awareness of actively engaged learning, as opposed to passive learning, is posited by White and Schulenberg (2012). Such joint institution-student responsibility for engagement, retention, progress and success is well articulated by Tinto (2014: 6):

> I have long held the view that when we admit students to our universities we sign, in effect, a contract with our students that obligates both us and them to a series of actions. For their part, it is a contract that obligates them to take advantage of the opportunity that so many of their peers do not have; to take their studies seriously and exert the effort needed to complete their programmes of study. For our part, we take on an obligation that calls for us to translate, as best we can, through our actions the promise access provides into a meaningful opportunity to complete (sic) our students to successfully complete their studies.

Within the context of this joint institution-student responsibility for education is the student's motivation and approach to learning. The motivation and approach that a student has towards learning is important for retention and success through to graduation.

2.3.2 Motivation to learn

Motivation to learn is an important factor in the success of students, however more focus is often placed on institutional elements such as curriculum renewal and staff development (Usher 2012). As the author further explains, whilst an institution may have appropriate structures, staffing and facilities, it would be difficult for students to achieve success if they are not motivated. In the realm of student centredness and engagement, motivation is a key element of learning and academic progress (Saeed and Zyngier 2012). These authors further explain that motivation requires effort and focus by the student in the learning activities.

Ramirez *et al*. (2016) indicated in their study that student motivation was particularly significant in relation to recognition and achievement in being successful and completing degree studies. In his discussion on motivation in the educational context, Kroth (2007) submits the value of well-known theories on motivation, for example those of Maslow, Herzberg, McGregor and Vroom.

Within all postulated theories on motivation there are two constant elements: intrinsic and extrinsic motivation. Intrinsic motivation arises from within the individual, because s/he wishes to achieve something, enjoys the effort involved and acknowledges the value of doing so; extrinsic motivation is provided through rewards that may be symbolic or tangible (Leal, Miranda and Carmo 2012; Ryan *et al.* 2009; Usher 2012). A valuable point made by Saeed and Zyngier (2012: 254) is that motivation "is not exclusively intrinsic and extrinsic in orientation".

Various elements constitute a student's motivation, and the work of Williams and Williams (2011) posited five: student, teacher, content, method and environment. Whilst their study included intrinsic and extrinsic motivation as part of the student element, the role of the other elements in motivation are also of great importance. How the teacher teaches, how the content is set up and the methods of delivery, together with the nature of the learning environment, are also vital components that can impact on student motivation either positively or negatively. Goenner, Harris and Pauls (2013: 43) acknowledged that motivation is difficult to measure and "reflects a student's desire to commit to academic goals". Having academic goals influences the motivation of a student to achieve and maintain a good academic performance, which can furthermore assist the student to achieve epistemological integration within the academic community of study (Goenner, Harris and Pauls (2013).

2.3.3 Approach to learning

How a student approaches learning is important for academic progress and success, and is linked to better retention and less likelihood of dropping out (Howey 2016). If the approach to learning is at a surface level then information is retained but not fully understood, whereas learning through deep-level

engagement will result in retention of information with greater understanding (Crosling, Heagney and Thomas 2009). Students successfully grappling with concepts and principles through deep-level learning are more likely to develop an understanding of the subject area and be successful in their studies. In their study on how students achieve understanding, Fyrenius, Wirell and Silén (2007) discuss two categories of learning approaches: sifting and building. Whilst *sifting* is receiving and condensing information, *building* was broken down into two sub-categories: structuring/reorganising (*holding*), and continuous change in perspectives (*moving*). *Sifting* is related to passive receiving of information and surface level learning, whereas *building* can be related to deep-level learning approaches which are of vital importance when undertaking higher education qualifications. Inculcating beneficial learning approaches can be achieved through providing a constructive learning environment, whether formal or informal.

Mäkinen, Olkinuora and Lonka (2004) made an important point regarding the learning environment, in that an inappropriate study environment could alienate a student and therefore the approach to study could be inadequate. The study environment could refer to either the personal living/study space, or the institutional space and what it offers. Poor quality living conditions do not bode well for consistent and engaged learning and could lead to lowered motivation and effort. Institutional spaces, whether the formal classroom or support services or the general campus environment, should promote and inculcate constructive engagement and independent thinking for optimal academic progress. As further indicated by Lee (2017), the positioning and format of any formal institutional learning spaces will have an impact on student learning whilst on campus. Learning spaces, whether formal or informal, need to meet the needs of students in supporting critical thinking and academic engagement for enhanced learning and progress. Suitable and easily accessible learning environments can therefore assist students in better understanding and strengthening their personal motivation for their academic endeavours.

When students do not have high levels of motivation; when their learning approach is weak; and when the articulation gap from high school to higher education is wide, then early interventions are vital for retention and success (Howey 2016).

How these interventions are offered and where they are located may differ from one institution to the next. In many institutions there is a centrally located support unit; some institutions utilise faculty-based support units; others may utilise a combination of central and faculty-based academic development and support (Gosling 2009). Wherever it is located and whatever format it takes, student academic support has a critical role to play in concerted efforts to bridge the articulation gap and assist students to be successful.

2.4 ACADEMIC DEVELOPMENT

2.4.1 The context

In the global context academic development first became an area of practice in some first-world countries, viz. the United Kingdom, the United States of America and Australia, during the 1960's (Clegg 2009). Academic development in South Africa emerged during the apartheid years, primarily during the 1980's. As outlined by Volbrecht (2003: 110), it was a "liberatory educational and social movement". The practice of academic development evolved through various phases over a period of time, as indicated by Boughey (2007b). The first phase of academic support was primarily designed to support black African students entering traditionally white universities. Academic development, as the second phase, moved towards the development and support of academic staff and institutional pedagogy. The third phase of institutional development has shifted the focus further to institutional policy and globalisation (Boughey 2007b). Through these three phases the term 'academic development' has evolved in the educational landscape, such that it holds different meanings depending on the area of practice and interpretation by a particular institution or teaching and learning unit (Leibowitz 2014; Linder and Felten 2015).

Within the South African field of academic development two clear groupings have emerged: those academic development ambits that consider their focus to be student academic development and support, and those that consider academic staff development and/or institutional development to be of primary importance (Harland and Staniforth 2008; Boughey 2010; Lewin and Mawoyo 2014). A survey of Directors of Academic Development departments investigated how academic development departments were structured (Gosling 2009). It emerged that in

South Africa the structure of academic development units, their staffing complement and primary focus and activities are diverse. At most universities, the provision of academic development and support traditionally resides either within a student counselling or teaching and learning centre. At the selected University of Technology, the Centre for Excellence in Learning & Teaching (CELT) holds the institutional mandate for academic development, focusing on staff support and curriculum development.

2.4.2 Academic development practitioners

Taking into account the diversity of functions within academic development the personnel, or practitioners, need to fit into a variety of roles. As identified by Kensington-Miller, Brailsford and Gossman (2011) this raises the issue of the 'fit' of academic developers in relation to the mandate of that particular unit. The authors further expressed that academic developers with experience of a specific discipline whilst being a problem-solver in a practical context, is a key feature in a multi-faceted educational environment. Varying backgrounds amongst members in the AD group enables the unit to operate at a deeper level through utilisation of the individual strengths of the personnel.

One of the roles that may be played by AD personnel is supporting students in making the transition to higher education and gaining the skills required to manage the content of their course of study (Zengele 2006). The work of Shah and Whannell (2016) goes further to state that academic student support requires specialist AD practitioner skills. A focus on "strategic change management" was highlighted by Clegg (2009: 408), which would require practitioners to have different skills sets from direct student support. It was argued by Kensington-Miller, Brailsford and Gossman (2011) that AD practitioners may need to work with students, with staff, or in implementing institutional strategy, and that each of these functional areas requires a different set of skills.

2.4.3 The perception of 'deficit'

As reiterated by Boughey (2007a, 2007b) academic development (AD) in South Africa moved through three phases, from the apartheid-era approach of supporting black students; through staff development and support in the 1990's; to the present institutional/curriculum role. This indicates that the evolution of academic development practices in South Africa involved successive movements away from directly supporting the struggling student, to working with staff and designing institutional curricula and policies. Supporting students directly became known as the 'deficit model', on the premise that Black African students lacked certain skills for success in higher education and they therefore needed to be 'fixed' (Boughey 2007a, 2007b; Ogude, Kilfoil and du Plessis 2012; Naude and Bezuidenhout 2014; O'Shea *et al.* 2015). Smit (2012: 373) specifically indicates that "in labelling students as disadvantaged, lecturers are absolved from blame or responsibility when considering teaching and learning interactions".

An opposing view to 'deficit' is that of 'needs'. Roberts, Dunworth and Boldy (2017) asserted that in light of the increasing diversity of students entering higher education which for many will be an unfamiliar environment, students will exhibit a variety of needs that require support for academic progress to be made. Fowler and Boylan (2010) outlined the nature of some of the needs requiring suitably designed support programmes. These included strategies for studying; managing time; academic reading; personal goal setting; and taking notes. Although the study took place in the United States of America the essence is transferable to higher education globally, and resonates particularly with the FHS AD support programmes which cover the same student 'needs'. It is to be further noted that the practice of student academic skills support is one of the focus areas within the Quality Enhancement Project of the CHE (2014a: 7) in relation to "life and academic skills development, counselling, student performance monitoring and referral". The CHE perspective is significant, in light of the current difficulties faced by higher education in South Africa relating to retention and success. I would therefore argue that student academic support should be foregrounded, as highlighted by the CHE (2014a), as a critical need in the changing educational landscape of South Africa.

2.4.4 Theories of student development

2.4.4.1 Historical origins and evolution

Initial student affairs theories arose during the 17th century in the United States of America (Gillett-Karam 2016), changing over time to specific guiding principles developed in the 1930's (Jones and Stewart 2016). In their paper on student development theory, Jones and Stewart (2016) described student development as having a first, second and third 'wave'. The first wave categories included psychosocial; cognitive structural; person-environment; typology and maturity. Some examples of these theorists included Baxter Magolda, Chickering, Erikson, Heath, Holland, Kohlberg, Piaget and Sanford. Whilst psychosocial theories focused on development over life stages, cognitive structural theories emphasised perception and meaning making (Gillett-Karam 2016), which through active participation leads to epistemological access (Broido and Schreiber 2016).

The relationship between the individual and the environment was the focus of person-environment theories (Gillett-Karam 2016; Jones and Stewart 2016). Theories of identity development, whether personal or socio-cultural, have been criticised as having 'Western' values (Broido and Schreiber 2016). Conversely, as argued by Gillett-Karam (2016: 16), identity theories are still relevant in modern times as a perspective that "…continues to emphasize student identity as a basis for human agency". Labelling individuals is the crux of typology theories through specifically considering an individual's characteristics in relation to personality and learning styles (Gillett-Karam 2016).

When describing the perspective of the first wave, Jones and Stewart (2016: 19) stated that the theorists were mostly "…White men from privileged socio-economic backgrounds" and the presumption was that all students developed in the same way. As student populations in higher education became more diverse, theorists moved towards a different way of thinking. Through the 1970's and 1980's it was recognised that students were unique and each had their own experience and identity, which engendered new perspectives and theories (Jones and Stewart 2016). As they expressed, second wave researchers reconsidered and further developed theories that encapsulated various aspects of development, including

student identities and experiences for a holistic perspective on student development. Student development continued to evolve and in the third wave moved even further away from the hegemonic patterns of the first wave, through acknowledging the need for identity articulation: that identity is not necessarily fixed and stable and may change in relation to location and community over time (Jones and Stewart 2016). Hegemonic changes were also raised by Gillett-Karam (2016), in relation to the way that students 'know' things. Knowledge is gained within the context of a culture and community, and does not necessarily align with what may be expected by an institution of higher learning.

In presenting student development theories and perspectives, both Gillett-Karam (2016) and Jones and Stewart (2016) discuss the relevance of critical theory, which challenges social and cultural norms and perspectives as they have been historically accepted in hegemonic contexts. Disrupting the hegemonic perspective is particularly important in relation to the diversity of higher education, with more 'non-traditional' students entering universities (Gillett-Karam 2016). As advanced by Jones and Stewart (2016: 17), it is important to have a critical lens through which to formulate theories for "radical social change". In the South African context it can be argued that such a change is essential in the post-apartheid era, particularly within the context of access to higher education and concomitant support for students to be successful (Coughlan 2006; Ng'ethe,Subotzkly and Afeti 2008; Smit 2012; Lewin and Mawyo 2014; Tinto 2014).

2.4.4.2 Theories of Student Involvement, Self-Determination and Student Retention

In order to be successful in a programme of study there is a need for a student at university to be involved, to be independent, and to remain until completion leading to graduation. Within the context of providing academic support programmes, three particular theories exemplify these key issues for student success: student involvement; self-determination; and student retention.

2.4.4.2a Student involvement

Student involvement theory refers to how much time and effort a student invests in their academic endeavours (Astin 1999). High involvement encompasses attendance at lectures, active participation and interaction, together with a commitment to personal study. Low levels of involvement, however, are evidenced by absenteeism from class, little to no participation and involvement, and neglect of personal studies. Particularly important in engendering constructive and participatory student involvement is the quality of the educational programme. The theory further proposes that an academic programme should be designed for active participation and interaction, with attention being centred on the student (Astin 1999). Other key elements of this theory are student motivation and the approach to learning. As discussed in sections 2.3.2 and 2.3.3, having the motivation to learn together with a suitable and constructive approach to learning is critical for retention and success (Crosling, Heagney and Thomas 2009; Williams and Williams 2011; Usher 2012; Saeed and Zyngier 2012; Goenner, Harris and Pauls 2013; Howey 2016).

Achieving academic goals is directly related to how the student utilises a vital resource: time. Astin (1999) explains that the time resource is complex, as students have to juggle various aspects of their lives. These aspects can include family, social, community, sports, commuting and work commitments. The student therefore has to recognise what to foreground and how to prioritise the time available whilst engaged in a programme of study. Where time is not utilised advantageously through appropriate prioritising, a student may struggle to cope and with a deteriorating academic performance over time this could lead to dropping out.

2.4.4.2b Self-determination

The theory of self-determination considers how and why people behave in certain ways; a major component of the theory is intrinsic and extrinsic motivation (Ryan *et al.* 2009; Leal, Miranda and Carmo 2012; Field and Duffy 2014). As indicated in section 2.3.2 above, intrinsic motivation appertains to achievement and value for the individual, whilst extrinsic motivation is associated with rewards. It can be further posited that extrinsic motivation also correlates with the avoidance of

punishment (Ryan *et al.* 2009). Leal, Miranda and Carmo (2012: 164) correlated intrinsic motivation with the "why" and extrinsic motivation with the "what for" in the context of factors that drive an individual. What may intrinsically motivate one individual may not necessarily be a driving factor for another individual (Ryan *et al*. 2009). The authors further elaborated that the 'when' of motivation is also individualistic and linked with environmental factors prevailing at a particular time. Something that may motivate a student today may not be a deciding factor in motivation in the future, depending on the context of the respective situations.

Two other aspects raised in relation to motivation are demotivation (Leal, Miranda and Carmo 2012) and amotivation (Ryan *et al*. 2009). Whilst the semantics vary, it appears that both describe the same phenomenon: a conscious decision not to engage in specific behaviours or activities. Reasons for this can range from the individual not seeing any benefit in the behaviours or actions (Leal, Miranda and Carmo 2012), to perhaps not feeling competent and having no control in that situational context (Ryan *et al.* 2009; Field and Duffy 2014). I would argue that the two are inextricably linked: if a student does not relate to being competent in a particular aspect of the course of study, then this may manifest as not seeing benefits to putting in the time and effort that is required to be successful.

The learning environment which surrounds the student also plays a part in his/her perception of competence, as indicated by Ryan *et al*. (2009). Where the environment is supportive with regular and constructive feedback, then the student perception of competence, and thus motivation, can be enhanced. Conversely, an unsupportive environment with little feedback or feedback that is critical in a negative context may lower the student's perception of competence and concomitantly impact on motivation with the student becoming discouraged. This may result in the student disengaging from the learning process.

2.4.4.2c Student retention

In presenting student retention theory, various aspects were proffered by Tinto (2010) regarding the relationship of retention to student success. The key areas of the theory included: expectations of the environment; knowing what to do to

succeed; expectations for effort; academic support; self-efficacy; social and financial support; assessment and feedback; and involvement.

A higher education environment is vastly different from that of a secondary school, and students will have varying knowledge of what to expect. The expectations will be configured by existing family and community knowledge. Where the student is a first-generation learner or from a low socio-economic background, the family and community may not have knowledge of a university environment and what being a student entails. With the university environment being unknown or unclear, a student may find it difficult to know what to do for academic success. Without a clear understanding of the environment (class, course, institutional) the student may find difficulty in making the transition and being academically successful. Students are influenced formally through access to information (coursework materials; rules and regulations) and interactions with faculty and support staff, as well as informally through their interactions with peers. Where information is clear and unambiguous; interactions with faculty and support staff are moderated through inclusive objectivity; and positive dynamics exist with peers, then transition and retention are constructively supported.

Student retention and success is further influenced by expectations regarding effort: where the institution has high expectations of student effort conditions exist for student success. Conversely, where an institution has low expectations of student effort then the conditions are set for student failure. With regard to the first-year in particular, Tinto (2010) highlighted that most often student effort was not at the level required for success at university. A critical factor for student retention and success is academic support. Acknowledging that many students are underprepared for the rigours of university study and also that even well-prepared students may face difficulty in making the transition from school, Tinto (2010: 61) makes the asseveration that academic support is “critical to their ability to succeed”. Such support programmes, particularly in the first semester of the year, assist students to obtain skills required to meet the demands of university-level study and further promote self-efficacy and a reduction of stress. Vanthournout *et al*. 2012 and Shah and Whannell (2016) also raised the issue of implementation of courses or support programmes that ‘enable’ students to attain

academic skills. Their perspective was that enabling programmes are a critical aspect when taking into account the diversity of modern student populations.

Other focus areas within Tinto's retention theory are social and financial support; assessment and feedback; and involvement. For retention to be achieved, it is important that students maintain existing relationships within their community whilst establishing new relationships on campus and at their place of residence if they have left home to attend university. These adjustments from a familiar to an unfamiliar social environment place strain on the student whilst concomitantly adjusting to a new academic milieu. Student retention is also affected by financial issues, such that individuals from lower socio-economic backgrounds often have to rely on grants, bursaries and other forms of funding from outside the family. Without appropriate funding on a consistent basis through the course of study, a student may have no alternative but to drop-out of the university (Cele and Menon 2006).

Feedback on assessment is another important aspect of retention. Where feedback is provided frequently and clearly, the gaps and errors are explicated to the student for behavioural changes to occur in relation to learning techniques and time investment. The reverse is also true: students giving feedback on the learning and assessment processes to their lecturers. This two-way feedback is particularly valuable in the first year, as students make adjustments to the new learning environment and regularly re-assess what is expected of them in learning and assessment.

In alignment with Astin (1999), Tinto (2010) raises involvement (or engagement) as crucial for student retention. When a student actively engages with the coursework, with faculty, and with the academic and social environment on campus, he/she is more likely to adapt and adjust to meet the expectations of the institution irrespective of their socio-economic background. Supportive mechanisms are vital to enable students to become involved and engaged (Tinto n.d.), whether this is through structured tutorials, student clubs and societies, or academic support programmes.

2.4.4.3 Student development theory and the 'third wave'

Whilst the theories on student involvement and self-determination are particularly located within the context of the first 'wave' and student retention within the second 'wave', they can concomitantly be considered as part of the third 'wave'. Psycho-social theories are relevant in the context of understanding individuals and how they behave and react in certain conditions. Students' lived experiences and their relationship with learning from varying cultural perspectives, as propounded by second wave theorists, is still relevant in the context of opened access to higher education learning to more diverse populations. Both first and second wave theories can be useful when critical consideration is given to how the student's cultural background has shaped behaviour and motivation in learning and approaches to learning. A threefold approach can therefore be appropriate and useful through incorporating relevant first and/or second wave theories, whilst ensuring that hegemony is disrupted through critical examination and acknowledgement of the reality of students' background, culture, community and ways of knowing.

2.5 STUDENT ACADEMIC SUPPORT PROGRAMMES

The design and provision of academic support programmes for students is pivotal in the drive for student access with success. Engelbrecht, Harding and Potgieter (2014) indicated that poor study technique was a problem for students, particularly where their personal perception was that they were competent. In relation to improving student success, Lizzio, Wilson and Simons (2010: 44) posited that "interventions, if appropriately conceived and implemented, can and will 'make a difference'". Grayson (2014: 3) highlighted that the promotion of student success is, "a serious academic activity", whilst Tinto (2014 cited in Grayson 2014: 3) emphasised that student success "does not arise by chance".

In considering the design and value of initiatives to assist students, particularly in the first year, Barefoot (2000: 13) states that "the most commonly used measure of effectiveness is improved student retention". This is substantiated by Porter and Swing (2006: 90) in their study on how first-year seminars "affect student persistence". Similarly, Smith (2009) and Smith, Case and van Walbeek (2014)

conducted studies on the success of academic development programmes. The support programmes were structured such that the participating students took their registered subjects separately from the mainstream students. In both studies the students' graduation performance was compared with that of the mainstream students, with the 2014 study being across a larger sample than the 2009 study. Although the design of the interventions discussed by Barefoot (2000), Porter and Swing (2006), Smith (2009) and Smith, Case and van Walbeek (2014) differ from this study, the premise of bridging the articulation gap to support students for retention and academic progress is consistent.

The CHE (2015: 114) included the following outline of the FHS intervention in the section on Successful Activities - Focus Area 2: Enhancing Student Support and Development:

> The Faculty of Health Sciences has an Academic Development (AD) unit which provides academic support for students. The faculty monitors student development and success and the departmental AD staff member will either refer students to the faculty AD unit for more specific or academic learning issues or alternatively provide subject content support within the department. The AD unit also provides English Language support and emergency social cases are referred directly to Student Counseling and Health.

The perspective and practice of the AD ambit within the FHS is further advanced by the asseveration of the CHE (2013) that poor results within higher education are not limited to one population [black] only. Emphasising that "systemic problems affect the whole school system, the functional and well-resourced schools as well as the dysfunctional and poorly-resourced ones" (CHE 2013: 44), it is clear that the articulation gap is a reality affecting students irrespective of any demographic factor. In the USA this fact was recognised a long time ago, as proffered by Walter (1982: 159/160) "Being underprepared is not necessarily related to age, race, creed, color, or gender…the underprepared student is any student who has a deficiency that makes it difficult to achieve what has been identified as his or her college objective". That the deficiency, in the South African

context, is the high school/higher education articulation gap has already been argued in section 2.2.1.

An important point by Field and Duffy (2014) is that of student academic support and development at source: directly within the faculty. Their argument is that internally located learning perspectives and skills are essential for independent and self-managed learning, and that students should not be left 'to their own devices' in this context. Furthermore, as each faculty has specific needs according to its field, faculty-based support programmes can be tailored to suit and meet those needs by staff who are immersed within the faculty. Additionally, collegial relationships can be established and enhanced between academics in each discipline of the faculty and those who provide the customised support to their students.

Academic support programmes can facilitate students to overcome the articulation gap and realise their potential through retention for academic success (Shelton 2003; Hendriksen *et al*. 2005; Crosling, Heagney and Thomas 2009; Young-Jones *et al*. 2013). In this context, 'retention' refers to students who stay and complete the course, and 'drop-out' refers to those who register but choose to discontinue their studies and leave the programme for which they had registered. Access with success, therefore, is predicated on the retention of students and minimising drop-out. Providing support programmes is therefore important for students to make the transition from high school to university.

2.6 APPROACH AND METHODS

2.6.1 Research designs in education studies

Researchers undertaking studies within the sphere of education have utilised various designs, depending on the subject area of the research and the research questions to be answered. Whilst some studies are best suited to a positivist approach, others align better with a constructivist or pragmatic perspective. The choice of research design is vital in relation to the outcomes of the study, with flexibility to elect a quantitative, qualitative or a mixed methods design at the conception stage of the research project. Education is a large topic area with

numerous facets; such flexibility to choose the most suitable research design is shown by examples of each in the following sections.

2.6.2 Quantitative studies

Several studies across a wide variety of topic areas within the field of education have utilised a quantitative approach. Studies have been conducted regarding first-year students in the context of predictors of success (Wadee and Cliff 2016); adjustment to higher education (Manee, Khoiee and Eghbal 2015); and the selection of first-time entering students (Kriodiotis, Bezuidenhout and Raubenheimer 2016). Young-Jones *et al*. (2013) used a quantitative design in their study on academic advising, whilst various aspects of student retention were studied by Shelton (2003), Porter and Swing (2006) and Jeffreys (2007). A quantitative design was also utilised by Lizzio, Wilson and Simons (2002) in their study on student perceptions of the learning environment and academic outcomes, as well as by Engelbrecht, Harding and Potgieter (2014) in the evaluation of an academic development programme. Entwistle, Tait and McCune (2000) investigated the study approach of students, with Goenner, Harris and Pauls (2013) considering the behaviour of students in relation to academic outcomes. Although a quantitative design has been used extensively for research in education, equally a qualitative design has been employed in a number of studies in the same field.

2.6.3 Qualitative studies

Within a qualitative design the integration of academic literacy was well articulated by Jacobs (2005); Naude and Bezuidenhout (2014) examined the practice of student support programmes, with other studies giving consideration to academic development (Zengele 2006; Kensington-Miller, Brailsford and Gossman 2011). Higher education, in particular curriculum restructure and orientation, was the subject of qualitative research by Moore (2003) and Roberts (2015), whilst Reupert, Hemmings and Connors (2010) explored higher education teaching practices. In contrast to the quantitative study of student adjustment by Manee, Khoiee and Eghbal (2015), an earlier study on that topic area by Kember (2001) used a qualitative design. Batchelor (2006) considered how students realised their

dream of ‘becoming’, with the experiences of six rural medical students being researched by Ross (2015).

A qualitative design has also been used in a number of studies on different elements of ‘research’ as a topic area (Robinson 2002; Jansen, Herman and Pillay 2004; Leshem 2007; Kiley, Moyes and Clayton 2009; Wisker *et al.* 2010). Health sciences education research in particular was the focus of the work by Devers (1999). Many topics within education lend themselves readily to either a quantitative or qualitative design, however there are occasions where both elements are required to answer the research questions; in such cases, a mixed methods approach is useful (Cohen, Manion and Morrison 2011; Johnson and Onwuegbuzie 2012).

2.6.4 Mixed Methods studies

Mixed methods has featured in research on various topic areas within education, whether the focus of the investigation was on academic development, students, research in education or higher education in general. Holt, Palmer and Challis (2011) enquired into teaching and learning centres regarding aspects of academic development. Higher education from the perspective of social inclusion and deficit discourses was investigated by O’Shea *et al*. (2015), and by Harris and Moll (2015) from the perspective of the provision of foundation programmes. Malechwanzi, Lei and Wang (2016) probed student perceptions of faculty competencies. Mixed methods designs were also used in research on special education (Klingner and Boardman 2011), the complexity of education (Ponce and Pagán-Maldonado 2015), and biology education research (Warfa 2016).

2.7 RESEARCH APPROACH: TRADITIONAL PARTS TO MIXED METHODS WHOLE

2.7.1 Quantitative and Qualitative Strands

A quantitative approach to research is based specifically on what can be observed and measured with objectivity (Welman, Kruger and Mitchell 2005). Such research does not concern itself with understanding human feelings and experiences (the ‘insider’ view), instead it focuses on facts from the researcher’s (‘outsider’)

perspective (Welman, Kruger and Mitchell 2005). On the other hand, qualitative research seeks to explore, understand and explain human experiences in natural settings (Denzin and Lincoln 2008; Bartlett and Burton 2012). Qualitative research uses flexible and exploratory methods into 'reality' as it is experienced by the participants. Methods used in qualitative research include ethnography, case study, phenomenography, focus group, narrative enquiry and action research (Lotz-Sisitka, Fien and Ketlhoilwe 2012).

A case study method in particular is suited to research in the health sciences environment (Yin 1999), in assisting to study one specific unit located within a macro unit (Gerring 2004). This is relevant particularly in the case of the Faculty of Health Sciences as one unit (faculty) within the larger unit of a higher education institution. Additionally, using multiple sources of data within a case study enables specific details to be identified or to emerge (Tellis 1997). Various techniques are utilised, including interviews, which may employ either structured, semi-structured, or unstructured questions, as well as participant introspection, life stories and artefacts (Denzin and Lincoln 2008).

Conversely, quantitative research is based on structured methods through one of three designs: experimental, quasi-experimental and non-experimental (Welman, Kruger and Mitchell 2005). Both approaches have strengths and weaknesses. Whilst an objective positivist approach tests and validates theories and can be generalisable, qualitative research is subjective, may not be generalisable, and it can be difficult to test theories and hypotheses (Johnson and Onwuegbuzie 2012). Qualitative strengths include gaining understanding and insight into participants' experiences and the description of complex phenomena and dynamic processes, however this approach can be time consuming (Johnson and Onwuegbuzie 2012). Natural settings are utilised to collect data that can lead to the interpretation of phenomena under study (Denzin and Lincoln 2008). Data from quantitative research may allow predictions to be made and may enable data to be collected from a large number of people in a shorter period of time, however the end results may be abstract and too general in certain scenarios (Johnson and Onwuegbuzie 2012).

In designing a research study the research questions drive the design (Teddlie and Tashakkori 2009). If research questions seek to quantify and generalise with a large sample, then a quantitative approach is relevant. Setting out to understand and explain a phenomenon and to design interventions to make improvements through in-depth enquiry into selective cases is more suitable for qualitative enquiry (Teddlie and Tashakkori 2009). Where research questions involve both quantifying data, either generated or historical, as well as gaining understanding and insight, then a mixed methods approach provides a suitable platform (Welman, Kruger and Mitchell 2005; Denzin and Lincoln 2008; Creswell and Plano Clark 2011). It is this latter point that is most pertinent in the choice of design for this research study. A mixed methods approach is in alignment with the aim and objectives for this research study when considering the potential sources of data. Whilst *Objectives 1* and *2*, align with the qualitative interview approach to elicit rich data required for deeper understanding of the student perspective, historical quantitative data is appropriate in order to meet *Objective 3*. These three objectives coalesce form the bedrock of *Objective 4*, the design of a transferable framework.

2.7.2 Mixed Methods research

2.7.2.1 Overview

The quantitative approach was predominant within research until the emergence of the qualitative method used by social scientists in particular (Teddlie and Tashakkori 2009; Creswell and Plano Clark 2011). Subsequent to the burgeoning popularity of qualitative research came the nascent thoughts of scholars and researchers requiring ‘something else’ to better express what they did in their research activities (Creswell and Plano Clark 2011). The historical foundations of a ‘mixed methods’ approach began more earnestly in the 1980’s, through interactions and discussions amongst researchers from different countries and across a variety disciplines, for example sociology, nursing and education (Teddlie and Tashakkori 2009; Creswell and Plano Clark 2011). The researchers were intrigued as to how they could integrate their data and designs. Mixed methods emerged particularly in response to the need for a combined way of answering complex problems where both quantitative and qualitative data were collected and

needed to be jointly expressed. As highlighted by Hesse-Biber (2010), using both quantitative and qualitative strands enables a deeper and richer understanding of the problem and can lead to clarity of the results obtained. Mixed methods allows for the maximisation of the strengths and minimisation of the weaknesses of both the quantitative and qualitative approaches (Creswell and Plano Clark 2011; Johnson and Onwuegbuzie 2012).

2.7.2.2 The Philosophy of pragmatism

Philosophical assumptions, or 'worldviews' provide a framework for research. Four worldviews are presented by Creswell and Plano Clark (2011): postpositivist, constructivist, participatory and pragmatist. Whilst the postpositivist worldview is aligned with quantitative research and constructivist and participatory worldviews align with qualitative research, a pragmatic worldview associates with mixed methods research. Taking a pragmatic approach leads to investigations steeped in action for change through making interventions using constructive knowledge; in other words, to make a difference to someone's life through practice (Goldkuhl 2012). In a functional context knowledge can thus be used as the foundation for action (Goldkuhl 2012), with the process being subsidiary to the end product, or as proffered by Doyle, Brady and Byrne (2009: 178) "the end justifies the means".

Various authors outline pragmatism as being pluralistic, problem centred, and real-world practice orientated using diverse methods in the context of 'what will work' to best answer the research questions (Teddlie and Tashakkori 2009; Creswell and Plano Clark 2011; Plowright 2011;). A key feature of pragmatism indicated by Teddlie and Tashakkori (2009: 74) is that "Pragmatism views knowledge as being both constructed and based on the reality of the world one experiences and lives in". A pragmatic worldview therefore aligns with the use of mixed methods in trying to establish 'what will work' in the context of this study, which aims to constructively utilise knowledge for practical hands-on interventions in improving student retention, performance and success.

