MAPPING JOURNEYS: CONCEPTUALISATIONS OF ACADEMIC TALENT AND LEARNER TRAJECTORIES IN AN ENRICHMENT PROGRAMME

by

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DECLARATION

I hereby declare that the work which is submitted here is the result of my own independent investigation. Where help was sought, it was acknowledged. I further declare that the work is submitted for the first time at this university towards the Philosophiae Doctor degree in Psychology of Education, and that it has never been submitted to any other university for the purpose of obtaining a degree.

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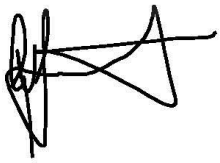

Prof Geoffrey Lautenbach
Chair: FACULTY OF EDUCATION RESEARCH ETHICS COMMITTEE
7 December 2017

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LIST OF ACRONYMS

FET -	Further Education and Training Phase
TIMMS -	Trends in International Mathematics and Science Study
CHE -	Council on Higher Education
DoE -	Department of Education
UNESCO -	The United Nations Educational, Scientific and Cultural Organization
UNESCO-IESALC -	The UNESCO International Institute for Higher Education in Latin America and the Caribbean
NPHE -	National Plan for Higher Education
SANRC --	South African National Resource Centre for the First-Year Experience and Students in Transition
UJ -	University of Johannesburg
HEIs -	Higher Education Institutions
HIV-	Human Immunodeficiency Virus
AIDS-	Acquired Immunodeficiency Syndrome
CDE -	Centre for Development and Enterprise
JET -	Joint Education Trust (JET Education Services)
NGOs -	Non-Governmental Organisations
TTP -	Targeting Talent Enrichment Programme
USA -	United States of America
IQ -	Intelligence Quotient
HQ -	High-Quality
GPA -	Grade Point Average
QUAN -	Quantitative
QUAL -	Qualitative

SETMU -	Student Equity and Talent Management Unit
WITS -	University of the Witwatersrand
LASSI -	Learning and Study Strategies Inventory (HS – High School)
WML -	Weakness Minimization Legitimation
NP -	National Party
HBCUs -	Historically Black Colleges and Universities
CHC -	Cattell-Horn-Carroll Theory
KMMPI -	Kahtena-Mores Multitalent Perception Inventory
KTCPI -	Khatena-Torrance Creative Perception Inventory
TASC -	Thinking Actively in a Social Context
MCAT -	Medical College Admissions Test
BQ -	Biographical Questionnaire
PTEEP -	Placement Test in English for Educational Purposes
LPCAT -	Learning Potential Computerised Adaptive Test
GSAT -	General Scholastic Achievement Test
SAT -	Senior Aptitude Test
16PF -	Sixteen Personality Factor Questionnaire
AARP -	Alternative Admissions Research Project
UCT -	University of Cape Town
CTY -	Center for Talented Youth
AP -	Advanced Placement Programmes
IB -	International Baccalaureate
ADPs -	Academic Development Programmes
SciMathUS -	Science and Mathematics at the University of Stellenbosch

IP -	Intervention Programme
UNIFY -	University of Limpopo Foundation Year
IAAY -	Institute of Academic Advancement Youth
SASA -	South African Schools Act
SES -	Socio-Economic Status
OBE -	Outcomes-Based Education
FIF -	Family Information Form
merSETA -	Manufacturing, Engineering and Related Services Sector Education and Training Authority
NSC -	National School Certificate
GSE -	General Self-Efficacy
BL -	Baseline
E -	Exit
P -	Participant
ISCO-88 -	International Standard Classification of Occupations
AMESA -	Association of Mathematics Education South Africa
ATT -	Attitude
MOT -	Motivation
TMT -	Time Management
ANX -	Anxiety
CON -	Concentration
INP -	Information Processing
SMI -	Selecting Main Ideas
STA -	Study Aids

SFT -	Self-Testing
TST -	Test Strategies
NSFAS -	National Student Financial Aid Scheme
DBE -	Department of Basic Education
MSSC -	Mathematics and Science Supplementation Curriculum Session
RECS -	Residential Enrichment Contact Session
DHET -	Department of Higher Education and Training

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ABSTRACT

If equitable access to educational opportunities is to be the core value and practice in South Africa, it is of critical importance to confront the lack of opportunity to address the gap in the performance of learners who come from disadvantaged communities and who have academic potential. South Africa has a unique position when it comes to conceptualising academic talent for learners from disadvantaged communities. Unlike contexts such as the USA, conceptualising "academic talent" is more than a matter of differentiation amongst cultural groupings and economically diverse groups. Historically, the terms gifted and academic talent have been used interchangeably and has been a much-contested term in both the South African and international literature. The resultant conflation of these terms in literature thus raises the importance of concretely defining academic talent, and clarifying how it differs from giftedness.

Departing from the notion that equitable access to educational opportunities is a core value in the South African education landscape due to the blatant disparities in the previous educational dispensation of the country, consequently, existing gaps in the performance of learners with academic potential, and in particular those who come from disadvantaged communities due to these limited opportunities, is argued to be a critical priority to ensure equitable access and probability of success before entering in to higher education. This study examines how academic talent is conceptualized by learners from public schools in disadvantaged communities in the Further Education Training (FET) phase, and how it is enabled for learners to facilitate their access to higher education. For the purposes of this study, the terms 'academic potential' and 'academic talent' is used interchangeably.

A concurrent transformative mixed method was conducted merging two data sets (quantitative and qualitative) and connecting them sequentially, combined with rigorous analysis should result in the one method building on or extending the other. The complexity of implementing this methodology in relation to traditional methods designs is highlighted.

The principal findings from the literature and empirical research indicated that unique conceptualisations of academic talent from the learners emerged that are not mentioned in

literature. Standing out distinctly among TTP learners' perceptions of academic talent was the theme of *personal passion*. Passion was linked to excellence and above-average ability. In the studies on learners' perceptions of academic talent reviewed, the notion of personal passion did not feature significantly as a defining aspect. The learners defined 'community' in different ways referencing specifically their home or neighbourhood community in terms of geographical space; whilst others included specific domains, such school, church, or family, and designated their community as the domain in which they had most interaction. Lastly, others referred to community in more fluid and undefined terms, some blending all domains, whilst others choosing to adopt a view of community as a constantly changing experience. The notion of 'ubuntu' referring to the collective celebration of academic achievement was a unique contribution in this context.

The grade 12 learners reported to have had a positive TTP experience with the majority of learners' ratings ranging between 84 - 98%. In line with the programme aims, the grade 12 learners stated that they have improved their communication skills (96%); developed (93.4%) and improved (92.7%) their skills (such as exam techniques) and have improved their school marks (86.5%). The grade 12 learners also believed that the programme had motivated them to study harder (97.4%), assisted them in meeting new people from different backgrounds (97.3%) and increasing their confidence (90.6%). In this way, the TTP learners reported that the programme had benefitted them both academically and psychosocially. A further finding indicated that the TTP learners were in the above average sentiment range for social skills, motivation, general self-efficacy and learner aspirations. In terms of access to higher education the TTP cohort of learners achieved a 99% access rate with majority of the learners registering at traditional universities a smaller number at distributed across universities of technologies. There was, however, a statistically significant difference in Contextual skills and awareness scores from year 2 to year 3 which is a major finding of this study with regard to facilitating the development of aspirations through exposure to enrichment programme which aims to provide opportunities to challenge learnt behaviours narrow the articulation gap.

The study culminates with identifying a list of criteria to inform enrichment programme conceptualisation and implementation representing a holistic lens through which individuals in the field can utilise to guide their practice.

CHAPTER 1

CONTEXT OF THE STUDY

1.1 Introduction

This study departs from the notion that equitable access to educational opportunities is a core value in the South African education landscape due to the blatant disparities in the previous educational dispensation of the country. Subsequently, existing gaps in the performance of learners with academic potential, and in particular those who come from disadvantaged communities due to these limited opportunities, should become a critical priority to ensure equitable access and probability of success before entering in to higher education. **This study thus set out to examine how academic talent is conceptualized by learners from public schools in disadvantaged communities in the Further Education Training (FET) phase, and how it is enabled for these learners to facilitate their access to higher education**. For the purposes of this study, the terms 'academic potential' and 'academic talent' will be used interchangeably. As will be discussed, precedent for this has already been established in existing literature.

Schooling plays a central role in preparing learners for access to Higher Education Institutions. The poor quality of the public schooling system is widely acknowledged in the South African context (Spaull, 2013). The performance of South African learners is distinctly worse than any other African countries, including those where the expenditure on education is lower, as indicated in international studies such as Trends in International Mathematics and Science Study (OECD, 2008; Yeld, 2010; CHE, 2013a; TIMMS). TIMMS is an international evaluation of the mathematical and science knowledge of fourth- and eighth-grade students around the world. According to the CHE report of 2014, the resultant articulation gap between current forms of schooling and university has placed scrutiny on concepts such as 'under preparedness', 'epistemological access' and 'pedagogical challenges' (Lewin & Mawoyo, 2014, p. 54), and requires careful clarification of these concepts.

The CHE report argues that the concept of under preparedness is limited and is often equated with a "lack of ability" and tends to "mask potential" to succeed. In the report, Lewin and Mawoyo further advocate that the concept should be understood as "relative" as students are underprepared for "traditional forms of higher education at present offered in South Africa" (2014, p. 54). In addition, the concept does not take into account the structural faults in the education system (CHE, 2013a, p. 59). With the shift of focus onto the structural inadequacies of the system, it is clear that under preparedness statistically "cuts across the racial divide of South African society" (CHE, 2013a, p. 59). By focusing on the structural inadequacies of the system, a more systemic view is enabled, which informs the understanding of under preparedness as an issue relating to all students within the higher education system.

Epistemological access is understood "as the extent to which students are able to and enabled to access the academic workings and expectations of university study including the 'scaffolding' and the 'discourses' of learning" (Lewin & Mawoyo, 2014, p. 56). Morrow (2007, cited in Leibowitz & Bozalek, 2014), "reflected on the macro-influences on schooling in contemporary South Africa, in particular the social, economic as well as cultural influences on schooling, which render it less than "systematic", despite the progressive education policies that have been gazetted since 1994. He purported that race, ethnicity, language and class cohere as factors at school level to hinder students from what are known as "educationally disadvantaged" backgrounds from gaining "epistemological access" once they reach university" (p. 95).

An additional articulation gap between current forms of schooling and university, according to Jansen et al. (2010, cited in Lewin & Mawoyo, 2014, p. 56), is pedagogic distance, which "denotes the difference in teaching between high school and university. It also refers to the phenomenon of lecturers not regarding their role as monitoring student engagement." Numerous studies identify factors contributing to pedagogic distance, which render students unable to cope with the transition to university and ultimately drop out or fail. These factors include:

- Lack of family to support the integration and adjustment to university (Slonimsky & Shalem, 2006, cited in Letseka, 2008; Jones, 2008).
- Failure to cope with openness of the university as opposed to closed nature of school (Cross, 2010, cited in Lewin & Mawoyo, 2014).
- Lack of reflective and critical skills needed for academic writing at university (Jones, Coetzee, Bailey & Wickham, 2008).
- Difficulty in coping with increased work load and intensity of work at university (Jansen, 2010, cited in Lewin & Mawoyo, 2014).
- Choosing courses because of inadequate information about course content (Ravjee, Hames, Ludwig & Barnes, 2010).

In addition, there is a linguistic dimension to pedagogic distance which "refers to the hierarchy created between lecturer and student and among students due to language differences" (Lewin & Mawoyo, 2014, p. 57). From the breadth of literature on student access to higher education, it is evident that there are many interrelated factors (at many levels), including acknowledging that a student is an individual with multiple identities and different pathways to and through higher education, which will require a range of interventions of varied types and at multiple layers. This study will consider the gaps in programmes currently in place before students access higher education.

Although academic preparation is a challenge for many students, in the South African context it is a problem that predominantly affects students from low-income and disadvantaged communities (Spaull, 2013). Greater recognition therefore has to be placed on the fact that access is not only about enrolment and quality, and that to achieve meaningful access to education, equity and outcomes need to be addressed collectively. Schleicher (2010) cited in (Spaull, 2013) explains that "the strength of the relationship between social background and educational outcomes is a good indication of how well a country is utilising its human capital potential. If the relationship is strong – as it is in South Africa (i.e. socio-economic status largely determines outcomes) – this means that a country is wasting a lot of its human capital

potential" (p. 37). It could be inferred from that statement that there is a possible causal link between socio-economic background, learner performance and how academic talent is demonstrated.

The conceptualisation of academic talent as an idea is becoming critical as a wide range of concepts are used to refer to academic talent are highly varying, with each term informed by its own ideological position. The multiplicity of these terms and their uses will be discussed further in Chapter 3.

In this chapter, a review of literature aims to provide a broad overview of the field of academic talent in international and South African literature. In an attempt to connect these international academic discourses to the local context, the review presents an exploration of the discourses of academic talent within the South African context. Specific discourses will be identified in the thematic categories proposed, namely (i) the 'giftedness' construct in South Africa, (ii) contexts of disadvantage as a barrier to nurturing academic talent, (iii) relevance of inclusive approaches to conceptualisations of academic talent, (iv) shift from 'objects' of testing to agentic, meaning-making subjects of learning, (v) recognition of contextual variability and (vi) biographical, historical and socio-economic determinants of academic talent.

1.2 Contextualising the study

Any society committed to promoting equity must ensure that its education system, including its tertiary education sector, is accessible to students from the broadest spectrum of under-represented and traditionally excluded groups. The Higher Education White Paper 3 (DoE, 1997) articulates equity as requiring both fair opportunity to "enter higher education programmes and to succeed in them – *Principle 1:18*", which essentially embraces two fundamental elements, namely equity of access and equity of outcomes.

Even though there has been a significant increase in the rate of Black enrolment, the continuing hurdles faced by Black candidates highlights the lack of parity in admissions especially in programme areas that are seen as priorities for economic development. Supporting the opportunity to seek the benefits made affordable by tertiary education in an equitable manner is vital based on the widespread evidence of the many public and private benefits of attaining a university degree (McMahon, Walter, W. 2009). The multiple personal benefits derived from obtaining a higher education qualification collectively facilitate access to a higher quality of life (for example, access to better quality healthcare and greater financial stability). These benefits extend to a societal level as well with the resultant increase in civic participation. It has also, for example, been a prominent theme in India, as illustrated by Sudha Rao and Chatrapathi (2011), who indicate that "higher education has become a basic necessity for the economic growth, social mobility, social justice and the country's democratic ideals" (p. 97). Due to the known benefits, equity in access and success in tertiary education remain areas requiring more extensive interrogation.

In spite of the extensive efforts to improve access worldwide, tertiary education — especially the university sector — generally remains elitist, with the majority of enrolled students coming from wealthier segments of society (Leibowitz & Bozalek, 2014). Although relatively few countries and institutions systematically collect data on the socio-economic origin of students, where national statistics and household survey data are available, the pattern of inequality is apparent (UNESCO-IESALC, 2008). This is illustrated clearly in Latin America. In Chile, for example, the tertiary-level enrolment rate for the wealthiest quintile is almost four times higher than the rate for the poorest. In Argentina, the enrolment rate of the wealthiest quintile is five times higher than the rate for the poorest, and in Mexico the rate is eighteen times higher than that of the poorest. In a study of the "Equity Challenge in Tertiary Education" (World Bank, 2009), children from the richest quintile account for 80% of tertiary enrolment from the francophone countries in sub-Saharan Africa, while those from the poorest 40% of the population group represent only two percent of the student population (World Bank, 2009).

In addition, a substantial focus is emerging on what is referred to by Soudien, Motala, and Fataar (2012) as "the relationship between access to education and the understanding of quality associated with access" (p. 3). The authors further argue that basic education cannot be separated from development and that "sustained access to meaningful learning that has value is critical to long-term improvements in productivity, the reduction of intergenerational cycles of poverty, demographic transition …. and the reduction of poverty" (p. 3). Of significance is the definition of education access provided by the authors as that "which includes concerns related to attendance as well as enrolment, progression at the appropriate age, achievement of learning goals, equitable access to opportunities to learn and availability of adequate learning environment" (p. 3).

The tertiary education sector is characterised by a diversity of student intake from a variety of educational backgrounds that affects students' engagement with learning opportunities. The current participation rate in higher education in South Africa is 17%, which is lower than the national target of 20% set in the National Plan for Higher Education (NPHE) (DOE, 2001). The inequity is observed in the participation rate of African students at 14% and Coloured students at 15%; in comparison to the 57% rate of participation for White students (CHE, 2012). In the Council of Higher Education (CHE) report of 2013, Scott, Yeld and Hendry (2007), argue that the racialized participation rate of students in higher education befits a "significant social justice issue and raises fundamental questions about who is gaining meaningful access to universities". Tertiary education sectors often treat student intake as if it can be attributed to a homogeneous learning experience, despite inequalities in educational backgrounds (Leibowitz & Bozalek, 2014). It also appears that this assumption related to learning experiences is mitigated by higher education putting in place support strategies for student throughput. A key element of higher education's ability to improve progression rates from first-year into second-year and to increase graduate rates, is to design and implement a range of integrated academic and social support activities such as first-year academic support programmes, to help students adjust and cope with life as a university student. As a result of fractured student support initiatives in the South African context, the South African National Resource Centre for the First-Year Experience and Students in Transition (SANRC) was established in 2015, at the University

of Johannesburg (UJ), under the guidance of the Academic Development Centre. The aim of this centre was to provide higher education institutions with resources to aid student success, as well as academic and social experiences at universities(https://sanrc.co.za/)

Within the South African higher education sector, graduate output has become a priority for the following reasons:

1. **The outputs of the higher education sector do not match the developmental needs of the country as reflected in the shortage of high-level skills.** This is substantiated in a study conducted by Scott et al. (2007), on the analysis of throughput rates, that is, " the calculation of how many students in a given cohort completed their degrees and graduated within the stipulated time, how many dropped out, and how many took longer than the stipulated time to graduate" (Higher Education Monitor No. 6: A case for improving teaching and learning in South African Higher Education, October 2007, p. 29). The authors did not only interpret throughput rates as a tool to determine the shortfall of graduates in broad fields of study, but also as a tool to reflect on the institutional inefficiencies that are systemic within higher education institutions (HEIs). Scott et al. (2007) locate higher education outputs in the intersection between much broader conceptual issues, namely admissions and fairness, as well as the standard of instruction. This approach provides an "opportunity to reflect on the relationship between access, equity and quality, its theoretical underpinnings, and the practical tensions and challenges faced by different stakeholders in the implementation of strategies to improve teaching and learning" (Higher Education Monitor No. 6: October 2007, p. 45). The key parameters with regard to the improvement of graduate output such as quality, equity, size, shape and efficiency within higher education policy, resourcing and planning are recognised as a central driver in the South African context. The attempt to redress this growth to meet the shortage of high-level skills is still primarily focussed on addressing challenges at the systemic level.
2. **Despite the increase of Black student enrolments since the political transition in South Africa, access still remains a major issue in terms of equity**. The major racial disparities in graduation and dropout rates in undergraduate programmes contradict the apparent

progression demonstrated in the increased admission of Black South African students who access higher education (Scott et al., Higher Education Monitor No. 6: October 2007).

Socio-economic inequality in South Africa continues to have a direct impact on the preparedness of students who access higher education (Higher Education Monitor No. 6, 2007). Furthermore, the financial incentive for HEIs have to be taken into account with regard to the pertinence of completion or the throughput rates of students. What this essentially means is that subsidy allocation is ultimately driven by completion rates (Higher Education Monitor No. 6, 2007).

Soudien, Motala and Fataar (2012, p. 4) indicate that "quality is not a neutral metric" and that there has to be constant reflection on the roles and values instilled by political orientations and dominant groups in society, as well as how these groups define public interest and public good. In this context, it is therefore important to increase the participation of economically disadvantaged and rural students in enrichment programmes, not only as a global imperative, but also for the development of alternative identification procedures that advance educational opportunities of such students. It is most likely that such students will not obtain impressive scores on standardized intelligence and achievements tests. However, if identified and provided with access to an educationally enriching programme, these students will make contributions to society and their own rural communities for years to come. In addition, the authors indicate that critical attention to the facilitation of intellectual possibility has to accompany access. This sentiment is supported by Motala, Sayed and Dieltiens (2012, p. 4) who argue that learners need to be in a learning environment that helps towards "developing a critical sense of their own potential and the potential of others around them. Learning has to be meaningful for them".

> "*It is essentially about radically changing our society, including our education and training system and all other areas of life to ensure that they can serve the interests of all South Africans in a democratic, equitable and prosperous society. Put differently it is about confronting the deeply interrelated challenges of class, race and gender*

> *inequalities, including confronting the HIV/AIDS pandemic and being an inclusive society for the disabled. This means ensuring that the working class and the poor, women, youth and the disabled, become significant beneficiaries not only economically and politically, but also in terms of cultural and educational development. All of us here have a duty to ensure that the higher education system serves this purpose"* ***Keynote Address by Minister of Higher Education and Training, Dr Blade Nzimande to the Stakeholder Summit on Higher Education Transformation, Cape Peninsula University of Technology, 22 April 2010.***

In recent years, the role of the university has come under examination, particularly with regard to whether institutions are adequately prepared for their students (Jones, Coetzee, Bailey & Wickham, 2008; Dhunpath & Vital, 2012). Emphasis has been placed on how universities can shift their academic application procedures in order to accommodate the diversity of students, as well as addressing throughput and retention and placing more attention on the "material and cultural contexts of higher education transformation" (CHE, 2010, p. 36).

Increasingly, special programmes that occur outside secondary high school hours are being developed, especially by universities and private sector entities. This is demonstrated by policy research commissioned by the Centre for Development and Enterprise (CDE) and conducted by JET Education Services. The objective of the research was to explore "Options for talented learners from disadvantaged backgrounds" (2010), and entailed a review of ten South African programmes initiated and supported by private sector entities and NGOs. The research reported on two programme types:

- Enrichment programmes (learners remain in their current schools and are provided with additional classes outside of school hours).
- Placement programmes (talented learners from deprived backgrounds are taken out of their schools/homes/communities and placed in well-resourced schools).

The findings of this research yield two important insights: firstly, JET Education Services recommended that the evaluations of such programmes should be longitudinal and track the progress and performance of the graduates beyond their school careers. Secondly, the findings

highlight the importance of the need to recognise and incubate potential as being philosophically important in programme implementation. These findings form the underpinning of the conceptualisation of this study, located within the South African context.

This study identified the Targeting Talent Programme (TTP) based at the University of the Witwatersrand as a research location to develop a framework to guide the research and practice in the area of enrichment programme implementation. The aim of the TTP Programme is to increase the academic, social and psychological preparation of learners with academic potential, primarily from socio-economically disadvantaged backgrounds for admission to South African universities. This is an enrichment programme that both develops academic talent and facilitates access to higher education that was implemented in 2007 and is still currently active.

One important question to ask is why enrichment programmes should exist for the cultivation of academic talent. According to Bloom (1985), the talent development process may require additional intensive instruction beyond what schools can or are willing to provide. It is also widely accepted that developing musical or athletic talent requires long hours of practice and devoted time over a period of years. The amount of instruction, conceptual knowledge and understanding to develop talent may not be sufficient to satisfy the student's hunger for learning (Thompson, 2001). Specially designed enrichment programmes provide a greater degree of intellectual challenge and stimulation, which allows students to extend their thinking process – enabling it to become broader, deeper and more analytical.

Gandara and Bial (2001) found that gifted and high potential minority youth programmes tend to augment the role of schools, without modifying how they interact with students. Intervention programs have shown little impact on increasing the academic achievement of participants, but have rather facilitated increased self-motivation and aspirational goals of accessing higher education enrolment. Gandara and Bial (2001) recommend that early intervention programmes are implemented by schools in order to influence academic

achievement. This understanding is indicative of the recent political developments and changes in South African society, which have enabled the creation of a knowledge economy to contribute to the growth and development of the nation. In terms of schooling, the South African educational context is similar to that of India in that both South Africa and India are considered third-world countries with developing economies. Consequently, Sudha and Chatrapathi (2011) caution that "a knowledge economy is harsh for all those individuals who are denied higher education and training, as well as for communities wherein a large percentage of the population does not receive education and training beyond secondary education". As a result, this contextual reality has informed the underlying assumptions which will be explored in this research study.

1.2.1 The contextual framing assumptions for the proposed research are:

i) The performance gap created as a result of poor schooling within the South African context requires that learners with academic potential from disadvantaged communities participate in enrichment programmes with a focus on emancipation. It has been twenty-five years since the formal end of the Apartheid regime in South Africa. It is important to note, however, that the widening of access to higher education has been a national priority since the 1980s. According to the Centre for Development and Enterprise (CDE Research no 15, October 2007), in comparison to other developing countries, South Africa spends more on education, even though its learners perform far worse in mathematics and science indicating that the "public education system is inefficient, making ineffective use of resources" (p. 8). Leibowitz and Bozalek (2014) note that the "2012 National Senior Certificate ('matric') results indicated an overall 73.9% pass rate, while only 26.6% of those tested qualified for Bachelor's Degree studies. Results show a significant disparity that leaves poorer, more rural provinces at a disadvantage, according to the 2011 *National Diagnostic Report on Learner Performance* (Department of Basic Education, 2012)" (pp. 94-95). Le Roux and Breier (2012) indicate that there has been little change for 75% of Black South Africans in terms of access to educational opportunities since the inception of democratic change in 1994.

ii) Racialised conceptions of ability and talent generated under Apartheid have meant that talent in South Africa remains an untapped resource. Fleisch (2008, p. 22) provides a detailed summary of some smaller school improvement projects which have taken place in major national and provincial evaluations, such as the *Quality Learning Project* (2001), the *District Development Support Programme* (2001), the *Family Literacy Project* (2000), the *Early Reading Workshop*, and various projects evaluated by Eric Schollar. The findings of each of these small-scale evaluations provides a scathing depiction of inadequate and unequal performance owing to poor schooling in South Africa (Spaulls, 2013).

iii) Socio-economic status is a barrier to individuals achieving their potential rather than an indicator of their potential. Leibowitz and Bozalek (2014) indicate that South African society consists of high levels of inequality as it "remains amongst the group of countries with the highest GINI co-efficients in the world, measuring the distance between the richest and poorest individuals in a country (UNDP 2008) and has one of the highest levels of actual inequality. African families are particularly poor, with some parents and caregivers earning less than R1 600 a month" (p. 94). The authors further elaborate on the unequal distribution of schools in South Africa, with functional schools (25%) occupying the schooling landscape and dysfunctional schools (75%) occupying the majority of terrain (p. 94). Citing Spaull (2012), Leibowitz and Bozalek (2014 p. 94), indicate that "this differential is racially skewed (van den Berg, 2013) and it differs in terms of accountability, competence of school management, culture of learning, teachers' knowledge of content, teacher absenteeism, coverage of curriculum and homework, dropout and performance on national tests (Spaull, 2012)."

iv) A model of positive reinforcement for learners, rather than one which is based on a deficit model reduces the limiting assumptions which learners impose on themselves.

1.3 Research aims, purpose and objectives

This study **aims** to explore and describe the conceptualisations and trajectories of academic talent by learners in the Further Education and Training (FET) phase with the intention of mapping their profiles. This mapping process will inform programmes that enrich and enhance the academic development of learners in the FET phase.

This is guided by the following **research objectives**:

- To explore how academic talent is conceptualised by learners from disadvantaged communities.
- To explore what profiles of academic talent emerge in disadvantaged communities on the basis of data extracted regarding learners in the Targeting Talent Programme (TTP), as well as an analysis of the experiences of learners in this programme.
- To identify/categorise how the learner experiences can inform a set of criteria for enrichment programmes to follow in the development of academic talent for learners from disadvantaged communities.

1.4 Rationale of the study

If equitable access to educational opportunities is to be the core value and practice in South Africa, it is of critical importance to confront the lack of opportunity to address the gap in the performance of learners who come from disadvantaged communities and who have academic potential. South Africa has a unique position when it comes to conceptualising academic talent for learners from disadvantaged communities. Unlike contexts such as the USA, conceptualising "academic talent" is more than a matter of differentiation amongst cultural groupings and economically diverse groups. Historically, the terms gifted and academic talent have been used interchangeably. The resultant conflation of these terms in literature thus raises the importance of concretely defining academic talent, and clarifying how it differs from giftedness. It is about understanding how academic talent manifests and is conceptualised amongst historically disadvantaged groups of learners in the Further Education and Training Phase (FET phase). The poignancy of this reality has to be understood in the context of it being located within the period of 25 years after the emergence of the South African democracy, which is also the approximate duration of one generation. This period of time is significant because it acutely highlights the changes that have yet to be affected in the education landscape in South Africa.

Much of the current research literature has reported on academic talent from the perspective of academics and practitioners of talent development programmes, programme evaluators, scientists, researchers and public officials in the field of education and academic talent (see Davies, 2010; Ford, Baytops & Harmon, 1997; Fox, 1981; Gagne, 2004; Morelock, 1996; Simonton, 2001). Others have provided alternative paradigms beyond the traditional conceptions of academic talent, for instance, those based on African-centred philosophies (see Durden, 2007). In the South African context, researchers and theorists have argued for a contextually defined understanding of academic talent, potential and achievement, which considers learners' social locations, backgrounds of disadvantage, and previous or current exposure to inferior schooling circumstances (see Cliff & Hanslo, 2009; Hickson, Morse & Khatena, 1989; Maree, 2006). These intellectual engagements have resulted in vigorous debates about how academic talent (or related constructs of giftedness or intelligence) is defined, dating back as far as the 1980s (see Appel, 1988; Fox, 1981; Hoge, 1989). Table 1.1 provides a depiction of the conflation of terms regarding giftedness, academic talent, potential and achievement.