2.7.2.3 Mixed Methods: Design

A mixed methods design can be 'fixed', where the researcher decided to use both quantitative and qualitative research at the start, or 'emergent', which happens

during the study where one approach has been found to be inadequate in answering the research question (Creswell and Plano Clark 2011). The research design therefore needs to be appropriate within the context of the research problem, purpose and questions (Teddlie and Tashakkori 2009). Creswell and Plano Clark (2011) proffer six types of mixed methods design: Convergent Parallel; Explanatory Sequential; Exploratory Sequential; Embedded; Transformative; and Multiphase, each with its own characteristics as explicated in Table 4.

Table 4: Characteristics of six types of mixed methods research designs (*Adapted from Creswell and Plano Clark 2011*).

Mixed Methods Research Designs	
Convergent	For the purpose of a more complete understanding of a problem or topic. Pragmatic approach of individual quantitative and qualitative data collection with separate analyses. Equal emphasis of the two strands, with the point of interface after individual data analyses.
Explanatory sequential	For the purpose of explaining quantitative results. A sequential implementation of the two methods with the quantitative leading to the qualitative, which builds onto the first phase. A quantitative emphasis with decisions from the results leading to the qualitative phase.
Exploratory sequential	For the purpose of testing or measuring qualitative findings. A sequential implementation of the two methods with the qualitative leading to the quantitative, which builds onto the first phase. A qualitative emphasis with decisions from the results leading to the quantitative phase.
Embedded	A traditional quantitative or qualitative design which concurrently or sequentially incorporates supporting data, for example a qualitative design with supporting quantitative element. May be post-positivist or constructivist or pragmatic, depending on the primary approach, with either a quantitative or qualitative emphasis.
Transformative	Framing of the concurrent or sequential collection and analysis of quantitative and qualitative data sets within a transformative, theoretical framework that guides the methods decision. For research in identifying and challenging social injustices. Interactive with equal emphasis, either concurrent or sequential.

Multiphase	Implementation of multiple phases of research through either concurrent or sequential data collection. Interactive with equal emphasis, with merging within a programme objective.

Of critical importance in a mixed methods study is the level of interaction between the quantitative and qualitative strands. To a greater extent this will be driven by the type of mixed method design; for example, independent strands align with a convergent design, whilst interactive strands align with all other design types within mixed methods (Creswell and Plano Clark 2011). Strand priority and timing are also of paramount importance and vary with the design type, with a convergent design having equal emphasis on quantitative and qualitative aspects with concurrent timing (Creswell and Plano Clark 2011).

By its nature a mixed methods design involves mixing the data, with the 'when' and 'how' of mixing being the crux of the design type. As stated by Creswell and Plano Clark (2011), sequential designs mix the data at the data collection phase; a convergent design mixes the data at the final interpretation phase; whilst embedded, transformative and multiphase designs have the mixing interface at design level. The characteristics and elements of mixed methods designs indicated above and in Table 3 highlight the need for careful consideration of what the research is setting out to achieve, before deciding on the design type most suitable for the study.

2.7.2.4 Mixed Methods: advantages and disadvantages

As highlighted by Johnson and Onwuegbuzie (2012) and Creswell and Plano Clark (2011), mixed methods research provides a mechanism for obviating weaknesses inherent in both quantitative and qualitative research. Researchers using mixed methods designs are able to utilise varying tools for data collection to suit the purpose of the research and the questions that need to be answered. The above authors further indicated that mixed methods research enables answers to be found for questions that neither quantitative nor qualitative research alone can answer. With a single method, notions and perspectives could remain unidentified (Johnson and Onwuegbuzie 2012).

Quantitative research does not give a 'voice' to participants, leading to a weakness in contextual understanding; this quantitative weakness is compensated within qualitative research where the 'voice' has a platform (Denzin and Lincoln 2008). Conversely, in qualitative research a weakness can arise in how the data is interpreted by the researcher, together with the potential for personal bias (Creswell and Plano Clark 2011), which is counteracted by the objective and independent results of quantitative research (Johnson and Onwuegbuzie 2012). Using both a quantitative and qualitative strand in one study can therefore lead to more comprehensive knowledge of the subject of the study, which can inform both theory and practice (Johnson and Onwuegbuzie 2012).

In considering the mixed methods approach Creswell and Plano Clark (2011) indicated that time and resources both need to be available, given the difficulties of conducting two different types of data collection and analysis for the same study. Additionally, they highlighted that depending on the nature of the research questions it is not always suitable for every type of research study or project; some research questions will need a quantitative design and some a qualitative design by the very nature of what 'answer' is being sought in that particular study. As indicated in section 2.7.1, the mixed methods approach has been chosen for this study due to the alignment of the objectives and data sources. Additionally, an embedded approach will be utilised. The six categories of mixed methods research designs outlined in Table 3 show that an embedded approach enables emphasis to be placed on one strand supported by the other, within either a post-positivist, constructivist or pragmatic paradigm. In considering the design for this study an embedded mixed methods approach was selected as the most appropriate in the context of the aim and objectives.

2.8 THEORETICAL FRAMEWORK

2.8.1 Introduction

This study will utilise the theoretical framework of Activity Theory (AT), which involves six elements within the system: *Subject, Object, Rules, Tools, Community* and *Division of Labour* (Engeström 2001), based on Vygotsky's (1978) initial model. Engeström (2001) posits questions on learning and the relevance and

impact of these elements. He asks who the subjects are of learning and how they are defined and located. Further, he raises the questions of why they learn, why they make the effort to learn, what they learn, and what the contents and outcomes of learning are for the learners. These are the types of questions that have guided the design of this study in relation to the 'at risk' referral system. Activity theory is particularly suited to qualitative analysis and specifically in the field of education (Hashim and Jones 2007), which fits in well with the context of this embedded mixed methods study.

Regarding South African education, Hardman (2005: 378) recognises the value of activity theory in research to "meet the diverse learning needs of a heterogeneous student body, which is prepared to a greater or lesser degree to engage with academia". Kizito (2015) explained that AT can assist in establishing what is working or where improvements could be made. Kaptelinin (2005: 5) stated that the use of an object of activity can lead to "understanding not only what people are doing, but also why they are doing it". The work of the above authors and others will be drawn on in analysing the findings of this study within the theoretical framework of activity theory.

2.8.2 Activity Theory overview

Activity theory evolved from the initial work by Vygotsky (1978) on the concept of mediation, through to the second generation advanced by Leontiev and the third generation developed by Engeström (1999). The concept of mediation posits that "…a more competent peer or adult is viewed as assisting performance, bridging the gap between what the child knows and can do and what the child needs to know." (Hardman 2005: 379). In other words, it is the growth and development that takes place from unassisted to assisted learning. Vygotsky (1978) displayed his original idea of mediation through a triangular formation depicting a stimulus **(S)** a response **(R)** and the mediating artefact **(X)** (Figure 1).

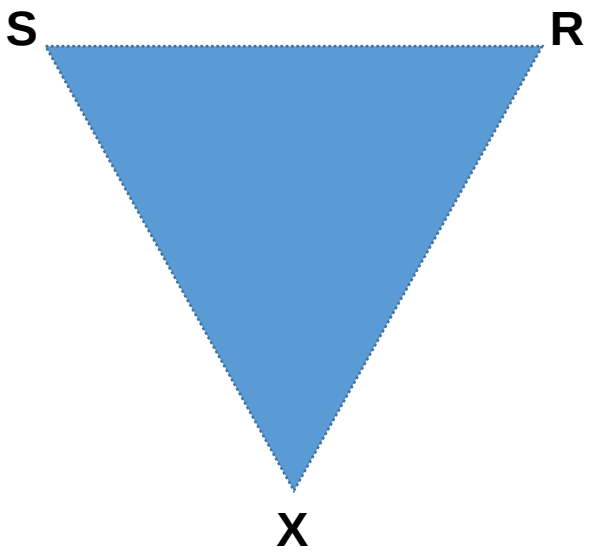

Figure 1: Triangular representation of mediation (*Vygotsky 1978*).

Vygotsky conceived that the three elements of this triangle interact with and impact on each other such that the outcome is growth and development. The 'space' where learning leads to such development is known as the zone of proximal development (ZPD). The ZPD is explained by Vygotsky (1978) as the space between the independent development level (current) and the level that can be attained with appropriate guidance (future). With development over time, the original Vygotskian triangle of mediation has been reformulated and is more commonly represented as illustrated in Figure 2.

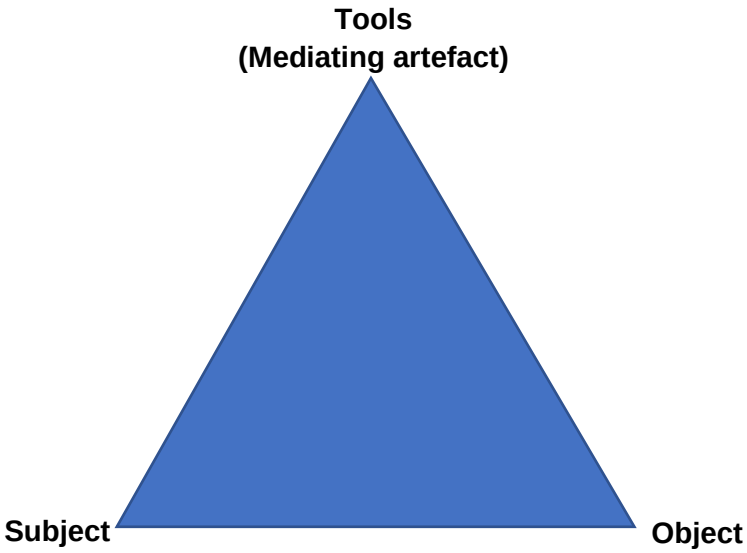

Figure 2: Simple representation of the reformulation of Vygotskian mediation *(Adapted from Engeström 2001)*.

As outlined by Engeström (2001) further work on Vygotsky's ideas was conducted by Leontiev, although there was no graphical change to Vygotsky's original triangular representation of mediation. This second generation of activity theory introduced the elements of *Rules, Community* and *Division of Labour* as represented by Figure 3.

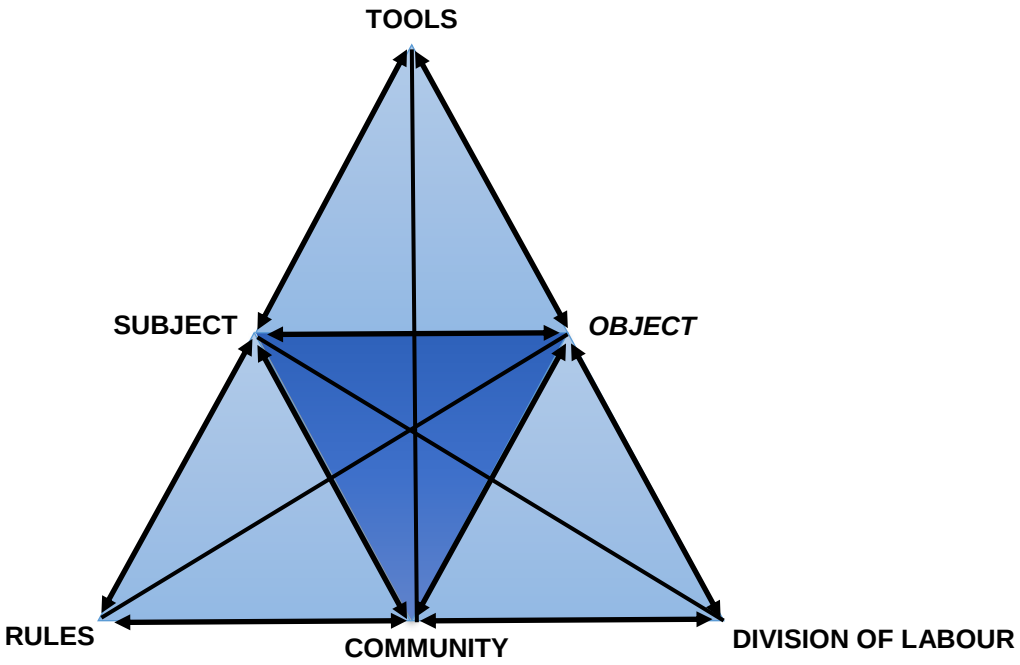

Figure 3: Second generation activity system.
(Adapted from Hashim and Jones 2007).

The third generation of activity theory advanced two interacting activity systems, whereby the *Object* of each system expands and intersects with each other to create *Object 3* (Engeström 2001). A simplified version is illustrated in Figure 4.

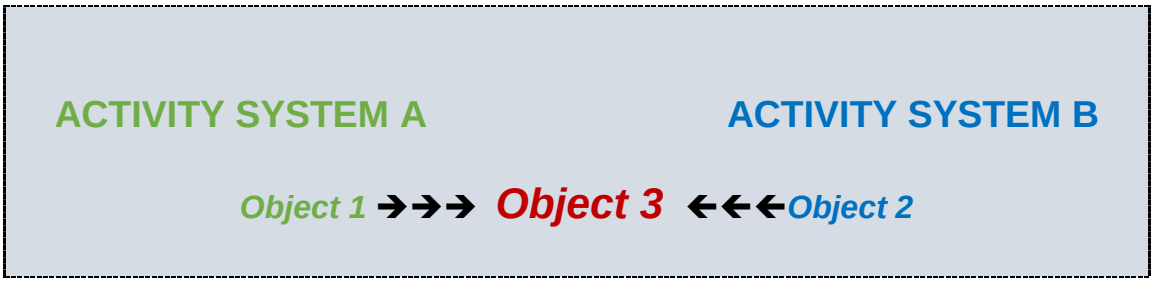

Figure 4: Expansion of third generation activity theory element '*Object'*.

2.8.3 Constituent elements of Activity Theory

As outlined by various authors (Jonassen and Rohrer-Murphy 1999; Engeström 2001; Hardman 2005; Kaptelinin 2005; Hashim and Jones 2007; Murphy and Rodriguez-Manzanares 2008; Rambe 2012) six components form the essential elements of AT: Subject, Object, Tools, Rules, Community and Division of Labour. These components are defined in Table 5.

Table 5: System elements of Activity Theory.

Element	Definition
Subject	The group being studied.
Object	The target area or problem space.
Tools	The mediating devices by which the action is implemented.
Rules	The conditions determining how groups and/or individuals within the activity system will act.
Community	The entities within the activity system.
Division of Labour	The distribution of actions and operations among role players within the community of the activity system.

The elements of the system interact with and influence other elements, hence the term activity 'system'. In relation to the constituent elements it is to be noted, however, that contradictions exist in the understanding and usage of the *Object* in an activity system. These contradictions arose through the difficulties of the translation of Vygotsky/Leontiev's work from Russian into English and varying interpretations of the 'object' of activity (Kaptelinin 2005). Essentially, in Russian the words 'objekt' and 'predmet' are both generally translated in English as the word 'object', however although often used interchangeably in the Russian language there are "subtle differences" in the usage of 'predmet' (Kaptelinin 2005: 6). In the English language the word 'object' as a noun is generally taken to mean a thing that can be "seen and touched but is not alive" (Wehmeier and Ashby 2004: 803). As a verb 'object' is defined as showing disapproval.

Taking the above contradiction into account, researchers using AT have interpreted 'object' within one or the other category of meaning. For example, Engeström (1995) indicates that the *Object* is the problem space that the intervention focuses on for desired outcomes. Rambe (2012) describes the *Object* as learning in a meaningful way that leads to building knowledge. Conversely, Hashim and Jones (2007) posit that the activity to be undertaken is the *Object*. For the purpose of this study, my perspective and interpretation of the *Object* within an activity system aligns with that of Engeström (ibid) in relation to the 'problem space'. The tensions between the *Subject* and *Object* are mediated by the *Tools;* tensions between the *Subject* and *Community* are mediated by the *Rules;* and the tensions between the *Object* and *Community* are mediated by the *Division of Labour.*

CHAPTER 3
THE METHODOLOGY

3.1 REVIEW AND ETHICAL APPROVAL

The research proposal for this was study was reviewed by the DUT Institutional Research Committee and the Institutional Research Ethics Committee. Approval for the study was given on 9 October 2015 (Appendix A). Ethical approval for this study was granted on 18 November 2015, under Ethics Reference Number REC 98/15 (Appendix B).

3.2 STUDY DESIGN

Within the context of a case study (Yin 1999; 2012), an embedded mixed methods research design was used. Mixed methods was chosen as the most appropriate design for the study as it incorporates the strengths of both quantitative and qualitative research (Teddlie and Tashakkori 2009; Creswell and Plano Clark 2011). In the quantitative phase of this study historical data was extrapolated and analysed for two stated periods, 2007-2009 (prior to the implementation of student AD support within the faculty); and 2012-2014 (a selected period post-2010 implementation). The drop-out data from 2007-2009 was used to show patterns and trends of student performance. The same process was followed for the 2012-2014 time period; the results from 2007-2009 provided marker points for comparison with the results from 2012-2014. The comparative data, in the form of tables, bar charts and graphs, illustrate where there are improvements in student performance; where performance has remained constant; and where performance may have declined.

The 2007-2009 time period was selected as it is prior to my placement as the ADP into the FHS, and no student at-risk referral system existed. With my arrival in the FHS in February 2010, the design and implementation of the at-risk referral system was developed and evolved through 2010 and into 2011. The second time period of 2012-2014 therefore reflects the ongoing application of the referral system, which continues to date.

The qualitative phase consisted of interviews with students who were referred for academic support, in order to elicit their learning experiences as a student and their opinions of the referral system. Interview questions focused on their preparedness for higher education studies; their experiences when arriving for their first year of study in relation to academic progress and the at-risk referral system; and their reflective viewpoints on the value of the at-risk referral system.

Whilst the statistical data may indicate improvements in student performance, the outcome of the student interviews would add richness in the context of the 'human factor'. The time period of 2012-2014 is therefore important for two reasons: firstly, the institutional data is recent enough to be relevant, available and accessible. Secondly, at the time of data collection for this study there were a number of students from these particular years still registered for a qualification. Some of these students are in the final year of the National Diploma, whilst others are undertaking studies at the B.Tech or Master's degree level. Access to students was therefore possible for collection of the qualitative data for this study. The qualitative findings from student interviews elicited description and elaboration from the students' perspective in relation to their preparedness for university study as well as their experiences of the 'at risk' intervention within the faculty. Activity Theory was utilised as the theoretical framework in analysing the data and developing the design of the transferable student support framework. The mixed methods design for the study can be seen in Table 6.

Table 6: The mixed methods design for this study.

Category	Element
Design	Embedded
Umbrella philosophy	Pragmatism
Level of interaction	Interactive
Strand priority	QUAL + quan
Strand timing	Concurrent
Point of interface for mixing	Interpretation stage

3.3 QUALITATIVE DATA

Two objectives have relevance in relation to the qualitative strand of the data collection:

Objective 1

To investigate the level of preparedness of students for higher education studies.

Objective 2

To investigate the relevance and impact of academic support on students in relation to their level of preparedness for higher education studies, success at university, as well as the student perspectives on the 'at risk' referral and support system.

Semi-structured interviews were conducted with students referred for academic support through the faculty's at-risk referral system. The hard copy files in the AD archive gave a total of 533 students who were referred for academic support during the period 2012-2014. Excluding the four programmes as indicated in Chapter 1, section 8: Delimitations, the following academic departments within the faculty were included for this study:

- Biomedical Technology
- Child & Youth Care
- Chiropractic
- Clinical Technology
- Dental Technology
- Emergency Medical Care & Rescue
- Environmental Health
- Homoeopathy
- Radiography
- Somatology

3.3.1 Population sample: identification of interview subjects

A list was collated from the suitable files of students who would possibly still be actively studying within the faculty according to their year of first registration. Hard copy referral records were initially perused for relevance in terms of the time periods being investigated post-2010, when the AD ambit came into existence. The hard copy file consists of a folder per student containing referral documentation from the academic department (eg. e-mail print-out), or faculty committee (eg. Teaching & Learning Committee Minutes; Exams Board review documents). Also within the file are all notes made at each consultation by the academic development staff on a first-referral template (Appendix C) and follow-up referral template (Appendix D). From scrutinising the files of the total number of referrals in the stated three-year period, potential research participants were identified per programme, as indicated in Table 7.

Table 7: Population sample for the period 2012-2014.

REFERRALS FOR ACADEMIC SUPPORT: PERIOD 2				
Department	**2012**	**2013**	**2014**	**TOTAL**
Biomedical Technology	10	15	24	49
Child & Youth Care	8	1	22	31
Chiropractic	17	39	57	113
Clinical Technology	9	16	28	53
Dental Technology	12	24	36	72
Emergency Medical Care & Rescue	10	9	14	33
Environmental Health	8	14	17	39
Homoeopathy	7	6	24	37
Radiography	0	20	31	51
Somatology	25	17	13	55

This gave a total population of 533 potential participants. A list of prospective student participants was compiled per referring Programme, comprising the following: name, student number, year(s) referred, and e-mail address. I sent an e-mail to each student on the list; an exemplar is shown in Appendix E with personal student information blocked out for confidentiality. After a period of one week those students who had responded positively to the e-mail inviting them to participate in the study were advised of the group interview dates. The respondents were also given the opportunity to request a different date if there was a clash with their academic timetable.

Two group interviews were set, consisting of three (Group 1) and four (Group 2) participants each. Of the ten positive responses, three students requested individual interviews; they indicated their willingness to participate, however as they had timetable clashes with the group interview dates they each requested specific dates and times for an individual interview.

During one group interview (G1) a participant requested a second follow-up interview as an individual. He indicated that he had some personal matters to raise in relation to his academic progress, however he was not comfortable in talking about them in front of fellow students. This student continued to participate as part of interview Group 1; subsequently the individual follow-up interview was arranged for a day and time convenient for the student, so that he could talk freely about the issues he wanted to raise away from his peers. An interview schedule is included as Appendix F.

Many students did not respond to the initial e-mail or to a follow-up e-mail sent at a later date. After no response was received by one week after the second e-mail, the student's name was crossed off the list of potential participants. A few students responded in person by visiting my office and verbally indicated that they appreciated the invitation to be part of the research, however they could not participate. The primary reason given was a lack of time due to congested schedules of lectures, practicals/simulations, clinic or road work, working on assignments and preparation for tests. These students were given the option of an interview to be held over a weekend suitable within their personal schedule,

however the offer was politely declined by those students and their names were then crossed off the list.

3.3.2 Scope

Student participation in the interview phase was voluntary. Interviews were conducted in English as this is the medium of instruction at the institution and is the most common language amongst the participants. A peer observer was present at all interviews and for the full duration of each interview, to ensure that the process was conducted fairly and within ethical guidelines. In order to minimise disruptions during the interviews, a signal system was devised should the peer observer need to make the interviewer aware of any concerns.

The semi-structured questions posed to the participants covered the following topic areas:

- School: preparedness for university studies; differences experienced between school and university studies when a first-year student.
- University: attitude and approach to being a student; impact of the level of preparedness from school.
- Academic support: impact in terms of personal development and academic progress; integration of techniques across subjects for learning and assessments; experiences and impact of the support system; recommendations.
- Lecturers: approach and role in teaching, assessment and referral for support.
- Non-academic/personal matters impacting on academic performance.

During the interviews various follow-up questions emerged within each of the six topic areas outlined above. Where appropriate, probing questions were asked specific to that particular group or individual within the flow of the participant responses.

3.3.3 Context of the interviews

For student convenience the interviews were conducted on the main Faculty of Health Sciences campus of DUT in Durban. Some difficulty was encountered in sourcing a suitable venue for the group interviews, as some were too large or were unavailable on the confirmed interview dates. A small and available boardroom was eventually located, although some unanticipated noise intrusions caused slight auditory problems on a few occasions. The individual interviews were conducted in the AD office suite, which was a familiar, convenient and comfortable environment for the participants.

3.3.4 Informed consent and anonymity

At the commencement of each interview, both group and individual, the participants were provided with a Letter of Information and Informed Consent form (Appendix G). One student completed two consent forms due to his dual participation in the Group 1 interview (participant **G1-4)** and the subsequent individual interview (participant **I-2**). Interviewees were given an opportunity to read the document at their own pace and to ask any questions. Participants were further verbally advised that they were volunteers and if at any stage during the interview they did not wish to continue, they were free to leave. The students were also reminded that the interviews would be recorded and all participants agreed to this procedure.

Once the forms had been signed and witnessed and the role of the peer observer had been clarified, each participant was given a number by which they would be referred throughout the interview, in the hard-copy transcription, and subsequently in the written thesis. This was a simple clockwise '1, 2…' system, which ensured participants' anonymity; the numbers ranged from one to four (Group 1) and one to three (Group 2). At all times the interviewer and participants referred to a particular participant by his/her allocated number only. Individual participants were also assigned a number as an identifier, according to the order in which they were interviewed.

3.3.5 Recording

The interviews were recorded using a Philips DVT1150 digital recording device suitably positioned on a table in the interview venue.

3.3.6 Interview proceedings

Questions commenced once the role of the peer observer had been explained and the Informed Consent forms had been signed by the student participants. A conversational style was utilised, so that during the group interviews students would feel free to respond at any stage in the process when they wanted to raise a point, or if they wished to respond with their own comments in relation to a point raised by another member of the interview group. This approach enabled a free-flowing question/response session within the overall framework of the prepared questions.

A similar conversational style was followed for the individual interviews, with participants having the freedom to take pauses to consider their responses if they so wished. Although conscious of the potential for bias, an advantage to the interviews was that the students were familiar with me as a staff member and in most cases had consulted with me as the ADP over a period of two or three years. This proved to be an enabling factor in creating a relaxed and comfortable environment for the interviews where students could speak honestly, whether positively or negatively, in the context of what they wished to convey in responding to the questions.

3.3.7 Transcription from audio to written format

I transcribed the interviews from the recordings into text. This was achieved by typing whilst listening to the playback of the interviews. As I have past experience of Dictaphone typing and with a high typing speed of 120 words per minute, this enabled large sections of the interviews to be converted into written text during a transcribing session. Recordings were transcribed verbatim, and to ensure accuracy of transcription from audio to written text I printed the initial draft transcripts and then re-listened to the recorded interviews whilst checking the hard copy text. The process enabled any corrections to be made in writing on the hard

copy transcripts for later correction on the electronic file. The re-listening/checking process was conducted three times for each recording, resulting in four overall 'hearings' of each interview during the transcription phase. This iterative process enabled a deep search of the data to uncover themes as well as to conduct comparisons for any differentiating features (Akerlind 2004).

3.3.8 Text transcription format and coding of participants

3.3.8.1 Format

The transcribed text was set out so that the speaker was clearly identified in terms of the questions and the responses. Speech by myself as the interviewer was marked with a '**Q**' in the left margin, denoting a question being asked; speech by the participants was marked with the allocated participant code. Where a participant had strongly emphasised a word or phrase, this was marked in bold. If words or phrases were still indistinct after multiple hearings, parentheses were used in the text to denote missing words/phrases from the recording.

3.3.8.2 Anonymity: coding of participants

The coding of participants for the interviews was reflected using a letter and digit:

- Group or Individual (**G** or **I**).
- Number of the group where relevant (**1** or **2**).
- Number allocated within the group or individually where relevant (**1, 2, 3** or **4** as relevant, eg. **G1-4** = Group 1, participant 4; **G2-1** = Group 2, participant 1; **I-2** = Individual number 2).

3.3.9 Thematic coding from transcribed text

The procedures for transcribing the student interviews from audio recordings to written text were described in section 3.3.7. The questions asked during the interview phase were in five categories:

- School preparedness for university.
- Experiences as a university student.
- AD support.
- Lecturers.
- Life issues affecting academic performance.

Subsequently, the interview texts were then coded into themes through descriptive coding. The process entailed inductive thematic coding (Kuckartz 2014) within the respective question categories of the interview. When reading the transcripts, the student responses were first sorted into the respective question categories. The first round of coding then identified the main themes emerging under each question category.

3.3.9.1 Identification of themes

Each transcription was carefully read and clustered with similar responses, first by marking a hard copy and then by electronically extracting and relocating the marked text into the appropriate question category. For each question category the identified sections of text were read again and designated to a specific theme with a code. On reading the identified student response, themes were identified in terms of what the response signified. Some words in the responses were clear indicators of a theme, whereas others needed to be classified according to the overall context of the phrase or sentence. The same or similar words used by students in answering a particular question indicated that a theme was emerging from the transcripts within that question category.

3.3.9.2 Identification of sub-themes

After all texts had been coded into themes the coded text was reviewed again. Each student response in a theme was scrutinised for a potential sub-theme, by further considering the meaning of the words and phrases that had been used by the participants. A sub-theme arose where responses indicated a specific element within a main theme. Sub-themes that were identified were then clustered together under the relevant theme.

3.3.9.3 Placement process of themes and sub-themes

In the process of reviewing the text to identify any sub-themes, some previously themed excerpts were reconsidered and reassigned as a new theme or became a sub-theme, as applicable. In the interviews students were given the space and time to freely express themselves in the manner in which they felt comfortable. As a result of this interview approach, sometimes the participants repeated what they had said (either in the same words or slightly differently), or there was a free-flow

of conversation and comments with various participants following on from a comment made by someone else. This often resulted in the first speaker continuing his/her point or opinion at a later stage in the discussion. Where this occurred, ellipses have been used in the cited text to indicate that some of the comments were not given immediately in consecutive order. Similarly, some comments could be attributed to more than one theme/sub-theme, and have been used in both places to illustrate different aspects of the response. The themes and sub-themes (indicated by bullet points in the theme section) are presented in Chapter 4.

3.4 QUANTITATIVE DATA

One objective has relevance for the quantitative strand of the study:

***Objective 3*:**
To determine the trends in success, throughput and drop-out rates over the two selected time periods, pre-intervention (2007-2009) and ongoing intervention (2012-2014).

3.4.1 The source of the historical data

Quantitative data was obtained from the database of the Management Information Systems (MIS) within DUT for two time periods: 2007-2009 and 2012-2014. Two categories of data were obtained.

3.4.1.1 Success rates

The data in this category reflects the number of student enrolled, the number who passed and the success rates by offering department, qualification, and servicing department per subject, for the years 2007-2009 and 2012-2014. It is presented on Excel spreadsheets for all undergraduate programmes under study, across all levels and for all subjects. There are 455 line items for 2007-2009 and 521 line items for 2012-2014, culminating in a total of 976 line items.

In examining the data some differences were noted between the data sets for the two time periods under study. These differences may exist due to curriculum

changes over time. Data differences include the realignment some individual subjects into two separate subjects; line items that are inconsistently reflected with data available in some years and not in others; and a foundation programme that ceased to be part of the programme overview in the second time period under study. Such anomalies made the success rate data unreliable as a consistent source for statistical analysis. Additionally, it can be seen that the number of line items would generate an extraordinary amount of variables.

3.4.1.2 Cohort study

The data presented on an Excel spreadsheet consists of cohort study information (per programme) for each year within the selected two time periods under study (Appendix H). The relevant undergraduate programme qualification is listed and for each line item the data indicates the following:

a. Number of first-time entering

The number of students entering the programme in the designated year of the two periods under study.

b. Number graduated

The number of students graduating in a particular year.

c. Number enrolled

The number of students still enrolled after the maximum study period.

d. Number dropped out

The number of students who had not continued with the qualification.

e. Drop-out rate

The percentage reflection of the number of students who had dropped out for a given cohort.

f. Throughput rate

The number of enrolled students who had completed the qualification and graduated in minimum time; minimum time +1; and minimum time +2, respectively.

The data is reflected separately for mainstream and foundation students. Of the programmes under study, eight reflect Foundation offerings for the years 2007 and 2008. These programmes are Biomedical Technology; Child & Youth Development; Chiropractic; Dental Technology; Emergency Medical Care & Rescue; Environmental Health; Homoeopathy; and Somatology. For subsequent years the Emergency Medical Care & Rescue line item is not included due to the discontinuation of the Foundation phase of the programme.

3.4.2 Selection of data for statistical analysis

3.4.2.1 Success rate data

In reviewing the raw success rate data, consideration was given to the volume of data (976 line items) in relation to *Objective 3* of the study. The statistical analysis would involve calculating the performance of each module against the performance of the programme as a whole for each of the years under study, as well as tracking the respective trends for the two periods under study. This would have resulted in seven iterations for each line item. The utility of the resulting information would have been limited, as the performance of the various subjects in the pre-intervention phase in many instances already exceeded the DHET benchmarks. A further difficulty was the presence of anomalies in the sets of data available for the two periods, as outlined in section 3.4.1.1 above. Accordingly, the raw success rate data was not included for the statistical analysis.

3.4.2.2 Cohort study data

In considering the raw cohort data (Appendix H) the throughput rate for the faculty also exceeded the DHET benchmarks, with a few exceptions. As with the case of the success rates mentioned in 3.4.2.1 above, the utility of this information would have been limited. The drop-out rates, however, varied from some programmes falling within the benchmark to others exceeding the DHET target. Due to the variance across the cohort, the absolute numbers of drop-outs for the faculty as a

whole became the variable for analysis. Where relevant, the mainstream and foundation phase data were combined to give one set of data per programme.

3.4.3 The raw historical data in relation to the study objectives

The third objective of this study set out to determine the trends in success, throughput and dropout rates over the two selected time periods, pre-intervention (2007-2009) and ongoing intervention (2012-2014). It was initially envisaged that the raw historical data (per subject) would be used to establish the descriptive statistics for the averages of students across the Faculty; a comparison of the number of first-time entering students; and the success, throughput and dropout rates.

The MIS data for the FHS over the periods under study indicated that the Faculty as a whole was performing within the expectations of the requirements and recommendations of the DHET, and in many programmes these targets were exceeded. The success rates and throughput rates for FHS as a whole were the best at the DUT in the period 2007-2009 and remained so in the period 2012-2014. Notwithstanding this exceptional performance, the Faculty embarked on the academic development initiatives/interventions that focus on student development, and particularly students at academic risk. As a result, the number of students at risk was relatively low, therefore establishing significant impact was going to be difficult. For this reason the quantitative analysis did not focus on the success rates nor on the throughput rates. Any intervention would have a marginal impact on the overall performance of these data.

Given the nature of the intervention, the drop-out rate (when measured in absolute terms) was deemed to be the most appropriate variable to measure. This is more particularly so as it was likely that any unsuccessful intervention for at-risk students, that may have been a last resort for such students, could have invariably led to them dropping out without the availability of ongoing support.

3.4.4 The method that was utilised

As the data set was not normally distributed, the Mann Whitney U test was used to compare differences between the two student samples (pre- and ongoing intervention). It is a test of the null hypothesis that it is equally likely that a randomly selected value from one sample will be less than or greater than a randomly selected value from a second sample.

For the purposes of this study the test was employed to: (a) determine whether there was a significant difference in the mean number of student intake between the two periods; and (b) to measure the drop-out rate comparisons between the two periods of interest. It was necessary to perform a bivariate correlation analysis of the data, followed by a trend analysis. Thereafter, the slopes test (t-test) was employed to determine if there was a significant difference in the slopes for pre- and post-intervention trend lines.

CHAPTER 4
THE RESULTS

4.1 STUDY REVIEW

This study has utilised an embedded mixed methods design and a theoretical framework of Activity Theory. Qualitative data was obtained from group and individual interviews with students who had previously been referred for academic support through the faculty at-risk referral system. Quantitative data was obtained from historical faculty records through the institutional Management Information Systems department. In presenting the findings of the student interviews, responses have been clustered into themes and sub-themes. Students' comments are included verbatim. Subsequently, the results will be presented of the statistical analysis conducted on the historical student data. This includes tables and graphs as appropriate.

4.2 THEMES AND SUB-THEMES

A description of the coding process is given in Chapter 3. An overview of the emergent themes and stub-themes from the student interviews can be seen in Table 8. In the context of this research study, two objectives relate to the qualitative findings:

Objective 1:

To investigate the level of preparedness of students for higher education studies.

Objective 2:

To investigate the relevance and impact of academic support on students in relation to their level of preparedness for higher education studies, success at university, as well as the student perspectives on the 'at risk' referral and support system.

Table 8: Themes and sub-themes arising from the qualitative data gathering process.

Question category	Code	Themes and Sub-themes
School - University Preparedness	SA	Structure and approach
	MP	Methods and perspectives
	TM	Time management
	L	Language
	Ex	Expectations
AD support	ISA	Initial student approach
	FR FRP FRN	Feelings on referral • Positive • Negative
	RC	Reaction to consultations
	IA IL IO IO:PP IO:Con IO:CS IO:Com IO:Mv IO:Md	Impact of AD support: Academic Impact of AD support: Language Impact of AD support: Other • Personal problems • Confidence • Coping strategies • Commitment • Motivation • State of mind
	VAD VAR VPG VAP VAC VR	Value of AD • Retention • Personal growth • Progress • Collaboration • Realisation regarding AD support
	PAD PAD-C PAD-D	Positioning of AD • AD unit with clusters • AD staff within academic departments
	ImpADS	Improvements to AD services
Lecturers	LC	Communication
	LU	Uncertainty
	LAS	Approach to students
Non-academic factors	NA:Sfcs	Shift in focus
	NA:Psy	Psychological aspects
	NA:Dom	Domestic issues
	NA:Ind	Independence
	NA:LB/LC	Loss through bereavement and crime
	NA:Adtn	Addiction and health issues

The following sections will present the results in each of the four question categories, through verbatim extracts from the interview transcriptions.

4.3 QUESTION CATEGORY: SCHOOL – UNIVERSITY PREPAREDNESS

The literature highlights an articulation gap between school and university level education (Fisher and Scott 2011; Smit 2012; Lewin and Mawoyo 2014), which has been identified as negatively impacting on the retention and success of large numbers of students (Badat 2010; Council on Higher Education 2014b; Grayson 2014; Tinto 2014). Providing appropriate structures and support to assist students in making the adaptation from school to university therefore requires an understanding of what students experience when they enter university-level study. Questions on the level of preparedness for university-level study elicited five themed areas of response: Structure and Approach; Methods and Perspectives; Time Management; Language; Expectations.

4.3.1 Theme: Structure and approach

First-year students have to concomitantly adapt from a school to a university environment whilst learning in their chosen field of study, with subjects and infrastructure that are vastly different from what they had been used to at high school. Participants expressed their experiences and thoughts on the different structure and approach of a university:

> *No I don't think high school prepared me properly, I think there was a lot of stuff that they didn't really put emphasis on that they sort of brushed over and that turned out to be **the** most important parts…Also high school didn't prepare us in terms of having the discipline to submit things on time. In high school you can negotiate and I was an excellent negotiator! Honestly, at varsity I realised you just do not negotiate…* **[G2-1]**

> *I went to a public high school which was underprivileged so in subjects like physics we never had, like, practicals or learned to actually witness and practice and apply what we were learning in theory…* **[G1-4]**

…the high school library was I think more emphasis was put on the novels, you know the fiction areas and then when it got to real stuff, like getting like research and stuff like that, projects and stuff like that it was all about the library made the fun part more attractive, neglecting the serious area of the library and you get to varsity and the serious library is ***all*** *that the library is actually about…* **[G2-1]**

Well life skills in general I needed a lot of help with, which wasn't really taught in high school or anything, because I mean coming from another province down here I had to fend for myself down here so basically cooking, cleaning everything and then on top of studying and everything it did produce some challenges, so I could say basic life skills was also needed as well. **[I-1]**

Yes there's a vast difference because in high school…we were literally given everything at our disposal…the level of questioning in high school is very different from the level of questioning in varsity. **[I-3]**

I personally saw a big difference in the teaching. High school was an environment where everyone seemed to chase after students. I was used to that, they check up on you and most of the work is actually done for you, I liked that! And then I get to varsity and it's just nothing like that, you actually have to do the work yourself and you have to apply yourself more and I had gotten so comfortable to having the work partially done for me… **[G2-1]**

They did not prepare me at high school for university because they didn't tell us that the pressure of what to expect when you reach university level like first of all you will be unguided, secondly your grammar must be a decent level…they did not prepare us in such a manner that we can manage to create our notes using the English that they have taught us or the educational background they have given us. **[G2-2]**

You know why students drop out in the first year? Because they feel even though they are smart, they feel they don't know how to answer stuff and too much is expected of them it is a matter of knowing how to, that's why they drop out at the beginning of the year they feel like this is overwhelming - 'but I thought I had my stuff together' - they don't know how to apply some things…and they come here and they realise – 'but what I know is not enough' – 'cause the basics are there it's just not enough, it's definitely not enough for varsity. **[G2-1]**

I feel like preparedness comes also with like being emotionally prepared and how to deal with situations at varsity. I feel high school should have a section like that for matriculants like to deal with stuff that they are going to encounter, like there is so much freedom here and I don't feel like there was an area or a section or a portion in high school that instilled that kind of discipline. **[G2-1]**

The opinion of one student differed from that of the other participants:

…yes I feel that high school did put some basic grounds in and created a foundation for me to cope at varsity. **[I-1]**

Two students spoke specifically about the differences in learning rationale between high school (to pass; regurgitating) and university learning (workplace use; application)

I think our attitude in high school is different than in university because usually we study to pass, whereas in university whatever you are studying is something that you gonna use, that knowledge and skills is something that you gonna deliver in the workplace, it's something that – it is very important for not your academic success only, your success in your career, whatever career you're hoping to pursue... **[G1-4]**

For me I felt that high school was very different to what university requires, high school I felt it did not take up much time with us for learning and

subjects were so few compared to university – university wasn't just subjects it was also practicals, it was also hospital rounds, it wasn't just taking a book and just regurgitating, it was also application which was important, so you had to have time for actually studying and time for practice application as well. **[G1-1]**

4.3.2 Theme: Methods and perspectives

University is a more complex learning environment requiring understanding and application of knowledge. Students were asked about their methods and approach to learning in school and in university. Responses indicated that previous methods used by students at school had to be adapted or changed, and that there was a different perspective at a university.

I never studied, I used to - my maths test was tomorrow I'd start studying tonight, write the maths test, pass, be happy, carry on, that's how we went through the entire school, the school life was sitting the night before and studying for a couple of hours, you got to sleep, you get up in the morning you go to school and write the test – it's done! University – tried the same thing, it did ***not*** *work, it did not work one bit, so the biggest difference was that…. In retrospect when I think about it now I don't think I was prepared, if I was I would have passed first year with not having to repeat any subjects, and I ended up repeating subjects.* **[I-4]**

When I first got into - enrolled with the institution I sort of kept the method but then as time - later on during the year, I started changing it and I saw the difference because I used to just – in high school I used to just learn the notes and not familiarise myself with past papers and stuff but in varsity most of the time when I study I do go through past papers and it actually gives me guidance and direction…I didn't have a particular schedule but I would study towards tests like if the date was tomorrow then I'd start studying for an average like two hours to three hours depending on how much content there is, for example, but it's not the same as how I'm studying now. **[I-3]**

I agree with speaker 1, I used to also study the night before the test in school and I did fairly well as well, but when it came to varsity the workload is a lot more and as speaker 2 said you do practicals during the day so when you go home you're tired, and to study after that is a bit difficult so I actually shortened my study time as well, before I used to study from 5 till 12 in school, now it's from like 8 to 11 and again from 3 to 5, around there. **[G2-3]**

One student explained the experience of realising that the 'method' used to pass tests and exams at high school was not working at university, and the impact that had on her:

…in high school I used to do something called CPF – it's Cram Pass Forget, and it worked! It worked very well for me…then I get to varsity and this method isn't working because of the workload…so now I had to change and try to actually understand this, because usually I would CPF and then later on after I have written, I would go back and 'so what was this actually about?' ***afterwards****, after I had passed, but I figured that in varsity I actually have to understand so that when I get to the paper I can sort of come up with stuff as I go so there had to be understanding and it's just impossible to cram all that, and I was* ***traumatised*** *by it! …so the first tests didn't go well and then I realised I gotta start something else and then I realised I have to actually understand this. That was never the case before, I didn't mind understanding afterwards but here, you had to go in there* ***with*** *understanding already...* **[G2-1]**

4.3.3 Theme: Time management

Having self-discipline and being independent is part of natural development into adulthood. Good management of the time available each day and week for various activities is a critical part of being a student. At school pupils are required to arrive in the morning and only leave at the end of the school day, whereas at university students are free to arrive (or not) and to leave when they choose. The schedule is also more controlled at school with constant monitoring from teachers.

Responses indicated that managing time was a very different issue at university, taking into account academic activities on campus together with personal study time.

> *…they don't teach you time management, I don't think school ever teaches you time management…* **[I-4]**

> *…in high school I used to study in what do you call it - in inverted commas! I used to 'study' for short periods of time but it was very effective. Varsity, I told myself that I must study longer, but that was ineffective, it was like the more I studied, the less I understood!* **[G2-1]**

> *…time management used to hammer me very hard….when you reach varsity then when you study I used to study very hard, I was guided when I studied, I used to study from 6 o'clock to 2 a.m. but when I reached varsity I started reducing that level of studying from 6 o'clock to 8 o'clock therefore the time management and the space of studying was reduced, therefore that crippled me….because every day I'd work, I used to do my practical work during the day and knock off at 4 o'clock very tired, whilst at school I used to just study. Studying and working and doing practical work is too different, your body gets exhausted therefore you need to rest because on the next day you will sleep and fail your practical test work.* **[G2-2]**

> *Everything's done for you, there's no preparation for time, and then you carry this over into adulthood and now you expect things to be done for you and then at some point you're living on your own, you have to make your own bed, wash your own clothes, cook your own food, get to campus, be on time all the time, so if they taught us time properly I think probably we would have been better at what we did at university from the first year…* **[I-4]**

4.3.4 Theme: Language

Whilst English is the medium of instruction at DUT it is not the home language of the majority of students registered at the institution. For some students, although English was their home language there were accompanying language issues that affected their progress. Students expressed how language anomalies impacted on their understanding, approach and progress:

> *…when English is not your home language or like is not your first language, you are not doing English as a first language, it becomes difficult for you because you tend to write what you speak…* **[G2-2]**

> *I wasn't always great with English…I excelled in other courses, other subjects, that prepared me for varsity but like English is still one of my weaker subjects, but going through academic development helped me to define my English better to an academic level that is needed by the university and that aided me greatly.* **[I-1]**

> *When I am listening in terms of theory I first have to translate it in my own language…first it has to be my home language as number 4 said earlier on as well, so I have to process it in my language until I understand it in my own language first, only then I will translate it in English for me now to learn it with everybody, so that is my process.* **[G1-3]**

> *I think when I'm listening to a lecture especially theory wise I use a tape recorder sometimes, especially theory subjects, I can record, it depends on the subject, and listen to the tape when I get home, because I know that my first language is not English…I don't want to delay the process of understanding otherwise it is going to impact on me writing notes so I am trying to think and listen in terms of staying in English as much as possible.* **[G1-2]**

> *Yes I had different experiences when I arrived at university level, first of all I had a gap year, therefore I sat at home for a whole year without studying,*

therefore I had forgotten everything about - my English was not good, I had a lot of spelling errors and could not remember all the grammar I had been taught at high school, therefore I was referred to the academic development, that's where I got my help. **[G2-2]**

One student talked about the issue of language 'comfort':

I would say I was doing fairly well in English but I will not overlook the fact that I would have been more comfortable in my home language to study all the hard subjects…because sometimes you find that you understand something that the teacher might have explained to you in your own language, but in a test it has to be translated into English and your level of knowledge of English might also hinder giving the right answer of whatever it is that you have in mind, no matter how correct it is but not knowing enough English to translate it in a test is a problem, so I think the language barrier has been a problem…I actually think in English even when I am outside of school sometimes…it has gone from verbal expression to my thought processes…so I think in English but it doesn't take away the fact that my home language is even more comfortable. **[G1-4]**

One student was affected by an emergent learning disorder that impacted on the ability to express her knowledge using English in written tests in a way that was acceptable to the lecturers:

For me, even though I did well in my other subjects though English was an issue because the spelling was an issue and later the dyslexia came through. It was an issue because for my pracs I was doing extremely well but for the exams I wasn't doing well and they didn't understand, because I was stressing so much and writing was something completely different that did not make sense, so that was an issue for me. **[G1-1]**

4.3.5 Theme: Expectations

A university environment is vastly different from that of a school in relation to the context and approach to teaching, as well as the infrastructure, administration and shift to independent learning. Differences between their expectations and the reality of being a university student were indicated through similar comments by two respondents in Group 2:

> *…my expectations were so high, I was disappointed when I got to varsity because my idea of varsity was based on movies, having lockers in the passages, wearing fancy clothes, and then I get there and like - no lockers in the passages…* **[G2-1]**

> *Yes I had that in mind that you always, you always, like at varsity it is always the beautiful women, the partying, you just live and you will pass the test. In reality it's not like that you have to work hard, you have to earn your respect, you have to earn those - that passing mark and you have to apply your English.* **[G2-2]**

On being asked if they had initially expected to be in a weak academic position at university, six students indicated that they had not anticipated it whilst one had expected academic difficulties due to a known learning problem:

> *I would say that at first I never thought that way, when I came in then I realised that yes I needed some extra support.* **[G1-3]**

> *For me it was definitely No because I felt, for me honestly high school wasn't that much of a thing…but it was totally different. So yah, for me it was definitely an eye opener when I received those results, yah.* **[G1-1]**

> *That never occurred to me…I was actually quite a strong student, I never struggled with any subject, I just never had difficulty of studying and getting the marks that I wanted to get…with the course that I'm doing now, when the first marks came back I couldn't believe that those were my marks*

because I never used to get those kind of marks in the previous years…I never thought I'd be in a situation where I'd have to repeat certain modules just in order for me to 'get it'. **[I-3]**

No. **[G2-1, G2-2, G2-3]**

I did expect it, my high school that I went to…specialised in teaching people with AD/ADHD and yes, I knew that attention deficit disorder is a problem that I have and I did know it would not be easy sailing, so I did prepare for it. **[I-1]**

4.4 QUESTION CATEGORY: AD SUPPORT

The previous section focused on the level of preparedness of the students for university study and their experiences of the change from high school to university. This section presents the students' perspectives and experiences of their academic under-performance and the role of the AD support programme. Students were first asked what their approach had been to improving their academic performance when they realised they were not coping and were in danger of failing.

4.4.1 Theme: Initial student approach

I tried after the first test I did try by myself but I felt that I wasn't helping, in the sense that I would go onto Google and try and get tips and stuff like that and I felt I myself wasn't contributing, for me, because I was stressing so much and it was adding to the problem, not helping. **[G1-1]**

I had no idea what to do. **[I-4]**

I wondered what was wrong with me because I'm trying to do this, I did everything that I thought was good for me but only to find that I was going to - I was going the wrong way that a had a hill in front of me, a hill of failure. **[G2-2]**

4.4.2 Theme: Feelings on referral

At a certain point respectively the students were referred by their academic department to the AD ambit for support to make better academic progress. They were asked how they had felt about being referred, which elicited both positive and negative responses.

4.4.2.1 Sub-theme: Positive

I think for me, I acknowledged my problem from the day first, after I wrote my first exams or how I'd been observing my performance myself so there was no issue of me coming here like embarrassment or anything like that, rather I seriously needed some sort of support and also I have to restructure myself in academic mode… **[G1-2]**

At first I was OK with it, I didn't feel anything bad, so I thought OK maybe this is a good route for me to take, they've seen something wrong, so probably they are leading me on the correct path so I have to go and see, I had to go to where they referred me to. **[G1-3]**

I didn't have much of a choice because I remember they didn't actually give me a choice they said you have to attend…but I feel like I did need it, I needed something…in fact the support from the academic office was what I needed at that time. **[I-4]**

What I'd say about ADP, what I've learnt is that ADP is like the father or mother that I have left at home, it helped me, guide me, because there you get all the assistance that you need whereby you got asked, 'What's the problem, why are you failing?' you are asked, therefore if you are an honest person you will give them your problem, they give you the solution as academic developers, that's how I took it, as my mother and father that I have left at home. It helped me and it worked for me in that way… **[G2-2]**

Yah and actually they do help, if they can't, as speaker number 1 says, that they do send you for counselling and I've been for counselling for quite a

while, and what I do find in the AD department is that they are always there to listen to you, whatever it is, and you always leave there like you know a bit lighter, a smile on your face, you know they always there to help you out even if you just go there for just…what should I prioritise or something of that sort, they are always there to tell you, 'You know what, look at your deadlines, look at your goals, see what you wanna do where you wanna go' you know they give you that, even that emotional support that you need… **[G2-3]**

I felt disappointed in myself for failing, I felt like a failure, but at the same time I felt that what the university did for me was actually really helpful because it's something I would not have - it's not the kind of support I would have received in high school and it helped a lot so it just - instead of feeling embarrassed I felt that getting that help was more important than feeling proud because I actually have nothing to be proud of so I never felt anything negative about getting that support, in fact I felt really positive because it was something that I've been missing in most of my high school life. **[G1-4]**

4.4.2.2 Sub-theme: *Negative*

I was really depressed about the whole thing 'cause I felt like, OK fine, maybe this means that I'm not going to make it, I've wasted three years of studying and, yah, I just felt that this is the university's way of saying 'this is your way out' so initially I was very resistant to go but then I went and only realised the benefits after seeing my results but initially I was reluctant to even start as I wasn't sure what it was, only when I went through it then I thought 'Oh, so this is OK, it will help me and stop stressing me out'! **[G1-1]**

From what I remember I didn't like the whole way it was done, my class found out about it and then they immediately assumed I was a weaker student…but yes, I knew it was about time 'coz I knew that the lecturers would pick it up that I am not academically strong and yes, I was prepared to come here and I knew that there was a problem so I had to make a self-

improvement choice…I looked at AD as a negative thing back then and it was actually just something as a tool to help me learn better. **[I-1]**

I saw the need that I do need extra academic support but when now you are told that you need academic support it sort of makes you feel like you're less smarter than other students…so you feel like, I don't know, like you're less worthy of being in the course because you're not as strong as others are…it's not a nice feeling at all but at the end of the day you need to do what needs to be done in order to pass everything…so regardless of how I feel if I need to come here I will come here. **[I-3]**

*It was sort of - honestly it hurt my ego that I was sent to ADP because I thought 'I am so capable why am I being sent to ADP'? I also didn't understand what ADP was about, so basically they are saying weaker students you need extra help, you need special help because we didn't understand what the programme was about initially…I think the main problem with me was how ADP was referred to, it was like Alcatraz, like 'go there, you've done bad, you're a bad student'! You know it wasn't like a place where you can actually get genuine help, like really get help and just sort out a few stuff where you can actually get genuine help…it painted a picture of ADP being a horrible place to be, so it was a place where no one wanted to go, where I did not want to go…I thought academic support honestly was for people who just weren't coping…and I was one of the highest people, and then suddenly I just hit rock bottom and I was like, so it just didn't make sense when they said I was going to academic development and I also didn't understand what they did, so like, what are they developing in me exactly, I was asking myself '***what*** is being developed?'* **[G2-1]**

I will say my reaction was, was at first I was shocked…then I learned to notice that the more I pull myself down and accept that maybe, I don't know, I need more, oh I need more attention of my side, maybe it can help me pass. I turned to accept that fact of being helped by the academic development office. **[G2-2]**

4.4.3 Theme: Reaction to consultations

Once referred for academic support the first step in the process is an initial consultation to assess the problem from the student's perspective. Thereafter, follow-up consultations are held as per the action plan agreed upon between the student and academic development personnel. Respondents expressed their reactions once they were attending for consultations.

> *OK, to be honest back then I thought that if I come to academic development then all my problems would be solved, that was not the case, there was a lot of effort and hard work put in order to correct most of my problems so, yes, I should have tackled it differently back then but yes, I should have put more work into it myself as well, which would have made the process a lot easier…I thought the answer would just fall on my lap and would correct itself eventually and that was not the case, so I was lazy, I didn't want to put the work in, but the work needed to be put in for things to change…*
> *Back then in my first year I didn't do it properly, as I said I wanted the answer to fall in my lap and I didn't put in much work, and then, there were no results because I wasn't putting in my effort.* **[I-1]**

> *Coming through the academic support system it was a matter of realising my full potential because I always had that potential…If I didn't make that academic success I think everything would be still just be spiralling out of control and maybe I would be out of varsity.* **[I-2]**

> *…first when you go to ADP you need to go there being teachable, you can't go there and you're unteachable, you need to be teachable and agree and accept that you actually have difficulty in certain areas.* **[G2-1]**

> *Therefore when I was about to reach that hill of failure academic development pulled me, they taught me how to manage my time, they taught me that I should do this, that I should apply my English in this way,*

that I should apply myself in this way so that maybe I can come back and be a student and pass. **[G2-2]**

4.4.4 Theme: Impact of AD support

After being identified as a student at academic risk and referred to the AD ambit, students can choose to remain within the system and take advantage of the support on offer, or they can decline to participate any further. Respondents related their experiences, perspectives, and how they had navigated their 'learning' pathway at university in relation to their referral. Whilst students spoke of their experiences positively, they also acknowledged their uncertainty of the system. Three specific sub-themes emerged of the impact that AD support had on them as students and as individuals.

4.4.4.1 Sub-theme: Positive impact - Academic

Yes it was helpful for me because the time when I sat back and did not go there I'd fail, I'd literally fail, then when I went there I'd come back and pass because I went to my father and mother, the ADP, of which made me, helped me. **[G2-2]**

Honestly, the support from the academic development practitioner, it helped a lot, it helped me at an academic level…and also helped me at a personal level, some of my incompetence or my shortcomings arise from my personal background. **[G1-4]**

Then the following year when I repeated my first year it did help me actually pass that year and, I tend to stick to it and it normally do help me at the time when I stick to it. **[G1-3]**

…in high school I never used to talk to myself and try to like verbalise what I'm reading but in varsity I now do that. I never used study groups in high school but now actually study in groups and for me it is more effective than actually studying alone, so those kind changes and differences, yes. **[I-3]**

I never had a bad experience because I only made progress from when I came and walked in on the first day… **[I-4]**

I have seen the impact, with myself as an example, because it has taught me values in terms of my writing skills, grammar and referencing correctly and things, it has impacted my life academically…among my peers I think it has influenced them as well in a positive way. **[I-1]**

Well I came in after my first test and then by the second test my marks started improving drastically and there were no issues after that so it definitely helped me…we also discussed study techniques and time management and everything that was basically required. **[G1-1]**

4.4.4.2 Sub-theme: Positive impact - Language

…initially things were very tough, as I mentioned earlier in terms of language barrier and everything, once I had to come from time to time and the help that I received was so much beneficial so I remember sticking to the study plan…
[G1-3]

…so it definitely helped me and it wasn't just language issues. **[G1-1]**

…going through academic development helped me to define my English better to an academic level that is needed by the university and that aided me greatly. **[I-1]**

I'd say they helped me as well because the more like the academic development came to me it was like the more it opened my eyes like in terms of English writing… **[G2-2]**

4.4.4.3 Sub-theme: Positive impact - Other

Within this sub-theme students articulated some individual aspects where they had received support from the AD ambit: Personal problems; Confidence; Finding coping strategies; Commitment; Motivation; and State of mind.

4.4.4.3a Personal problems

Honestly, the support from the academic development practitioner, it helped a lot, it helped me at an academic level…and also helped me at a personal level, some of my incompetence or my shortcomings arise from my personal background. **[G1-4]**

4.4.4.3b Confidence

…gradually I started to build confidence through guidance and taught me time management and also put aside of my personal issues and focus on what's important, that was one of main things that I carried through up to now.

[G1-2]

4.4.4.3c Finding coping strategies

I remember one session we did a time management chart and you drew it up for me and it's still stuck in my diary and it's something I always look at it especially where there's a week that's going to be intense and I might not handle it well, I go through my diary and work from it. **[G1-1]**

…sometimes it's just having so much and I don't know where to begin so I'd go in, pop in, sort of say 'so this is the situation, where would you begin if you were me, which do you think is more important?' and I would also at that time just mention sort of what I'm going through and even though they can't really do something about it, the fact that they listen and if they think it's beyond them they refer me to counselling…but if it was something that I could share at that moment I ***could*** *share it and I'd get advice of how I could probably go about it and it would help…because if it didn't help I wouldn't continue going down there wasting my time, but I always go there knowing that at least I would have a sense of direction when I walk out, either I'd do that or I'd go for counselling or do what, but I'd have received something from there, I don't walk out empty handed.* **[G2-1]**

I would say the frequency to come to visit your door compared to the first year…this year is much less compared to my first year! In my first year I

remember every second week I had to come…but now…yes here and there certain modules, like with assignments…but mostly this year is more like I visit to sort of give feedback…but now I like to take advice and apply it and I want to just make my own progress. **[G1-2]**

4.4.4.3d Commitment

…wherever I was like falling back it was because of my lack of personal commitment but despite that, if I didn't have that support I don't think that I would have survived my first year. [**G1-4]**

4.4.4.3e Motivation

But given the support that I got from this department having good grades eventually also gave me courage, also gave me motivation to carry on and let everything that I have no control over just let it be and it will come right and so forth, so it had a positive impact on so many levels in my life not just at an academic level so yah, I feel it has played like a huge role in helping me come to this point to be where I am now. **[G1-4]**

…with the AD they have a positive impact because now they can be motivational as well because when you start to doubt yourself and you go to AD and they give you that sort of like push… **[I-3]**

4.4.4.3f State of mind

But I had other factors that stressed me out so I went for I think about 2 or 3 sessions with academic development and with me I just needed to sort out my state of mind at that point, so that I could achieve proper marks and get back to the standard that I was. **[G2-3]**

4.4.5 Theme: Value of AD

Students were asked to reflect on their experiences of the AD support system and to consider whether they had/had not found value in their referral and participation. Five sub-themes emerged from the responses: Retention; Personal growth; Progress; Collaboration; and Realisation regarding AD support.

4.4.5.1 Sub-theme: Retention

I would also like to add something, that I feel like besides me it has saved a lot of students because I know of some students who have been through this programme who are still here compared to other students who just gave up at that point that they had a downfall… **[G1-4]**

…whenever I find myself down somehow, then I need to refer myself before I go too far and they've always helped for me. **[G1-3]**

Maybe it can reduce the level of dropouts or the changing of courses, people doing many courses and still not finding the right course. **[G2-2]**

4.4.5.2 Sub-theme: Personal growth

I do see the difference in myself…I do see that AD has helped me grow but I believe I needed to be mature to accept that help, it is just, I needed to come to grips with it myself before I could accept help and I do appreciate the work they have done to help me become academically stronger…AD has helped in terms of all my theoretical subjects purely by aiding me and showing me my writing and things. **[I-1]**

So the academic developer is like an awareness, there is an awareness, how can I put it - it is like a person who enables us to see what we have been looking less on behind like as I've mentioned all those studying techniques and all those things and things we have been neglecting like the referencing, how we write, the academic developer is like someone who holds you and shows you have been mis – you have been mistaking these things, therefore go and look at them and do them properly. **[G2-2]**

For me I also feel initially I almost wanted to say that ADP hasn't really helped me but when I think about it even though it wasn't the kind of help that speakers 2 or 3 had received…for me it was just a matter of sometimes being given material that I could just read you know, like read this - see the style of writing…so it did help in the sense that I was exposed to a whole lot more material to study for other things…it was just the right environment, the right attitude, the right atmosphere and that just rubbed off onto me too

and that was the kind of help that I received, that positive energy….For me it was a good experience and it was a humbling experience, as I said I first had to be teachable, you can't go there and you're not willing to listen, you're not willing to learn, so it was a humbling experience and it was a very good experience now that I think about it, as I said initially I almost wanted to say that I didn't learn anything, but mature me, when I look back, it was a good experience. **[G2-1]**

Yes I agree with speaker number one that it is really important and it has helped me a lot because as you accept that you actually don't know anything and you need that help given by the ADP, you get helped easily and you are quickly, you are quickly changed to a student who will be a passing student. **[G2-2]**

I guess for me it was that I was clueless, I didn't know what the whole system was about, now I feel it's something really valuable to students and they really need to take advantage whether they're at risk or not it's very - it's a real eye opener in terms of study technique, language, developing good conversation skills and time management, it offers quite a bit so I feel like it's very valuable… **[G1-1]**

4.4.5.3 Sub-theme: Progress

The easiest way to assess it is the fact that you look at the results and not just for me but I also know of other people in my department who have been referred and the results speak for themselves, there have been improved results and improvements in language and gaining confidence and in time management, those kinds of things, it's visually there, it's all in the results so I guess whoever has been through it then the results speak for themselves. **[G1-1]**

I do see the value that it has, if it was not for the academic development ambit I would not know where to go to seek help…I don't know if my quality of work would have ever risen. **[I-1]**

*…because the more you grow older the more problems you have therefore sometimes it helps to speak with someone and tell them your problems, they tell you how to manage them therefore they helped me a lot by telling me not to look at this or focus on this., I must focus maybe slightly on **that**, then focus **more** on that, because education is better than focusing on anything else.* **[G2-2]**

4.4.5.4 Sub-theme: Collaboration

I think the system is great because like I mentioned…there is the feedback system, there is the follow up as well between the department and this academic programme… **[G1-2]**

4.4.5.5 Sub-theme: Realisation regarding AD support

From initial positive or negative feelings towards being referred for academic support, some students came to a point of realisation about the role of the AD support system and their personal role in taking responsibility for their own learning:

- From an initial positive perspective:

  But the second time now then I told myself that it was wrong for me because I shouldn't have fallen into the same issue that I was in the previous year, so at first I was OK I had no problem with that but I condemned myself for the fact that I fall again into the same problem the following year. **[G1-3]**

- From an initial negative perspective:

  In my second year I found out that, OK, this is what I need to do, I need to go here because there is a serious problem and I put in the work and I saw the results…It took a while to come to grips, and then, that I needed to actually pull up my socks, I thought people were against me and then realised they were actually trying to help me. **[I-1]**

  …so initially I was very resistant to go but then I went and only realised the benefits after seeing my results, but initially I was reluctant to even start as

I wasn't sure what it was, only when I went through it then I thought 'Oh, so this is OK, it will help me and stop stressing me out'! **[G1-1]**

I think I was told that I was a weak student and that I should go to AD in front of my class. I looked at AD as a negative thing back then and it was actually just something, as a tool, to help me learn better. **[I-1]**

…you don't always hear what you want to hear sometimes, it's ***real*** *and it's not what you* ***wanted*** *to hear, it's what you* ***should*** *hear but it's not what you wanted to hear necessarily…* **[G2-1]**

...it's reality… **[G2-3]**

4.4.6 Theme: Positioning of AD

Academic development in the Faculty of Health Sciences is specifically structured and designed to provide support directly to students, which is a very different approach from the one adopted by the other five faculties of foregrounding staff support and curriculum development. The structure, setting and operations of the AD ambit are reviewed on an annual basis through discussions with academic staff, heads of departments, and the Executive Dean. Students were therefore asked their views on the most efficient and effective positioning of academic support staff for maximum benefit in providing support services to students.