Table 1.1 Programme conceptualisations of academic talent

Table 1: Programme Conceptualisations of academic talent

INTERNATIONAL LITERATURE				
Terms used	**Context**	**Definition or Key Assumptions**	**Implications**	**Source**
'Gifted'; High ability	Giftedness construct interrogated	• 'Giftedness' is a social construct created to serve particular interests. • 'Geographical giftedness': contextual variability of the giftedness concept	Giftedness as non-existent.	Borland (2005)
High-ability; Giftedness; Academic Potential; Academic promise	Rural contexts in USA	• Giftedness is defined as the possession of certain learning characteristics, for example, rapid learning, complex thinking and/or creativity (Cross & Coleman, 2005). • High-ability and giftedness used interchangeably.	Giftedness/high-ability as something to be discovered and developed; As a rare quality.	Burney & Cross (2006)
Talent	Economically disadvantaged populations in the USA	• Talent is "a propensity for advanced development in a specific domain that reaches fruition in a small percentage of people who work in that domain." • Not a personal decision or innative directive. • The individual's environment (culture, family, school, society) influences its development.	As a rare quality; As a quality to be nurtured; As an advanced ability in a specific skill.	Coleman (2006)
Talent; Gifted	Minority students in USA	• Manifestations of talent across diverse populations may vary; thus traditional conceptions may not apply. • Talent, giftedness and high-potential used interchangeably.	As manifest in context-specific ways.	Davies (2010)
High ability; High-achieving	High-ability low-income students in Midwestern university, USA	• 'High ability', 'high-achieving' and 'gifted' • But levels of academic success mitigated by familial, educational and cultural backgrounds.	As influenced by background factors.	Deafenbaugh (2007)
Potential for holistic excellence; Gifts/ Talents	Schools employing African-centred pedagogy in USA	• Based on an African-centred paradigm, gifts and talents are divinely bestowed; children have a moral obligation to use these to uplift family and community and strive for God-like excellence. • Success not defined not solely by test scores but excellence in character and spirit. • Emphasis on promotive qualities rather than deficiencies.	Holistic excellence as something facilitated; Cultural-spiritual gift possessed by all children.	Durden (2007)
Gifted minority	Minority students in USA	Based on US Dept. Education (1993): • Show potential for performing at remarkable levels compared to others of their age, experience or environment; • high performance capacity in intellectual, creative and/or artistic areas; • require further development not provided by mainstream schools.	As 'potential' to be reached.	Ford, Baytops & Harmon (1997)
				Fox (1981)
Giftedness vs. Talent	Literature review of definitional constructs.	• Aptitudes are natural abilities in particular domain, whereas achievement is systematically developed skills in a particular talent field. • Giftedness refers to *untrained* and *spontaneously expressed* natural abilities (outstanding aptitudes or gifts) in at least one ability domain; individual is among the top 10 per cent of age peers. • Talent refers to the *outstanding mastery* of *systematically developed* abilities (or skills) in at least one field of human activity; individual is among top 10 per cent of age peers active in that field or fields.	Giftedness as natural aptitude; Talent as mastery of developed ability.	Gagné (2004)

Terms used	Context	Definition or Key Assumptions	Implications	Source
Talent; High potential; Academically talented; Promising; Academic excellence	Communities in USA labeled 'disadvantaged' or 'culturally different'	• Showing 'promise' for success at university although may not meet traditional criteria defined by achievement and intelligence tests. • Defined in terms of academic success and social success.	Academic talent as nurtured in the context of 'second chances' and redress.	Griffin (1999)
Academic talent; High-ability	Multicultural and minority students in high-poverty urban contexts	Defined in terms of International Baccalaureatte (IB) programme aim: achievement beyond content-related goals in subject areas toward comprehensive development of individual potential to modify and to enjoy his or her environment, both inner and outer, in its physical, social, oral, aesthetic, and spiritual aspects.	As multidimensional and nurtured	Kyburg, Hertberg-Davis & Callahan (2007)
Gifted; Talent	Literature review of definitional constructs.	• Variability in definitions based on: breadth of construct, content of definition, level of exceptionality, static vs. dynamic focus, and precision of definition. • Sources of giftedness construct derived from theory, selection instruments or empirical derivations.	As a variable construct; different contexts call for reformulations of construct.	Hoge (1989)
Aptitude theory of academic talent	Application of an aptitude approach to talent identification.	• Academic talent as aptitude for kinds of expertise developable through schooling • Not something fixed from birth. • Encompasses more than cognitive constructs (ability and achievement), but includes traits such as persistence. • Inextricably linked to context – defining the situation is part of defining aptitude. • The degree of readiness to learn denotes characteristics learners bring to a situation – aptitudes (e.g., comprehend instructions, time management, use previously acquired knowledge, manage emotions) or inaptitudes (e.g., impulsivity, high anxiety).	Previously acquired learning as important aptitudes for learning.	Lohman (2005)
Talent development vs. gifted development	Exploring themes in giftedness research in USA	• Two strands in literature: the 'gifted achiever' (talent development) and 'gifted child' (gifted development). • 'Talent development' as alternative to 'giftedness' • 'Gifted development' as focusing on qualitative dimensions of experience.	Talented as something to be discovered and developed ('gifted achiever')	Morelock (1996)
Talent potential; Disadvantaged gifted; Giftedness; Gifted potential	Disadvantaged gifted in USA	• Giftedness exists in many forms across all cultural groups, economic strata; it "remains a potentiality until it has been discovered and developed." • The 'giftedness' construct must be defined more *dynamically* to encompass multi-faceted, multi-cultural and multi-dimensional aspects; cognitive and affective traits, behaviours and aptitudes manifest as potential to be nurtured rather than tested. • 'Talent potential' and 'giftedness' used interchangeably.	Giftedness/talent as something to be discovered and developed; As potentiality that is prevalent across contexts.	Passow & Frasier (1996)
Giftedness; Talent	USA	• Talent as an observable, manifest behaviour and not just a latent construct personality existing within. • Social context is another facet of giftedness alongside interaction between aptitude, process and environment; … • "Anyone can be talented, yet one needs the opportunity to engage in talented transactions to realize their giftedness" (p. 204).	As attainable by anyone given the right opportunities.	Plucker & Barab (2005)
Gifted; Talented	Overview of research to debunk myths about giftedness.	• "There is no single homogeneous group of gifted children and adults, and giftedness is developmental, not fixed at birth" (p. 233). • There are common traits of giftedness, but the traits are manifested differently in each individual.	As a developmental construct, not fixed.	Reis & Renzulli (2009)
Academic talent; Giftedness	National survey of 900 public school educators' conceptualisations of academic talent and giftedness.	• Conceptual confusion exists regarding what constitutes the 'academically talented' or 'gifted' child. • The *Renzuli model* (intersection of above-average ability as a component, task commitment, and creativity) and the *Sternberg model* (balance between analytical, creative, and practical abilities) were most preferred. Traditional methods of identifying talent (i.e., aptitude, intellectual ability) were preferred over less traditional forms (i.e., fine arts).	As social constructs that serve the interests of a particular group.	Schroth & Helfer (2009)
Talented performance; Giftedness	Pilot study: Chinese teachers constructions of talent.	• All children have gifted potential. • Emphasis on nurture factors (e.g., personal effort, familial support and school instruction) of talented performance. • Non-intelligence factors (motivation, effort, talent development, curiosity) are important prerequisites for talent development.	Talent as something nurtured.	Wu (2005)
Exceptional academic promise; Highly gifted; Students with potential	Overview of the Centre of Talented Youth programme, Johns Hopkins University	• Students scoring in the 97th percentile in standardized tests • Or, students showing potential but do not meet the programme criteria due to impoverished background.	As influenced by background factors	Ybarra (2005)

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Terms used	Context	Definition or Key Assumptions	Implications	Source
Potential; Academically talented	'Alternative' assessments for educationally disadvantaged learners in South Africa.	• Academic talent as the potential to engage in higher education learning. • *Potential* and *achievement* are non-uniform constructs (particularly as these are influenced by demographic factors). • In SA, demographic factors (school background, socioeconomic status, population group) play an important part in understanding talent and achievement.	Academic talent as contextually defined.	Cliff & Hanslo (2009)

Terms used	Context	Definition or Key Assumptions	Implications	Source
Academic potential;	Special admissions process for historically marginalized learners	• Beyond individuals as 'objects' of tests toward understanding of individual as subject, agent and meaning-maker. • Qualities necessary for success at university that extend beyond quantitative scores. • 'Sparkle' or 'talent' inferred from personal qualities (e.g., motivation, direction, personal achievement at school/community, resourcefulness, creativity)	Academic talent as holistic construct	Enslin, Button, Chakane, de Groot & Dison (2006)
Gifted disadvantaged		Creativity as of critical importance in the case of disadvantaged learners (e.g., learners adopt a spiritual philosophy of *ubuntu* alongside *creative problem solving for survival* defined in terms of unconventional creativity, resourcefulness, resilience).	Traditional conceptions of intelligence do not hold in disadvantaged contexts.	Maree (2006)
Potential; Academic success	Selection of Social Work degree applicants at a South African university	Academic success influenced by a mix of the cognitive, affective, motivational, dispositional, socio-cultural, economic and institutional variables.	Potential for success as mediated by contextual factors.	Ross (2009)
Gifted /talented; Black gifted children; High potential; High achieving learners	Johannesburg-based schools, South Africa.	"A psychological construct that cannot be measured directly, but rather through multiple criteria assessments (e.g., teacher nominations, parent nominations, IQ, achievement and standardized tests, portfolio material, etc." (Frasier, 1995). High abilities in either intellectual, academic, creative, artistic or leadership spheres (or more than one of these areas).	Giftedness as something to be identified and developed.	Scott (2008)
Gifted learners; Disadvantaged gifted	Pretoria-based English and Afrikaans schools, Gauteng.	Not defined but incorporates various conceptions: • Not limited to high intelligence and academic achievement (Baldwin, 2005); • Acknowledge importance of language, culture and context (Bonner, 2000); • Focus on measuring potential rather than manifest ability (Gaydon, 1988).	'Gifted learners' as having special needs quite specific from average learners.	Van der Westhuizen (2007)
Potential	Disadvantaged learners in Kwa-Zulu Natal, South Africa.	All learners across regardless social, cultural, political or economic situation can develop universally applicable cognitive tools that can guide them in learning (whether in informal cultural or formal learning contexts).	Not a rare quality; All individuals have the potential to develop.	Wallace & Adams (1993)

Traditional conceptions of talent (adopted in the international literature as depicted in the table above) have little bearing on learners in marginalised settings. South African authors have proposed that the potential for academic success is influenced by context-specific socio-political and socio-cultural factors. In other words, historical disadvantage, poor quality schooling, lower socio-economic status and class, and rural geographical contexts with little resources are some background factors which, alongside minority racial, ethnic and gender status, militate against potential success in an academic context (Cliff & Hanslo, 2009). These background factors have an influence not only on learners' subject knowledge, but also on their *approaches to learning* (Scott et al., 2007). Addressing the socio-cultural context of talent, therefore, would mean viewing academic success as the product of intersecting variables: cognitive, affective, motivational, dispositional, socio-cultural, socio-economic and institutional, and to intervene with high potential students in a holistic manner (Ross, 2009). In terms of individual characteristics, this may manifest as the ability to problem solve, the ability to reason competently in 'real-life' situations, the ability to apply creativity to situations of survival, and the ability to demonstrate resourcefulness and resilience in the face of adversity (Maree, 2006).

Given this more expansive and inclusive view of academic talent, how are these qualities and characteristics identified in learners from marginalised contexts? How are they incorporated alongside cognitive and intellectual domains of talent emphasized by the university learning environment? How are they fostered academically and nurtured intra- and interpersonally to serve learners in attaining academic success? How do individual skills (whatever their nature) translate into talent that may not merely be implemented in a meaningful socio-cultural context (Csikszentmihalyi, Rathunde & Whalen, 1996), but which is also derived from the socio-cultural context in which the individual is embedded? In other words, the specific qualities possessed by each learner derives from a unique life story situated within a particular historical context, and these qualities, skills and strategies offer valuable internal resources that learners can potentially access and apply within the academic domain. As a whole, they cross cut complementary learning domains (cognitive, conative and affective) from which qualities of motivation, persistence, self-regulation, self-reflective capacity, goal orientation, internal locus of control, community awareness and social and political will (Enslin, Button, Chakane, de Groot & Dison, 2006) originate.

Based on a review of the literature on conceptualising academic talent of learners from socio-politically, socio-economically and socio-culturally marginalised contexts, it is clear that 'strategies' for changing conceptions of academic talent in South Africa are not limited to the domain of theory, but are intertwined with practice (these include student identification and selection, as well as university academic support programmes). Maree and Beck (2002) emphasize the importance of considering learners' historical backgrounds (socio-political, economic, cultural, familial) and their influence on academic success. Machingambi and Wadesango (2012) argue for the provision of fair opportunities to develop their talents. Equity in higher education (as defined by equality of access, programme quality, and the calibre of graduates) should extend beyond its quantitative domain to have substantive quality. If equity is viewed more broadly through a qualitative lens, this in turn allows for more inclusive conceptions of academic talent. Altering conceptions of academic talent require an unpacking

of the notion of student preparedness for higher education, which is also informed by learner background variables.

Richards (2015), argues “that the multiplicity of definitions of academic talent suggests that giftedness cannot be defined. An alternative to the conceptualisations described above is the view that academic talent and giftedness are merely social constructs that are institutionally crafted to serve the interests of particular groups (Schroth & Helfer, 2009). Here, debates about how such terms enforce boundaries of inclusion and exclusion are informed by particular conceptualisations. On the one hand, traditional conceptions of academic talent are inclined to marginalise disadvantaged groups in their narrow formulations of intelligence (for instance, as based on IQ scores). On the other, more inclusive definitions attempt to “even the playing field” as Schroth and Helfer (2009, p. 387) suggest, by enabling opportunities for marginalised groups. Borland (2005) argues that giftedness is a social construct of questionable validity. As such, it is historically constructed; in other words, located within a specific place and time” (p. 280).

Although such contributions have resulted in a shift toward more inclusive conceptions of academic talent in the current literature, these perspectives tend to be framed in terms of the ‘expert gaze’. Consequently, the subjective perspectives of learners have been neglected in the breadth of literature reviewed, and this informs the study’s main research aim. This lacuna of studies that relate to learners’ subjective perceptions or conceptions of academic talent is generally reflected in the extant literature. This applies in particular to the perspectives of learners from disadvantaged communities in the FET phase.

In order to explore and understand how academic talent is conceptualised in disadvantaged communities, the concept of ‘disadvantage’ is conceptualised as comprising of the following:

- Geography (primarily rural students)
- Financial disadvantage
- Schooling background (poorly resourced and poor performing schools)
- Language (where language of tuition is often a second or third language)

- Other sociocultural factors (Jones, Coetzee, Bailey & Wickham, 2008)

In the future, the above categories can lead to both socio-political as well as socio-economic forms of marginalisation in society if not addressed. It is essential to highlight that "in South Africa, a student is considered 'disadvantaged' if s/he did not have adequate access to quality education, with the result that opportunities to develop his/her academic potential are limited" (Mabila, Malatje, Addo-Bediako, Kazeni & Mathabatha, 2006, cited in Richards, 2015, p. 283). Several studies specify criteria for 'disadvantage' in terms of individuals having had an educationally disadvantaged background, low socio-economic status, and who are living in isolated rural areas (Mabila, 2006). Disadvantage is particularly relevant in terms of poverty in South Africa.

Despite more than two decades having passed since Apartheid, many Black children grow up in contexts of poverty and lack basic food and shelter; factors that are associated with lowered academic performance (Carter & Murdock, as cited in Dass-Bailsford, 2005, p. 11). Kyburg, Hertberg-Davis and Callahan (2007) draw attention to some of the effects of poverty, all indicative of barriers to achievement. Low-resourced contexts translate to poor schooling facilities, less-qualified teachers and staff and teachers that are less equipped to deal with students from multicultural settings. Wallace and Adams (1993) consider such conditions as barriers to talent development within the local context. Like Kyburg et al. (2007), they too highlight the relationship between disadvantaged contexts and underachievement.

Table 1.2 below provides a depiction of the developments in understanding conceptualisations of disadvantage and marginalisation within the international and South African contexts.

Table 1.2 Conceptualisations of disadvantage and marginalization

Table 2: Conceptualisations of Disadvantage and Marginalisation

Conceptualisations of Disadvantage and Marginalisation				
INTERNATIONAL LITERATURE				
Terms used	**Context**	**Definitions / Indications of disadvantage**	**Markers**	**Source**
Marginalised backgrounds	USA	• Low-income backgrounds • Dwell in inner-city communities • Come from ethnic/minority/cultural groups who have historically not achieved well in public schools.	• Socioeconomic status • Geographic location • Minority groups	Boykin & Allen (2004)
Rural students; Environments of poverty	USA	• Students of poverty in rural settings • Economic disadvantage • Lack of proximity to resources, limited access to academic materials	• Socioeconomic status • Geographic location • Access to resourcs	Burney & Cross (2006)
Low-income populations	USA	• Educationally malnourished or disadvantaged. • Considerations of class, ethnicity, gender and race interact to develop significant problems among disadvantaged youth: achievement gap and underrepresentation among the talent.		Coleman (2006)
Low-income; First-generation students	USA	• First in the family to attend college • Typically lower educational aspirations • Financial barriers • Less social support than 2nd generation students	•	Deafenbaugh (2007)
Minority students	USA	• Minority students distinguished from mainstream society in terms of ethnicity, social class and primary language. • Historical legacy of inequitable educational experiences among Black children (including lack of educational resources, dilapidated building, poor educational instruction).	• Socioeconomic status • Language differences	Durden (2007)
First-generation college students	USA	• First generation college students (parents who did not go to college). • Typically low-income, minorities. • Poor academic preparation • Limited financial support.		Engle (2007)
		• Economically disadvantaged, limited English proficiency, or disabilities (Javits Act)		Ford, Baytops & Harmon (1997)
Students of colour		• Families receiving public assistance or living at or below the federal poverty line. • Residing in low-income neighbourhoods ridden with crime. • Underequipped and overcrowded classrooms. • Communities labeled 'disadvantaged' or 'culturally different' • May be characterized by disorganized families, hunger, violence, poor schooling, drugs and homelessness.		Griffin (1999)
Disadvantaged; Underrepresented	Improving educational access to traditionally underrepresentd students in a poverty context in USA	• Context: migrant workers and their families, chronically, high unemployment, high rates of poverty, and low educational attainment. • Minority populations who are non-native English speakers.		Kane, Beals, Valeau & Johnson (2004)
Immigrant minority disadvantaged	Minority and immigrant children's access to social capital	• Disadvantage in English-language skills and varying social customs • Limited access to social capital: less interaction with parents of their children's friends and less involvement with their children's schools.		Kao (2007)
		• Absence of cultural capital		Kyberg (2007)
Disadvantaged background	'Academically successful' women students in San Francisco area, USA.	• Lived in a poor working-class or lower-class family as a child, and • Were first-generation college students • Experienced at least one type of familial dysfunction or traumatic childhood stress (abuse, drug abuse, alcoholism, illness/death of parent)	Qualitative study uncovered various meanings to disadvantage (poverty, family functioning, discrimination).	LePage-Lees (1997)

Minority cultures; (Economically/ Ethnically/ Racially) Disadvantaged; Underserved populations	USA	• 'Disadvantage' not defined in terms of deficiencies but difference. • Individuals who qualify for poverty-level subsistence or free/reduced lunch. • Individuals living in rural or inner-city areas, barrios, or reservations. • Minority cultures and individuals whose mother tongue is not English (or has limited English speaking abilities) are typically underserved populations. However minority status is not necessarily and indicator of disadvantage.	• Socioeconomic status • Geographic location • Racial/ethnic cultural membership • Language differences or limitations	Passow & Frasier (1996)
Low-income gifted	Teacher development to challenge assumptions of low-income gifted, USA	• Assumptions of 'deprived', 'disadvantaged' and 'lack' as a barrier to low-income gifted students. • These views perpetuate lack of opportunity, negatively affects students' motivations to achieve at high levels.		Swanson (2006)
Underserved students	USA and international	• Poor resources and gaps in education • Impoverished schools and communities		Ybarra (2005)
SOUTH AFRICAN LITERATURE				
Terms used	**Context**	**Definitions / Indications of disadvantage**	**Markers**	**Source**
Educationally disadvantaged backgrounds	South Africa	• Defined as historically disadvantaged in terms of apartheid educational system • Black schools: inferior primary and secondary schooling (separate syllabuses, African languages with limited exposure to English. • Teachers not fluent in English • Rote learning encouraged, critical reading, oral and writing skills de-emphasised.		Alexander, Badenhorst & Gibbs (2005)
Disadvantaged;	'Alternative' assessments for educationally disadvantaged learners in South Africa.	• Educational backgrounds militated against individuals. • 'Disadvantaged school background': Schools of low socio-economic status; with teachers who may be inadequately qualified in the subjects they teach; with inadequate infrastructural and physical resources; and where medium-of-instruction may not be the home language of the majority of students.		Cliff & Hanslo (2009)
Disadvantaged;	Sample of schools in South Africa stratified by province and education type	• Poor communities, particularly rural • Bore the brunt of past inequalities • Difficulties associated with equity and access • Underresourced, largely rural schools		Howie, Scherman & Venter (2008)
Previously disadvantaged students	University of Limpopo, South Africa.	• Profile of students of UNIFY programme: from educationally disadvantaged background (e.g., low socio-economic status, living in isolated rural communities, lack of motivational factors); • Did not meet admission criteria set forth by science faculties); 70% from Limpopo province; passed matriculation exam but not necessarily passed Mathematics and one Science subject.		Mabila, Malatje, Addo Bediako, Kazeni & Mathabatha (2006)
Disadvantaged	Kwa-Zulu Natal, South Africa	• Rural subsistence farming, low socio-economic urban settlements. • Youthful population (53% under 15 years) • Underachievement. amongst Black learners • Overcrowding in schools. • Shortage of teachers, underqualified teachers. • Instruction outside learners' mother tongue; "inappropriate" curriculum.	• Location • Access to formal schooling • School drop-out, repeats, failure • Infrastructure	Wallace & Adams (1993)
Economically disadvantaged background; Black and second language learners	Johannesburg, South Africa	• Economically disadvantaged • Limited English proficient • History of systematic discrimination • Substandard learning conditions (e.g., overcrowding in classroom)		Scott (2008)

According to Richards (2015, p. 283), the "notion of disadvantage is highly relevant in poverty settings in South Africa". Even though almost a generation has passed since the abolition of Apartheid, the majority of Black children continue to experience the challenges of acute poverty, and inadequate access to basic food and shelter, which directly impact their academic performance (Carter & Murdock, as cited in Dass-Bailsford, 2005). The multiple effects of poverty as obstacles to academic achievement are also explored by Kyburg, Hertberg-Davis and Callahan (2007, cited in Richards, 2015, p. 283) who argue that "low-resourced contexts translate to poor schooling facilities, less qualified teachers and staff and teachers that are less

equipped to deal with students from multicultural settings". Wallace and Adams argue that these conditions also demonstrate obstacles to the development of talent in South Africa. Echoing the sentiments expressed by Kyburg et al. (2007), they draw attention to the correlation between contexts of disadvantage and under-achievement and claim that "amongst these are the macro-structural factors, such as location and access to formal schooling. On a micro-level, these relate to lack of resources in schools, overcrowding, teacher shortages or underqualified staff, "inappropriate" curriculum and the mismatch between the language of instruction and the student's home language" (Wallace & Adams, 2007, cited in Richards, 2015, p. 283).

Richards (2015) also highlights the contextual realities that define individual lives and posits that, "according to Maree (2006), underachieving students in contexts characterised by limited exposure to intellectual enrichment, lack of social experiences, behaviour models and vocabulary, may exhibit awkward outward behaviours that may mask their true potential. However, Maree (2006) cautions against the use of what he terms 'deficit ideologies'. These notions confirm and reinforce the view that black students underperform in educational settings. Alternatively, he advocates for a strengths-based perspective that allows a focus on individual strengths rather than shortcomings when explaining differences in achievement. Drawing upon Maree's (2006) paradigm allows one to understand the strengths of African *ubuntu* philosophy despite the circumstances of adversity, poverty, poor access to resources and social fragmentation" (Richards, 2015, p. 285).

1.5 Concepts and assumptions relevant to the study

As this study will focus on conceptualisations of academic talent and mapping the trajectories of learners from disadvantaged communities in a three-year pre-university programme, extensive focus will be placed on discussing the existing discourses of academic talent in order to counter the possibility of excluding different perspectives in defining the construct.

1.5.1 Discourses of academic talent

Definitions of academic talent tend to overlook or even be indifferent to most of the tensions, complexities and controversies associated professionally with the word. Any answer to the question of who is talented and who is not, tells as much about our values as it tells about the person we are labelling. Academic talent is both **content- and context-dependent** and whether one's knowledge and skill are recognised as talent depends on how much that knowledge or skill matters to others (cf. Csikszentmihalyi and Robinson, 1986). Several discourses may be identified on the basis of specific definitions proposed:

(i) academic talent as an innate characteristic determined by biological proclivities.

(ii) academic talent as nurtured ability and developmental construct.

(iii) academic talent as derived from the interplay between nature and nurture factors.

(iv) academic talent as a socially constructed entity which serves particular socio-political interests.

In this regard, as a researcher I am interested in how unequal distributions of power and the resultant oppression of disadvantaged groups maintain a status quo in society. The research study aims to empower participants to transform their status quo and emancipate themselves from oppression, which is central to liberation thinkers (see Freire, 1970) and of liberation psychologists (see Utsey, Bolden and Brown, 2001). Underlying this is the notion of emancipation which would be an outcome of participating in an enrichment programme with the aim of nurturing academic potential and facilitating access to tertiary education.

Goodenough (2012) provides an interesting perspective on how academic talent could be conceptualised. He describes talent as **"the output of a process. The higher the quality of the process and the longer the process goes on, the higher the quality of talent "** (p. 27)**.** According to Goodenough, the inner game of the talent equation is a **supportive external environment interacting with a high-quality (HQ) mindset** (p. 28). A high-quality mindset is a combination of beliefs and attitudes that define and shape development and performance, which includes self-belief, internalised motivation, having a growth mindset, long-term

commitment and resilience. The author further proposes the following equation which would have contextual application to South Africa and the design of enrichment programmes for high-potential youth:

$$\textbf{Talent} = \frac{\textbf{Supportive external environment x HQ internal mindset + Deliberate practice}}{\textbf{Time}}$$

Conceptions of academic talent (including notions of "giftedness", "intelligence" and "talent") vary within individual studies, and generally reflect the oscillating tensions between the nature versus nurture debate. Additionally, gender differences in attributions of achievement or success were emphasized in several studies. Polarised views of academic talent were also evident in Rascoe and Atwater's (2006) qualitative study exploring students' self-perceptions of academic ability and gifted potential in science. These participants comprised nine Black male students in advanced science classes who were obtained or identified via snowballing (such as asking community members to identify individuals who met the criteria of "Black male; high school student in an advanced science class; and a volunteer" (p. 893). The authors categorised both overlapping and distinguishing perceptions among four groups of learners based on their thematic responses. Students were grouped in various iterations of 'gifted high achievers' namely, "(a) gifted high achievers, (b) gifted "could do better" high achievers, (c) gifted "could do better" situational non achievers, and (d) gifted "could do better" underachievers" (p. 897).

Among the group categorised as 'gifted high achievers', some students drew upon discourses of gifted ability as an *'inborn ability',* others equated *hard work and personal effort* with gifted potential, while others associated academic ability with *attaining good grades*. In terms of self-perceptions of gifted potential, some associated giftedness with potential and linked this with *self-motivation* and "drive to learn" or "belief in your ability" (p. 900). For 'gifted "could do better" situational nonachievers', personal effort was dependent upon *situational factors* (for example, whether they liked science or not). Their self-perceptions of gifted potential reflected the notion of *self in relation to another* (for example, speed of learning). Standing out among 'gifted "could do better" underachievers' was the understanding that *personal effort and hard*

work were necessary characteristics of a gifted individual (for example, "beyond the call of duty, to go the extra mile" (p. 94). Thus, regardless of learner category, perceptions of giftedness reflected popular discourses, ranging from notions of inborn ability to personal effort and hard work. Surprisingly, beyond grade level, high school courses undertaken, GPA attained, and number of friends in advanced science classes, Rascoe and Atwater (2006) did not provide other demographic data to infer whether such views of academic talent represented views of Black students in specific socio-economic contexts (refer to Tables 1.1 and 1.2).

The nature versus nurture debate was also reflected in other studies (see Guskin, Okoio, Zimmerman & Peng, 1986; Kerr, Colangelo, & Gaeth, 1988). Guskin et al. (1986) conducted interviews with "academically talented and artistically gifted" students (n=47) enrolled in a two-week summer programme at Indiana University, regarding their conceptions of giftedness and talent and what they perceive to be causes and consequences of being identified as such. Approximately 65% noted that every individual has a special talent or ability, with one third noting that everyone has a special talent or ability and one half noting that having special skills was achieved through *hard work, motivation, practice or use of skills*. About 15% disagreed that every individual can have a special talent or ability; one half emphasizing that *inborn ability* was the deciding factor. When asked to indicate their reasons for why some have special abilities, 44% highlighted factors of motivation, hard work or study, as well as practice and use of skills, while 23% identified innate factors. Overall, the majority viewed gifted/talented individuals as different from others insofar as the effort put forward in developing their talents.

Despite well-documented biases of standardised tests in predicting academic success among Black students, little change has been made to educational policy and decision-making globally. Hadaway & Marek-Schroer, 1992; Tyler-Wood & Carri, (1991) recommend the administration of various mechanisms to address the under-identification of gifted Black students.

Olszewski-Kubilius (1998a) states that a fundamental belief underpinning talent-search processes is that gifted children should be evaluated with assessments applicable to their capability levels, age-related stages, and competency in academic knowledge and skills, and not

according to their chronological ages. The utilisation of tests classically used for older children to assess younger children is a practice inherent to pre-talent search testing so as to circumvent ceiling difficulties in in-grade or on-level achievement or ability tests.

Heller (2004) states that the identification of gifted is determined by both the purpose and theoretical foundation informing the construct. Two main roles of identification can be distinguished, namely the talent search as an individual case item analysis and the suitable individual requisites and the gifted programmes educational demands.

It is apparent in the literature that identifying the gifted is what Tannenbaum (1983) calls an "inexact science."

Lohman (2005) postulates that many students who have the potential for academic excellence do not meet the criteria of very high current achievement, but are most likely to develop it if given extra assistance. Lohman (2005) further recommends that one should clearly distinguish between the academic needs of students who show high levels of current accomplishment and those who show promise for developing academic excellence (p.334). The researcher argues that it is for this latter group (for students who exhibit potential for high achievement) that access opportunities have to be created. According to Lohman (2005), students who show high potential, but moderate levels of current achievement, need different types of enrichment programmes than those who currently show superior achievement.

A brief overview of the research methods design is provided in the following section (this is discussed in greater detail in Chapter 4).

1.6. Research Method

The proposed research method will adopt a concurrent transformative mixed method research design, which mixes one qualitative and quantitative data unit in one phase. A mixed method approach has been selected as the principle approach and method for the current study. Mixed method research can be defined as the "collection, analysis and integration of quantitative and qualitative data in a single study or in a program of inquiry" (Creswell & Plano Lark, 2007).

Merging the two data sets and connecting them sequentially, combined with rigorous analysis should result in the one method building on or extending the other.