The existing system was outlined: AD staff being responsible for clusters of academic departments (three to five departments per staff member), working from a central unit with its own offices. Another way of operating would be a central unit responsible for the management, co-ordination and monitoring of AD within the faculty, with each academic department having a dedicated AD staff member who would be physically based within that department. Students expressed their views on which of the two AD structures they felt would be the most beneficial within the faculty.

4.4.6.1 Sub-theme: AD unit with clusters

One student agreed with the current structure and format of AD support for students within the FHS:

> *…students end up having the same problems, whether it be emotional, physical or the way they study or the way they progress…for somebody to come from the outside to have a look at it without any bias…like be objective, objective approach, that would be better…* **[I-4]**

4.4.6.2 Sub-theme: AD staff within academic departments

The majority of interviewees were of the opinion that AD staff should be allocated on a one-per-programme basis, and physically located within the academic department:

> *Definitely, definitely, it would be more beneficial because now for example if you're seeing students from Departments A, B and C, it means you have to liaise with all those three departments and that would mean too much for you also on a personal level…so now if AD number A is just allocated to Department A and AD number B is allocated to Department B then that would be like more beneficial because now the liaison is actually quite frequent and you'll be easily accessible like to the department and to the student like there's a huge role that the AD plays between the student and the lecturer…* **[I-3]**

> *I actually think that would be a brilliant idea if there was one AD person per department.* **[I-1]**

> *I think it will be really helpful because that's also gonna change the whole perception that students have of ADP and also it gives, it gives the students more freedom to voluntarily go to ADP…* **[G2-1]**

> *It would be more effective, it would give more of an early warning.* **[G2-3]**

…yes it would, you get to know students better by then anyway and they get to know you better so they open up better and they even more willing to learn… [**G2-1]**

If it's part of the department it's like part of like our, what can I say, like our little family whereas when it is out of the department it is like now you're really ***seeking*** *help it's like there's something* ***really*** *wrong with you! You* ***seeking*** *help it's like there's something* ***really*** *wrong with you! You know, and that's what discourages students…If it's in the department it's more like, I can say like discreet kind of thing, where you're not publicising that you've got an issue, I think that for a lot of students is a big problem you know where you do not want to be 'cause like you have a* ***problem****…and people can get the help and boost themselves up without like really being embarrassed about you have a problem sort of thing you know.* **[G2-3]**

Also besides discretion I think that the academic developers themselves get to know the students better…that this student is good in other areas, we could improve certain things…But when you get to know your students also now you are amongst them and you are aware of things that some lecturers might even overlook… **[G2-1]**

4.4.7 Theme: Improvements to AD services

In light of their experiences of the referral system, the participants in this study were asked for their perspectives and suggestions as to how the AD ambit could further improve the services it offers to students. Proactive marketing, printed material, detailed explanation and interdepartmental communication were four elements articulated by respondents.

I think for me the main thing is speaking about it during first year orientation because I think that for first year people should know that if they are having struggles in whatever subject they can come through and the AD will help you, instead of waiting to fail and then being referred…so students are in the know that there is a support system out there… **[G1-1]**

I agree with number one and furthermore to say even to mention it in a booklet so students from the first time they read about DUT they should know… **[G1-3]**

…some students possibly don't know exactly…but why we have to come, how much we are able to talk or what are the things we have to sort of come see you for…so it will be nice that if there is something like – I don't say brochure but say – this is how far you are covering for student academic support…they'll know clearly how far they're able to seek help from you and, yah, stuff like that. **[G1-2]**

I think the AD could, should, like, if they could communicate more with the subject lecturer and try…try and catch the problem before it actually presents as failing a test…they can be more interactive and more involved with the department itself. **[I-3]**

4.5 QUESTION CATEGORY: LECTURERS

An integral part of the referral system is the linkage between the AD ambit staff and academic departments through discussions and appropriate information-sharing (verbal and electronic). Students were asked their opinions and experiences of lecturers' use of the referral system with three themes emerging: Communication; Uncertainty; and Approach to students.

4.5.1 Theme: Communication

I think the regular communication between AD and the department, that also, it really, really helps a lot because immediately if students not performing, obviously the lecturer is going to inform and it very immediate…So by doing so, it really sort of quick process and also very effective in a way that department is able to follow up and also with me and overall it brings success. **[G1-2]**

Yes I do agree completely because I feel like, I feel like immediately as I came down in my first EMC test I was referred here and also this year I also

failed one test and I was referred here, so the second results for that test, for that subject, the second test for that subject, I made quite impressive progress so I feel that the immediate response really helped in a rapid intervention and getting the student prepared in time for whatever the next assessment will be conducted. **[G1-4]**

I think our department's quite jacked up in terms of when to interview the first year students, it's not like - nothing is in isolation so the department knows I think that there is a problem…there was always a line of communication to show my progress and what I'm doing and if I'm really attending the meetings and making progress academically. **[I-4]**

4.5.2 Theme: Uncertainty

From what I noticed some lecturers just refer students to AD because they think they have a problem, just willy-nilly send them to AD because it is not their problem they want to make it someone else's problem. Some of the older lecturers, they understand the process a bit better…I think some lecturers don't understand the concept of AD properly…I am going to say that some of our lecturers do not know what the purpose of AD is. **[I-1]**

4.5.3 Theme: Approach to students

…the more experienced lecturers who have been in the department for quite some time are more approachable, they are more understanding, they are more encouraging… **[I-3]**

Interestingly the above comment contrasts with the one below, by the same student earlier in the interview:

…I'm not sure if lecturers are actually aware of the emotional and personal things a person is going through just to make it past the year…what I found about being a student there are so many students dealing with so many hectic emotional baggage for example that they don't even want to talk to anyone about, and it may impact on their academic performance. **[I-3]**

One student wanted more discretion from the lecturing staff:

> *Just be discreet…it's a shock to you the first time you hear it and then for others to know it as well.* **[I-1]**

Three students explained more specifically their perspectives on how lecturers used the referral system, in terms of age and experience. Interestingly, two students from the same department **[G2-1** and **G2-2]** held different views from each other:

> *I would say that it's more the lecturers that are more experienced that pick up that there is a fault here with the student.* **[G2-3]**

> *I think the older lecturers are the ones that know more about ADP because when I was like I had a younger lecturer teaching me in first year and there were times when I was not doing so well and they never referred me to ADP. It's only the older ones that see this child needs to go to ADP if that makes sense, so the younger ones, no I've never actually been referred by them.* **[G2-1]**
>
> *…but sometimes the younger lecturers would call me up when they'd see a problem and try and help me that way because they know that not all students in the class are equal, therefore they try to help, to give me that assistance and it if worked, then it worked.* **[G2-2]**

4.6 QUESTION CATEGORY: NON-ACADEMIC FACTORS IMPACTING ON ACADEMIC PROGRESS

Situations and circumstances varied from student to student in the context of what problems they had faced in their efforts to be academically successful. Not all issues causing difficulties in making good academic progress can be classified as academic learning matters. Through the referral system students also received guidance and support for non-academic issues that had been impeding their academic progress. Six particular themes emerged: Shift in focus; Psychological

aspects; Domestic issues; Independence; Loss through bereavement and crime; and Addiction and health issues.

4.6.1 Theme: Shift In focus

My performance wasn't really as such as I'm not capable it was just that I had external factors that used to like how can I say, there were other things that used to bother me and stuff so that's why my full focus was not on my studies completely. **[G2-3]**

This year I've been absent so many days…because of personal issues that I couldn't put aside, I couldn't ***not*** *deal with, and sometimes it just didn't always make sense to the lecturers that this person is dealing with such stuff and it's stuff that you can't ignore or deal with concurrently it's just that you have to put school aside and deal with it and there were times I just had to leave like even this year there were certain times I haven't been here this year and now there's extra work to come back, catch up and still do good because you have set a standard for yourself and you mean to do well and then suddenly when you don't do well because you've been missing days…so personal issues have definitely affected my studies and I think if I hadn't come across all the stuff that I came across I could have done really well..if I had actually calmed down and focused on studies* ***only*** *I could have done better.* **[G2-1]**

4.6.2 Theme: Psychological aspects

I had the same personal issues and…there's times where, you know, you just have to set yourself back and when you get back into studying you're not achieving your maximum…you've lost your rhythm, you've been disappointed or depressed during that time and you know the thing with depression and stuff when you go into it, it doesn't like two days, three days and it's gone it's still there over like a long period of time…you not performing to your best because of the stress and strain that you are actually at to catch up because a deadline is a deadline and whether you are there or not there, that is your problem basically. **[G2-3]**

…my emotional state wasn't at its best, I couldn't really focus on anything else, it was very difficult to focus. **[I-4]**

…there was that whole emotional thing that I was going through for quite some time actually, in fact most of the year I was going through that and like…you just feel overwhelmed about how things are happening and why things are happening… **[I-3]**

4.6.3 Theme: Domestic issues

About me, 2013 was my first year and I remember from the day first I came I had a personal issue, a domestic issue, which is outside of my academic issues and it was quite a massive thing for me to resolve by my own so the court had to intervene and…quite a difficult time I had which obviously impacted on my studies. **[G1-2]**

4.6.4 Theme: Independence

My first year was living in digs, living around other people, I wasn't in control of my living space completely, there was lots of noise where I was living, I couldn't sleep proper hours because of that as well and that also caused some challenges…I never knew how difficult running a household was, so like cooking, cleaning, making sure you have clean bedding and things like that, it caused problems so I needed to adjust to living by myself as well and studying a difficult course…I think that actually it impacted on my time but it impacted on myself as well…like I needed to make certain life changes in order to cope. **[I-1]**

4.6.5 Theme: Loss through bereavement and crime

My grandfather's passing was, was quite - had an impact on me generally, we were very close so, that was the one thing that affected me… **[I-4]**

…it was the beginning of quite a challenging year…like for example we had four consecutive break-ins within a month…I feel like to some degree it did impact on my performance. **[I-3]**

4.6.6 Theme: Addiction and health issues

Participant **I-2** was initially part of the interview with Group 1 (as participant **G1-4**), during which he had requested an individual interview to talk about some personal issues he did not want to raise in front of other students.

> *When I first came to university in 2014…I was so addicted to social networking seeking sort of, I don't know, seeking whatever it is that I wasn't getting from university and I contributed so much of my time to this, to social networks and it ended up taking up time from my studies, and that's how the problems started... It didn't help that the subjects, most of them, especially the one that I failed, was something I've never come across before, it was something I was not familiar with, it was actually professionally orientated…so obviously I needed to put in more effort on that subject but because of my lack of commitment I - I could not make time for it…but I could have made it just like other students if it wasn't for the social networks…for some people social media it is like, so easy to, it's so easy to express yourself…now that I look at it, it wasn't really necessary, it wasn't really, it was just one of many bad choices that I made.* **[I-2]**

The student spoke at length about the social networking addiction, and then raised another deeply personal matter; after mentioning it he then indicated by shaking his head and waving his arms in a cross-direction that he did not want to talk about it any further:

> *…so one day something happened in my life, something that's just gonna change the course of my life, the rest of my life…It was finding out that I have an incurable disease*. **[I-2]**

4.7 SUMMARY OF QUALITATIVE FINDINGS

The findings of the qualitative interviews with students referred for academic support have been presented through verbatim extracts from the transcriptions of the recordings. Various themes and sub-themes emerged within the respective

question categories. The second phase of this chapter will present the results of the statistical analysis on the historical student data.

4.8 STATEMENT OF RESULTS AND INTERPRETATION OF THE PRIMARY DATA

This chapter presents the results obtained from the historical MIS student data utilised in this study. The data collected was analysed with SPSS version 24.0. The results will present the descriptive statistics in the form of graphs, cross tabulations and other figures for the quantitative data that was collected. Inferential techniques include the use of correlations and different test values, which are interpreted using the p-values. The sections that follow analyse the patterns observed over the time periods under study (2007-2009 and 2012-2014). The third objective is relevant to this section:

Objective3:

To determine the trends in success, throughput and drop-out rates over the two selected time periods, pre-intervention (2007-2009) and ongoing intervention (2012-2014).

4.8.1 Descriptive statistics

The table below is a summary of the average number of the students per programme across the Faculty of Health Sciences for the periods of the study. By multiplying that number by the total number of programmes admitting students, the total number of first time entering students admitted by the Faculty that year is obtained. It is this summarised version of the data that is used to generate the results discussed. It is expedient to do an analysis of the average of the cohort as the data is being analysed for the faculty and not for each of its constituent departments. As indicated in section 3.4.2.2, the study aimed to determine the impact on the faculty as a whole, due to the high performance of its constituent academic departments. The data comparisons of the faculty for the pre- and ongoing-intervention years are seen in Table 9.

Table 9: Comparison of the average number of first-time entering students.

	2007	2008	2009	Average Pre-2012	2012	2013	Average Post-2012
No. of First time entering	18.3	19.6	21.9	**19.9**	17.8	20.6	**19.2**
No. Graduated Y3	9.3	10.2	11.2	**10.2**	11.4	12.6	**12.0**
No. Graduated Y4	3.2	3.5	4.2	**3.6**	1.3		**1.3**
No. Graduated Y5	1.2	0.8	0.8	**0.9**			
No. Enrolled Y6	0.3	0.6	0.6	**0.5**	1.4	3.7	**2.5**
No. Dropped out	4.4	4.5	5.2	**4.7**	3.8	4.3	**4.0**
Dropout Rate (%)	25.5	30.0	20.9	**25.5**	25.1	18.6	**21.8**
Min Time (%)	53.6	49.1	60.1	**54.3**	58.8	65.0	**61.9**
Min Time plus 1 (%)	14.3	15.2	14.7	**14.7**	7.6		**7.6**
Min Time plus 2 (%)	4.8	3.4	2.1	**3.4**			
Still in Progress (%)					8.6	16.4	**12.5**

In addition, and as presented in Figure 5, the Mann Whitney test revealed no significant differences (p = 0.564) in the number of students entering a qualification within the FHS pre- and post-2012.

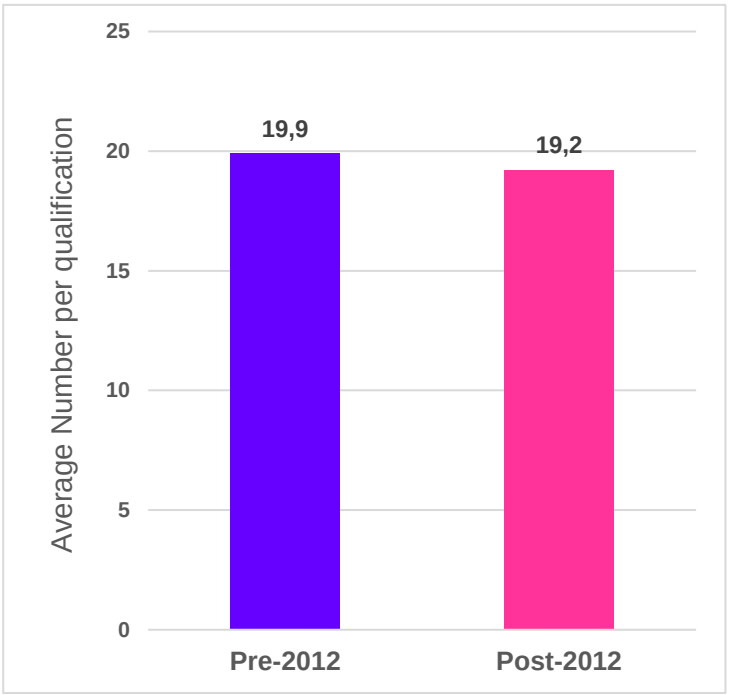

Figure 5: A comparative analysis of the number of students entering a qualification pre- and post-2012.

A similar test was done to measure the drop-out rate comparisons between the two periods of interest (pre-2012 and post-2012). As illustrated in Figure 6, statistically there was no significant difference in the drop-out rate (p=0.400). Although not different, it is observed that the drop-out rate is lower post-2012. A more detailed analysis was therefore conducted to determine the trend of the drop-out rate, which is explained in Section 4.8.3.

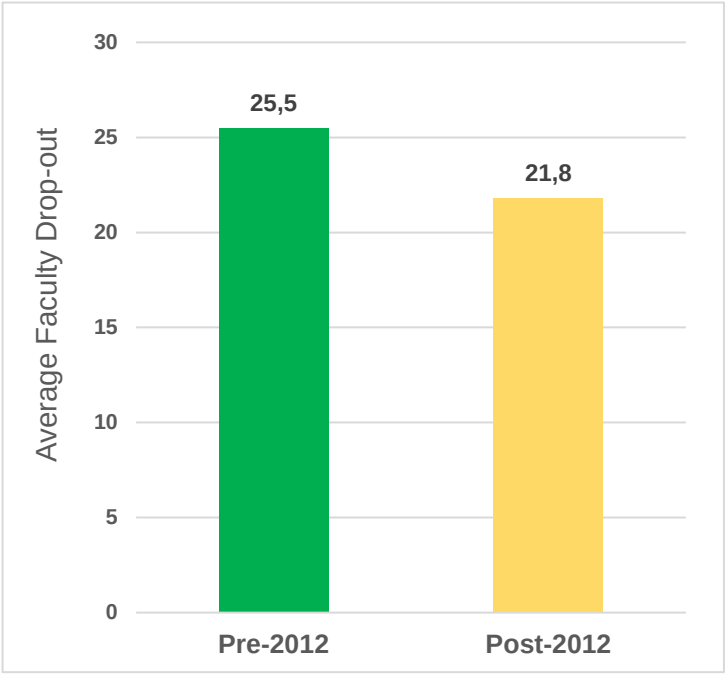

Figure 6: A comparative analysis of the drop-out rates pre- and post-2012.

4.8.2 Correlations

Bivariate Pearson's correlation was also performed on the data; the results are shown in Table 10.

Table 10: Bivariate Pearson's correlation for number of students entering and the drop-out rate.

		Number of Students Entering
5 Drop-out rate	Pearson Correlation	-.551
	Sig. (2-tailed)	.335
	N	5

A negative Bivariate Pearson's correlation value implies an inverse relationship. That is, the correlated variables have an opposite effect on each other. The negative value of the Pearson correlation coefficient of [r = -0.551], in the context of this study, therefore indicates an inverse relationship between the number of entering students and the number of drop-outs. This suggests that, over time, the more students who entered the different programmes in the faculty, the smaller the number of students who dropped out. If it is assumed that all other factors have remained constant over the period of review, then the determining factor is the intervention programme, which is having the desired effect.

4.8.3 Trend analysis

The trend per year of the drop-out rates is presented in Figure 7. It is noted that the overall trend is decreasing (slope = -1.35). This implies that the number of drop-outs are decreasing with time. It was also observed that the variance of the pre-2012 years is higher than that of the post-2012 years, that is 11.8 compared with 8.8, respectively. This is further supported by Figure 8, which shows that the smaller variation indicates similar levels are being obtained, whilst the larger variation indicates a bigger spread around the mean values. It is observed that the slopes are negative for both the pre- and post-intervention programme. This implies an inverse relationship between the variables; that is, the dropout rates are decreasing over time. It is also noted that the post-intervention slope is more than 2 times 'steeper' than the pre-intervention. This indicates that the rate of dropout is decreasing much quicker than before intervention. Although the trend was in place already, the impact of the intervention has been significant.

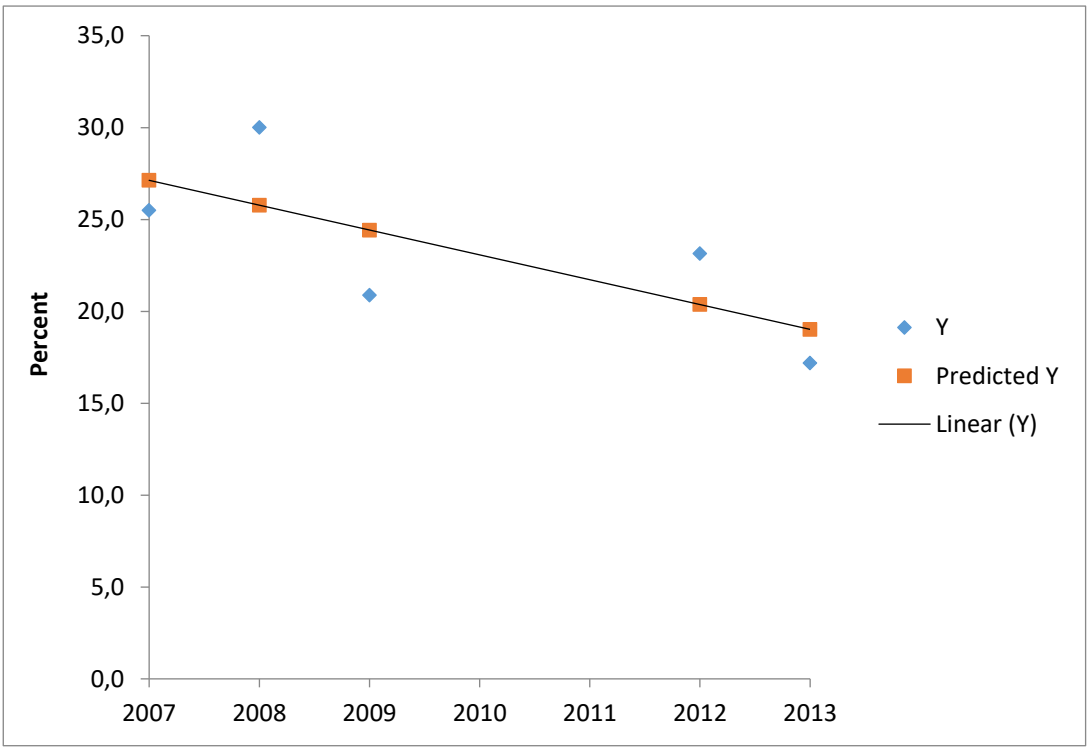

Figure 7: Trends in drop-out rates pre- and post-2012.

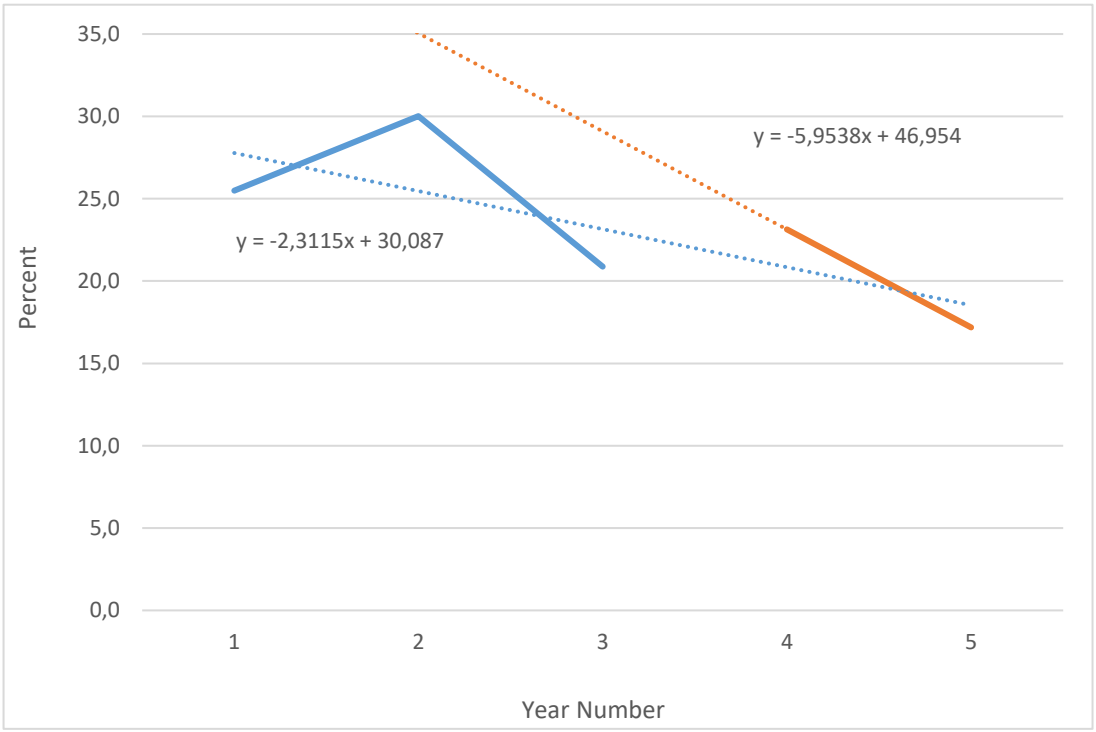

Figure 8: Variations in drop-out rate over time.

Moreover, in determining whether the slopes are significantly different a slope test was further performed. The results revealed that the p-value was less than the level of significance ($p<0.014$). This implies that the slopes are significantly different, which demonstrates that the difference in slope is not due to chance. The decision to focus on the impact of the intervention on the number of students who drop out is supported by the qualitative analysis of this mixed methods study.

CHAPTER 5
THE DISCUSSION

5.1 INTRODUCTION

Questions posed to interview participants were designed to elicit their experiences and opinions of being a university student, particularly in the context of weak academic performance and referral for academic support. In considering the transition phase and the acknowledged articulation gap between high school and university (Lewin and Mawoyo 2014), initial questions probed for their reflections of whether school had properly prepared them for university-level studies. Subsequent questions gave an opportunity for interviewees to talk in a variety of contexts about their experiences once at university, and as a weakly performing student referred for academic support. The findings presented in Chapter 4 categorised the themes and sub-themes that emerged during the coding of interview transcripts within the umbrella questions on school preparedness for university; AD support; lecturers; and non-academic factors affecting academic progress. The thematic analysis and discussion is proffered in this chapter within the conceptual framework of Activity Theory.

Also contained in Chapter 4 are the results of the statistical analysis on the historical student data, which showed that the drop-out rates are decreasing over time. Whilst the trend of the decreasing drop-out rate existed pre-intervention, it was found that the rate of decrease quickened in the ongoing-intervention time period. The significance of these results will be discussed in relation to the student themes that emerged.

5.2 THEMES AND SUB-THEMES FROM THE STUDENT INTERVIEWS

In this section each theme and sub-theme will be presented within the initiating question category of the interviews. These will be discussed in the context of the students' perspective and the literature contained in Chapter 2, as well as relevant additional literature around specific issues that emerged within the interviews. In

order to emphasise critical student experiences or to provide reference points within the text, some student comments have been included in a shortened format. Additionally, student code identifiers have been included where relevant to provide continuity with the verbatim extracts from the interview transcripts contained in Chapter 4.

The qualitative data illustrates the students' experiences and perspectives to enable better understanding of the learning situation, within the context of the South African higher education articulation gap and poor performance (Fisher and Scott 2011; Smit 2012; Council on Higher Education 2014b; Leibowitz and Bozalek 2014; Lewin and Mawoyo 2014; Scott 2014; De Kadt 2015). As an embedded mixed methods study the quantitative data is integrated within the discussion. The statistical results are in support of the students' perspectives on the benefit and value of the AD referral system for academic support. Specifically, the quantitative data clearly shows the importance of retention through decreased drop-out rates, particularly where students could not cope with the transition from high school to higher education (Cross and Carpentier 2009; Ogude, Kilfoil and du Plessis 2012; Council on Higher Education 2013; McGhie 2014).

5.2.1 Background

The starting point to be a university student is successfully completing high school and obtaining a confirmed place on a course of study at an institution of higher learning. The subsequent transition from a secondary to a tertiary learning environment can often be experienced as a confusing and disruptive process fraught with uncertainty in the new and unfamiliar space (Ogude, Kilfoil and du Plessis 2012; McGhie 2014). An ability to successfully navigate through the transitory phase can aid the individual in finding coping skills for a range of different situations that he/she will face for the first time. The differences in structure, operations and expectations between a school and university can have a major impact on how the new university student relates to the changed environment and circumstances of learning.

Knowledge of how students were prepared for university by the environment and offering of secondary education is important for a better understanding of the articulation gap. That such a gap exists is covered extensively in the literature (Fisher and Scott 2011; Higher Education South Africa Portfolio Committee 2011; Smit 2012; Inyathelo: The South African Institute for Advancement 2014; Lewin and Mawoyo 2014). Without students giving their personal experiences and opinions as stakeholders in their own learning, however, it would be challenging to design suitable and appropriate support programmes or interventions. As espoused by the CHE (2014), providing access with concomitant academic success is of paramount importance within higher education in South Africa.

5.2.2 Question category: School – University preparedness

5.2.2.1 Theme: Structure and Approach

When asked whether they felt prepared by their school for entering university the majority of responses indicated a negative element of preparedness, with students being vociferous in their opinions. Some issues raised by students were of a technical nature, for example not having Physical Science practicals **[G1-4]** or having a school library that focused on novels instead of academic texts **[G2-1]**. These are both critical points as a UoT is a vocational institution with major emphasis on practical work, and university libraries focus on educational texts and scholarly literature for learning. Not being familiar with a science laboratory and with no experience of conducting any kind of experiment or similar lab work is a handicap for new students within the Health Sciences specifically, and at a UoT generally.

Jacobs *et al.* (2015) noted the negative impact on students when school infrastructure was lacking for practical work in science subjects. Both students **G1-4** and **G2-1** had found themselves in a quandary as they were now expected to function optimally in environments that were entirely unfamiliar (laboratory) and of a different content emphasis (library). This placed both students at a disadvantage in adapting to university through a smooth transition phase from a secondary learning environment. Students were expecting the ‘familiar’ yet found the

'unfamiliar', whilst at the same time trying to make sense of a new and specialised field of study.

For many students the experience of coming into university was a rude awakening, finding out that the learning environment was vastly different from school with more complex expectations of them as individuals. Once a problem is recognised the next step is to take corrective action, however it became clear that students did not know what to do about their situation. Some students tried 'something', but found it was not making the situation better and was in fact adding to their stress **[G1-1]** or leading them to failure **[G2-2]**, whilst some just did not know what to do **[I-4]**. These comments from participating students emerged when responding to the question on what they tried to do when they realised they were in a weak academic position.

Whilst a university student is required to be a self-disciplined critical and independent thinker who actively takes responsibility for his/her own learning (O'Neill and McMahon 2005; Crosling, Heagney and Thomas 2009; Tinto 2012; White and Schulenberg 2012), students mostly report that at school these things were not expected of them or taught to them. Student **G2-1** explained that school did not prepare students in terms of discipline, and **[I-3]** raised the issue of the different levels of questioning, with it being higher in university. Another student felt that pupils were not prepared at high school for the levels of independence students would need to exhibit at university, as

> "*High school was an environment where everyone seemed to chase after students…they check up on you and most of the work is actually done for you*" **[G2-1]**

These statements highlight some of the differences between high school and university. Students were not able to self-correct when in a weak academic position as this was not expected in the previous learning environment, so they were once again in 'unfamiliar' territory.

5.2.2.2 Theme: Methods and perspectives

Taking responsibility for themselves in the learning process was both unexpected and strange, with no reference points to draw on as they had not experienced this situation before. At university students were expecting that everything would be done for them, as it was in high school **[I-4]**. More specifically, two students raised the issue of approaches to learning at the respective levels of study in terms of learning just to pass at high school, however they found that at university understanding and application is more important:

> *"usually we study to pass, whereas in university whatever you are studying is something that you gonna use"* **[G1-4]**

> "*university…it wasn't just taking a book and just regurgitating it, it was also application"* **[G1-1]**

Student **G2-1** in particular expressed that the difference between learning just to pass the test at high school (conducted very successfully) and learning for understanding and application before the test at university (initially not successful) had led to being "traumatised". Her sense of 'self' had been disrupted as her 'familiar' (CPF: Cram Pass Forget) was not aiding her in an environment that required understanding and application. Again this is the 'unfamiliar', with a lack of reference points to draw on for self-correction: the 'familiar' was just to pass without necessarily understanding or retaining the knowledge for future use; to study the night before a test; and to have things done by 'others'. These sentiments on learning for understanding and for application resonate with the perspectives of Crosling, Heagney and Thomas (2009); the learning approaches presented by Fyrenius, Wirell and Silén (2007); and the impact of inappropriate study techniques as advanced by Engelbrecht, Harding and Potgieter (2014).

Not knowing what to do to correct a problematic issue exacerbates rather than ameliorates the situation. Without reference points to draw on, the students started to slip into a cycle of trying to correct themselves without knowing how to effectively do so and finding themselves falling deeper into the weak zone of academic performance. The 'familiar/unfamiliar' can be aligned with a

resonant/dissonant position, with the dissonance being the disjuncture between what was known and expected and what was found and experienced (Wisker *et al*. 2010).

Whilst Wisker *et al*. (ibid) wrote in the context of postgraduate research students, the situation is no different for undergraduate students in the context of learning and finding what resonates, or is consonant, in their learning experiences for their own meaning-making (Lindblom-Ylänne and Lonka 1999; Vermunt and Verloop 2000; Fear *et al.* 2003). Lindblom-Ylänne (2003: 64) expressed dissonance as "problematic relationships between individual students and their learning environments, particularly their perceptions of their environments". Significantly, Meyer (2000) stated that where there is dissonance between what the student is capable of or prefers, and what is necessitated by the learning environment, then the student is more likely to be academically at-risk.

Expecting a continuation of being 'given', doing night-before study for tests, and regurgitating from rote learning led students into unexpected and unexplored territory. The situation became overwhelming for many, and as indicated by **G2-1**, it is at this point that many students drop out in the first year. The student further explained that this was mostly because students did not know how to answer questions and felt that *"too much is expected of them...they feel like this is overwhelming".* For some, expectations of what it is like at university appear to be distorted by popular media. The life of a student portrayed in movies was the expectation of **G2-1**; student **G2-2** concurred with this point, going further to say that his expectation was that "*you just live and you will pass the test*". Both students found themselves disappointed and confused when their expectations were not met, and both students found themselves in a precarious position of failing tests but not knowing how to self-correct in the university environment. Not being able to adjust to a new and unfamiliar learning environment whilst retaining the familiar old ways of learning placed students in the category of being 'at-risk' (Meyer 2000; Mäkinen, Olkinuora and Lonka 2004).

5.2.2.3 Theme: Time management

The timing of personal study is particularly important as the volume and complexity of the academic work at university is considerably higher than at high school. Trying to engage with a high volume of content just before the test in anticipation that it will be enough to pass appeared to be the standard method of 'studying'. Staying up the night before a test to do the 'studying' worked well in high school for **[I-4]**, but not subsequently (*"…university - tried the same thing, it did **not** work"*). Students **G2-3** and **I-3** raised the same issue, making the point that the workload was so much greater in university that studying for a few hours or the 'night before' did not give enough time to understand the work.

Knowing how to make the best use of available time is a key feature for anyone undertaking any activities that require commitment and focus over a stated period of time. Without a good understanding of how to best manage the time available outside of lectures and practical/laboratory sessions, the workload soon becomes unmanageable. Not being taught good time management skills at school can therefore have a major negative impact on a student new to the rigours and demands of university life **[I-4** and **G2-2]**. Student **I-4** linked the management of time to all his activities in terms of having to take care of himself through doing washing, cooking and cleaning, which are all elements of life that have an impact on the time available for getting to classes punctually and also for doing academic work outside of campus attendance. This student acknowledged that had he been taught to properly manage his time at school he would have been in a far better position to cope when he arrived at university and faced a new and unfamiliar learning environment.

The reality of being in a new learning environment where the individual is expected to ensure that he/she balances all commitments, be they academic, family or personal, is difficult when not having the knowledge and tools of how to factor different aspects into a day or week **[G2-2]**. McGhie and du Preez (2015) included 'balanced lifestyle' in their questionnaire given to at-risk students in an Extended Curriculum Programme at a traditional university; they noted that not managing in this context was a common problem at first-year level, whatever course of study

was being undertaken. In a study of the performance of health science students, Higgins-Opitz and Tufts (2014) found that participants identified poor performance with a lack of efficient time management.

The importance of learning how to manage time properly to reduce stress and cope better with pressure was a point also raised in the study by Potgieter *et al*. (2015). Students participating in that study indicated that one of the major adjustments they had to make in moving from high school to university was in terms of managing their time. The students had benefitted from support personnel, including a student adviser, and were taught holistically in the context of life and study skills. They felt that amongst the skills taught to them time management was very useful. These points resonate with those of the students in this study, although there is a difference in the context. In this study academic support is provided to any registered student within the FHS, whereas the Potgieter *et al*. (2015) investigation reflects on students placed in an eighteen-month preparatory programme prior to entering mainstream studies.

Distorted expectations and finding the unfamiliar may well lead to a student choosing to 'throw in the towel', whether through deregistration or dropping out. Such dissonant positions without learning support would no doubt contribute to attrition. A holistic learning support system that provides an opportunity for students to find a new 'familiar', that is finding consonance with their new learning environment, could very well aid in overcoming the articulation gap for improved retention and success (Lindblom-Ylänne 2004). Providing such interventions for improved student retention and success are of critical importance (Howey 2016).

5.2.2.4 Theme: Language

As indicated in Chapter 4 English is the medium of instruction at DUT, although for most students at the institution it is not their home language. Even when it is a home language, the complexities and demands of the university environment require a different way of using the language in an academic and discipline-specific context. During the interviews the students spoke about the importance of language in their learning and some of the ways that they try to 'manage' their language situations. In English, grammar, spelling and writing as one speaks was

a sore point for **G2-2** and particularly not being able to remember the grammar he had been taught at school after having a gap year before entering university.

Students tried to make the best of their lack of familiarity with English in various ways: whilst students **G1-3** and **G1-4** used translation (English to home language for understanding), **G1-2** uses a recording device to listen to the lecture again at home at her own pace and in her own time. One student was grappling with a known learning disorder diagnosed in childhood (ADD/ADHD) **[I-1]**, whilst another student was diagnosed with dyslexia only once she was attending at university **[G1-1]**. Both these students indicated that the English language is problematic for them, even though it is their home language. Any learning disorder, whether ADD/ADHD, dyslexia or similar, requires specialised support for academic progress as such students are at higher risk of poor academic achievement (Newton, Sperling and Martin 2017).

Whether English is or is not the home language, there are issues of concern for students in being able to make use of the language in their learning at university. Student **G1-4** talks specifically about 'comfort' – comfort of a known, home language that may not be the medium of instruction. Both **G1-3** and **G1-4** translate from English to the home language for content understanding. When translating from English to the home language there then needs to be the reverse translation when writing answers in a test, which is another problematic aspect highlighted by **G1-4**:

> *"but in a test it has to be translated into English and your level of knowledge of English might also hinder giving the right answer…but not knowing enough English to translate it in a test is a problem"*.

Disciplines within the Health Sciences require students to use correct terms when writing assignments and tests, as the terminology is carried into the workplace when they become a practitioner in the healthcare sector. The terminology varies with the discipline, so whilst some are standard across the health and medical fields (eg. words from anatomy, physiology, pharmacology), others are purely discipline-related (eg. from Dental Technology, Chiropractic, Emergency Medical

Care, Radiography, etc.). Thus the students need to know enough English to be able to work with the content of their subject, whilst also learning a new discipline-specific language at the same time. From the students' perspective there is a double translation: English to the home language and back to English, which is further compounded by the required usage of discipline-specific terminology. At issue here is something more than just knowledge and use of the English language, it becomes more one of epistemological access within a transforming South African education system (Boughey and McKenna 2016).

In relation to epistemological access, the 'autonomous' and 'ideological' perspectives of academic literacy appear in the literature (Boughey 2002; Jacobs 2005; McKenna 2010; Boughey and McKenna 2016). The autonomous model of language is described as neutral and inculcating technical language skills such as grammar and spelling (Jacobs 2005; Boughey and McKenna 2016), as opposed to the ideological model that is of a socio-cultural nature where the language is embedded within the discipline (Jacobs 2005; Boughey and McKenna 2016). McKenna (2010) presents the point that a predominant perspective in South African higher education is that a student's ability to attain meaning rests with their English language skills (the autonomous model). She argues further that in contrast, the ideological model depends on what the student brings with him/her in terms of how meaning is made, together with acculturation into the discipline 'literacies'. This point is taken further by Clarence (2010), who posits that such literacy acculturation is best taught by the discipline specialists.

Both McKenna (2010) and Clarence (2010) make valued points and arguments. McKenna (2010) does state that together with intellect and determination, good English is also required for student success. From my perspective of working with students who have English language difficulties and are academically 'at risk', it is my contention that such discipline literacy can be aided by a sound knowledge of the general technicalities of the English language. To clarify, my view is that to provide technical English support by itself, or discipline literacy by itself, is only going half-way in providing a solid and effective mechanism for students to learn holistically in the wider context of being a productive [health care] practitioner and independent citizen of South Africa. Providing generic language support

concomitantly with discipline acculturation therefore seems to me to be an enabling factor of support for student transition, retention, success and future production.

A point that needs to be raised here is a general one regarding literacy; of relevance is an international study commented on by Nair (2017) regarding the poor literacy levels in South African schools. The study was conducted on Grade 4 pupils in relation to reading comprehension and revealed that 80% could not read with understanding. South Africa came last in this survey of 50 countries. In his Editor's View opinion piece, the author expresses that the South African education system is "shambolic" and that coming last in the literacy survey was a "total disgrace" (Nair 2017: 8). Whilst these are emotive words, the survey results could potentially explain the difficulty that exists for students entering university in South Africa, especially if these difficulties persist through high school. What takes place at school (the familiar: read to remember and replicate) and what is expected at university (the unfamiliar: read for understanding and application) is a serious literacy disjuncture with far-reaching ramifications. If youngsters are taught to read at school just to recognize and remember words and sentences without necessarily understanding them, then the consequence could manifest at university level through a lack of capacity to read for understanding and application.

5.2.2.5 Theme: Expectations – weak position

In general, university study was not expected to cause difficulties in terms of academic progress according to six of the students. Three just indicated "No" when asked if they expected to be in a weak academic position **[G2-1, G2-2, G2-3]**, without expanding further. Three students had initially expected to continue in the same way as at school, but their experiences once at university were not what they had anticipated **[G1-1, I-3, G1-3]**. One student did expect to be in a weak academic position as he had attended a special school for ADD/ADHD individuals **[I-1]**.

5.2.3 Question category: AD support

After the questions on school preparedness for university studies, the next set of questions in the interviews focused on the academic support they had received within the FHS.

5.2.3.1 Theme: Feelings on being referred

5.2.3.1a Sub-theme: Positive feelings on referral

Participants had different feelings about being referred to the AD ambit for support to make better academic progress. Amongst those who took the referral positively, most had already come to recognise that they were not coping and needed some kind of help. Although feeling disappointed in himself for failing, student **G1-4** appreciated the help he was getting because it was not something he had received at school. He looked past potential embarrassment at the referral and took it positively. Student **G1-2** also used the word 'embarrassment', again discounting it as she had already recognised herself that she needed help to make progress in her studies from as early as her first test. Whilst acknowledging that he did not have a choice on whether to attend the referral consultations or not, student **I-4** recognised the need for support at that particular time in his studies.

The perspective of **G2-2** is an interesting one, as he compares the AD personnel to a parent *("what I've learnt is that ADP is like the father or mother that I have left at home"*). He also talks about being honest in dealing with the AD, and through those approaches he had been helped and guided. For me this is a rewarding comment, as in my role within the AD ambit I have always striven to achieve the balance between being an objective and professional practitioner, whilst at the same time providing a relaxed and welcoming environment for students in their engagement with AD support. This is reflected in some of the comments by **G2-3**, who indicated that the AD department *"are always there to listen to you, whatever it is, and you always leave there like you know a bit lighter, a smile on your face".*

5.2.3.1b Sub-theme: Negative feelings on referral.

Conversely to the positive aspects, some students viewed the referral for academic support very negatively. One student felt depressed about it and that studying had been wasted time **[G1-1]**, whilst another had difficulty in his referral being made known to the rest of his class **[I-1]**. Whilst both were resistant at first, both came to realise that they were being offered help and guidance to improve their academic position. Student **G1-1** realised during the process that it was designed to help her and would lessen the stress she had been feeling. For student **I-1**, it was the realisation that he really needed help as a "*self-improvement choice*" and eventually came to realise that it was *"just something as a tool to help me learn better".*

Two students felt 'lesser' than other students through being referred. One student had a problem with her ego as she felt that she was quite capable and did not feel the need for her to be referred and to attend **[G2-1]**. Her comments also indicated that a negative impression existed about the AD ambit and it was not a place that students wanted to go to; she likened it to "*Alcatraz*". Furthermore, she did not really understand what the AD ambit was for, as evidenced by her comment that: *"I didn't understand what they did, so like, what are they developing in me exactly, I was asking myself '**what** is being developed?'".* Feeling 'lesser' than other students was a strong comment from **I-3**, who stated that when one is referred it is *"like you're less worthy of being in the course because you're not as strong as others are…it's not a nice feeling at all".*

These two students, **G2-1** and **I-3**, eventually converted to a positive opinion of their respective referrals and engagement with the AD ambit. What they have raised in their comments, however, is the impact of image and information from the student perspective. Having a negative perspective of the AD ambit and support system can potentially be harmful by causing students to ignore the referral, and thereby forego the opportunity of receiving assistance with their learning processes. It is not clear how such a negative impression arose about the AD ambit, however it is a student opinion that needs to be taken seriously and carefully considered in designing appropriate support interventions for maximum effectiveness. Addressing the image and perception of the AD ambit amongst

students, and amongst first-year students in particular, will be an important design component of the framework in this study.

5.2.3.2 Theme: Reaction to consultations

Students were asked about their reactions once they commenced with referral support consultations. Two contrasting and interesting perspectives emerged from students **I-1** and **G2-1**. On the one hand there was the approach of wanting things to be done by others, as at school, so that the student was the passive receiver of the 'action' **[I-1]**. On the other hand, and in complete contrast, was the view of taking personal responsibility, as explained by **G2-1**: *"first when you go to ADP you need to go there being teachable…you need to be teachable and agree and accept that you actually have difficulty in certain areas"*. I found this to be an extraordinary comment, given that student **G2-1** had been a proponent of the CPF (Cram Pass Forget) method of 'learning' and had also earlier questioned ***"what** was being developed?"* in students by the AD ambit. The turnaround from resistant sceptic to comfortable acceptance of AD support is significant in relation to the approach of the AD ambit towards making the services offered as user-friendly and as useful to students as possible.

Student **G2-2**, whose view of the AD personnel was that they were like "*the mother and father that I have left at home"*, explained how he had been pulled back from *"that hill of failure…they taught me how to manage my time, they taught me that I should do this, that I should apply my English in this way, that I should apply myself in this way".* The important aspect here is that of application: learning about different study techniques and time management strategies is only part of the process. It is also necessary for the student to grasp how such techniques and strategies can be usefully applied in his own life for maximum impact on making progress from a weak academic position. This student fully engaged with the process in all contexts, being prepared to attend at consultations with an open mind for his own benefit in gaining knowledge of skills that he could apply to his personal schedule management and learning processes. Student **G2-2** is of mature age and had a gap year after finishing matric. Earlier in the interview he had indicated that during the time away from studying he had forgotten a lot of the English language skills he had learned in high school. Whilst acknowledging the

earlier points on epistemological access through discipline embedded literacy (Boughey 2002; Jacobs 2005; Clarence 2010; McKenna 2010; Boughey and McKenna 2016), a further case can be made for both generic and discipline-specific language teaching/support from the opinions expressed by student **G2-2**.

5.2.3.3 Theme: Impact of AD support

5.2.3.3a Sub-theme: Academic impact

Implementing an intervention designed to support at risk students and anticipating that it will be successful is one part of the job; there also needs to be critique from the 'customers' – the students. Student participants in the interviews who spoke on this aspect made positive comments along two major themes: academic impact and language impact. A third positive theme was 'other', with sub-themes of personal problems, confidence, coping strategies, commitment, motivation and mindset.

Some of the responses covered two or more different themes, in particular those of student **G1-4**. Whilst acknowledging that he had benefitted in the academic context from the support system (during the group interview, as participant **G1-4**) he also indicated that he had benefitted in a personal context. In the individual interview that he requested **[I-2]**, he elucidated that he had an addiction (social media), and that the AD support system had aided him in dealing with all these aspects of his life. The use of the word 'addiction' was the student's choice, although the word 'dependency' may be a better description, as he did not indicate that he had been formally diagnosed by a psychologist as having an addiction.

Social media dependency is a relatively young area of research in relation to its impact on the learning development of a young adult (Seo *et al.* 2016), and researchers are yet to reach agreement on definitions for excessive social media use (Banyái *et al*. 2017). Whilst researchers consider the problem of whether 'addiction' or 'dependency' or some other classification is appropriate, excessive social media use has time implications for the user. This reverts to the issue of time management, with the user recognising that a primary cause of failing tests is that most available time for studying has been spent on social media use, leaving little if any for self-study. Within the referral system the student was taught

how to assess what time was actually available for study outside of formal teaching and how to draw up his own balanced personal time schedule. Concomitantly, he was referred by the AD unit for counselling in relation to the psychological issues of dependency.

There is, however, a converse viewpoint on student usage of social networking, albeit in the specific context of a learning disorder (Anderson 2014). Explaining the difficulty of transition from school to higher education, the focus of the author is on the specific context of high functioning autism and how social networking can be a facilitating mechanism. It would be interesting to see what boundaries would emerge in research on the balance between social networking as a 'facilitator' and social networking as 'dependence/addiction' in teaching and learning.

Two other responses from the first group interview indicated that progress is made when the students respond and work with the system **[G1-1; G1-3]**. This was echoed by **G2-2**, who articulated that *"the time I sat back and did not go there I'd fail…when I went there I'd come back and pass".* Student **1-4** also stated that he had made progress from the beginning, when he started attending for the consultation sessions. Two students spoke more specifically about the areas of impact and how they had made progress. One student began using study groups and verbalising subject content **[I-3]**, whilst another had improved in writing, language and referencing **[I-1]**. This student went further in stating that in his class he was not the only one who had benefitted from the support system, that there had also been a positive impact on his peers **[I-1]**. Several authors have advanced the value and importance of facilitating students to overcome the articulation gap and achieve academic success through appropriate academic support programmes (Shelton 2003; Hendriksen *et al*. 2005; Crosling, Heagney and Thomas 2009; Young-Jones *et al.* 2013).

5.2.3.3b Sub-theme: Language impact

As indicated by the students earlier during the interviews, knowledge and use of the English language is a difficult issue. Four students raised specific positive impacts in relation to language **[G1-1; G1-3; G2-2; I-1]**. From helping *"…to define my English better…"* **[I-1]** to *"…it opened my eyes like in terms of English*

writing…" **[G2-2]**, the feedback from students indicates that providing technical language support can be beneficial. Again, going back to the literature (Boughey 2002; Jacobs 2005; Clarence 2010; McKenna 2010; Boughey and McKenna 2016) and my own argument that students can benefit from technical English language support concomitantly with discipline-specific acculturation, the student perspective lends credence to English language support being important.

5.2.3.3c Sub-theme: Other impact

This section considers individual aspects raised by students of the impact that AD had on their development and progress. These included: confidence; commitment; motivation; mindset; coping strategies; and personal problems.

Support by the AD ambit also had a positive impact on other elements of the students' life and personal development. When struggling to make good academic progress students often find themselves with flagging confidence, potentially leading to deregistration or dropping out. Confidence was important for **G1-2**, as well as re-focusing her energies onto what was really important. Realigning her point of focus was part of the confidence-building process, as this mature-age student had been facing extreme domestic difficulties that had left her doubting herself in all aspects of her life.

Committing oneself to a course of study is also important, as articulated by **G1-4** in that *"…my lack of personal commitment but despite that, if I didn't have that support I don't think that I would have survived my first year".* Although not stated during the group interview, the 'lack of personal commitment' being referred to here is that of being addicted to social media **[G1-4 = I-2]**, as outlined earlier in this chapter.

Two other sub-themes in the theme of a positive AD impact are motivation and mindset. Student **I-3** recognised that the AD ambit has a positive impact in the context of motivation and can provide *"…that sort of push…"* to students. Student **G1-4** felt strongly that the AD support system had provided him with the guidance he really needed to move himself towards successful academic progress. He talks about the support moving him to develop courage and motivation, both intrinsic

aspects of what can drive an individual to be committed and take active steps to promote learning within and for him/herself. In light of the complex difficulties being faced by student **G1-4/I-2** in relation to his social media dependency and another issue, his words are powerful, and worth repeating, in the context of student access, retention and success:

> *"…the support I got from this department…eventually also gave me courage, also gave me motivation to carry on…it had a positive impact on me in so many levels in my life…"*

All the above issues are strong points from the students. Whilst primarily aimed at guiding and assisting students to find ways of understanding their new learning environment and its requirements, AD support also endeavours to inculcate positive personal development. It is my view that education – learning – is not just about facts, figures and knowledge of a particular discipline. What we teach students, and how we teach students, should be holistic and organic - it should lead not only to discipline knowledge but also to self-knowledge: to the development of the individual as a 'knowledge being'. It is my contention that knowledge of the self is just as important as knowledge of a particular discipline, and that the overall objective of AD support should be to promote 'self' learning and development in all contexts whilst students are within the influences of higher learning environments.

Motivation is an element of self-development and personal growth that enables talent and ability to find a partner in hard work and dedication. A factor in student retention and success is actively and constructively grappling with 'finding' or 'having' the motivation to engage in learning (Ramirez *et al*. 2016; Saeed and Zyngier 2012; Usher 2012). As raised by Kroth (2007), various theories of motivation may be relevant and appropriate within a student support programme to promote the significance of understanding and harnessing both intrinsic and extrinsic motivation in students' approach to learning.

Part of self-learning and personal development is knowing how use effective coping strategies for any areas of difficulty. Three responses illustrate the sub-

theme of coping strategies. Having a way of keeping track of and control over time assisted one student; the technique was introduced to her as a first-year student and she still utilised the principle in 2016, as a final year student **[G1-1]**. Another response indicated a general growth towards making progress more through self-reliance than relying only on the AD ambit **[G1-2]**. It is important for the AD ambit to provide appropriate support and guidance for students in their progression towards self-reliance. Comments by **G2-1** highlighted this particular point: that the guidance given to students gives them something to work with in understanding their particular situation and how to constructively strategise for improvements.

Whilst not being subject specialists in any of the faculty offerings, nor counsellors or social workers, AD practitioners have an in-depth understanding of the faculty community and institutional entities which is critical in providing guidance and support that is appropriate for that particular student's matter at hand. It is vitally important that the AD personnel know how the faculty is structured and operates; where and how there are linkages; when to collaborate and when to work independently; and how to use faculty and institutional resources that are available. Personnel in the FHS AD ambit are not qualified psychologists and therefore do not practice any counselling techniques that require such a qualification. What is vitally important though, is knowing when to talk things through with a student because they have general life issues impacting on academic progress and require guidance for coping mechanisms, and when there are matters that require professional counselling therapy. Student **G2-1** also stated that she always benefitted in some way from her AD consultations, she always got something out of it, having a sense of direction.

A mindset perspective of being assisted to find ways of making progress, in whatever context, was also important for student **G2-3**, who talked about stress affecting his academic progress and how the AD support consultations had aided him in adjusting his thinking and approach. It is important to state here that this particular student had two levels of stress in his life at that particular point, one that could be dealt with by the AD personnel and one that could not; for the second issue he was referred to Student Counselling. This is a common occurrence –

students being attended to within the referral system for certain issues but also being referred for professional support from other institutional entities where relevant and appropriate. There is a close collaborative working relationship between the AD ambit in the FHS and the Student Counselling department. Meetings and discussions take place on issues of common interest; guidance is also sought from Student Counselling where there are complex 'grey' areas of student issues that may require expert guidance for the AD ambit to decide on a particular plan of action.

5.2.3.4 Theme: The value of Academic Development

5.2.3.4a Sub-theme: Retention

Thus far, the students who participated in the interviews have expressed their opinions and experiences of being a student in transition and the impact of the AD support system. Extending the impact factor, participants articulated their views on the value of the AD referral and support system for students. Three students talked about retaining students within the faculty specifically and higher education generally through AD support for improving academic progress. Whilst **G1-3** refers to himself in relation to not allowing himself to "*go too far*" down when facing academic difficulties, it is significant that students **G1-4** and **G2-2** spoke strongly about other students and retention. Staying within the registered course and sticking it out, not giving up, is a point made by **G1-4**, who acknowledges that students do give up when they find obstacles:

> *"…besides me it has saved a lot of students…I know some students who have been through this programme who are still here compared to other student who just gave up at that point that they had a downfall".*

Providing support for retention is important, so that students are assisted to overcome obstacles to academic progress and remain within the system to completion of their studies through to graduation. Dropping out or constantly changing courses but still not finding academic success was of concern to **G2-2**, who felt that AD support for students assisted in reducing the level of drop-outs. This student's point is important for access and retention with success, in the context of how students are assisted with attaining success once they have

achieved access (Shelton 2003; Jeffreys 2007; Badat 2010; McEnroe-Petitte 2011; O'Shea *et al.* 2015).

Retention is a critical issue within higher education (Shelton 2003; Jeffreys 2007; Badat 2020; McEnroe-Petitte 2011; De Kadt 2015; O'Shea *et al*. 2015), particularly if South Africa is to achieve widened access with success (Ng'ethe, Subotzky and Afeti 2008; Fisher and Scott 2011; Smit 2012; Council on Higher Education 2013, 2014b; Lewin and Mawoyo 2014). Relating the retention of students to this study is evidenced by the student opinions as given above, supported by the results of the quantitative phase of the mixed methods methodology. Whilst the results did not elicit any statistically significant improvements in the success or throughput rates, the drop-out trends over the time periods under study were statistically significant. The trends lines in Figure 4.8 of Chapter 4 clearly show that there has been a significant reduction in the drop-out rate within the FHS in the period during which the academic support programme has been available to students within the Faculty. This is further supported by Figure 4.9, which shows a p-value of less than 0.05, highlighting the fact that the difference in the slopes is not random but is statistically significant.

Alongside retention is the equally important issue of students staying within a particular course and not jumping to another one when they encounter difficulties **[G2-2]**. A question that arises is how do students *really* decide what to put on the forms they complete when applying to attend at a university? Whilst some may have a very clear idea of where their strengths and interests lie, for many students who just want to be at university the confusion and uncertainty may lead to rash choices and decisions. This is the reality of applications, having personally seen application forms with six or more choices ranging, for example, from accounting to graphic design to engineering to radiography to economics to food technology. It is understandable that some individuals have two diverse interests, however those split interests tend to result in more logical cluster choices, for example half the choices from the medical field and half from the arts.

5.2.3.4b Sub-theme: Personal growth

Some participants in the interviews were referred to the AD ambit for academic support in their first year, whilst others were referred in their second or third year. At whatever their referral point, students had reflected on the value of their own growth. Two students particularly spoke about being mature enough to acknowledge they needed help and to actually accept it when it was offered **[I-1, G2-1]**. Whilst **I-1** had a maturity level that enabled him to accept the help that was offered at source, it was only at a much later stage in her studies that **G2-1** realised that she could now reflect positively on the value of the support she had received. Significantly, in speaking about the value of the AD support system this student also expressed her acknowledgement of the tenets and ethos of the AD unit:

> *"…it was just the right environment, the right attitude, the right atmosphere and that just rubbed off onto me too and that was the kind of help that I received, that positive energy".*

This resonates with my earlier point in section 5.2.3: the AD personnel being professional and objective in a relaxed and welcoming environment. It also emphasises the necessity of providing appropriate support programmes to students for academic progress leading to success (Coughlan 2006; Tinto 2014).

Being 'aware' was important for **G2-2**, who talked about not really seeing what the problems were, or not acknowledging and accepting that they were problems that needed remedies for better academic progress. I found some of the words and phrasing of his statement to be of great interest:

> *"…it is like a person who enables us to see what we have been looking less on behind…"*

Whilst not grammatically correct, for me it powerfully conveys the essence of what this student wanted to say: that he had not been seeing what needed to be seen – it was 'behind' and therefore out of his view and thought. Raising his awareness of what needed to be 'seen' and faced up to had given him a different perspective on his learning processes and how he could make changes for improvements to

his progress. Student **G1-1** was blunter than the descriptive prose of **G2-2**, in that she *"was clueless"* about the AD ambit. Not knowing what it was about initially then changed over time to understanding, acceptance and appreciation of the support that she had received. Having value to students is important for the AD ambit when providing support for improved academic progress. Students articulated that they have moved from a weak academic position and made positive progress in their academic work, both themselves and also their peers. As indicated by **G1-1**, she is not the only student in her course to have made better progress:

> *"…you look at the results and not just for me but I also know of other people in my department who have been referred and the results speak for themselves, there have been improved results…"*

Further value was recognised as aiding progress through raising a student's performance level **[I-1]**. Making progress through a different perspective was also important and of value in relation to changing and maintaining focus on what is really important in the learning process **[G2-2]**.

The role of the AD support system was not always apparent to students at the beginning of the referral process. Three students who had initial negative perspectives of the value of the referral support system changed their minds at various stages. For student **I-1** it was in his second year that he came to the realisation that he really needed the guidance and that it was helping him. Being initially told in his first year that he was being referred for AD support in front of his class was distressing for this student and led to a negative perspective. His opinion of the value of the referral had started to change when he realised that the AD support system was *"…a tool, to help me learn better".*

From initially being resistant to attend, the value of the support she received became apparent to **G1-1** during the process of consultations and through subsequent test results. This initial 'CPF' (Cram Pass Forget) student, who had been very vocal during the interview and participated with high energy and enthusiasm, made a key point in relation to the value of AD support:

*"…you don't always hear what you want to hear sometimes, it's **real** and it's not what you **wanted** to hear, it's what you **should** hear but it's not what you wanted to hear necessarily".*

This statement was supported by a fellow interview participant, who indicated that at the AD unit you were faced with "*reality*" **[G2-3]**. Both students were registered for a B.Tech in the same department in 2016. Both had been through the AD referral and support system from their early days of being a student in the FHS at DUT. Their maturity in reflection has enabled them to see what is real and what is façade and assumption: both had initially been impressed and influenced by the 'movie' version of what it is like to be a student at university. Both had also struggled initially to recognise and understand that they were on the wrong track and needed help. Although **G2-3** had an open mind from the first referral, **G2-1** was resistant and sceptical of the value academic support would have for her. Importantly, both had grown and developed in their knowledge and understanding of themselves as individuals and as students, and had a far greater awareness of the post-school learning environment and the role that they needed to personally play in their own learning process.

These two students are accurate: not all students like what they hear when consulting for academic support, despite the challenges and obstacles that they face. Whilst being empathetic and understanding on the one hand, AD personnel also have to guide students in their own best interests, even when the guidance may be unpalatable to the ears of the receiving individual. Dealing with the reality of their situation can be the difference between students changing to a new 'familiar' and moving towards success, or remaining with the challenges and obstacles and being unsuccessful. Having appropriately designed and implemented student academic support programmes is the crux of access, retention and success, as indicated by Lizzio, Wilson and Simons (2010). Support programmes to assist students in the first year are particularly important for successful transition, retention and success through to graduation (Barefoot 2000; Porter and Swing 2006).

5.2.3.5 Theme: Positioning of AD

On discussing the structure and placement of the AD personnel, most of the students who commented felt that it would be better to have one AD staff member allocated per academic programme, and for the staff to be physically located in that academic department. Various arguments were put forward by the students in support of their opinions **[I-1, I-4, G2-1, G2-3]**. One spoke about workload and accessibility in relation to the number of academic programmes currently allocated to each individual within the AD unit **[I-3]**.

As well as accessibility, getting to know students better and understanding their learning status was raised as being important within the support system **[G2-1]**. This student also felt that by getting to know the students better, the students would open up more and would be *"…even more willing to learn".* Responding within the discussion, one student felt that one AD staff per programme would be able to spot warning signs at an earlier stage and would therefore be more effective in providing academic support **[G2-3]**. Two students posited that having one AD staff per programme would also improve the perception of the AD ambit and support system. Student **G2-1** indicated that students would be more willing to voluntarily go the AD staff member located in, and part of, their academic department. One student liked the idea of AD being part of the 'family':

> *"If it's part of the department it's like part of like our, what can I say, like our little family…"* **[G2-3]**.