This research will use Mertens' (2003) transformative framework as it provides a paradigm for "examining assumptions that explicitly addresses power issues, social justice and cultural complexity throughout the research process". The concurrent transformative model for mixed method research suggests the need for community involvement and the cyclical use of data to inform decisions for the next research steps (Mertens, 2007; 2009).

Mixed methods studies are relatively underrepresented in published research in the domain of South African psychology. South African psychology has been critiqued for being slow to develop a much-needed transformative research agenda in line with the country's social and developmental needs (De la Rey & Ipser, 2004; Macleod, 2004).

The transformative discussions within disciplines are essentially about how research methods have maintained, and continue to perpetuate the kinds of information created. Barnes (2012) notes that given the historical domination of positivist, quantitative studies in psychology (Posel, 2000) that are often complicit with racist (Duncan & Bowman, 2009) and gendered (Kiguwa & Langa, 2011; Boozaler & Shefer, 2006) ideologies, it is unsurprising then that qualitative methods have been preferred in critical and transformative research (see Painter & Terre Blanche, 2004).

Mertens (2009) suggests that it is evident in the literature that qualitative studies have made significant advances in our understanding of issues related to social justice. It is, however, critically important to recognise and appreciate the enormity of issues within contemporary South Africa. The transformative paradigm is a meta-physical framework that "directly engages the complexity encountered by researchers and evaluators in culturally diverse communities when their work is focused on increasing social justice" (Mertens, 2009, p. 10). Mertens (2007; 2009; 2010), states that the advantage of "the transformative paradigm is that it focuses on the "strengths that reside in communities that experience discrimination and oppression on the

basis of their cultural values and experiences". It also allows for a critical lens perspective to be incorporated in the analysis.

In South African psychological studies, the transformative potential of mixed methods has been demonstrated in the following two ways:

1. In the expansion of our understanding of key South African social justice issues, by focusing on the magnitude (using quantitative methods) as well as the participants' perceptions of those issues (using qualitative methods)
2. Through the development of locally relevant instruments and intervention studies that provide more holistic understandings of their topics of investigation than mono methods would have alone (Barnes, 2012).

The transformative methodological assumptions suggest that researchers start with qualitative data collection to learn about the community and to establish trusting relationships. The qualitative data collection can then be supplemented with quantitative data. The research would rarely occur as a once-off data collection with one type of data. Hence the concurrent transformative mixed methods design for this study will be a cyclical collection of data that will feed into subsequent decisions about how to use the information to move the research to the next level or to make changes in the community (Mertens, 2012).

Mixed methods is increasingly being acknowledged as integral to the future of South African social sciences (Wagner, 2009). In addition, it is gaining popularity in social science research as reflected in the multiple suggestions that it be viewed as a unique form of social enquiry, which is embedded in its own methodological, philosophical and practice guidelines. Barnes (2012) argues that contemporary mixed methods research offers useful insights based on the following three critiques of South African research:

1) South African psychology's dependence on the epistemological positions as a way of formulating the link between philosophy and method has resulted in qualitative and

quantitative methods still being conceptualised as separate even when combined in "mixed" studies.

2) South African research has not embraced the much-needed development of a transformative agenda in research. Barnes (2012) argues further that mixed methods can contribute to the development of a transformative research agenda in ways that mono methods are not able to within South African psychology.

3) Finally, the third critique focusses on the failure of South African psychological mixed methods studies to not incorporate critical recent developments from mixed methods literature.

Barnes (2012) postulates that researchers should focus more on which paradigm supports the new mixed methods movement, as informed by the concerns highlighted above.

1.6.1 Research Paradigm

A paradigm is defined as a "system of beliefs that influence how researchers select both the questions they study and the methods they use to study them" (Morgan, 2007, p. 49). The transformative paradigm (Mertens, 2007; Mertens, Bledsloe, Sullivan & Wilson, 2010) has been proposed as a possible philosophical partner for the proposed mixed method study.

Critical to the transformative paradigm is "the realization that discrimination and oppression are pervasive and that researchers have a moral responsibility to understand the communities in which they work in order to challenge societal process that maintain the status quo" (Mertens, 2010, p. 49). As a core postulation the critical-ideological paradigm focusses on inequity and oppression as constructs which enables the researcher's own social justice values to inform the research process during an empirical. Kincheloe & McLaren (2000) have observed this phenomenon in groups who have experienced oppression, but have empowerment and freedom as a goal.

1.6.2 Research Approach

Teddlie and Tashakkori (2009) developed a typology comprising of three general categories for identifying various reasons for conducting mixed methods research: (a) personal reasons for conducting the study, (b) reasons associated with advancing knowledge, and (c) societal reasons associated with improving or empowering society, institutions and oppressed groups.

This research will incorporate the transformative paradigm approach to obtain information about the social world of its participants. The transformative approach is adopted at the level of ontology, as informed by Barnes (2012), who suggests "that both "real" inequality" as well as participants' perceptions and experiences of that inequality are worthy of investigation. It is the human subjective perceptions and experiences of the social worlds that matter and that multiple versions of reality may exist" (p. 468). The important task is therefore to distinguish between multiple accounts, as well as privilege certain accounts over others, in line with one or more social justice ideals. (Mertens, 2003, p. 75) reminds the researcher to ensure that these viewpoints need to be contextualised within the "political, cultural, historical and economic value systems to understand the basis for difference".

Epistemologically, the mixed method researcher does not actively engage with the "*intersubjectivity (*being both objective and subjective) but is particularly interested in, and reflexive of, the historical, class and racial influences in the relationship between the researcher and participants" (Barnes, 2012 p. 468).

Methodologically, the researcher proposes that the quantitative and qualitative methods are mixed in order to design locally appropriate instruments. The combination of these two methods will be used to inform the design of appropriate interventions and to develop and expand locally relevant theories and models that promote the interests of marginalised groups.

In relation to the connection of data to theory, this study will make use of abduction to deductively assess the magnitude of inequality based on existing literature, as well as to inductively understand the participants' experiences or perceptions of that inequality in the context of developing academic talent. Johnson and Onwuegbuzi (2004, p. 17) suggest that

mixed methods research includes the use of *induction* referring to the discovery of patterns, *deduction* involving testing theories and hypotheses, and *abduction* which refers to uncovering and relying on the best set of explanations for understanding one's results. As a result, the inputs of marginalised groups are prioritized in the conception, application and analysis of the study.

1.6.3 Research Design

The concurrent transformative mixed method research design developed by (Onwuegbuzie & Leech, 2004; Onwuegbuzie & Teddlie, 2003) has been selected for this study as it not only allows for the opportunity to quantify variables and their relationships, but also to explain, inform and/or validate possible findings in a single study. In the South African context, this mixed method study may also serve a transformative function through the initiation, exploration and expansion of much needed locally relevant theory and interventions.

The proposed research design will involve a concurrent transformative design depicted in Table 1.3.

Table 1.3: Typology of Concurrent Transformative Mixed Methods Research Design (derived from Creswell 2003)

QUAN +QAUL Vision, Advocacy, Ideology, Framework	quan QUAL Vision, Advocacy, Ideology, Framework

The concurrent transformative mixed method design mixes qualitative and quantitative data in one phase. One method is dominant while the other is used to either answer a different research question or focus on sub-groups within a larger group. It is focused on a deeper understanding of a phenomenon and is not an attempt to validate findings. The application of a mixed method study would be most valuable to meet the aims and objectives of this study, because it would allow for the enrichment of the components of how academic talent is

conceptualised in disadvantaged communities. In addition, it will enable an understanding of a particular strata in more depth, for example, qualitatively understand how learners' contextual reality and experience of the programme may influence their understanding of academic talent and, quantitatively understand the scores on various instruments to develop a talent profile.

1.7 Methodology

1.7.1 Demarcation and selection of participants

The population for this study was South African learners from disadvantaged communities who were selected from nine provinces in South Africa to participate in a three-year pre-university programme aimed at facilitating access to higher education. This programme is currently implemented by the University of the Witwatersrand's Student Equity and Talent Management Unit (SETMU). This programme was selected because of its attempts at addressing the twin challenges of nurturing and developing academic potential, as well as facilitating access to higher education.

The learners identified for participation in the Targeting Talent Enrichment Programme (TTP) represent a group quite distinct from the participant characteristics reflected in the studies overviewed in the earlier section of this chapter. In particular, the contextual locations of the participants are quite removed from the participants in the preceding studies. Firstly, learners in the WITS TTP programme were identified as individuals with academic potential (that is, demonstrating academic achievement with a consistent minimum of 60% in Mathematics, Science, English and Life Sciences) by a panel of selectors who consisted of psychologists, educationists and learning support academics. The identification and selection of learners is discussed in detail in Chapter 4.

Secondly, such learners also come from low-income contexts where access to learning resources is scarce. Given these contextual variations, it is important to understand how their perceptions of academic talent may diverge or converge from other learners' responses

reported in the published literature. As Dickson (2007) argues, minority voices (defined as low-income and having diverse ethnic, language and cultural backgrounds) provide a valuable source of information on how to "scaffold learning experiences" (p. 3) to enable their success and confidence in higher education contexts. Unfortunately, the international literature presents a lacuna in this area.

1.7.2 Data collection

In the concurrent transformative mixed method model two types of data (qualitative and quantitative, see Table 1.4 below) were collected simultaneously during the data collection phases in years one to three.

Table 1.4 Data Collection description

Qualitative and quantitative tools administered throughout the three-year period

Variable	Description	Y 1	Y 2	Y 3
Biographic Questionnaires	These are questions about the learner and their background. The questions include; the learner's social capital and socio-economic surroundings as well as demographics. The questionnaire was only administered in the first year and was meant to inform the selection of participants in the TTP programme. Part of the criteria was to get a third party's view (teachers and parents) about the learner's ***creativity, leadership, motivation, and learning characteristics***.	✓		
Learner aspiration	Learner aspiration section measured everything that the learner hopes to achieve. This was completed in year one to year three.	✓	✓	✓
General Self-Efficacy	The general self-efficacy was used to assess optimistic self-beliefs that learners use to cope with a variety of different demands at school. Matthias Jerusalem & Ralf Schwarzer (1992).	✓	✓	✓
Coping Strategies Inventory	These questions were used to detect how do learners cope under pressure.		✓	✓
Social Skills	These were used to test how liberal or conservative participating leaners were in social groups/interactions.		✓	✓
LASSI	Learning and Study strategies were used. These questions measure Attitude, Motivation, Time management, Anxiety, Concentration, Information Processing, Selecting Main Ideas, Study Aids, Self-Testing and test strategies. These questionnaires were administered for the whole three-year period. Weinstein, and Palmer (1990)	✓	✓	✓
Subject marks	Subject marks were captured in all three years of participation, these would b grade 10, 11, and 12 marks	✓	✓	✓

1.7.3 Data analysis

The following seven phases of mixed method analysis will be implemented as proposed by Onwuejbuzie and Teddlie, (2003):

1. **Data reduction** - Qualitative data analysed using descriptive statistics and qualitative data categorised as descriptive themes

2. **Data display** – data pertaining to both strands are organised and presented visually in graphs and matrices

3. **Data transformation** - quantitative data converted into narrative codes (qualitized) that can be analysed using qualitative techniques and qualitative data converted into numerical codes (quantitized) and analysed using quantitative techniques

4. **Data correlation** – correlating quantitative data with qualitized data or vice vers

5. **Data consolidation** – different data types merged into one data set

6. **Data comparison** – comparing data from two different sources

7. **Data integration** – integrating qualitative and quantitative data into one coherent whole that will be analysed and interpreted simultaneously as a single data set, or two data sets (qualitative and quantitative) to be analysed separately by the researcher.

The researcher will also implement Weakness Minimization Legitimation (WML), which refers to the extent to which the strengths of one method are used to address the weaknesses of the other. To ensure that the study has a stronger WML, the qualitative component is designed to ask questions that the quantitative component is not designed to ask. For example, the quantitative component will focus on how much the intervention worked to develop academic talent, while the qualitative component will focus on why it worked or did not work and on the participant's experience of the intervention.

1.7.4 Trustworthiness

Henning et al. (2004) and Marshall and Rossman (1995) suggest that to guarantee that credibility and accuracy of the research process was established, the criteria of credibility, transferability, dependability and confirmability, has to be ensured in order to reflect the trustworthiness of a qualitative research paradigm. The application of these criteria is discussed in detail in Chapter 4.

In the following section, a summary is provided for the ethical measures that were adhered to before, during and after the study. A detailed discussion of this is provided in Chapter 4.

1.7.5 Compliance with ethical standards

As an educational psychologist, the researcher was bound to the Ethical Rules of Conduct as stipulated in the Health Professions Act of 1974 (Department of Health, 2006, pp. 41-45; Health Professions Council of South Africa, 2005). The researcher concurs with authors in the field that in any mixed methods research process, a high level of integrity should be maintained as the objects of inquiry are human beings. Ethical principles ensured that the rights and dignity of the participants were observed and protected, and also maintained the integrity of the research project (Babbie & Mouton, 2001, p. 469).

1.7.6 Subjectivity Statement

According to Morgan and Drury (2003), the "interaction between the researcher and participant is recognised as a key component of data generation and valued as such, because it is a means of getting close to the experiences of participants so that phenomena can be viewed from their own perspective" (p. 74). My own perspective on the topic stems from my experience as an educational psychologist from a disadvantaged community, and as the project director for the Targeting Talent Programme TTP), with which I have been involved for the past fourteen years. I therefore recognise that as a researcher my subjectivities and life experiences will influence any research endeavour I undertake. As indicated by Wolcott (1990), I serve as a mechanism, a filter for data, and an interpreter, therefore propagating the multifaceted

relationship between research and researcher. Due to my involvement in the programme as a result of being part of the process reviewing the learner nomination forms, I have had prior knowledge regarding the learners' background, potential strengths and areas of development, as well as their aspirations and motivation for wanting to be part of the TTP. I am undoubtedly a committed stakeholder in the positive outcomes of the TTP programme.

To attempt to mitigate bias within the investigation, a mixed methods study was embarked on to mediate my diverse viewpoints and to inform how I deduced data to reveal insights into members of a population group that are often not represented through their own voices. I trust that my involvement only served to augment my understanding and interpretation of collective themes and experiences of this unique group of learners.

1.8 Demarcation of the study

Chapter 1 introduced a contextual backdrop of the current access challenge in South African higher education. The concepts of equitable access, and the social justice implications for the lack of access to higher education, as well as its societal implications were discussed. The conceptualisation of academic talent as a construct was discussed, highlighting the multiple terms used to refer to academic talent, along with their respective ideological implications. After an extensive search for literature pertaining to academic talent, the researcher found that there is not a wealth of research that focusses on mapping the characteristics and attributes that influence the development of high potential learners. Furthermore, little research has included learners' own perceptions of academic talent. This research highlights the value of educational opportunities focussed on the development of academic talent and the critical role they play in the empowerment of learners at an individual, community and societal level. The latter is imperative to promote and drive the transformation process in education. A comprehensive outline was provided for the research methodology to be applied.

In Chapter 2, a comprehensive literature review and analysis of the various constructs that have been identified as significant to the academic talent development perspective are provided.

The focus is on transformation and unequal access to education as central consequences of the Apartheid past. The chapter also focusses on several studies that have been conducted regarding the conceptualisations of academic talent highlighting the lacuna of work regarding how learners from disadvantaged communities in the South Africa conceptualise and understand academic talent for themselves. To attempt to answer the complicated question required the use of several theoretical positions to support the arguments and findings. Central to this dynamic theoretical framework will be the use of critical theory, social and cultural capital, issues of social justice, theory of transformation and transformative learning. Finally, attribution theory (exploring the causes which individuals assign to their successes and failures) will be incorporated owing to the fact that the study is located in an exploration of how learners themselves conceptualise academic talent.