This student explained further that with AD being located outside of the department there is the perception that going there shows that there is really a 'big problem', and that students find that off-putting. By being dedicated to one programme and physically located with the programme lecturers, **G2-3** felt that it would be easier to get help without any stigma or embarrassment. From the students who spoke about this aspect, only one was happy with the current arrangement of AD staff being located centrally and not directly within a department. His rationale for this opinion was that there needed to be objectivity in addressing student problems, and that it would be better with the AD remaining outside the academic departments so that there was no bias **[I-4]**.

The overall sentiment of the student responses is that a faculty-based academic support system with one AD staff member per departments is the preferred mechanism for students to receive guidance and assistance in overcoming difficulties for academic success. This is an important emergent factor for student support, as the current structure of South African academic development varies across institutions and ranges from being staff-centered, curriculum-centered and/or student-centered (Harland and Staniforth 2008; Gosling 2009; Boughey 2010; Lewin and Mawoyo 2014). Taking all this into account, it is my contention that successful student academic support requires a student-focused approach with suitably qualified staff who have appropriate expertise in the field of student development, and who understand the needs of students within the specific faculty context.

5.2.3.6 Theme: Improvements to AD services

Clients are part of the equation when seeking to make improvements to services, and students are no exception. Opinions on AD improvements were practical and mostly quite simple, yet their importance was emphasised by those who spoke on this topic. One of the first contact points with new students in particular is at Orientation sessions, and **G1-1** raised this as a marketing opportunity. In agreeing with his colleague, student **G1-3** went further to say that a booklet would be helpful. Communication was raised by two students, in different contexts. Explaining more to students what the AD ambit is about and how they can help students was important for **G1-2**. Communicating with subject lecturers was important for student **I-3**, who felt that many student academic problems could be caught at an earlier stage through more interaction between AD and departments.

5.2.4 Question category: Lecturers

5.2.4.1 Theme: Communication

Whilst student **I-3** felt that there was a need for more interaction and communication between the AD staff and subject lecturers, other students saw things very differently. Registered in a different department from **I-3**, students **G1-2** and **G1-4** both felt that there is timeous and effective communication between AD and their department. Student **G1-2** indicated that the regular two-way

communication is quick and effective. Her classmate concurred, and gave himself as a supporting example of the efficiency and effectiveness of the communication and interaction in terms of improvements he made:

> *"..this year I also failed one test and I was referred here…for that subject, the second test for that subject, I made quite impressive progress so I feel that the immediate response really helped in a rapid intervention…".*

Student **I-4**, from the same department as **I-3**, also had differing views on the communication and interaction between AD personnel and subject lecturers. He indicated that there was good linkage between the two sets of staff in support of students and that he had benefitted from the system and methods. Here he is referring to the feedback given by AD staff to the referring department on a regular basis; generally once a month, although this can be more frequent in complex situations that some students find themselves in with regard to academic progress. Feedback to the referring academic department is an integral part of the support system, whether the frequency of communication and interaction is every day, once a month or once a week. Feedback takes place in the context of the best interests of the student in making better academic progress.

5.2.4.2 Theme: Uncertainty about AD

One student indicated that lecturers themselves appeared to be uncertain of the role of the AD personnel and the types of issues for which they could refer students. He further expressed that it appeared to be the older lecturers who understand the process **[I-1]**. This is a critical point in two contexts. Firstly, if lecturers do not understand the role of the AD ambit in the faculty and how it can assist students then they will not have a clear idea of when, or if, they should be referring students who may really need academic support. This may result in some students slipping 'through the net', in that support was required and was available but there was a staff systems misalignment in terms of information and understanding. Secondly, the particular reference to older lecturers having a better grasp of the role of AD is of significance as such staff exit the higher education system. Whether this is through retirement, death, going into private practice or returning to industry, senior expertise and knowledge of the AD role is

lost to that particular department. This factor is important for the efficient and timeous referral of struggling students for academic support, and therefore needs to be factored into the framework design.

5.2.4.3 Theme: Approach to students

A further important point is the approach that lecturers have towards students who are in a weak academic position. Again it appears that it is the more experienced lecturers who have a good approach, as indicated by **I-3**. In linking this student perspective to that of **I-1**, it would appear that younger and less experienced lecturers would benefit from a better understanding of the support needs of students and how the AD ambit can collaboratively assist. Having said that, student **I-3** did make a statement earlier in the interview that was somewhat discordant with her later comment (above), when indicating that lecturers do not appear to understand what students go through to get through a particular year of study. So on the one hand she is saying that lecturers do not understand students and their difficulties, and on the other hand she is saying that the more experienced lecturers do understand and are empathetic and accommodating.

Other students also expressed the view that the older/more experienced lecturers were more familiar with the AD support system and had a better grasp of when a student needed to be referred for assistance **[G2-1, G2-3]**, whilst **G2-2** (from the same department as **G2-1** and **G2-3**) felt that the younger lecturers were more helpful and understanding. One point that was made quite strongly by **I-1** is that of discretion: where and how to tell a student that he/she is being referred for academic support. This student had been embarrassed and very uncomfortable when being told by his lecturer in class with other students present that he was being referred for AD support, and strongly advocated for discretion on the part of academic staff. This is another important point in the student perspective and a valid concern. Communication methods by departmental staff with a referred student must maintain the student's dignity through appropriate timing and a secure venue for discussion on that individual's academic status.

5.2.5 Question category: Non-academic factors impacting on academic progress

Students are not isolated from 'life' whilst they are studying, their lives carry on in various contexts and they have to deal with issues as they arise. Some participants indicated that this it is tricky to balance difficult personal and family situations with academic commitments, and that these issues were not always understood by their lecturers.

5.2.5.1 Theme: Psychological factors

Two students spoke about a shift in focus due to external factors and that their academic work and progress had been negatively affected **[G2-3, G2-1]**. Psychological issues were also at the root of some students' lack of academic focus and progress. Whilst student **G2-3** was grappling with depression, **I-4** had difficulties in coping with the loss of his beloved grandfather and **I-3** had been the victim of crime four times in one particular month. These are all critical issues for an individual to face and at the same function in as 'normal' a manner as possible. All three participants stated that they were severely affected by their respective circumstances and felt either stressed, overwhelmed or had completely lost focus and their academic work and progress suffered.

5.2.5.2 Theme: Personal factors

Also affecting academic performance were domestic issues, the development of independence and addiction. Resorting to the legal route to resolve serious domestic problems was a cause of distress for **G1-2**, which greatly affected her ability to focus and concentrate on being a first-year student at university. Moving away from home is the first big step towards independence and for many young people this happens naturally when they go to study at a university that it outside of where their family home is located. Learning how to live with other people who are not family members and are essentially strangers, as well as having to fend for oneself in all contexts was overwhelming for **I-1**:

"My first year I was living in digs, living around other people, I wasn't in control of my living space completely…I never knew how difficult running a household was…it caused problems…"

This student had to make the adjustment of being away from home living with strangers and doing his own washing, cooking, cleaning and other related chores of living independently, whilst also adapting to being a university student. Although some students are accommodated in the university and leased residences, supply does not correlate with demand. In an e-mail communication of 15 November 2017, Ms I. Khiramen (Senior Finance & Administration Officer) of the Student Housing & Residence Life department at DUT confirmed that in 2017 the institution could provide 2450 beds in the institutional residences and 2902 in leased residences for students based at the Durban campuses. Although some students may have relatives to live with when relocating to Durban to study, the more common scenario would be that a large number have to live by themselves or in 'digs' and therefore need to take total responsibility for themselves immediately they arrive in Durban. For many first-year students this would likely be the first time that they had lived away from home and outside of the family structure.

5.2.5.3 Theme: Addiction

During the first group interview student **G1-4** touched on issues that had affected his academic performance, but indicated that he did not want to talk about them within the group. On being offered the opportunity to have a separate one-on-one interview **[I-2]** to talk further at a later date, he agreed. In the process of the individual interview two issues emerged: addiction and health. On the former he was quite forthcoming and almost eager to talk. It was quite interesting for me because although I had long-suspected during our years of referral consultations that there was 'something' he was not telling me, he had never raised it.

It was in many ways a breakthrough in his development, as for the first time he was being completely open with me even though it was outside our conventional support consultations. His admission that he was 'addicted' to social media explained a lot in relation to how he had presented himself to me, particularly in

his first year. Polite, articulate, well-read, good communicator, good thinking ability – this was how I could describe the student from the very beginning. It was therefore a surprise that he had been in such a weak academic position as he had all the attributes for a strong academic performance, yet was struggling to get to grips with the content of his course. That he was not spending much time on studying was now the clear reason why he had not been coping with the content and workload, even though he had all the characteristics required to do well in higher education.

Up to this point in the individual interview he had been very keen to talk about his difficulty and to explain it to me in great detail. At a certain point he then became a little hesitant and uncertain, as though he wanted to say something else but was not sure if he should. I gave him the opportunity to close the thread of discussion down and keep the matter to himself if he wished to do so, however he then seemed to make a decision to carry on talking about it. The extract below from the original transcript highlights his uncertainty of wanting to talk but not sure if he should, and my response:

Q: *Your progress in maturity and starting, would you say it is accurate for me to say you are starting to understand yourself and feel more comfortable in your own skin from what you have said?.*

I-2: *Yes, because of what I, what I just said that something happened that is just going to change the rest of my life. I've come across a lot of challenges in my life especially this year and if something like that had to happen to someone else like a lot of people I can imagine how they would react, like it would be, it wouldn't be easy, it's not easy even for me but it's just how I choose to react to it. I'm living a normal life and I'm just carrying on with my life as I used to because nothing has changed around me it's just, that thing.*

Q: *Do you want to talk about 'that thing' that changed your life or is that something you would prefer to keep private?*

I-2: *It was finding out I have an incurable disease.*
[Shakes head, waves arms negatively.]

Q: *I think then we will leave it at that if that's as far as you want to go.*

Although he indicated through body language immediately after uttering the words that he did not want to continue further with that topic, he almost seemed relieved to have finally told me that he had an incurable disease. How AD personnel respond to such student revelations is also a key factor in providing appropriate and effective support mechanisms. No, we are not psychologists or qualified health care practitioners, so we cannot directly provide counselling or health care services. What we can do within the support system is to assess the impact that the personal difficulty is having on how the student is performing academically. In essence it goes further than that, as the student is a 'whole' – he is not just a student with academic difficulties and life issues that can be dealt with separately. Even if the student is not struggling academically, he may still require appropriate support that he may not know is available, or may be unsure how to access it. Onward referrals and collaborative interactions with university entities such as Student Counselling and the Student Clinic is another important element to be factored into the framework design.

5.2.5.4 Theme: Loss through bereavement and crime

Loss can occur in varying contexts, however the impact on a student can negatively affect their academic performance. Student **I-4** was devastated when his beloved grandfather passed away. They had a very close relationship and in many ways his grandfather was his male role model and mentor. Losing such a close life guide had detrimentally affected his academic work; he found himself in difficulties and subsequently had to repeat some of his subjects. The loss by student **I-3** was different but no less traumatic, in that her family had suffered four burglaries in one month. The negative impact on her confidence and overall psyche caused her to lose focus and concentration, and like her colleague **I-4**, she found herself in academic difficulty and had to repeat some of her subjects.

Both **I-4** and **I-3** had attended regularly and consistently for academic support. Although they were both reeling from their respective losses and the associated trauma, they had both been receptive to being referred for support to make better academic progress. One of the students was keen to attend for counselling, however the other was not; it is ultimately the student's choice as to whether or not they follow the guidance and advice of AD personnel.

5.3 THE STUDENT COUNSELLING PERSPECTIVE

Students raised a variety of non-academic issues and some learning disorders as being problematic to them in their quest to be successful at university, including ADD/ADHD; dyslexia; psychological factors; personal factors; addiction; and loss. Whilst acknowledging that such life issues do not aid smooth student learning and academic progress to success, students also need to be equal partners in the support process. This point was highlighted by Mr S. Mbanjwa (Senior Psychologist, Student Counselling, DUT) and Ms C. Leith (Psychologist, Student Counselling, DUT) in a discussion on 28th November 2017. As much as Student Counselling, academic departments and support structures can provide assistance or make special arrangements as relevant, students need to be active participants in those processes.

An example given by Mbanjwa is where a student may be assessed as requiring specific concessions or special arrangements within the teaching and assessment processes; the academic department facilitates the concession or special arrangement, yet the student does not play his/her part in managing their situation. When the student is still failing, then he/she expects Student Counselling and the academic department to maintain the same concessions/special arrangements. Leith explained that it is often difficult to have a balance and set boundaries in terms of the respective responsibilities of Student Counselling, the academic department, and the student. She explained that this can, unfortunately, lead to manipulation by the student of the processes and mechanisms designed for support.

Mbanjwa and Leith further indicated that in their experience of DUT students they have noticed that students with pre-existing or suspected learning disorders are

often referred only when there is already poor performance, or the student is in danger of being academically excluded. At that late stage there is often little than can be done to assist the student to overcome that particular situation. Furthermore, it is of concern to Student Counselling that there is currently no institutional or faculty mechanism whereby students are compelled to disclose known disorders. Where they do so voluntarily, then an assessment can be made and appropriate monitoring set into place to ensure that any identified interventions are timeously implemented. For example, academic departments can provide assistance by finding ways to support students who may have visual or manual dexterity issues, and Student Counselling can assess for any applicable time concessions.

Where a learning disorder has not been formally diagnosed but is suspected by academic or support staff, then timeous referral for assessment is critical in assisting the student. Another important point made by Mbanjwa and Leith is that students with learning disorders need to understand the concept of managing their condition in relation to the learning process within a university environment, and to take responsibility for their condition.

As indicated in section 2.3.1, active participation and equal responsibility are important aspects of student engagement (Tinto 2014). I would argue that joint responsibility between the institution and the student within the learning environment is of critical importance for retention and success. If there is no student engagement and commitment, then the student loses out; if there is no university engagement and commitment then the student loses out. Significantly, the student has the highest stake in the process and the greater risk factor.

5.4 SUMMARY OF THE THEMATIC DISCUSSION

The sections above presented an analysis and discussion on the emergent themes and sub-themes from the student interviews, supported with relevant literature. The perspectives of the Student Counselling department were also proffered in relation to problematic areas of students' lives and learning status.

The next section presents the positioning of the thematic analysis within the theoretical framework of Activity Theory.

5.5 THE FACULTY OF HEALTH SCIENCES AND THE 'ACTIVITY SYSTEM'

5.5.1 Activity Theory elements

As explicated in Chapter 2 there are six elements to Activity Theory: *Tools, Rules, Subject, Object, Community and Division of Labour* (Engeström 2001; Hardman 2005; Kaptelinin 2005; Hashim and Jones 2007; Rambe 2012). Within this conceptual framework the structure and processes of student academic support of the FHS can be related to one of the six AT elements. In particular, the *Object* within the FHS activity system is seen as the 'problem space', that is, the element that is the attention of the activity.

In line with the anomalies and tensions within South African higher education as outlined in Chapter 2 (Ng'ethe, Subotzky and Afeti 2008; Badat 2010; Fisher and Scott 2011; Smit 2012: Council on Higher Education 2013), particularly in relation to access with success (Couglin 2006; Lewin and Mawoyo 2014; Tinto 2014), the *Object* in the FHS activity system is the articulation gap between high school and university. The *Subject* element is the student who has been referred through the FHS referral system for support, whilst the *Tools* are the methods and materials used by the Academic Development ambit. The *Rules* are the FHS processes of referral together with the 'at risk' criteria and academic support operating criteria. The *Community* is the Faculty of Health Sciences whilst the *Division of Labour* entails various role players in the community who perform different functions within the activity system.

5.5.2 Relationships between the activity system elements

Through interactions between the six elements, the goal or outcome is the support of poorly performing students to improve understanding and performance leading to access with academic success (McKenna 2010; Grayson 2014; Tinto 2014). The relationship and interactions of the six elements of the Activity System in the context of this study are reflected in Figure 9.

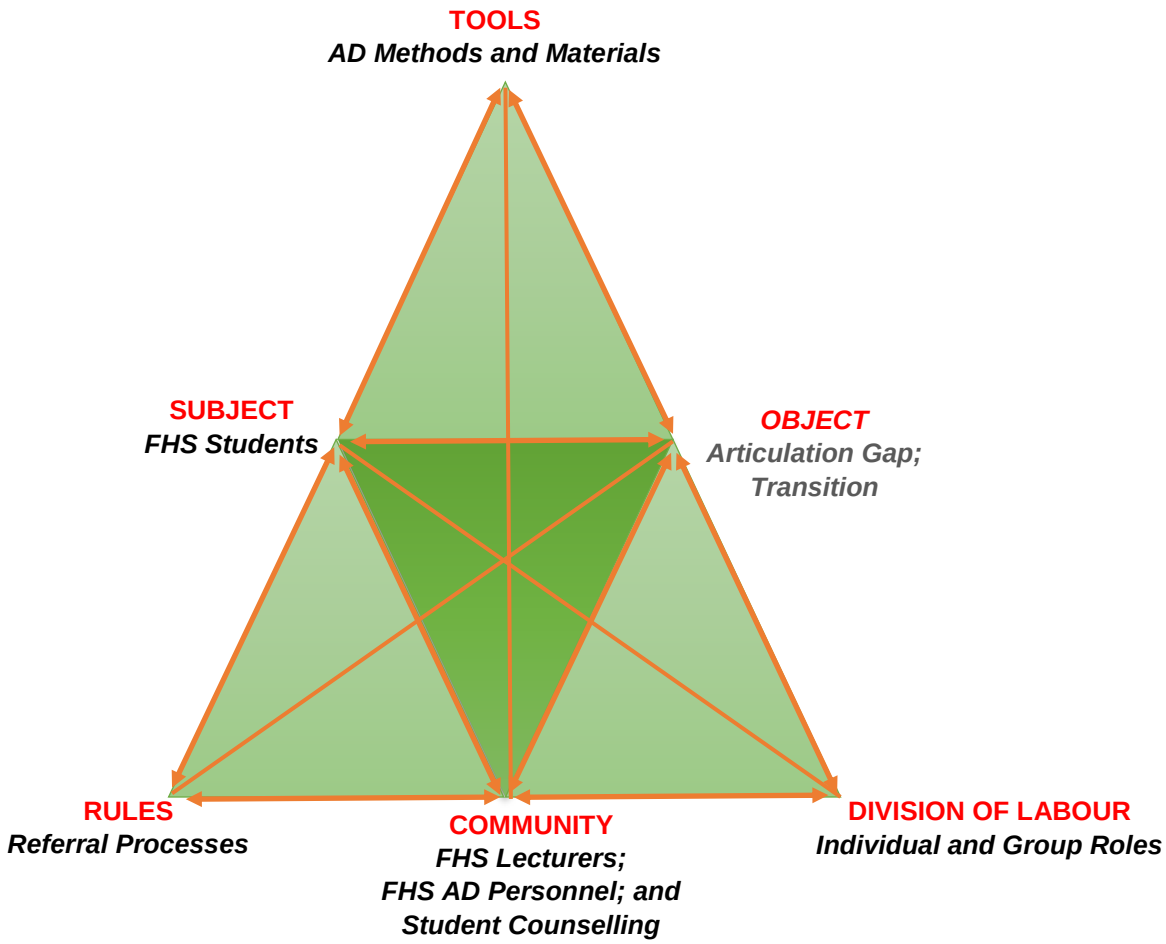

Figure 9: Faculty of Health Sciences activity system *(Adapted from Hashim and Jones 2007)*.

5.5.2.1 The Subject, Object and Tools

Within the FHS activity system, the *Subject* is the student population of the faculty and particularly those who are considered to be 'at risk' due to poor academic performance and progress. The *Object* is the problem space, which is the articulation gap between high school and higher education (Fisher and Scott 2011; Smit 2012; Lewin and Mawoyo 2014; Scott 2014) and the transition from school to university (Ogude, Kilfoil and du Plessis 2012; McGhie 2014; Council on Higher Education 2015). The *Subject* and *Object* elements of the activity system are mediated by the *Tools*, being the AD support methods and materials.

The at-risk students from within the faculty indicated their precarious position when entering the DUT **[G1-1, G1-4]**. Their perspective was that they had not

been properly prepared at high school for university-level studies, and that this had caused difficulties in making good academic progress **[G2-1, I-4, I-1, I-3, G2-2, G2-3]**, thereby creating a 'tension' in their academic efforts. Most of the participants in this study reported that the problems began in their first-year at the institution; for some, it recurred in their second and/or third year. In the context of the relationship tensions between the *Subject* and *Object* of this activity system, the main issues raised by students as being a cause of their problematic first-year at university were identified as:

- the different structure and approach between school and university;
- inappropriate methods and perspectives carried over from school to university;
- a lack of understanding of the role of good time management;
- the language issue in relation to English.

In mediating the problem space (the articulation gap and transition to higher education), the *Tools* utilised by the AD unit within the faculty had provided a support mechanism to target those very issues in order to ease the prevailing tensions. Primarily through the referral system, students were assisted to recognise and accept that university-level study could not be approached in the same way as at high school **[G1-4, G1-1, I-4, I-3, G2-1]**. Through practical exercises in the context of their course of study, students were brought to the point where adjustments needed to made or new perspectives learned that were more suitable for the higher level of teaching and learning **[G1-2, G1-3, I-4, G2-2, G2-3, I-3]**. This was often the major difficulty, in that young first-year students did not always have the maturity to understand and accept that the old 'familiar' would no longer work in a changed learning environment **[G2-1]**.

Within the referral consultations students were taught about the important role that time management plays in gaining control over the time available to them for study, family, personal commitments and community involvement (Higgins-Optiz and Tufts 2014; McGhie and du Preez 2015; Potgieter *et al.* 2015). Strategies were provided for students to utilise in scheduling their academic commitments within a 24-hour period, situated within a one-week and one-month timeframe.

This enabled each student to better plan how to factor in each element of his/her life so that there was balance within the commitment to academic studies. It also enabled each student to see where he/she had been wasting time, and how it could be turned into a more productive 'space' on the schedule. These factors were raised by students as providing the guidance and support they needed in adapting to the workload content and volume **[I-4, G2-1, G2-2, G1-1, G2-2**].

Learning methods were also taught to students within the referral system, and provided new ways of approaching the course work material. Students had expressed how they were struggling to make sense of the course content as well as coping with the volume of material that they needed to understand **[I-3, G2-2, G2-1, G1-1, I-4]**. Students also indicated in their responses that they had been learning to remember at school, whereas the AD unit had guided them towards learning for understanding and the application of knowledge in a practical context. These highlighted further tensions in the *Subject – Object* relationship, as inappropriate study methods reveal the lack of satisfactory transition from secondary to higher education. In the context of supporting transition, various learning techniques were introduced to individual students depending on the nature of the difficulty that had caused them to be referred for support (Fyrenius, Wirell and Silén 2007; Crosling, Heagney and Thomas 2009).

The English language support provided by the AD ambit was another *Tool* in mediating the tensions between the *Object* and *Subject* in the FHS activity system. As students indicated, difficulties with English caused problems in making good academic progress **[G2-2, I-1, G1-3, G1-2]**. The AD support system alleviated the associated stress they had been under and enabled them to grapple with better understanding English in relation to its correct structure, appropriate usage and writing in an academic context (Jacobs 2005; Clarence 2010; McKenna 2010; Boughey and McKenna 2016).

The Language Lab is an extension of the AD unit in the FHS; it provides English language tuition and support through departmental/AD referrals or through self-referral. To clarify language referrals: a lecturer may recognise that a student does not have a sufficient grasp of English to properly express his/her knowledge;

the AD staff may identify that a student's difficulty lies with language and not with inappropriate learning techniques; or a student may acknowledge that their understanding and usage of English needs support and guidance for improved proficiency. Howsoever a student arrives at the Language Lab, the student is assessed and a programme of action designed to meet their individual needs. Appropriate tuition is therefore provided to advance the existing level and usage of English within the context of the programme for which the student is registered.

5.5.2.2 The Subject, Community and Rules

The *Subject – Community* relationship is mediated by the *Rules* of the FHS activity system. In this context the *Community* comprises the Faculty as a whole, together with the AD unit. This is important in relation to the collaboration between the Faculty and the AD unit in the interests of the students' progress. Component parts of the 'Faculty' include the management (Executive Dean's office); the faculty office; the constituent academic departments; and the relevant managing committees (eg. Exco, Faculty Management & Quality, Teaching & Learning, Exams Board, Faculty Board). The collaborative link between the various Faculty departments and the AD unit has enabled the timeous identification of students at-risk; an ongoing multi-way communication channel; availability of pertinent information within the bounds of confidentiality; and a mutually suitable monitoring mechanism for feedback and recommendations **[G1-2, G1-4, I-4]**.

Also within the *Community* element is the Student Counselling & Health department. Although that department falls within the Student Services sector and is not directly part of the FHS, the services they provide are specifically relevant within the context of the FHS support system for student retention and success. This is evidenced by the statements of students **G2-3**, **G2-1** and **I-2**, who benefitted from the close collaboration between the two departments for onward referrals through the AD support system of the Faculty.

In the previously mentioned discussion with Student Counselling (section 5.3), Mbanjwa and Leith affirmed that in their opinion the FHS AD support system provides a mechanism that interlinks and is complementary to the counselling work. Leith explained further that the FHS AD unit is a first line of screening that

enables Student Counselling to focus on their core function of therapy. In her view, this is very important in being able to assist as many students as possible within the context of staffing, time and budgetary constraints. Mbanjwa and Leith further highlighted the importance of mutual referrals: if a student from FHS attends for therapy but another factor is identified, whether of an academic or language nature, then the counsellor refers to the FHS AD unit for appropriate support. This is not possible in the other five faculties as the AD structure in FHS is institutionally unique in relation to academic development and support for students.

As the mediating element, the role of the *Rules* is very important. The mandate of the AD unit to provide support to students at risk of academic failure/poor performance, (as confirmed in the statement by Bass in Chapter 2), in tandem and synchronised with associated practical mechanisms, propel the processes of the referral system. Without an overarching structure within which to work, the processes would deviate from systematic to piecemeal. The systematic application of the mechanisms for referral (from the department direct to the AD unit; reporting back to the department; reporting into the Faculty committees), is a powerful enabling factor of the activity system. This is evidenced by the comments of students in relation to the way in which they were identified and referred for support **[G1-2, G1-4, I-4]**.

It is here that system tensions may be more prominent, as various entities and individuals (*Community* and *Subject*) interact with each other and with specified processes (*Rules*) that may cross into the 'territory' of others. Although collegial relationships are sought, naturally occurring overlapping interests and processes sometimes cause a breakdown in communication or a reluctance to be involved. Furthermore, the perspective of the student (*Subject*) causes tensions to arise between *Subject* and *Community*. Concordance existed between *Subject – Community – Rules* within the system regarding mechanisms of referral by three students **[G1-2, G1-4, I-4]**. Conversely, discordance was expressed by **I-1** (*Subject*) at how he was told by the lecturer (*Community*) that he was at-risk and being referred for support (*Rules*).

Additional tensions in the activity system exist between the AD unit (*Community*) and the students (*Subject*). This is evidenced by the comments of **G-2** in relation to AD being seen as "*Alcatraz*" on the one hand, and on the other hand the approach of **I-1** that he initially saw AD as just giving him the answers to his problems without any effort on his part. Both non-response to referral and a reluctance to attend with a passive perspective of just 'receiving' make it difficult for the AD unit to fulfil its mandate of supporting students for improved performance and success.

5.5.2.3 The Object, Community and Division of Labour

The mediating element between the *Object* of the activity system (articulation gap; transition to higher education) and the *Community* (FHS; AD unit; Student Counselling) is the *Division of Labour* (groups and individuals). In dealing with the problematic areas delineated as the *Object,* it is imperative that the *Community* functions concomitantly as a whole and autonomously. Within such a construct, each stakeholder (whether as a group or an individual) can then maximise the delivery, efficiency and effectiveness of the intervention from the perspective of the designated role. Of further importance is the objective role played by the AD unit staff in interacting with students for optimal support in their new reality of learning, as indicated through the comments of students **G1-2, G2-1** and **G2-3**. Collaborating with other members of the activity system *Community* whilst remaining autonomous has been a key factor for the AD unit in the implementation of the FHS referral system.

As raised by **G2-1**, not all lecturers refer students to AD when they are at-risk. This creates tension within and between the *Community* and the mediating artefact of *Division of Labour* in the activity system, as roles are abandoned or ignored. The lecturer and AD staff have a role to play within the *Division of Labour*: the lecturer to refer and the AD staff to provide support. They are also both part of the greater *Community* of the FHS which has foregrounded academic support for at-risk students through specified interventions. Without referral by the lecturer, the AD staff struggle to provide the support that will assist a weakly performing student. Although students can self-refer, many do not have the maturity to recognise their difficulty and acknowledge that they require third-party

support, more particularly in their first year of study when the need is often the greatest.

In acknowledging the importance of the role played autonomously and collaboratively by the various entities within the FHS, a further key factor of note within the activity system is the role of the Student Counselling department (*Community*). When students were faced with both learning and personal difficulties that had a negative impact on their academic progress, an onward referral was made for professional counselling **[G2-1, G2-3, I-2]**. Through this collaborative relationship (*Division of Labour*), the student benefits from learning guidance and support from the AD unit whilst simultaneously receiving the appropriate therapy for psychological issues from Student Counselling. This multi-faceted approach provides a comprehensive service through co-ordinated systems of support to address the 'problem space' (*Object*). Tensions here generally revolve around role delineation. As indicated by Mbanjwa and Leith (Student Counselling, November 2017), roles are unclear in five of the six faculties in the institution, resulting in discordance. In the FHS, however, the respective roles of both the AD unit and the Student Counselling department as members of the *Community* are very clearly defined. So for the FHS, tensions are ameliorated by role definition (*Division of Labour*) to the extent that students know exactly where to go for help in overcoming difficulties (*Object*).

Another critical aspect of the *Community* element is the role of the referred student. Whilst primarily located within the *Subject* aspect of the activity system, there is some overlap into this second element. It is of vital importance that the referred student plays an active role within the context of taking responsibility for his/her own learning, as supported by the work of O'Neill and McMahon 2005, Crosling, Heagney and Thomas (2009), White and Schulenberg (2012) and Tinto (2012, 2014). Without the appropriate perspective, approach, attitude and motivation a student may attend for consultation sessions with the AD personnel yet derive no benefit. The essence of a student's improved progress is ultimately in the student's own hands: receptive and active participation leading to improvements, alternatively, disinterest with no commitment to making the required changes to constructively adapt to the new learning environment.

Significantly, all participants acknowledge this point at some stage during the interviews. For some, it was an immediate recognition when they were they were first referred for support **[I-1, G1-2, G1-3, G2-2, G2-3]**. For others, it took time and maturity to reflect on how they had changed their perspective and approach since the first referral **[G1-1, I-3, G2-1]**.

5.6 THE INSTITUTIONAL ACTIVITY SYSTEM

In giving consideration to the emergent themes of the student interviews and locating them within the context of the FHS activity system, cognisance must also be taken of the institutional environment and macro-level factors. The DUT as an institution can also be denoted as an activity system that has its own *Subject*, *Object*, *Tools*, *Rules*, *Community* and *Division of Labour*. Breaking this down further within the context of the institution-student-support relationships, this is illustrated in Figure 13.

In this activity system the problematic space is the university expectations of learning that students struggle to understand and manage. Students raised this issue in their comments on not knowing what the institution expects of them and the differences in the environment when compared with high school. A larger *Community* is involved as students interact with various processes in the context of financial, registration administration, accommodation, and welfare matters.

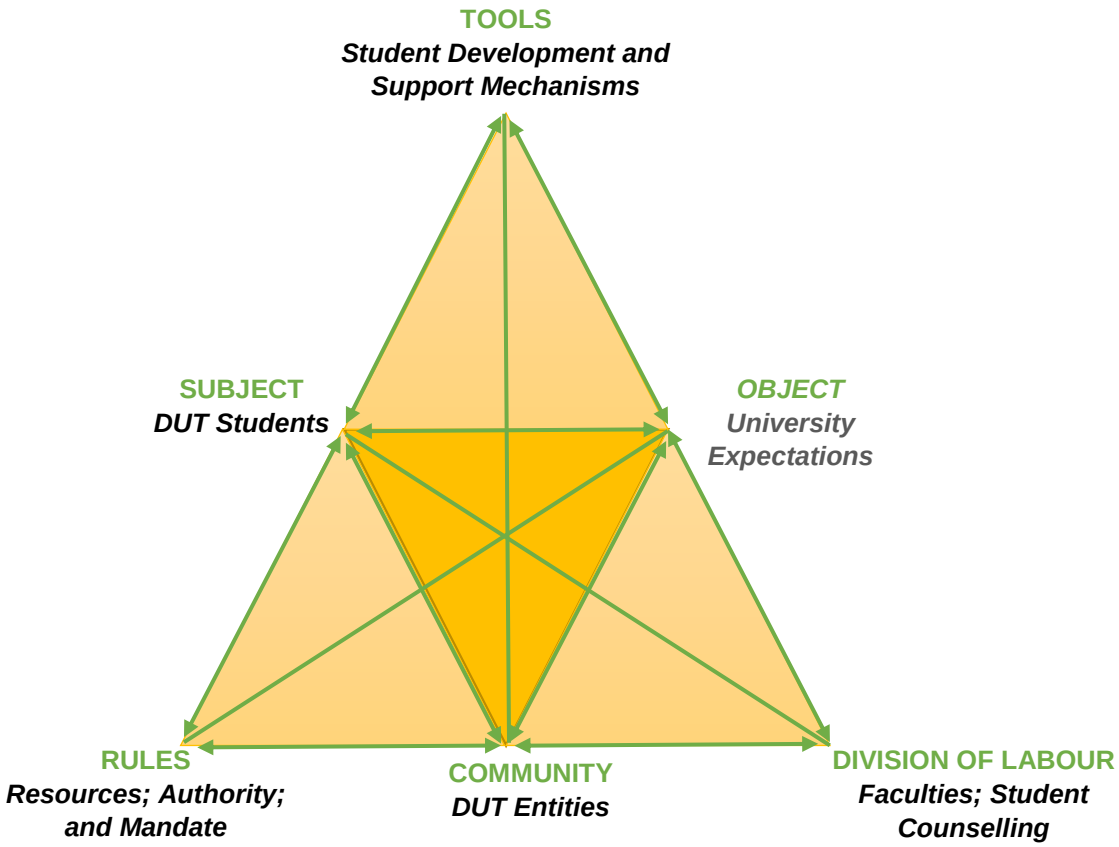

Figure 10: Institutional activity system
(Adapted from Hashim and Jones 2007).

It can be seen though that the *Division of Labour* is the same as for the FHS AD activity system in providing support to students for improved academic performance. Whilst other entities in the institution are important in a general context, providing appropriate academic and psychological support direct to students is primarily located within the faculties and through the AD and counselling roles. What is important are the *Rules*, which can be viewed as the resources, authority and mandate that are endowed within the activity system. In the interviews students raised the issue of academic support being available to them directly within the faculty and preferably through AD personnel based directly in their department. This perspective of students requires resources and a clear operating mandate with appropriate authority given to the respective faculty and AD unit.

One major tension in the institutional activity system lies between students and the university expectations (*Subject* – *Object*). On the one hand students are underprepared by their schooling, and on the other hand the institution expects students to meet the demands placed on them for independent learning and critical engagement. A second tension arises between the *Community* (DUT entities) and *Division of Labour* (direct and specialist support), as various entities compete for mandates and resources. In this activity system, the mediating factors of *Tools* and *Rules* respectively need to play a trenchant role to promote cohesive and synergistic direction for collaboration in providing appropriate and effective student support.

5.7 SUMMARY OF ACTIVITY SYSTEM TENSIONS

In analysing the student themes and sub-themes from the interviews and locating them within the FHS activity system, various tensions emerged. In relation to the *Subject* (students) *Object* (articulation gap) relationship, noted tensions were the students' lack of preparation manifesting in an inappropriate study approach and learning methods. These tensions were compounded by English as a non-home language for most of the participants, yet it is the language of teaching and learning. The *Subject* (student) *Community* (FHS; AD; Student Counselling) tensions emerged to be issues of territory perspectives, the student perspectives of the role of lecturers in referrals, and uncertainties regarding the purpose of AD. Tensions in the *Object* (articulation gap) *Community* (FHS; AD; Student Counselling) relationship showed some overlap with the tensions in the *Subject* – *Community* relationship with regard to lecturer roles in referrals. A second activity system is identified in relation to the macro environment of DUT. The institutional activity system illustrates two major tensions: firstly, the expectations of the university in relation to learning and the underprepared students; secondly, the macro community and direct specialist support.

CHAPTER 6
THE CONCLUSIONS AND RECOMMENDATIONS

6.1 SYNOPSIS

Whilst access has widened within South African higher education post-1994, this has not concomitantly led to increased student success (Coughlan 2006; Higher Education South Africa Portfolio Committee 2011; Council on Higher Education 2013, 2014b; Lewin and Mawoyo 2014; De Kadt 2015). The negative effect of educational system issues has become known as the articulation gap, causing difficulties for many students entering higher education (Fisher and Scott 2011; Smit 2012; Lewin and Mawoyo 2014; Scott 2014). With a high number of students struggling to adapt from school to university many drop-out, leading to high attrition and overall underperformance (Cele and Menon 2006; Fisher and Scott 2011; Dhunpath, Nakubugo and Amin 2013; Essop, Nxesi and Mputhing 2013; McGhie 2014). Improving student transition to university such that the drop-out rate is reduced leading to better retention of students is a necessity if access with success is to be achieved (Shelton 2003; Jeffreys 2007; Badat 2010; McEnroe-Petitte 2011; O'Shea *et al.* 2015).

On my appointment as an ADP in the Faculty of Health Sciences at DUT I was mandated to provide academic support to students. I consulted extensively with stakeholders including lecturers, students, Heads of Department and faculty management, and gave consideration to the problematic issues that were raised. Subsequently, I designed and implemented mechanisms to provide students with academic support for improved retention and success. In this study I therefore aimed to determine the efficacy of the Faculty of Health Sciences' referral and support system in relation to student preparedness, need and academic progress, so as to design a transferable framework of student support for academic success.

The qualitative phase of this mixed methods study utilised interviews with students who had been through the referral system. These interviews elicited rich responses that encapsulated the students' experiences of entering DUT and

finding that their initial expectations (their 'familiars') were not met. Instead, they found themselves in 'unfamiliar' territory leading to learning dissonance (Fear *et al*. 2003; Lindblom-Ylänne 2003; Wisker *et al*. 2010). Students reported some of the major issues they faced and their strategies for dealing with their situation. After thematic analysis and discussion, the student interview data was located within the theoretical framework of Activity Theory (Engeström 2001; Kaptelinin 2005; Hashim and Jones 2007). The quantitative phase of this study focused on the analysis of historical faculty cohort data relating to drop-out, in order to establish trends and to compare those results between the time periods under study.

The findings of the student interviews and the statistical analysis interlinked in rich data sets within the mixed methods approach. These will now be considered in relation to each study objective within the context of the aim of the study.

6.2 THE CONCLUSIONS

6.2.1 The Objectives of the study

In this mixed methods study, interviews with students who had been through the referral support system elicited data for Objectives 1 and 2, whilst historical faculty data was statistically analysed in relation to Objective 3.

Objective 1:

The first objective was to investigate the level of preparedness of students for higher education studies.

Extremely rich data emerged from the semi-structured interviews with students who had been referred for support to improve their academic performance. A total of ten students responded to the invitation to participate in the study, resulting in two group and four individual interviews. One student participated in a group and an individual interview. Students articulated the challenges they had faced when entering DUT, which included differences in the structural and procedural learning environment; learning for understanding and application; being independent in learning; effectively managing their time; and English as the language of learning.

Structural and procedural issues included a lack of science laboratories and a lack of scholarly works in schools, which had left them underprepared for what was expected of them at university. As DUT is a vocational institution practical work forms part of all courses within the FHS. Without basic laboratory experience a student would be at a disadvantage in the new environment and would have to learn about standard laboratory equipment, rules and procedures, whilst also learning discipline-specific practical skills. Equally at a disadvantage is a student who had not previously been exposed to scholarly works in a school library, as there was no background in determining what source to use for learning and assignments and how an academic library is structured.

Learning to remember and pass at school was the mantra of most of the participants, which caused them difficulties when they came to university and found that they needed to learn for understanding and application of knowledge (Crosling, Heagney and Thomas 2009; Fyrenius, Wirell and Silén 2007). This shift in learning expectations proved a major challenge, with students not knowing 'how' to make the change to a new learning milieu. One student who had successfully used the CPF (Cram Pass Forget) method at school reported being 'traumatised' by the ordeal of her CPF method not working and finding herself in academic difficulty. Part of the new learning milieu involved being an independent learner (O'Neill and McMahon 2005; Tinto 2012; Field and Duffy 2014), however this was not what students had been used to in school, and they reported that school had not prepared them to be independent learners. At school things were done for them, or given to them; rarely if ever did they have to generate their own notes or find sources of information. This is clearly a major disadvantage at university, where independent learning and critical thinking are at the crux of teaching and learning (Williams and Williams 2011; Saeed and Zyngier 2012; Ramirez *et al*. 2016).

An overwhelming difficulty highlighted by the participants was that of time management. With large volumes of work at a more complex level than in high school, students found difficulty coping with the new demands on their time and energy. Students were not prepared for the personal time expenditure and had

not been exposed to learning time management skills and techniques whilst at school. This was a point of lament by the participants; they admitted to leaving their studying until the night before a test, as was their practice at school, however in the new environment that 'technique' did not work and they found themselves failing and stressed. Furthermore, students also had to learn to be independent in their lifestyle, especially where they had moved away from home and had no parental monitoring or 'others' to do things for them. This placed further demands on their time as normal living activities also had to be accommodated within their days and weeks alongside their academic commitments. Not being prepared at school for effective time management was a distinct disadvantage when arriving at university with a plethora of demands on their time (Higgins-Opitz and Tufts 2014; McGhie and du Preez 2015; Potgieter *et al*. 2015).

English as the language of learning proved problematic for the respondents, for most of whom English was not their home language. This was clearly reflected by the students' acknowledgement that they found their English language skills could not meet the demands placed on them in terms of the discipline they were studying Boughey 2002; Jacobs 2005; McKenna 2009; Boughey and McKenna 2016). Apart from the regular usage of English that now had to be pitched at an academic level suitable for university, they also had to learn a completely new language in the form of discipline-specific, scientific and medical terminology relevant within the context of study within health sciences. Two students were further disadvantaged in respect to English as they had learning disorders, ADD (pre-diagnosed) and dyslexia (diagnosed at DUT). Even though these two students used English as a home language they found that their respective learning disorders caused additional difficulties in adjusting to the study demands at university.

Through the themes and student perspectives that emerged from the qualitative interviews, the first objective established that students had not been properly prepared for university-level study. This lack of preparedness for higher education hampered their transition to a new environment and impacted negatively on their academic performance.

Objective 2:

The second objective was to investigate the relevance and impact of academic support on students in relation to their level of preparedness for higher education studies, success at university, as well as the student perspectives on the at-risk referral and support system.

From Objective 1 it can be seen that students were not properly prepared for university-level study whilst at high school (Fisher and Scott 2011; Smit 2012; Lewin and Mawoyo 2014; Scott 2014; Leibowitz and Bozalek 2014). In finding themselves in a weak academic position and considered to be academically at-risk, they were referred for support. Some students reflected that at first they were reluctant and had negative feelings about being referred; some saw it as a positive step from the start. One student compared the AD support to that of a parent, guiding and advising him towards making the best of himself in his learning. Other students raised the constructive and welcoming environment of the AD unit as being conducive to a positive experience, even if they had not fully understood the purpose of their referral at the outset. Another student indicated that he accepted that he needed help, but that he was not really prepared to put in the effort needed to change his approach and methods for a better academic performance.

Overall students indicated that the AD unit had assisted them with understanding how to be a student at university: that they had received the help and support that they required in order to better understand how to change their approach and methods. By making the changes and implementing the techniques that the AD unit had taught and recommended to them, impacts had been made in terms of improvements to their academic and language skills and performance. Furthermore, through the FHS referral system students had been supported through various personal issues that were impacting on their academic performance. For some, it was a matter of having someone to talk to so that they could be guided towards self-recognition of potential solutions to their problems, or where necessary be referred for specialist support at Student Counselling.

Two main themes were identified in relation to the value of the FHS AD referral system: retention and personal growth. Students strongly articulated that being referred through to AD for support had kept them at university, as they had been

considering not continuing further with their studies due to the problematic issues they faced and their poor academic performance. Some students indicated particularly that the referral system had stopped them from dropping out, and in their opinion had also assisted many of their peers to improve their performance and avoid dropping out. The student perspective is of major importance in this mixed methods study, as it resonates with the quantitative results that show the statistically significant decrease in the drop-out rates.

Continued reflection by students elicited that they valued the AD referral system and preferred it to be faculty-based. Furthermore, they indicated a preference for the AD personnel to be allocated to an academic department and to be based within that department. In their opinion, this would provide a more efficient service as AD staff would not be dealing with very large numbers of students over several departments, which would enable them to focus on a smaller number of students and get to understand them better. The AD staff would also be more easily accessible within the same location as the departmental staff, thereby reducing student perception of being stigmatised as 'weak' by going to the current office location, which is in a different building from academic departments. Closer links could also be established by the AD and departmental staff by being located within departments, so that communication and understanding can be improved and be more effective in identifying and assisting at-risk students.

It has therefore been established that the FHS AD referral system for academic support is relevant to referred students and provides them with services and mechanisms that they require to make progress in their studies. The impact and value of the AD referral system was acknowledged through student reflections on their experiences, together with constructive comments on improvements that could be made in structure and service provision.

Objective 3:

The third objective was to determine the trends in success, throughput and drop-out rates over two selected time periods, pre-intervention (2007-2009) and post-(ongoing) intervention (2012-2014) through analysis of historical faculty data over the two periods under study.

As stated in Chapter 3, during the study I realised that due to the relatively high throughput and success rates of the FHS determining any statistically significant differences across the two periods under study would be extremely difficult (see Chapter 2: section 2.2.1, Table 3). These aspects of *Objective 3* were therefore not considered. In relation to the drop-out rates, however the FHS cohort data was considered to be viable for analysis and was therefore used within this research.

As the study aimed to determine the impact of the intervention on the faculty as a whole, the first step was to find the average number of first-time entering students per programme per year in the FHS (Table 4.8). The results under discussion were generated from the summarised version of this data. Initial results of the statistical analyses showed that there was no significant difference in the drop-out rate ($p=0.400$) as seen in Figure 4.6. The drop-out rate was, however, noted as lower post-2012.

A bivariate correlation analysis yielded a strongly negative Pearson's coefficient indicating that over time, the more students who enter the different programmes in the faculty, the smaller the number of students who drop-out. If all factors have remained constant then the determining factor for this decrease in drop-out rate is the intervention programme. The programme is therefore producing the desired effect.

To determine the trend of the drop-out rate a more detailed analysis was conducted through a slope test (Figure 4.8) which showed that the p-value was less than the level of significance ($p<0.014$). This implies that the slopes are significantly different and demonstrates that the difference in slope is not due to chance. This is an important result, as the intention of the academic support mechanism in the FHS is to improve student learning leading to improved retention and success. If more students are choosing not to drop-out but to remain within their course of study and utilise ongoing support, then the likelihood of improved academic performance leading to successful completion of the qualification is considerably enhanced (Tinto 2010; Lizzio, Wilson and Simons 2010; Field and Duffy 2014; Grayson 2014; Shah and Whannell 2016).

Objective 4:

The fourth objective was to design a framework for academic support that can be effective in assisting students to make academic progress and thereby improve success rates.

In considering the design of the transferable framework for student support, the factors taken into account included the findings of the qualitative interviews with students (*Objectives 1* and *2*) and the results of the analysis in the quantitative phase of this study (*Objective 3*). Significantly, the results showed that impacts on decreasing drop-out rates emerged through both qualitative and quantitative objectives. Additionally, tensions revealed within the FHS activity system (section 5.3.3) were also taken into account when designing the framework.

6.2.2 Summary of the Objectives

Consideration was given to the objectives of this study within the aim and the theoretical framework of Activity Theory. Qualitative data revealed that students were not properly prepared for higher education. The data further highlighted the value of the referral system in preventing students from dropping out, the value of the AD referral system, and tensions within the FHS activity system. Quantitative data showed significance in relation to a decreasing drop-out rate. These factors all have an impact on an appropriate and effective framework of support for improved student performance and success. It is the design of the framework that will be presented in the next section.

6.3 THE FRAMEWORK DESIGN

6.3.1 Factor 1: results of the study

Analysis of the student interviews revealed that students need and want ongoing academic support, particularly in their first year of study. As students are the *Subject* in the FHS activity system, and therefore a seminal part of the activity, their perspectives shone light onto the reality of their needs in the transition, learning and success process at university. Students reflected objectively on their approach when entering university and indicated that both education systemic issues and their own shortcomings detracted from navigating the transition from

high school to success in higher education. The demands of university-level study as well as the impact of the FHS AD support system were also raised by students. Figure 11 provides a summary of the student perspectives.

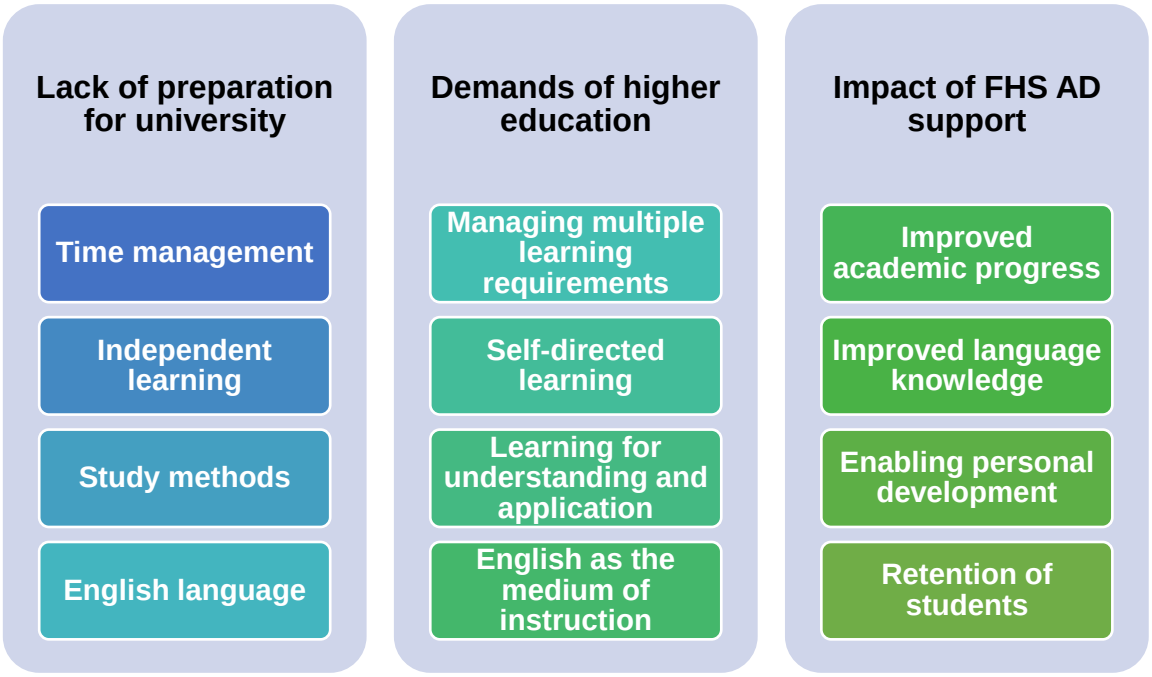

Figure 11: Student perspectives on the university learning environment.

From Figure 11 it can be seen that there is a disjuncture between the lack of preparation for higher education and the demands of university-level study. In considering the two activity systems, this is the place where we find the student 'need': the FHS activity system with a problem space of the 'articulation gap' and the DUT activity system with a problem space of 'expectations for learning' (Figure 12).

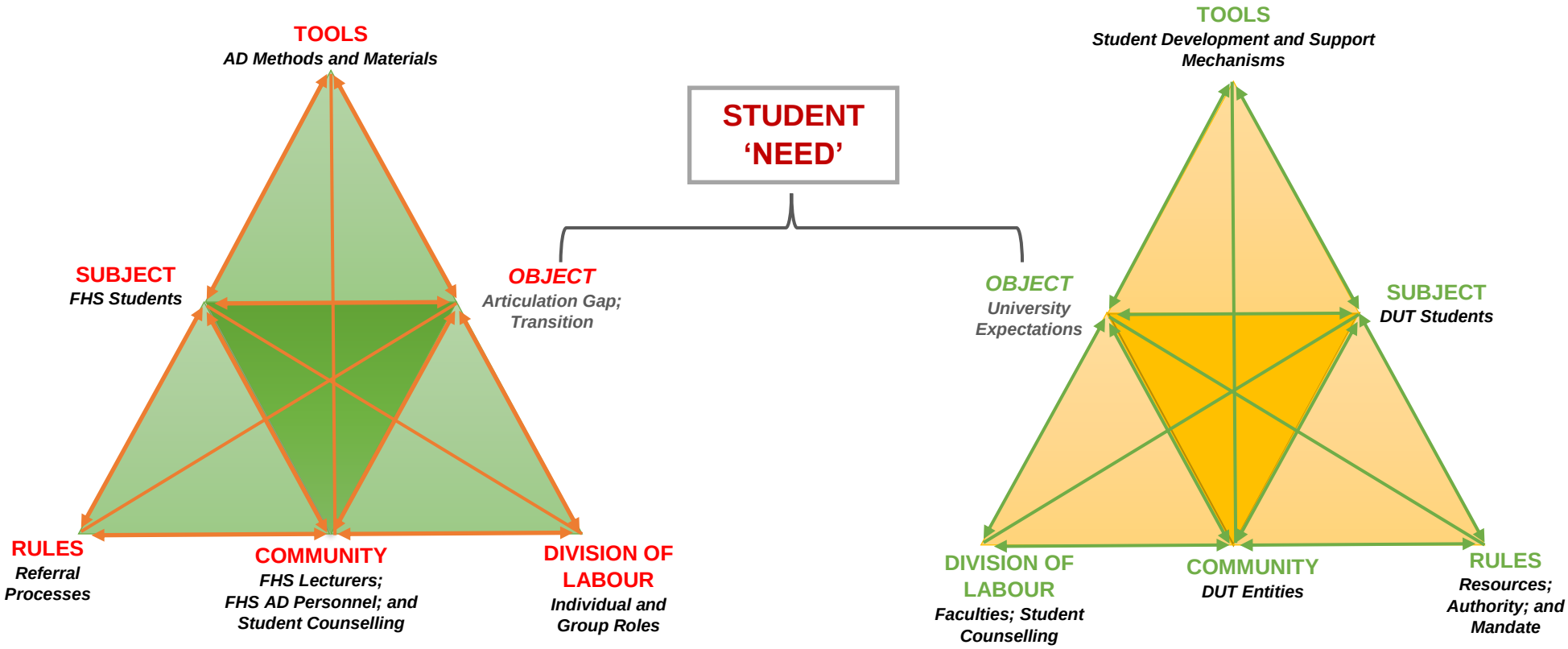

Figure 12: Intersecting activity systems illustrating the merging of the 'problem spaces', *Objects* 1 and 2.

The student ‘need’ is a tension in relation to what elements require collaborative attention to obviate the articulation gap/transition and meet the learning expectations of the university, in order to achieve success. It is here, in the problem space of the Student – University learning relationship, that a mediating factor can be positioned. In mediating these tensions, a student academic support system can provide a bridge across the articulation gap. In facing the reality of their poor academic performance, students who step onto the bridge can be directly supported through mechanisms that meet their needs in making a smooth and successful transition in order to adapt to the learning expectations of the university.

6.3.2 Factor 2: transformation and access with success

Literature indicates a need for interventions to support students to transition to university (Ogude, Kilfoil and du Plessis 2012; McGhie 2014; Council on Higher Education 2015) for improved success (McKenna 2010; Council on Higher Education 2014b; Grayson 2014; Tinto 2014). Interventions to improve student success need to be considered in relation to a transforming South African higher education system (Ng’ethe, Subotzky and Afeti 2008; Smit 2010; Council on Higher Education 2013; Lewin and Mawoyo 2014). Furthermore, emergent tensions in this study indicate that the student ‘voice’ is critical in considering how to design support frameworks. The student perspective, as shown in Figure 11, must therefore be a central consideration in designing a framework that will ultimately address the lack of preparedness that students elucidated as hampering their transition to higher education and academic success.

6.3.3 Factor 3: theories of student development

Student development theories of student involvement, self-determination and student retention are also factors to be taken into consideration. Astin (1999) posited that high student involvement can be encouraged through quality learning and support programmes. How a student chooses to approach their learning is driven by their motivation, and whether it is intrinsic or extrinsic (Ryan *et al.* 2009; Leal, Miranda and Carmo 2012) as well as the reason why and what will be achieved in the process (Field and Duffy 2014). Individuals vary in what does and

what does not motivate them, whether intrinsically or extrinsically, according to the context and environment (Ryan *et al.* 2009). The environment is also a key factor in student retention, together with expectations, support and self-efficacy (Tinto 2010). Whannell and Shah (2016) explained the importance of support programmes that enable student retention within a diverse student population. Appropriate and accessible funding was another aspect of retention; unavailable or inaccessible funding could lead to a student dropping out (Cele and Menon 2006). Tinto (2010), like Astin (1999), raised involvement as a critical factor in student retention, in relation to active engagement in a supportive environment.

6.3.4 Summary of guiding factors in the framework design

I have taken various factors into account when considering appropriate elements, activities and processes within a framework for student academic support. These include the student perspectives on their lack of preparedness for higher education, the demands of higher education, and the role of the FHS AD support; the transforming South African higher education system and the diverse student population; and student development theories of involvement, retention and self-determination. The proposed framework is presented as Figure 13.

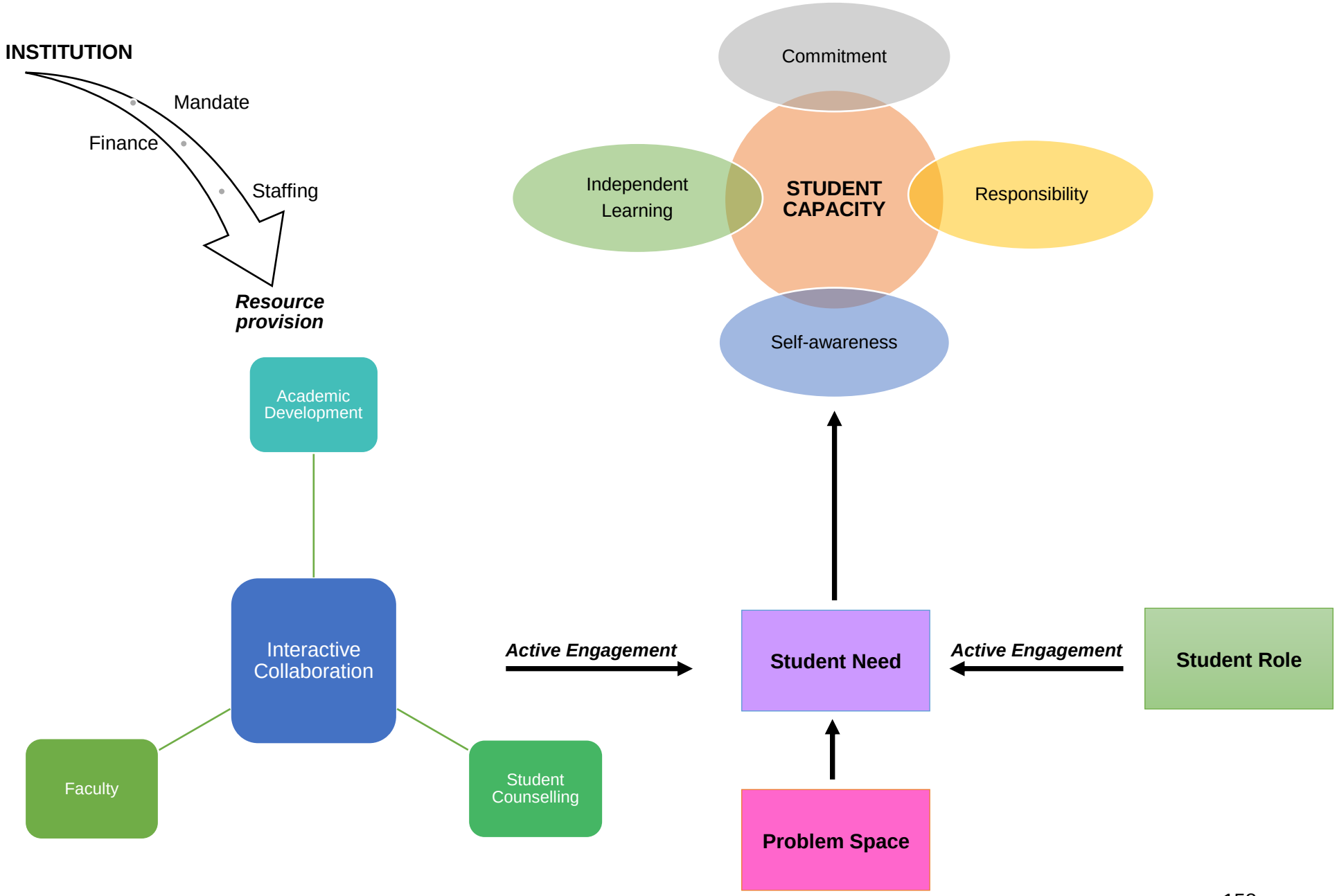

Figure 13: Framework for support of academically at-risk students.

6.4 INTERACTIVE ELEMENTS OF THE FRAMEWORK

Section 6.3.4 indicates the various factors taken into account for the design of the framework; the design also takes account of the FHS AD student support activity system together with the DUT activity system (Figure 12). The respective 'problem spaces' of the articulation gap (*Object 1*: FHS AD) and *Object 2* (DUT: expectations) form *Object 3*: student need. The student has a need to overcome the articulation gap and meet the expectations of the university. Facilitating this support process is a collaborative mechanism between the institution, the faculties, AD units, and Student Counselling. Roles are autonomous yet interlinked and located within the context of student development theories. The institutional role is a fundamental aspect in the support framework. An overview of the elements of the proposed framework is presented in Table 11.

Table 11**:** Breakdown of the aspects of the proposed supportive framework.

FRAMEWORK ASPECTS	CONSTITUENT ELEMENTS
Problem space	• Articulation gap. • Transition. • Access with success.
Student need	• Overcoming the articulation gap between high school and university and making the transition from passive memorisation to active learning for understanding and application.
Institution	• Provision of resources: Finance, Mandate, Staffing.
Academic Development	• Marketing and awareness of services. • Academic support and guidance. • Language support. • Case monitoring. • Co-referrals. • Feedback to Faculty. • Reporting to faculty Management.
Faculty	• Confidentiality of referral approach. • Timeous referral. • Tracking of progress. • Feedback to AD.
Student Counselling	• Diagnosis. • Therapy. • Monitoring. • Co-referrals.
Interactive collaboration	• Communication. • Identification of at-risk students. • Co-referrals. • Case action plan.

	• Monitoring. • Feedback. • Review.
Student role	• Acknowledgement and acceptance. • Willingness to actively engage. • Preparedness for activity. • Investment of time.
Student capacity	• Commitment • Independent learner • Personal responsibility • Self-awareness

6.4.1 The Problem Space

The 'problem space' is comprised of four problematic areas: the articulation gap; transition to higher education; dropping out; and access with concomitant success (Fisher and Scott 2011; Council on Higher Education 2013; Leibowitz and Bozalek 2014; Lewin and Mawoyo 2014). This is *Object 3* as shown in Figure 12, which is the target of the transferable framework.

6.4.2 The Student Need

The student 'need' is generated by the problem space (Roberts, Dunworth and Boldy 2017). It is important here to emphasise that in my opinion this is the *reality* of what is taking place: many students are entering higher education without the required skills to be a student at university. In the FHS students from across all demographic factors have been academically at-risk and referred for support to make better progress. No particular demographic factor is sought in the provision of academic support and guidance. Students *need* to overcome the articulation gap and make a smooth transition for access with success (Porter and Swing 2006; Cross and Carpentier 2009; Ogude, Kilfoil and du Plessis 2012; Young-Jones *et al*. 2013; Council on Higher Education 2014b; McGhie 2014; Manee, Khoiee and Eghbal 2015). Where academic-related skills are lacking the students therefore *need* appropriate support and guidance to acquire such skills to enable quicker and smoother engagement with course material for epistemological access (Fowler and Boylan 2010).

6.4.3 The Institutional role

Provision of resources is a fundamental aspect of service provision, and in this the role of the institution is a critical factor. Section 2.4.1 outlines the disparity between the way that AD units are structured and placed (Harland and Staniforth 2008; Boughey 2010), whilst the funding and staffing issues of the FHS AD unit in particular are discussed in section 1.2.3. Without appropriate resources, it is difficult to provide the services required by those students who need support to overcome the difficulties they face in actuating their potential and being academically successful.

A lack of funding and staffing places any support programme in jeopardy, with the risk that the services cannot be sustained in the long-term (Boughey 2007a). This would be detrimental to the overall aims of the faculties and the institution, being access and retention for academic success (Badat 2010; McEnroe-Pettite 2011; O'Shea *et al.* 2015). Appropriate resources need to be made available to each faculty to set up an AD unit that focuses on student support. Permanent AD personnel posts should be included in these resources, and not annual contracts, so that the uncertainty regarding continuity of provision of services is not an aggravating factor in supporting students to academic success. It is also imperative that a clear mandate is given to all relevant stakeholders so that each entity is aware of the role they will be playing and the collaborative intersection within the support system.