Chapter 3 provides a comprehensive review of the distinguishing features of academic talent development frameworks, as well as its distinguishing features, including traditional giftedness programmes. In addition, the implication of the academic talent development perspective for educational practice is investigated. A broad overview of the field of academic talent in the international and South African literature is provided. This chapter's review illustrates that multiple terms are used to refer to the term academic talent. The literature review in this chapter has been structured into the two main sections: (I) 'Discourses of Academic Talent' and (II) 'Academic Talent in Applications Settings'.

Chapter 4 provides a detailed discussion of the concurrent transformative mixed method research design, which was selected for the study. This chapter provides a rationale for the research method applied, as well as the research paradigm and approach adopted, including an overview of different mixed method research designs methods. Data collection methods and procedures, processes and procedures for data-analysis, as well as a discussion of the validity and trustworthiness of this approach are discussed.

Chapter 5 reflects the analysis and findings of evaluations of learners who were participants in a three-year *Targeting Talent Programme (TTP)*. The chapter is divided into six sections and

provides a clarification of the empirical findings in the research. **Section 1** highlights the learner demographics (race and gender, provincial profile, and participant withdrawal over the three-year period). **Section 2** provides an overview of the conceptualisations of academic talent in literature, an analysis of conceptualisations of academic talent by TTP learners, as well as learners' understanding of academic talent. **Section 3** reviews learner and family profiles in terms of (1) family background (household demographics, parents occupation and educational qualification, residence in terms of urban and rural classifications), (2) the challenges experienced at school and how the learners addressed those challenges, (3) learner Olympiad participation, (4) personal statements by learners in which they describe themselves, and (5) learner essay analysis. **Section 4** summarises learners' perspectives on their TTP programme participation, the benefits they anticipated from the programme, learner exit evaluation and academic talent development programme experience, as well as the academic, social and psychological benefits derived as a result of participating in the programme. **Section 5** provides a summary of the learners' psychosocial, school academic performance over a three-year period, the learner access to higher education and their tertiary institution destinations. **Section 6** depicts the changes which occurred over time primarily on the quantitative measure, namely, LASSI-HS (Learning and Study Strategies Inventory – High School), Motivation, Social skills, Coping strategies and University readiness characteristics.

In Chapter 6, the deductions from the results are explored in order to inform the foundational criteria for enrichment programmes including guidelines and conditions/principles for the future implementation of enrichment programmes. A brief discussion of the limitations and recommendations for further research concludes this investigation.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Transformation has become a popular and highly contested term within and across all discursive spaces in South Africa, particularly in this case, the spaces of basic, secondary and higher education. Though the country itself has made great strides in terms of affecting transformation in certain arenas, the field of education remains highly troubled. One of the central reasons underpinning the notable lack of transformation in the education sector in South Africa, is that of unequal access to education. This unequal access to education has its origins in the country's Apartheid past, yet the effects of this remain visible today (see CDE, 2016 report).

Attempting to address the problems that emanated from the history of unequal access to education in South Africa is itself a mammoth task, and this task becomes so much more challenging when one considers the notion of academic talent and conceptualisations of academic talent, bearing in mind that earlier conceptualisations of academic talent were also embedded within an Apartheid ideology[1]. While several studies have been conducted regarding the conceptualisations of academic talent within South Africa, very little work has been done regarding how learners from disadvantaged communities in the country conceptualise and understand academic talent for themselves. This forms the core intention of this research study.

Attempting to address such a complicated question will require the use of several theoretical positions to support the arguments and findings. Central to this dynamic theoretical framework will be the use of critical theory. This will be used in order to address the question of what happens when a system of marginalisation is perpetuated across generations. An investigation

[1] Apartheid was an ideology supported by the National Party (NP) in South Africa and legislated in 1948. Apartheid translated from the Afrikaans word meaning "apartness" called for the separate development of different racial groups in South Africa.

of this nature will automatically necessitate the incorporation of a theory of social justice, which is itself centred on an exploration of the notions of equity, equality and discrimination (in this case, within the field of education). This will be linked to a discussion of social and cultural capital, to elucidate the contexts in which the learners in the proposed study are located, as well as the resources which they have at their disposal, including family and community, amongst others.

Any discussion related to issues of social justice will require the use of a theory of transformation. This is not only because equal education has become a critical transformation issue in the country, but also because the incorporation of a transformative paradigm will be beneficial in terms of understanding how the notion of power has emerged as a key factor in this context. The notion of transformation will ultimately be expanded to include a theory of transformative learning, which will be located in the analysis of the Targeting Talent Programme (TTP), which is the discursive site for this study. Finally, attribution theory (exploring the causes which individuals assign to their successes and failures) will be incorporated owing to the fact that the study is located in an exploration of how learners themselves conceptualise academic talent.

2.2 Theoretical framework for the study

2.2.1 Critical theory

The overall theoretical framework for the proposed research is embedded in **Critical Theory,** which explores mainstream psychology's participation in "maintaining disadvantage and oppression on the basis of race, social class, gender, disability, communities emerging from war, shifts from colonisation to globalisation and the incorporation of a human and social justice focus" (Fox, Prilletensky and Austin, 2009). In addition, critical social psychologists identify reflexivity and holding multiple perspectives as essential components of the research process. The proposed research will therefore be heavily informed by an empowerment perspective, and will draw on theories of social justice and cultural capital, as well as critical theory, transformative learning theory and attribution theory. This multi-layered approach is

informed by a desire to challenge social injustice by opportunities for to enhance the quality of their lives.

A critical theory of education draws on the Marxian critique, which stresses the importance of analysing a concept such as education in relation to dominant social and political systems. As a researcher, a critical theory of education involves envisioning the possibilities for education that could be used to transform and enhance society. The critical theory framework will provide the research study with a way of conceptualising a construction of categories, making connections between theories and perspectives, and relating theories to practices which include social justice and cultural capital perspectives.

2.2.2 Social justice perspective

According to Carr (2007), "social justice involves a focus on the human condition, equity and difference, and thence on discrimination and other forms of oppression". He further states that social justice within the context of educational policy is concerned with facilitating equitable presence inclusive of procedures and products. It can therefore be inferred that social justice involves striving to confront and identify reparations for inequity, marginalisation and disruptive acts. The contribution of four prominent thinkers is relevant with regard to shaping society's thinking about equity and modern theories of distributive justice. Rawls (1985, p. 249) proposes "justice as fairness" as the ideological structure for social equality. One of his basic principles is that every individual has to be afforded access to prospects which he associates with the concept of "primary goods" (Rawls, 1971 cited in J. Salmi presentation: Opportunities for all? The Equity Challenge in Tertiary Education, Salzburg Global Seminars – Optimizing Talent: Closing Educational and Social Mobility Gaps Worldwide, 2012, p. 5). Sen (1985) posits the notion of "*functionings* as a set of actions a person performs, as well as the conditions that people value" (p. 6). According to Sen, "what needs to be equalised across individuals are the possible *functionings* from which a person is able to choose, which is known as s a "capability set" (p. 6). Capabilities are defined as a person's opportunity and ability to produce significant results relevant to individual traits and external conditions. Dworkin's (1981) definition of

justice advocates for a reallocation of assets to compensate for that make up for characteristics outside of the control. Roemer (1998) recognises that individuals have to be accountable for their wellbeing as they may be exposed to circumstances beyond their control. Equity therefore requires an "equal opportunity policy" to equalise "advantages" among individuals from groups with different circumstances" *(cited in J. Salmi (presentation): Opportunities for all? The Equity Challenge in Tertiary Education, Salzburg Global Seminars – Optimizing Talent: Closing Educational and Social Mobility Gaps Worldwide, 2012,* p. 6*).*

Nonetheless the theories developed by these four thinkers are characterised by noteworthy theoretical variances, in that they all unite in influencing the divergence away from outcomes - to opportunities within the social justice framework. This study argues that examining and understanding how academic talent is enabled or inhibited in the facilitation of access to higher education is in the best interest of ensuring a context characterised by social justice and industry specific productivity which enables all individuals to access higher education and enjoy the benefits of tertiary qualification.

What is social justice education? Philosophers have long debated this question and the primary description of social justice is informed by ideas that describe justice as the "fair and equitable distribution of resources" (Rawls, 1999; 2003 p.34). In addition, theories uphold the significance of "fair and equitable social processes" (Young, 2011), including the acknowledgement of marginalised or oppresses groups (Young, 1990). One can thus infer that the goal of social justice education is to empower individuals to cultivate the required understanding of the systemic nature of oppression and their own complicity within oppressive systems (L. Bell, p. 4, 2016 in Teaching for Diversity and Social Justice, Third Ed.).

Walker's (2006, p. 163) contribution argues for the development of a capability-based account of social justice in education, which forms the basis of educational policy making and evaluation." The author further states that the issue to be focussed on is that "if education is to bear the weight of transformation ascribed to it in the capability approach, then we need to be

rather clearer about what we describe as education" (p. 163). It is imperative that the capability approach does not claim to be a complete theory of social justice in education, and that additional theories are required to supplement the approach (see Unterhalter, 2003; Robeyns, 2004). For Walker (2006), the capability approach forefronts agency, wellbeing, human development and freedom, which she argues enables different sets of questions to be asked about education. This marks a compelling shift away from "the dominant neoliberal capitalist interpretation of education as only for economic productivity and employment and asks instead about what education enables us to do and to be" (Walker, 2006, p. 164). Placing individual competencies in the realm of assessment makes it possible to see that "evidence for what is to count as justice is evidence about our capabilities" (Walker, 2006, p. 164). This position is further elevated by stating that education is a matter of social justice, and that schooling is a site for state intervention and public policy (Walker, 2006, p. 164). Education then is regarded fundamental freedom in the capabilities approach. However, Unterhalter (2003) cautions not to equate education with schooling as "schools might be places of both freedom and unfreedom". A lack of access to good quality education, and educational resources is a disadvantage which, according to Walker (2006), can diminish capabilities and have long lasting impact on individuals.

2.2.3 Social and cultural capital

Kyburg et al. (2007) suggest that students of immigrant families, students of low socio-economic backgrounds, or students who represent the first generation in their family to access university, often face obstacles related to a lack of access to cultural or social capital. The terms 'cultural capital' and 'social capital' have often been used interchangeably in literature. However, some authors emphasise distinctions between the two concepts.

According to DiMaggio (as cited in Kyburg et al., 2007, p. 185), cultural capital refers to "the arts and symbols of wealth in society". Alternatively, social capital according to Coleman's (as cited in Kyburg et al., 2007) definition, denotes the impact of familial relationships on a child's intellectual development. Kyburg et al. (2007, p. 185), however, draw upon the two terms to

mean “kinds of knowledge students need to proceed along the path to higher education”. Several studies (see Arellano & Padilla, as cited in Kyburg et al., 2007; Deafenbaugh, 2007) have shown that first-generation university students often lack the background resources, informational networks and procedural knowledge to negotiate pathways to success at university. In contrast, students who have a background defined by academic success (for example, parents’ history of college attendance) have greater access to informational resources, such as using a library or applying to university. Subsequently, learners deprived of these resources ascend the pathway towards educational achievement substantial paces behind. Kyburg et al. (2007) argue that increasing the cultural capital available to disadvantaged youth serves as one avenue to facilitate students’ progress towards opportunities for higher education.

Alternatively, the cultural and social capital specific to a community may be drawn upon as a resource to nurture academic success. Kostenko and Merrotsy (2009) argue that the cultural and social capital drawn upon by Aboriginal societies is the basis for educational success. In this context, cultural capital is defined as “a set of dispositions that also serve as cognitive structuring processes” (Kostenko & Merrotsy, 2009, p. 41) that provide the basis of a cultural lens that informs one’s perspective of the world. In Aboriginal societies, indigenous teaching, for example, is defined as combining elements of ritual, mythology, storytelling and the nurturance of relationships between self, the family, the community and the natural environment.

Social capital, although somewhat related, refers to “the ways in which people, families and community interconnect through bonding, bridging and linking to create social relationships, social networks, social norms and values, trust and resources” (Mignone, as cited in Kostenko & Merrotsy, 2009, p. 43).

Like Kostenko & Merrotsy (2009), other writers have also given consideration to the lack or erosion of social capital in some communities. For Kostenko & Merrotsy (2009) the lack of social

capital in some Aboriginal communities stems from a legacy of colonisation and resultant 'historical trauma'; the emotional wounding of a culture that is carried through inter-generationally. The mass wounding of a culture is said to arise from physical, emotional or mental violations, including massacres, the removal of children from parents and indigenous contexts to be schooled in westernised contexts, or physical, mental or emotional abuse. Such considerations have significance in terms of understanding the diminishing effects of a wounding ideology on the fragmentation of social values, familial relationships and community networks and finding new ways to nurture the social and cultural capital available to disadvantaged youth.

Also having an intrinsic relationship to cultural and social capital, human capital is nurtured within a specific cultural context and social environment. Kostenko & Merrotsy (2009) define human capital as the individual attributes and typically non-cognitive skills that bestow various personal, economic and social benefits. These include intrapersonal qualities, such as motivation, behavioural traits, physical, emotional and mental health.

Kao's (2007) literature review suggests that studies examining the impact of social capital on educational results have produced mixed results. Despite this, they suggest that students with higher access as norms and values associated with academic success transmitted through networks between parents) and active parental involvement in parent-teacher organisations (PTOs) will score higher (in terms of grade point averages and compound test results) than their fellow students with limited social capital. Consistent with previous research, they report that immigrant children (first generation) and children of immigrants (second generation) in the United States are disadvantaged in their access to social capital. Several reasons are provided for this and include, amongst others, a lack of awareness of the customs and norms of American culture, limited English knowledge, which acts a barrier to involvement in parent-teacher organisations and discourages interactions with other parents, and the increased likelihood that immigrant parents will form networks with other foreign-born parents, as opposed to native-born parents. Depending on the norms and values reinforced by cultural

networks, academic success may be facilitated (for example, by focusing on achievement) or hindered (for example, by promoting socially undesirable behaviour).

Beyond the immediate familial, cultural or community contexts, the importance of social capital has also been illustrated in the university setting. This has been demonstrated, for example, in the supportive relationships of peers, mentors, counsellors and others at Historically Black Colleges and Universities (HBCUs) in the United States (Brown & Davis, as cited in Palmer & Gasman, 2008). These campuses, and these relationships, have been credited with nurturing a family-oriented learning environment where African American students are provided supportive assistance from faculty members. Although such institutions typically admit students who are underequipped for college-level work, Palmer and Gasman (2008) suggest that such students of HBCUs not only improve beyond their academic deficiencies, but also evidence personal growth and strengths in other areas, such as community orientedness, enhanced social, cultural and psychological awareness. Based on in-depth interviews conducted with eleven African American men attending HBCUs, Palmer & Gasman (2008) highlighted several themes that cohered around: (i) faculty relationships characterised by empathy and support, (ii) supportive administrators going beyond the call of duty, (iii) peer motivation and encouragement, (iv) role models and mentors illuminating pathways to success, and the (vi) community-oriented nature of the campus environment. The authors theorised that such factors promoted by HBCUs constitute the social capital within the college setting and that this is ultimately related to nurturing academic success in learners.