6.4.4 The Academic Development role

A key role needs to be played by the AD unit in providing relevant academic and language support programmes and referral consultations, appropriately utilising relevant materials, methods and mechanisms. It is also of vital importance that the unit makes a conscious effort to engage with students in general at a much earlier stage in relation to engendering an awareness of the services that are available. This particular issue came out strongly from the participating students in this study: that students need to be made more aware of what AD actually is and what it can do to help them, so that the 'Alcatraz' impression is avoided. Whilst this could be done at a general faculty Orientation session, it may be more advantageous to

utilise class orientation for first-year students and a special review session for returning students. Due to a class being smaller than a faculty cohort, whether first year or higher, this would enable a more intimate environment with opportunities that would enable closer engagement and allow for more in-depth question-and-answer strategies.

Monitoring each case on a regular basis provides up-to-date information on whether the student is attending for consultations, whether there have been any co-referrals (eg. to Student Counselling), and how responsive and active the student is being within the referral process. Hand-in-hand with monitoring is feedback to the referring department, as well as general reporting to faculty Management through relevant faculty committee structures. By maintaining such a monitoring, feedback and reporting regimen all stakeholders in the support system will have pertinent information to further inform what additional action may be necessary, whether by a particular department, the faculty in general, or through the office of the Executive Dean.

6.4.5 The Faculty role

One key factor raised during the interviews was that of confidentiality and protecting the status of the student. It is of great importance that to avoid a negative impression of the referral system all personnel involved, and particularly those at departmental level, maintain the integrity of the status of student by ensuring that any discussions about poor academic performance are held in private and not in front of the class. Faculty also have an obligation to refer students for support at the first indication that academic progress has been compromised, whether the reason is known or as yet unassessed. Irrespective of the cause, any sign that the student is not coping with the course work and assessments should be taken seriously and the student referred immediately to AD for assessment. Tracking of a student once he/she has been referred is also of importance, so that the departmental staff are aware of whether the student is improving capacity and moving out of the danger zone, or whether further interventions may be necessary. This could, perhaps, include specific interventions on the part of the lecturer in relation to practical aspects of the

subject (lab work, etc.) as these generally fall outside the expertise of the AD personnel.

6.4.6 The Student Counselling role

Counsellors play a critical role in providing therapy and other professional activities and interventions that fall within the jurisdiction of psychological services. As indicated in the interviews students articulated that often they have a need for both academic and psychological support, and the two cannot operate in isolation from each other. Counsellors can perform the functions of assessment, diagnosis, therapy and monitoring concomitantly with co-referrals to AD for academic issues of concern. Each has a clear and distinct role in terms of their respective areas of expertise, however it is incumbent on staff across both counselling and AD to have close links and regular consultations on areas of mutual interest or concern.

6.4.7 The role of Interactive Collaboration

Another key aspect of the support framework is that of collaboration. Whilst the AD unit, Faculty and Student Counselling each have defined and specialised areas of operations and responsibility as outlined in sections 6.4.4, 6.4.5 and 6.4.6, overcoming the 'problem space' requires a unified approach. Such a collaboration needs an investment of time, effort and co-understanding, hence 'invested collaboration'. Collaboration cannot be on paper only; it must be actively sought amongst all parties involved. Critical components include good communication and co-referrals, as well as functioning systems for interlinked monitoring, feedback and review. Through these activities and mechanisms a functioning, active and highly engaged system of support can constructively go on the offensive in tackling the problem space.

6.4.8 The role of the Student

As indicated in section 5.3, the student has the greatest stake in his/her own learning and the most to lose. Interventions for student academic support need *all* stakeholders to be fully engaged and the student is the primary stakeholder in the learning process. For interventions and activities to have any meaningful impact, the student must therefore be fully engaged in the learning process

(McGhie 2014) and have the self-motivation that drives his/her personal learning process (Crosling, Heagney and Thomas 2009; Williams and Williams 2011; Usher 2012; Saeed and Zyngier 2012; Goenner, Harris and Pauls 2013; Howey 2016). For a struggling student this requires acknowledgement and acceptance of the situation – a recognition that they are not coping and need help. A willingness to actively engage is also foremost in the role of the student, together with being prepared to put in extra effort to overcome the academic difficulties that are being encountered. Concomitantly the student needs to make an investment of time in learning activities, both through the formal curriculum and also through the referral support system.

The key words in the student role are 'self-motivation' 'recognition'; 'willingness'; 'investment' and 'engagement', which can be encapsulated as student involvement and self-determination (Astin 1999; Ryan *et al*. 2009; Leal, Miranda and Carmo 2012; Field and Duffy 2014). Referred students need to play their part, hence the multi-directional facets of the framework: it is not a one-direction system of the other stakeholders 'giving' and the student 'receiving' – it is a mutual investment of effort, time and commitment. Student responsibility through active involvement and commitment is absolutely critical within the context of their own learning and development for retention and academic success (Tinto 2010; 2012).

6.4.9 The Framework and Student Capacity

The desired outcome of the framework is for students to achieve success at university. Students requiring additional guidance and support and who are serious about making progress can be assisted to overcome their difficulties through invested collaboration. Self-awareness is also a critical factor: the student can be assisted through the multi-faceted approach of the framework to recognise their own personal development. This would enable the student to understand and maximise their learning strengths; adapt learning strategies as necessary; and seek help with learning weaknesses or when evolving academic situations cause new learning problems to arise. In becoming more self-aware, committed and responsible, over time the student can also more confidently progress towards becoming an independent learner.

If all stakeholders are equally resolute in their desire to make progress, then student capacity can be built and a positive outcome can be achieved. In essence such capacity would entail a student being guided and supported towards the realisation that he/she is ultimately responsible for his/her own learning, and that personal commitment is an integral part of the learning process (O'Neill and McMahon 2005; White and Schulenberg 2012; Field and Duffy 2014; Tinto 2014).

6.4.10 The Framework summary

In tackling the problem space through multi-way active engagement and invested collaboration, staff and students could together address the problem space and achieve access with success. Student capacity can be advanced such that the desired outcome of student commitment, responsibility, self-awareness and independent learning are attainable and within reach through suitable supportive interventions.

6.5 THE RECOMMENDATIONS

In reflecting on this research study within the context of the aims, objectives, results and findings, together with activity system elements of the framework, I make the following recommendations:

- After concluding this research, I am now of the opinion that the timing of the interviews in this study could have been the reason why many students declined the invitation to participate. These interviews were conducted in the short third term when there is great demand on student time, particularly for those students enrolled for annual subjects with examinations commencing in early October. To increase the chances of a greater participation rate, it is recommended that student interviews should be conducted during the earlier part of an academic year.

- To obtain more comprehensive qualitative data directly from students I would recommend that a research study be conducted per academic programme. This could be effected in smaller sub-studies and would enable researchers to further explore any challenges that may be an obstacle to students making

good academic progress, and which are specific to that particular course of study. This is particularly relevant in the health sciences, where disciplines vary quite markedly from each other both in theory and in practice. As a result, each discipline within the FHS uses learning processes that are suitable for the nature of the profession, and that necessarily differ from each other.

- I also recommend that study on first-year students only would assist in obtaining more specific information on their preparedness, attitudes, approaches and methods. The study could consist of two parts: firstly, it could be conducted on all first-year students in a faculty early in the first term. This would elicit data regarding their preparedness for higher education study and their initial approaches and methods of learning. Secondly, it could be conducted again towards the end of the second term. This would establish whether the students were successfully adapting to the new learning environment and whether they had realigned their approaches and methods.

- It is further recommended that a study be conducted on second-year students during the second academic term. This could be a follow-up study to that conducted in their first year at university, and could be used to compare their thinking and learning practices from first-year to second-year. Such a study could inform the faculty as to the ongoing preparedness of the students and whether further and different support programmes would be beneficial.

- In reviewing the methods used in this research study, I feel on reflection that it would have been beneficial to interview lecturers in various professional disciplines across the FHS. Academic staff would have another perspective that may shed light on some of the learning difficulties encountered by many students, whether in a general or discipline-specific context. The opinion of lecturers on the AD unit and the services that it offers to students would also be of value in making changes, adjustments or to design new interventions, in order to improve services and delivery.

- Further investigation should be conducted at faculty level to establish what other mechanisms would further provide students with a supportive and enabling environment for improved retention and decreased drop-out.

- The FHS AD support system is unique within the DUT; in light of the results of this study relating to the decreasing drop-out rate it is recommended that the proposed support framework is considered for implementation in the other five faculties.

- It would be of benefit for a specific *student – institution* contract of learning to be designed regarding mutual commitment and responsibility. Furthermore, I recommend that it is presented and explained to all first-year students on registering for their first year of study, as well as being reviewed and reiterated for all subsequent years of study through to graduation.

All things first originate in the mind. Things and events depend heavily on motivation. The prime mover of every human action is motivation; our motivation should be simple and sincere. Whether we achieve the goal or not does not matter so long as our motivation is very sincere and we make the attempt.

His Holiness the Dalai Lama

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APPENDIX A

Directorate for Research and Postgraduate Support
Durban University of Technology
Tromso Annexe, Steve Biko Campus
P.O. Box 1334, Durban 4000
Tel.: 031-3732576/7
Fax: 031-3732946
E-mail: moyos@dut.ac.za

9th October 2015

Ms Gillian Cruickshank
c/o Faculty of Health Science
Durban University of Technology

Dear Ms Cruickshank

PERMISSION TO CONDUCT RESEARCH AT THE DUT

Your email correspondence in respect of the above refers. I am pleased to inform you that the Institutional Research Committee (IRC) has granted permission for you to conduct your research "A framework to support academically "at risk' students to enhance student success: A Faculty of Health Sciences case study" at the Durban University of Technology.

We would be grateful if a summary of your key research findings can be submitted to the IRC on completion of the project.

Kindest regards.
Yours sincerely

[redacted]

PROF. S. MOYO
DIRECTOR: RESEARCH AND POSTGRADUATE SUPPORT

APPENDIX B

DUT DURBAN UNIVERSITY OF TECHNOLOGY

Institutional Research Ethics Committee
Faculty of Health Sciences
Room MS 49, Mansfield School Site
Gate 8, Ritson Campus
Durban University of Technology

P O Box 1334, Durban, South Africa, 4001

Tel: 031 373 2900
Fax: 031 373 2407
Email: lavishad@dut.ac.za
http://www.dut.ac.za/research/institutional_research_ethics

www.dut.ac.za

18 November 2015

IREC Reference Number: **REC 98/15**

Ms G Cruickshank
3 Rapson Court
81 Rapson Road
Morningside
Durban
4001

Dear Ms Cruickshank

A framework to support academically 'at risk' students to enhance student success: A Faculty of Health Sciences case study

The Institutional Research Ethics Committee acknowledges receipt of your notification regarding the piloting of your data collection tool.

In addition, the IREC acknowledges receipt of your gatekeeper permission letter.

Please note that FULL APPROVAL is granted to your research proposal. You may proceed with data collection.

Yours Sincerely,

[redacted]

Professor J K Adam
Chairperson: IREC

DUT DURBAN UNIVERSITY OF TECHNOLOGY
2015 -11- 18
INSITUTUTIONAL RESEARCH ETHICS COMMITTEE
P O BOX 1334 DURBAN 4000 SOUTH AFRICA

APPENDIX C

FACULTY OF HEALTH SCIENCES
Academic Development & Support
First Referral Consultation

Name of student:	**Date of Consultation**	
Student Number:		
Telephone number/e-mail address:	**Start Time**	
Department/Programme:	**End Time**	
Referred by (lecturer name):	**Total Time**	
Subject(s)/module(s) referred for:		
Referred to Student Counselling (circle option):	***Yes***	***No***
Referred to the Language Lab (circle option):	***Yes***	***No***
Referred for medical attention (circle option):	***Yes***	***No***

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DATE & TIME OF NEXT CONSULTATION: .....

AD SIGNATURE: ……

APPENDIX D

FACULTY OF HEALTH SCIENCES
Academic Development & Support

Follow-up Referral Consultation

Student Name:	
Date:	
Start Time:	
End Time:	
TOTAL TIME:	
Counselling referral (circle option):	***Yes*** ***No***

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DATE & TIME OF NEXT CONSULTATION: ……

AD SIGNATURE: ……

APPENDIX E

From: Gillian Cruickshank
Sent: Friday, 05 August 2016 3:52 PM
To:
Subject: Request for your participation in a doctoral research study

Dear

I am currently undertaking research for a PhD: Health Sciences, registered in the Faculty of Health Sciences at DUT. The study is a concurrent mixed methods design – the quantitative data has already been collected and is ready for the statistician. At this point I am now about to embark on the qualitative data collection phase comprising of student interviews. The topic of my research is:

'A framework to support academically 'at risk' students to enhance student success: A Faculty of Health Sciences case study'

The proposal was approved and IREC ethics clearance given in November 2015. As you have been assisted by the Academic Development ambit of this faculty in terms of academic support in either 2012, 2013 or 2014 (the relevant years for the qualitative phase) I would be very grateful if you would consider being a participant in my study. It would involve you being available for a group interview (5-8 individuals in total) which would be audio recorded. Anonymity is guaranteed in terms of the research reporting as you will be given a pseudonym and your name will not be used in the interview or in the write-up of the thesis. Further confidentiality is assured as I will personally transcribe the recorded interview into text, it will not be outsourced to any other individual. A peer reviewer may also be present to ensure that all relevant ethical matters are adhered to; this individual will be a staff member from the institution, either from the Faculty of Health Sciences or from an independent department within the institution. The interview will take place on campus and details are as follows:

DATE: **Friday 12th August 2016.**

TIME: **14h00.**

VENUE: **The Language Lab, AD ambit, underneath Mansfield Hall.**

Full details of the study and all relevant documentation (letter of information and consent, IREC clearance letter, permission letter to be audio recorded, etc.) will be available to you on the day of the interview and you will be given time to read through it and ask any questions before signing. Your attendance and participation will enrich my research and

add great value to this PhD work, however you will be free to withdraw from the process at any time should you feel the need to do so.

I appreciate that as a student you are very busy, however could I kindly ask that you give this matter some thought and advise me by Wednesday 10th August 2016 whether you are willing to participate in this study. I can then make relevant preparations for the interview on Friday. If you would like to participate but are not available to participate on 12th August, I will be conducting three other interviews in August and it could be possible for you to select another date if necessary.

Hoping for your positive response.

Kind regards,

Ms G. Cruickshank
M.Ed (Higher Education)
Academic Development Practitioner
Faculty of Health Sciences
Durban University of Technology
031 – 3732706

Just as a flower which seems beautiful and has colour, but has no perfume,

So are the fruitless words of the man who speaks them, but does them not.

[Buddhist saying]

APPENDIX F

INTERVIEW SCHEDULE

Category	Participant Identifiers	Date of Interview	Starting Time
Group 1	G1-1 G1-2 G1-3 G1-4	12th August 2016	14h00
Individual	I-1	15th August 2016	15h00
Individual	I-2	19th August 2016	10h00
Group 2	G2-1 G2-2 G2-3	19th August 2016	14h00
Individual	I-3	22nd August 2016	08h00
Individual	I-4	22nd August 2016	11h00

APPENDIX G

LETTER OF INFORMATION

Dear Student

Thank you for considering your participation in my doctoral research study. I greatly appreciate the time you are taking to read the documentation and trust that it clearly explains to you what the study is about and the role you would play should you agree to participate. The data from this study will be valuable in determining effective practice or designing new interventions to further assist and support students to be successful in their studies. Below you will find various sections that outline the study in full. Please feel free to ask any questions for clarity or explanation at any time when reading this Letter of Information and Consent.

Title of the Research Study: A framework to support academically 'at risk' students to enhance student success: A Faculty of Health Sciences case study.

Principal Investigator/s/researcher: Gillian Cruickshank, M.Ed (Higher Education; PGDHE; N.Dip: Management.

Co-Investigator/s/supervisor/s: Primary supervisor: Prof T. Puckree, PhD; Co-supervisor: Prof D. Lortan, PhD.

Brief Introduction and Purpose of the Study:

The DUT Strategic Plan highlights student-centeredness as providing students "with the kind of learning environment that helps them grow intellectually, socially and emotionally" (Durban University of Technology 2014: 5). The Faculty of Health Sciences has been fully engaged with student-centered guidance and support through the design and implementation of an 'at risk' referral system to assist students who may require additional support in order to make good academic progress. The aim of this research is to establish the effectiveness of the Faculty of Health Sciences' 'at risk' referral system in relation to student preparedness, need and academic progress, in order to design a transferable academic support framework for academically 'at risk' students.

Outline of the Procedures: Upon accepting the invitation to participate in this study, you will initially be asked to form part of a focus group which will be interviewed by the researcher in the presence of a peer observer. Semi-structured questions will be used

for the interviews. The group interviews will focus on your experiences at university and within the Faculty of Health Sciences at DUT. Your role within the group would be to share your experiences/perceptions of the Faculty's 'at risk' academic support programme. The interviews will be recorded and then transcribed into text format by the researcher. The transcriptions will be analysed and written up in a doctoral thesis. Interviews will be scheduled at a time that is convenient for you outside of your academic timetable commitments. The venue will be on a DUT campus and will be selected according to group size and venue availability. It is anticipated that the interview will not take longer than one hour. From the outcome of the focus group interviews, some students may be requested to participate in an individual interview with the researcher (and including a peer observer). This may be done in order to obtain further clarification or expansion on specific points raised in the focus group interview.

Risks or Discomforts to the Participant: There are no foreseeable risks or discomforts for participants.

Benefits: There are no specific benefits for participants. The benefits for the researcher are the submission of a PhD thesis for examination, together with the publication of an article in a national or international journal and the presentation of a paper at an international conference.

Reason/s why the Participant May Be Withdrawn from the Study: The participant may withdraw from participating in this study at any time without giving a reason. There will be no adverse consequences for the participant should he/she decide to withdraw from this study.

Remuneration: There is no remuneration for participants, either in cash or any other form.

Costs of the Study: There are no costs for participants in this study.

Confidentiality: Participants in the interviews will not be identified by their name, student number, school they attended, or town/city they come from. Transcripts and the thesis will refer to all participants anonymously, eg. Focus Group A; Student 1. This format will also be used in the writing up of the thesis. The data from the interviews and transcriptions will be kept in a lockable office for a period of five years, after which it will be deleted/shredded as appropriate.

Research-related Injury: No research-related injuries are anticipated at this is not a clinical/physical study.

Persons to Contact in the Event of Any Problems or Queries:

Supervisor: Prof T. Puckree. Please contact the researcher (031-3732706), my supervisor (031-3732704) or the Institutional Research Ethics administrator on 031 373 2900. Complaints can be reported to the DVC: TIP, Prof F. Otieno on 031 373 2382 or dvctip@dut.ac.za.

CONSENT

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, **Gillian Cruickshank** about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: **REC 98/15.**
- I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis (if relevant) will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerised system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I am aware that the group interviews and any individual interviews in which I may participate will be audio recorded for transcription and analysis. I agree that my voice may be therefore be recorded for the purposes of this study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

Full Name of Participant	**Date**	**Time**	**Signature**

I hereby confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

Full Name of Researcher	**Date**	**Signature**

Full Name of Witness	**Date**	**Signature**

Cohort Study of ND First-time Entering Students for 2007

Qualification	No. of First-time entering in 2007	No. Graduated in :			No. Enrolled in 2012	No. Dropped out	Dropout Rate	Throughput Rate		
		2009	2010	2011				Min Time	Min Time + 1	Min Time + 2
ND: BIOMEDICAL TECHNOLOGY	26	14	5	2	1	4	15%	54%	19%	8%
ND: CHILD AND YOUTH DEVELOPMENT (CYC)	25	15	2	3	0	5	20%	60%	8%	12%
ND: CHIROPRACTIC	18	4	3	1	0	10	56%	22%	17%	6%
ND: CLINICAL TECHNOLOGY	31	17	5	2	0	7	23%	55%	16%	6%
ND: DENTAL TECHNOLOGY	11	7	1	0	0	3	27%	64%	9%	0%
ND: EMERGENCY MEDICAL CARE	29	19	6	2	0	2	7%	66%	21%	7%
ND: ENVIRONMENTAL HEALTH	15	5	6	0	2	2	13%	33%	40%	0%
ND: HOMOEOPATHY	16	2	3	2	1	8	50%	13%	19%	13%
ND: RADIOGRAPHY: DIAGNOSTIC	31	21	5	1	0	4	13%	68%	16%	3%
ND: RADIOGRAPHY: NUCLEAR MEDICINE	4	2	0	0	0	2	50%	50%	0%	0%
ND: RADIOGRAPHY: THERAPY	3	3	0	0	0	0	0%	100%	0%	0%
ND: RADIOGRAPHY: ULTRASOUND	5	4	0	0	0	1	20%	80%	0%	0%
ND: SOMATOLOGY	24	8	5	2	0	9	38%	33%	21%	8%
Total	**238**	**121**	**41**	**15**	**4**	**57**	**24%**	**51%**	**17%**	**6%**

Cohort Study of ND First-time Entering Students for 2008

Qualification	No. of First-time entering in 2008	No. Graduated in :			No. Enrolled in 2013	No. Dropped out	Dropout Rate	Throughput Rate		
		2010	2011	2012				Min Time	Min Time + 1	Min Time + 2
ND: BIOMEDICAL TECHNOLOGY	31	12	7	4	2	6	19%	39%	23%	13%
ND: CHILD AND YOUTH DEVELOPMENT (CYC)	22	11	1	1	1	8	36%	50%	5%	5%
ND: CHIROPRACTIC	23	9	4	1	3	6	26%	39%	17%	4%
ND: CLINICAL TECHNOLOGY	32	19	6	2	1	4	13%	59%	19%	6%
ND: DENTAL TECHNOLOGY	12	9	0	0	0	3	25%	75%	0%	0%
ND: EMERGENCY MEDICAL CARE	22	20	2	0	0	0	0%	91%	9%	0%
ND: ENVIRONMENTAL HEALTH	26	15	6	1	0	4	15%	58%	23%	4%
ND: HOMOEOPATHY	7	0	3	0	0	4	57%	0%	43%	0%
ND: RADIOGRAPHY: DIAGNOSTIC	31	17	9	1	1	3	10%	55%	29%	3%
ND: RADIOGRAPHY: NUCLEAR MEDICINE	11	3	0	1	0	7	64%	27%	0%	9%
ND: RADIOGRAPHY: THERAPY	8	6	0	0	0	2	25%	75%	0%	0%
ND: RADIOGRAPHY: ULTRASOUND	3	1	0	0	0	2	67%	33%	0%	0%
ND: SOMATOLOGY	27	10	8	0	0	9	33%	37%	30%	0%
Total	**255**	**132**	**46**	**11**	**8**	**58**	**23%**	**52%**	**18%**	**4%**

Cohort Study of ND First-time Entering Students for 2009

Qualification	No. of First-time entering in 2009	No. Graduated in :			No. Enrolled in 2014	No. Dropped out	Dropout Rate	Throughput Rate		
		2011	2012	2013				Min Time	Min Time + 1	Min Time + 2
ND: BIOMEDICAL TECHNOLOGY	52	15	16	4	1	16	31%	29%	31%	8%
ND: CHILD AND YOUTH DEVELOPMENT	24	17	2	1	0	4	17%	71%	8%	4%
ND: CHIROPRACTIC	26	6	9	0	1	10	38%	23%	35%	0%
ND: CLINICAL TECHNOLOGY	36	17	5	3	2	9	25%	47%	14%	8%
ND: DENTAL TECHNOLOGY	15	5	5	0	0	5	33%	33%	33%	0%
ND: EMERGENCY MEDICAL CARE	26	21	0	0	1	4	15%	81%	0%	0%
ND: ENVIRONMENTAL HEALTH	28	17	5	1	0	5	18%	61%	18%	4%
ND: HOMOEOPATHY	10	3	1	0	0	6	60%	30%	10%	0%
ND: RADIOGRAPHY: DIAGNOSTIC	32	21	5	1	0	5	16%	66%	16%	3%
ND: RADIOGRAPHY: NUCLEAR MEDICINE	3	3	0	0	0	0	0%	100%	0%	0%
ND: RADIOGRAPHY: THERAPY	7	7	0	0	0	0	0%	100%	0%	0%
ND: RADIOGRAPHY: ULTRASOUND	4	4	0	0	0	0	0%	100%	0%	0%
ND: SOMATOLOGY	22	9	6	0	3	4	18%	41%	27%	0%
Total	**285**	**145**	**54**	**10**	**8**	**68**	**24%**	**51%**	**19%**	**4%**

Cohort Study of ND First-time Entering Students for 2012

Qualification	No. of First-time entering in 2012	No. Graduated in :		No. Enrolled in 2016	No. Dropped out	Dropout Rate	Throughput Rate		% Still in Progress
		2014	2015				Min Time	Min Time + 1	
ND: BIOMEDICAL TECHNOLOGY	20	10	4	2	4	20%	50%	20%	10%
ND: CHILD AND YOUTH DEVELOPMENT	21	13	1	2	5	24%	62%	5%	10%
ND: CHIROPRACTIC	27	17	0	3	7	26%	63%	0%	11%
ND: CLINICAL TECHNOLOGY	27	19	2	1	5	19%	70%	7%	4%
ND: DENTAL TECHNOLOGY	9	3	1	1	4	44%	33%	11%	11%
ND: ENVIRONMENTAL HEALTH	19	12	2	3	2	11%	63%	11%	16%
ND: HOMOEOPATHY	13	5	0	1	7	54%	38%	0%	8%
ND: RADIOGRAPHY: DIAGNOSTIC	39	37	1	0	1	3%	95%	3%	0%
ND: RADIOGRAPHY: NUCLEAR MEDICINE	5	2	0	1	2	40%	40%	0%	20%
ND: RADIOGRAPHY: THERAPY	5	4	1	0	0	0%	80%	20%	0%
ND: RADIOGRAPHY: ULTRASOUND	8	5	0	0	3	38%	63%	0%	0%
ND: SOMATOLOGY	21	10	3	3	5	24%	48%	14%	14%
Total	**214**	**137**	**15**	**17**	**45**	**21%**	**64%**	**7%**	**8%**

Cohort Study of ND First-time Entering Students for 2013

Qualification	No. of First-time entering in 2013	No. Graduated in 2015	No. Enrolled in 2016	No. Dropped out	Dropout Rate	Throughput Rate - Min Time	Still in Progre
ND: BIOMEDICAL TECHNOLOGY	25	15	5	5	20%	60%	20%
ND: CHILD AND YOUTH DEVELOPMENT	28	16	5	7	25%	57%	18%
ND: CHIROPRACTIC	34	15	8	11	32%	44%	24%
ND: CLINICAL TECHNOLOGY	26	20	2	4	15%	77%	8%
ND: DENTAL TECHNOLOGY	6	3	1	2	33%	50%	17%
ND: ENVIRONMENTAL HEALTH	33	21	7	5	15%	64%	21%
ND: HOMOEOPATHY	17	0	9	8	47%	0%	53%
ND: RADIOGRAPHY: DIAGNOSTIC	37	33	2	2	5%	89%	5%
ND: RADIOGRAPHY: NUCLEAR MEDICINE	3	3	0	0	0%	100%	0%
ND: RADIOGRAPHY: THERAPY	5	5	0	0	0%	100%	0%
ND: RADIOGRAPHY: ULTRASOUND	6	5	1	0	0%	83%	17%
ND: SOMATOLOGY	27	15	4	8	30%	56%	15%
Total	**247**	**151**	**44**	**52**	**21%**	**61%**	**18%**

Cohort Study of ND First-time Entering Students for 2007

Qualification	No. of First-time entering in 2007	No. Graduated in :			No. Enrolled in 2013	No. Dropped out	Dropout Rate	Throughput Rate		
		2010	2011	2012				Min Time	Min Time + 1	Min Time + 2
ND: BIOMEDICAL TECHNOLOGY (FOUNDATION)	16	8	2	1	0	5	31%	50%	13%	6%
ND: CHILD AND YOUTH DEVELOPMENT (FOUNDATI	3	1	0	0	0	2	67%	33%	0%	0%
ND: CHIROPRACTIC (FOUNDATION)	5	1	0	0	0	4	80%	20%	0%	0%
ND: DENTAL TECHNOLOGY (FOUNDATION)	10	6	0	0	0	4	40%	60%	0%	0%
ND: EMERGENCY MEDICAL CARE (FOUNDATION)	7	0	0	0	0	7	100%	0%	0%	0%
ND: ENVIRONMENTAL HEALTH (FOUNDATION)	9	5	3	0	0	1	11%	56%	33%	0%
ND: HOMOEOPATHY (FOUNDATION)	5	0	0	0	3	2	40%	0%	0%	0%
ND: SOMATOLOGY (FOUNDATION)	18	8	4	1	0	5	28%	44%	22%	6%
Total	**73**	**29**	**9**	**2**	**3**	**30**	**41%**	**40%**	**12%**	**3%**

Cohort Study of ND First-time Entering Students for 2008

Qualification	No. of First-time entering in 2008	No. Graduated in :			No. Enrolled in 2014	No. Dropped out	Dropout Rate	Throughput Rate		
		2011	2012	2013				Min Time	Min Time + 1	Min Time + 2
ND: BIOMEDICAL TECHNOLOGY (FOUNDATION)	11	2	6	0	0	3	27%	18%	55%	0%
ND: CHILD AND YOUTH DEVELOPMENT (FOUNDATI	11	9	1	0	0	1	9%	82%	9%	0%
ND: CHIROPRACTIC (FOUNDATION)	4	0	1	0	0	3	75%	0%	25%	0%
ND: DENTAL TECHNOLOGY (FOUNDATION)	13	4	0	1	0	8	62%	31%	0%	8%
ND: EMERGENCY MEDICAL CARE (FOUNDATION)	9	0	0	0	0	9	100%	0%	0%	0%
ND: ENVIRONMENTAL HEALTH (FOUNDATION)	11	7	1	0	1	2	18%	64%	9%	0%
ND: HOMOEOPATHY (FOUNDATION)	5	0	0	0	0	5	100%	0%	0%	0%
ND: SOMATOLOGY (FOUNDATION)	18	7	3	1	0	7	39%	39%	17%	6%
Total	**82**	**29**	**12**	**2**	**1**	**38**	**46%**	**35%**	**15%**	**2%**

Cohort Study of ND First-time Entering Students for 2009

Qualification	No. of First-time entering in 2009	No. Graduated in :			No. Enrolled in 2015	No. Dropped out	Dropout Rate	Throughput Rate		
		2012	2013	2014				Min Time	Min Time + 1	Min Time + 2
ND: BIOMEDICAL TECHNOLOGY (FOUNDATION)	17	3	7	0	7	0	0%	18%	41%	0%
ND: CHILD AND YOUTH DEVELOPMENT (FOUNDATIC	8	5	1	0	1	1	13%	63%	13%	0%
ND: CHIROPRACTIC (FOUNDATION)	4	0	1	1	1	1	25%	0%	25%	25%
ND: DENTAL TECHNOLOGY (FOUNDATION)	14	3	1	0	1	9	64%	21%	7%	0%
ND: ENVIRONMENTAL HEALTH (FOUNDATION)	12	4	3	0	3	2	17%	33%	25%	0%
ND: HOMOEOPATHY (FOUNDATION)	3	1	0	0	0	2	67%	33%	0%	0%
ND: SOMATOLOGY (FOUNDATION)	26	7	5	2	5	7	27%	27%	19%	8%
Total	**84**	**23**	**18**	**3**	**18**	**22**	**26%**	**27%**	**21%**	**4%**

Cohort Study of ND First-time Entering Students for 2012

Qualification	No. of First-time entering in 2012	No. Graduated in 2015	No. Enrolled in 2016	No. Dropped out	Dropout Rate	Throughput Rate - Min Time	Still in Progre
ND: BIOMEDICAL TECHNOLOGY (FOUNDATION)	10	7	2	1	10%	70%	20%
ND: CHILD AND YOUTH DEVELOPMENT (FOUNDATIC	8	5	1	2	25%	63%	13%
ND: CHIROPRACTIC (FOUNDATION)	6	0	3	3	50%	0%	50%
ND: DENTAL TECHNOLOGY (FOUNDATION)	23	4	3	16	70%	17%	13%
ND: ENVIRONMENTAL HEALTH (FOUNDATION)	8	6	0	2	25%	75%	0%
ND: HOMOEOPATHY (FOUNDATION)	4	0	0	4	100%	0%	0%
ND: SOMATOLOGY (FOUNDATION)	15	8	2	5	33%	53%	13%
Total	**74**	**30**	**11**	**33**	**45%**	**41%**	**15%**