Kostenko and Merrotsy's (2009) notion of 'historical trauma' may have relevance in the South African context, particularly in terms of understanding the dehumanising effects of Apartheid within South Africa (Lazarus, Ratele, Seedat, Suffla & Paulse, 2010), and its erosive effects on the social, cultural and human capital structures that are available to academically talented learners. Apartheid was a system of state-sanctioned segregation that was officially abolished in 1994. This legislative framework implemented segregation policies that filtered through to all aspects of South African life. Through the implementation of several Acts, daily life in South

Africa was regulated according to race. With the Group Areas Act, people were forced to live in certain areas, and with the Bantu Education Act[2], certain races had limited access to adequate good educational opportunities. The effects of that continue post the abolishment of the Apartheid system.

In South Africa, Dass-Brailsford (2005), however, provides illuminating insights into person-in-environment factors that contribute to resilience responses amongst disadvantaged youth in a Durban township. Despite the perpetual ravages of poverty, as well as the alienation, racial separation and the fragmentation of family units imposed by Apartheid, the participants in the study displayed evidence of university academic success. Moreover, the study also found that kinship bonds within the community, in other words, the sharing of parental responsibilities amongst extended family networks (grandparents, siblings, aunts, uncles) provided a stable source of attachment for individuals whose immediate caregivers were unavailable.

2.2.4 A transformative theory paradigm

Mertens (2007) suggests that a core tenet of the transformative paradigm is the issue of power and how this power is related to social justice and oppression. Researchers operating within this paradigm position themselves with marginalised groups to bring about social transformation (Mertens, 2010). Four characteristics within the transformative paradigm have been identified in literature that distinguish this approach from the constructivist and positivist paradigms:

- Value and importance are placed on the lives of individuals. Transformative research aims to study groups that have been marginalised, including women, minority groups and people with disabilities; engaging in holistic research regarding the contextual experiences of oppression.

[22] "Bantu education", the policy of the Apartheid government, was formally abolished in 1994, but its effects still remain, with poorly educated teachers, too little teaching contact time, poor infrastructure and insufficient family support noted as contributing factors. See Nicholaus Spaull (2013) *South Africa's education crisis: The quality of education in South Africa 1994-2011.* Johannnesburg, South Africa: Centre for Development and Enterprise.

- It analyses the demographic variables such as race, gender, socio-economic status, as well as sexual orientation and disability in relation to power differentials
- It examines how political and social action are influenced by inequalities
- It uses transformative theory to direct the research approach and the implementation of intervention programmes (Mertens, 2010).

According to Mertens (2010), the emergence of the transformative paradigm began as a result of the discontentment of marginalised groups with dominant paradigms and the research limitations related to those paradigms. The objections that were articulated as a result of this discontentment, predominantly from feminists, and communities identifying as gay, lesbian, transsexual as well as the disabled communities, facilitated that professionals in the fields of education and psychology revise their perspectives to include these groups and become more conscious of and responsive to issues of transformation (Mertens, 2010).

2.2.5 Theory of transformative learning

The Targeting Talent Programme (TTP), which provides the location for this study, aims to provide learners with additional support needed to enhance their social, academic and psychological performance. Part of this process involves the application and implementation of the theory of transformative learning, in order to encourage learners to actively and critically interrogate the assumptions and factors and experiences that inform their respective worldviews.

Jack Mezirow (1996) explains transformative learning as "learning which is understood as the process of using prior interpretation to construe a new or revised interpretation of the meaning of one's experience in order to guide future action" (p. 162). It involves the provision of a solid base that encourages critical engagement and reflection on one's experience of the world. This necessitates fostering a critical worldview (Taylor, 2008). According to Mezirow (2000, p. 8), a critical worldview cannot be assimilated as it requires critical reflection on one's individual frame of reference which informs our assumptions, beliefs and values (Mezirow, 1996). The

ability to adopt a critical worldview is referred to as a perspective transformation which underpins the process of transformative learning.

Mezirow (2000) regards transformative learning as a sequence of steps that in which one's mindset evolves in order to achieve a holistic and reflective frame of reference. This frame of reference is malleable and has the capacity to inform values and decision that will lead to the best actions taken. This would be best summarised in the phrase 'making an informed decision.' In relation to the TTP, learners are immersed in an environment that provides a framework for critical knowledge engagement and the navigation of institutional culture through an intense simulation of university life over a three-year period from grade 10-12).

Mezirow (1978) based his theory of transformative learning on a study of 83 women in the USA re-entering university after having focussed on raising their families. The participants were separated into groups based on the following themes: registering after a prolonged absence, those who accessed university counselling centres, first semester university students and part-time students with careers (Mezirow, 1978). There are, however, certain obvious questions to be asked of the study. A major criticism of Mezirow's (1978) theory of transformative learning is located in the exclusive selection of middle-aged women and the failure of the study to take into consideration the experiences of men. However, the results study indicated that the female participants had undergone a personal transformation on the basis of which Mezirow designed a 10-phase model of transformative learning.

2.2.5.1 Model of transformative learning

According to Kitchenham (2008, p. 105), Mezirow's 10 phases of transformative learning are:

1. A disorienting dilemma,

2. A self-examination with feelings of guilt or shame,

3. A critical assessment of epistemic, sociocultural or psychic assumptions,

4. Recognition that one's discontent and the process of transformation are shared and that others have negotiated a similar change,

5. Exploration of options for new roles, relationships and actions,

6. Planning of a course of action,

7. Acquisition of knowledge and skills for implementing one's plans,

8. Provisional trying of new roles,

9. Building of competence and self-confidence in new roles and relationships,

10. A re-integration into one's life on the basis of conditions dictated by one's perspective.

While Mezirow (2000) held the view that each of the 10 steps is connected to transformative learning, Kitchenham (2008) suggests that they are not all necessary for an individual to experience transformative learning. Mezirow (2000, cited in Kitchenham, 2008) posited that the practice of critical reflection was the most important component of the process of transformative learning, and that there are three different varieties of this reflection, namely "content reflection, process reflection and premise reflection" (Kitchenham, 2008, p. 144). Even though each of these varieties of reflection contributes to the manner in which perspectives are transformed, the practice of 'premise reflection' is regarded as the most important, as is actively involves critical reflection. Premise reflection requires individuals to view their value system in a more critical manner in order to see the bigger picture, thus making it more understandable for individuals to alter their meaning perspectives (Kitchenham, 2008, p. 144).

Mezirow (1990) identifies an important trait in transformative learning which he refers as the meaning perspective. The meaning perspective includes the practices individuals utilise when making informed decisions and the main influence behind their behaviour (Mezirow, 1990). Mezirow (1990) argues that an individual's meaning perspective is learnt through socialisation and impacts how individuals interpret, act and are affected by the traditional and societal spheres in their life. As much as the individual's meaning perspective outlines their value structures, allows for the evaluation of these systems in an effort to modify them is facilitated through critical reflection.

Mezirow (1998, p. 197) postulates that "learning to think for oneself involves becoming critically reflective of assumptions and participating in discourse to validate beliefs, intentions,

values and feelings". Critical reflection is vital to addressing the discomfort in learning that will amplify the need for a transformation.

2.2.6 Alternative conceptions of transformative learning

Whilst Mezirow's work raises many critical issues some gaps have been identified that point to the need for alternative conceptions of transformative learning. These include a neuro-biological theory of emotions and consciousness; a social-emancipatory view and a race-centric view.

Taylor (2008) contends that Mezirow's psychocritical view of transformative learning should not be believed as fact whilst discounting other aspects that could show significant parts in the process. Malkki (2010) further explains this by highlighting that Mezirow places emphasis on the intellectual and logical ranges of human ability, without contemplation on the expressive and communal dimensions inherent to the process of transformative learning. Malkki's (2010) study illuminates the possible conditions and trials embedded in the reflection process these being which includes clarifying and interrogating assumptions, describing the settings for implementation and identifying possible obstacles. Malkki (2010) thus introduces the notion that comprises the expressive and intellectual features of transformative learning. To depict the emotional dimension, Malkki (2010) adopts Antonio Damasio's neurobiological theory of feelings and mindfulness in an attempt to support concept construction.

The development of reflection and transformation can be agonizing and challenging for individuals as Mezirow states that "transformative learning is often an intensively threatening experience in which we have to become aware of both the assumptions undergirding our ideas and our emotional responses to the need for change" (Mezirow, 2000, pp. 6-7). This suggests that it is a frightening practice which demands the interrogation of morals and principles which inform the individual's personality. Malkki (2010) describes the interaction between emotion and cognition by incorporating Damasio's (1998) theory which contends that the purpose of feelings is to control components within the individual's life in to endeavour to retain a decent life cycle and thus form part of one's intellectual capabilities such as decision-making. Mezirow was unsuccessful in sufficiently describing the link between emotion and cognition in a manner

that Damasio (1998) study does and extends upon. Interestingly Malkki (2010) also does not provide sufficient evidence for the significance of understanding this link as it pertains to transformative learning and the resultant effect.

Taylor (2008) provides an additional notion of transformative learning that includes a social-emancipatory view of transformative learning, in which individuals are seen as subjects and not objects. Unlike Mezirow's psychoanalytic understanding with a solely individual emphasis notion of background and collective change are considered significant aspects in transformative learning process. Taylor (2008) introduces four different views on transformative learning, namely, the neurobiological, cultural-spiritual, race-centric, and planetary perspectives. This study pays attention to only on the neurobiological and race-centric views in particular as they propose a different understanding of transformative learning and could affect essential inferences for practice and outcomes.

The neurobiological understanding of the learning process identifies bodily changes transpiring within the brain, which results in an alteration in its configuration (Janik, 2007, as cited in Taylor, 2008). Thus, learning is seen as interest-based, encounter-driven and mentor-assisted, which further proposes that transformative learning is rooted in individuals' communal involvements, desires and benefits, and that it is reinforced by affecting and physical experiences. An important finding pertains to the identification of the differences in learning between males and females (Taylor, 2008). This suggests that gender may take inform pertinent results in the transformative learning process.

This understanding of transformative learning highlights the importance of including the neurobiological perspective as it articulates the variances between males and females and its impact on changes in the process and outcomes. Taylor's neurobiological theory requires greater expansion because of the binary gender view it adopts before it can be satisfactorily integrated in transformative learning (Taylor, 2001).

The race-centric view incorporates a more non-Eurocentric positioning of transformative learning (William, 2003, as cited in Taylor, 2008), with intention to highlight the socio-political dimensions of learning which are socially bound and communal. This according to Sheared

(1994, p. 36), engages with “the students’ lived experiences within a sociocultural, political and historical context", thus suggestive that the contextual realities not accounted for in Mezirow’s theory which are important as they could lead to diverse problems with learning. In addition, Taylor (2008) states that inclusion, enablement and cross-cultural engagement has to be included in transformative learning. With regard to the TTP, this view on transformative learning is key to gaining a better understanding of the outcomes due to the fact that learners come from both advantaged and disadvantaged backgrounds, as well a variety of different social and cultural settings.

2.2.7 Transformative learning in adolescents

The theory of transformative learning in adolescents was selected because of its applicability to the population group examined in this study. The learners involved in the three-year Targeting Talent Programme are adolescents who enter the first year of the programme when they are in their tenth-year of high school. The average age for these learners when they start the programme is approximately 16, while the graduates of the programme are approximately 18-years old by the end of the third year.

Very little research has been done on transformative learning with adolescents within the schooling context. O'Sullivan (1999) observes that past studies have focused entirely on one perspective of transformative learning. He therefore states that when transformative learning is implemented in different contexts it produces enabling results.

Berte Van Wyk (2009) supports the view of incorporating the cultural dimension of learning in adolescents. In an attempt to understand the inadequate and low retention rates of South African matriculants utilising Rasmussen’s (1998) approach to learning which recognizes knowledge development to be a practice whereby individuals develop thoughtful engagement and behaviour through the attainment of socio-economic and technical forms of culture. This view suggests that the manner in which individuals effect learning is reliant on the background in which they have been brought up. Therefore, transformative learning influences the individual’s existing process of learning through critical reflection of the value systems that

have been acquired in these environments over time. It is apparent that transformative learning should be useful to high school students in order to improve their ability to learn and grow the matric pass rates and decrease dropout rates in South African schools.

Van Vyk's study (2009) provides a review of a several research studies targeted at classifying how individuals conceptualise learning. Linked to Rasmussen's (1998) view she found that learning is a process involving both assimilation (described as an age-related process where the learner changes themselves in order to be accepted within the dominant culture), and transformation (entails amending the configurations of one's culture as a result of re-learning). Transformation is the focus of the TTP insofar as learners from different backgrounds are brought together and provided with the opportunity to alter their current perceptions in order to enhance their academic, social and psychological performance. This is supported by Van Vyk (2009) who contends that transformative learning must embrace differences, frankness and open-mindedness in cross cultural engagement. This view relates to Taylor's social-emancipatory view since both focus on the background of the individuals and how it must be incorporated in the theory of transformative learning.

2.2.8 Attribution theory

This study will consider how learners in the TTP conceptualise academic talent themselves. The narrative strength of this element of the study will also make it possible to explore in more detail how and to what extent the learners ascribe the notions of success and failure to their understandings and conceptualisations of academic talent. It is this dynamic that makes the use of attribution theory essential to the study.

Weiner's (1974; 1985) work on attribution theory has been selected for this research owing to its focus on the causes that people attribute to their successes and/or failures. Teachers and educational researchers have used attribution theory to understand students' perceptions of the factors that influence their successes and failures. The theory explores the individuals, behaviours, and the environment, as well as the need to comprehend the results of performance within the following three properties: locus, stability and controllability. The

definitions for all three properties are as follows: Locus indicates the point to which a result was impacted by inner or exterior influences. Stability suggests the degree to which a cause is adjustable or static over time and lastly controllability defines the degree of power an individual holds to influence transformation. Even though this study applied attributions related to ability and effort of its participants other apparent sources may include capability, determination, luck, the activity, and personal dispositions.

Interestingly, gender differences have been found with regard to attribution. This was demonstrated by Assouline, Colangelo, Ihrig and Forstadt (2006), who explore variances in the highest attribution choices between males and females in a sample of 3280 students in grades 3-11 in general academics. Their study found that proportionately larger percentages of females attributed school success to long-term effort than males did. Similarly, proportionately larger percentages of males indicated that ability contributed to their overall academic achievement than females did. This finding was the same for achievement in mathematics and science. For success in language arts both males and females responded that long-term effort was more influential to their success than ability. Similarly, Siegle (2010), in a study of 149 college honours freshmen, found that males tended to place stronger attributions on ability for most skills, whereas females specified that determination underpinned to high levels of accomplishment.

2.2.9 Self-efficacy, academic behaviours, key cognitive strategies and academic performance

When examining academic performance three critical concepts must be included, such as, learner's self-efficacy (discussed earlier), academic behaviours and key cognitive strategies to be elaborated on, Carlstroom et al,. 2004; Crede & Kuncel, 2008; Makgato & Miles, 2006, identified the three specific learner concepts as easier to impact through well-constructed curriculum design and more inclined to transformation than other factors such as teacher capability, language obstacles or lack of means, which are entrenched within educational structure in South Africa.

Makgato & Mji, 2006; Zimmerman (1995) show demonstrated evidence that self-efficacy, key cognitive strategies and academic comportments, effect the method in which a learner engages with and plans for assessments and school academic activities which benefits their academic achievement as a result. Furthermore, causative or extrapolative interactions between the three variables have been found and researched comprehensively within South African literature.

In addition to the intellectual strategies impacting academic performance psychosocial constructs have also been researched as predictors of academic achievement, namely, self-esteem, academic motivation, academic overload and perceived stress. Dumont et al., have established these constructs are prognostic of a learner's adjustment into university. The inference can thus be made that because specific qualities effect academic achievement this will hamper the performance for individuals from disadvantaged backgrounds, grounded on the circumstance that their educational experience did not nurture the acquisition of coping strategies to engage with these psychosocial constructs (Dumont et al., 2009).

2.3 Predictors of overall academic success

Recognising the paradigms that show a role in an individual's academic achievement is of both applied and academic importance (Carlstrom et al., 2004). Carlstrom et al., (2004) highlighted that fewer studies have concentrated on non-intellective factors (namely, personal factors that do not represent intelligence) have been found to have a noticeably constructive impact on academic performance. In contrast an enormous amount of enquiry has focused on intellectual elements (intellect and aptitude levels) applying to the individual high school learner as influencing academic performance (Crede & Kuncel, 2008). The recommendation that the identified non-cognitive elements can positively effect academic performance advocates that there should be less emphasis on prior academic achievements to determine future academic success, and more focus on other personal qualities (Carlstrom et al., 2004).

Traditionally, prognosticators of academic achievement have incorporated a range of causes such as prior academic achievement, pedagogical instruction, curriculum non-completion, motivation and curiosity, laboratory usage, disposition, admission entry totals, and lastly content knowledge and understanding (Crede & Kuncel, 2008; Makgato & Mji, 2006). Dumont et al., (2009) in a specific study focussed on disadvantaged learners established that academic performance was significantly influenced by self-esteem, which is a feature linked to self-efficacy, because "individuals with high levels of self-esteem perceive themselves to have the ability to complete certain tasks adequately" (p. 102). Interestingly academic success was not significantly influenced by engaging in help-seeking behaviours which Dumont et al., (2009) defines as a concept that links to the self-monitoring aspect of academic behaviours.

This study includes investigating whether key cognitive strategies, academic behaviours, and self-efficacy impact learners' academic performance as this has not been formerly considered in South African disadvantaged high schools.

2.3.1 Key cognitive strategies

Conley (2007b) defines key cognitive strategies as "the practiced behaviours that become a habitual way of working toward more thoughtful and intelligent action" (p. 13). He identified seven cognitive strategies that an individual owns which includes i) inquisitiveness, ii) intellectual openness, iii) interpretation, iv) analysis of data, v) precision and accuracy, vi) reasoning, argumentation and proof, and vii) problem solving (Conley, 2007b; Conley, Lombardi, et al., 2009). (Conley, 2005; Conley, Irvine, & McGaughy, Charis, 2009) state that becoming skilled at key cognitive strategies for academic success denotes learning to think in particular ways about that content rather than only mastering of content knowledge.

The Cattell-Horn-Carroll (CHC) Theory of Cognitive Abilities categorises a structure of human cognitive abilities, inclusive of range of both constricted and expansive cognitive abilities that according to (Evans, Floyd, and McGrew, 2003) are predictors of achievement in mathematics. Evans et al. (2003) indicates that "The structure of CHC Theory provides legitimate proof

grounded in a range of theoretical perspectives which informs understanding of cognitive abilities and their relations with a diversity of life outcomes" (p. 156). Evans et al. found Therefore, the significant relationship between cognitive abilities and the learner's achievement in mathematical reasoning and calculation skills provides evidence to support domain-general cognitive strategies playing a positive role in achievement in mathematics.

Evidence from a study conducted in 2003 in cognitive strategies was applied to science performance, concentrating on the influence of cognitive strategies on achievement in chemistry at a university level yielded unexpected results (Coppola, Pintrich, & Zusho, 2003). While it was put forward that the use of deep-level intellectual processing, such as elaboration and organisation, would be more beneficial for academic performance, the study unexpectedly found that only rehearsal - a surface-level cognitive processing strategy - significantly and positively matched with high achievement in chemistry (above 80%) (Coppola et al., 2003). Robertson (2012) endorses the role of learning strategies in the association between cognitive abilities and academic performance in a South African study analysing a sample of university students which established that the surface-level learning strategy of rehearsal plays a predictive role in academic performance, while deep-level and metacognitive learning strategies had no meaningful relationship with academic performance (Robertson, 2012). In terms of the sample of students in the South African study, it was found that overall cognitive ability has an indirect effect on academic performance through the use of surface-level learning strategies (Robertson, 2012). Likewise, a Brazilian study confirmed that cognitive style and learning strategies were significant predictors of overall academic achievement for university students (Araujo, Ferraces, Lemos, Paramo, & Tinajero, 2012).

Four specific categories of cognitive strategies have been expansively researched, namely, "problem solving, intellectual openness, reasoning and inquisitiveness" (Conley, 2007a, p. 13). Conley (2007a) describes problem solving applying a range of approaches in order to explain ordinary problems, thus developing innovative strategies and applying these to multidimensional method-based problem solving areas (Conley, 2007a). When learners

categorise, determine or formulate effective or adaptive strategies to cope with day to day problems involving self- directed cognitive-behavioural processes, D'Zurilla & Sheedy (1992) refer to the process as social problem solving. This construct is believed to impact academic performance in its capacity to inform the learner's goal-directed responsibilities through problem recognition, formation of alternative situations, decision making, and solution implementation and confirmation which a learner can apply in an academic setting (Bruno, Butler, Elias, Papke, & Shapiro, 2011; D'Zurilla & Sheedy, 1992). An additional study found that children's Social Problem Solving (SPS) skills serve as a mediator by which their disposition and character can effect academic achievements later in life thus endorsing the role of social problem solving in particular, (Henderson & Walker, 2012).

The connection between problem solving and academic performance was studied in a sample of university students in New York which showed a positive relationship between these two variables, suggesting that high academic achievement is linked with high problem solving abilities (D'Zurilla & Sheedy, 1992). D'Zurilla & Sheedy (1992) established that this association which generated no correlation with their problem-solving abilities and was independent of the learners' general academic aptitude. Despite this variable having a correlation with academic behaviours, it has been observed to have a secondary effect moderated by the academic behaviour of study habits and mediated by self-efficacy (Coutinho, 2008; D'Zurilla & Sheedy, 1992).

Conley (2007a) identifies what he referred to as specific key cognitive strategies, which include intellectual openness, characterising a level of extraordinary open-mindedness, and curiosity (p. 13), as well as knowledge construction, critique and transformation. This characteristic of a learner could be related to, namely 'openness to experience'. This construct was in earlier studied hypothesised to effect academic performance through its associations with general intellect, but was found to have no correlation in a British longitudinal study of university students (Chamorro-Premuzic & Furnham, 2003). The concept of 'openness' was found to be clearly correlated with absenteeism, which would consequently lead to lower academic success

(Chamorro-Premuzic & Furnham, 2003). Another study also performed on university students eight years later, contradicted this finding by demonstrating a predictive relationship between the personality trait of openness and academic performance; where the level of openness appeared to predict specific course results while other personality traits predicted an overall average of results (Avdic, Karau, Komarraju, & Schmeck, 2011). This was attributed to the fact that learners who demonstrated high levels of this personality trait also show high levels of intellectual curiosity in the subject matter. In addition, these learners are more eager to learn additional information and thus use more successful processing learning styles that allow more thorough encoding and longer storage of learned information (Avdic et al., 2011).

Conley defines reasoning as well as argumentation and evidence of a processes of constructing a coherent and logical account to explain, refute and challenges of suppositions (Conley, 2007a). It thus highlights the utilisation of data that is acquired rather than drawing conclusions and making inferences from that information (Lohman and Lakin, 2009). Evans et.al (2003) established arithmetic abilities significantly related to reasoning skills as confirmed in a study focusing on the CHC cognitive abilities that found fluid reasoning as a cognitive skill to prove moderate to strong relationships with mathematics calculation and reasoning skills; both of which are necessary for efficient mathematical performance. Contradicting these results, the above-mentioned study compared the reasoning abilities of East Asian populations, who are believed to be highly competent in their mathematical abilities, compared to other populations who are assumed to have lower than average mathematical abilities (Chen et al., 1997). The study found that as hypothesised, Chinese and Japanese learners outperformed American learners in a mathematics achievement test, while the study of the adult population revealed higher scores for the Americans. Surprisingly, reasoning abilities were higher for American learners compared to Asian learners, and higher for Asian adults compared to American adults Chen et al., 1997). This data indicates that mathematical achievement has an indirectly proportional relationship with reasoning abilities when controlling for IQ, educational level and age.

Conley (2007a) describes another key cognitive strategy referred to as inquisitiveness where a learner who "engages in active inquiry and dialogue about subject matter and research questions, and seeks evidence to defend arguments, explanations, or lines of reasoning" (p. 13). Estes & Richards (1985) in a USA based study found that inquisitiveness, defined as a study skill, was related to academic results. The findings indicated that learners who were failing performed poorly on the inquisitiveness scale in relation to better performing learners who scored almost double the number of points (Estes & Richards, 1985). In a further study "typical intellectual engagement", was the indicator for intellectual curiosity and was found to be a significant predictor of academic performance (Chamorro-Premuzic, Hell, & von Stumm, 2011). Chin (2004) in a review of studies notes that asking questions both in and out of the classroom setting is key for the active and meaningful learning of science. These results lie in the fact that inquisitiveness involves the learner asking questions that are beyond mere factual and procedural information in line with surface-level processing, to influence learners to use more deep-level learning, making use of comprehension, planning, prediction, anomaly detection and application of knowledge; skills which are important for learning sciences (Chin, 2004).

2.3.2 Academic behaviours

Conley (2007) depicts academic behaviours as incorporating learners' study and self-monitoring skills (p. 16). Study skills comprises of a range of skills to exceed what is traditionally expected in learning contexts and includes the following skill-set - time-management qualities, namely note-taking, utilisation of information technology, engagement with teachers and advisors, and high levels of perseverance (Carlstrom et al., 2004; Conley, 2007a, p. 17). in contrast self-monitoring behaviours denotes the learner's ability to be reflective, identify when assistance is required in their work without giving up prematurely (Conley, 2007b). This behaviour not only transcends in application to the concept of perseverance in a challenging activities, but also in the transference of knowledge obtained being applied to other contexts (Conley, 2007b). Academic behaviours can be distinguished from key cognitive strategies with regards to their practice and application which are autonomous of the contents of the broad area of study;

whereas the key cognitive strategies employed are specific to the content area of study and the ways of learning that are dominant in that area (Conley, 2007a, p. 16).

Zimmerman (1995) found that these behaviours are essential for academic achievement, learning and success (Zimmerman, 1995). Study skills particularly, have been described as the crucial point of one's first-year university experience, as well as the success of academic interventions, therefore identifying the potential role of study skills in predicting academic success in high school (Carlstrom et al., 2004). This emphasises that developing these skills in scholars before they enter university could have long-term benefits in their tertiary academic success (Carlstrom et al., 2004).

Academic behaviours have been widely researched as a single construct, confirming a with academic performance. Poor academic achievement can be described by two inadequate types of academic behaviours, and are based on either an interference (task–irrelevant thoughts influencing the retrieval of learnt knowledge and its application to assessment condition) or a deficit model (characterised by poor information encoding during the actual learning process, which ultimately hampers the retrieval process (Broder & Musch, 1999). Test anxiety, as a feature state rather than a trait, could be related to the deficit model along with the 25% of the variance in a statistics exam (Broder & Musch, 1999) as a result unsuccessful study habits applied. In addition reviews established that learners scoring high on test anxiety had less effective study habits, resulting in poorer test performance (Broder & Musch, 1999). Another study found that mathematics avoidance behaviours explained only 14-23% of the variance in performance in a mathematics task (Dew, Galassi, & Galassi, 1984).

Estes & Richards (1985) found a monotonic correlation relationship between the learners' study skills and academic results in a study involving high school learners. The disparity in academic results could be attributed to high levels of distractibility, compulsiveness and curiosity accounted for as much as 50% (Estes & Richards, 1985). Another meta-analysis performed in 2004 assessed the predictive power of Psychosocial and Study Skill Factors (PSFs) in influencing

the overall grade point average in college students, and found strong significant results (Carlstrom et al., 2004). In a meta-analysis of Study Habits, Skills and Attitudes (SHSA) on academic performance, Crede & Kuncel (2008) found that study skills, specifically the learners' use of appropriate study methods and strategies, and their ability to manage time and other resources to meet academic demands, was a significant predictor of both overall and specific academic performance in a university setting. This prediction appeared to be direct, while also indicating a facilitation model where personality, attitude, participation, dedication, and absenteeism play a role in the effect of study skills on academic performance (Crede & Kuncel, 2008; Fernandez-Alonso, Muniz, & Suarez-Alvarez, 2013). Study skills was also found to assist as a go-between in its ability to facilitate the influence that general cognitive abilities have on academic performance (Crede & Kuncel, 2008).

In contrast, Akagah (2013) established that study habits relating to reading, note-taking, concentration and time-management did not show any predictive power for academic performance in a study including African high schools. A distinct noteworthy predictor of academic success despite the idea that the amount of time spent studying is unrelated to academic performance was time-management (Akagah, 2013; Crede & Kuncel, 2008).

The self- monitoring aspect academic behaviour, including self-recording, self-instruction and self-reinforcement, appears to predict academic performance 93% of the time and accounts for up to 80% of the variance in academic performance (Zimmerman, 1995). An additional study supported previous findings that presented learners with lower academic achievement seemed to report on non-self-regulated learning techniques, and that a self-regulation training programme appeared to improve academic performance (Zimmerman, 1995). Self-efficacy was also improved through the programme which suggests that this construct plays a role in motivating a learner to self-regulate through awareness of their skills, seeking out assistance when needed, taking necessary steps to master the skills through systematic and controllable processes and overall by taking responsibility for their academic behaviours (Zimmerman, 1995). Confirming this, self-regulated learning strategies had an indirect effect on academic

performance, mediated by self-efficacy (Yusuf, 2011). “Self-monitoring is a form of metacognition, which is the ability to think about ones thinking” and multiple studies have been conducted to assess the “relationship between metacognition and academic performance” (Conley, 2007a, p. 16). Research conducted on a university sample established that metacognition was a significant predictor of overall academic performance, and that the two variables had a significantly positive relationship (Coutinho, 2007). The study was expanded a year later, with findings that not only suggest a significant prediction between the variables, but also a mediated association when a mediation model with self-efficacy is applied (Coutinho, 2008).

2.3.3 Self-efficacy

The theory of self-efficacy will be used to explore the manner in which the learners in the TTP confront and negotiate situations and challenges that inform their conceptualisations of academic talent.

Self-efficacy principles developed from Bandura’s Social Learning Theory, and are distinct “personal judgements about how well the individual acts in dealing with possible situations” (Altun, Seyis, & Yazici, 2011, p. 2321). Specifically, Bandura (1997) hypothesised that self-efficacy regulates what action will be commenced, how much energy will be expended, and what levels of perseverance will be engaged with when faced with obstacles. Persistence through challenge further enhances self-efficacy. It can be concluded that individuals with high levels of self-efficacy are interested to challenge themselves by engaging in new activities, and most importantly they persevere longer and work harder in the face of challenges. Positive relationships and extrapolations between self-efficacy and academic performance has been constant in research on this construct over the years.

A study by Coutinho (2008) and Yusuf (2011) found positive influences of self-efficacy on overall academic performance of American and Malaysian university students. An American study comprising of secondary school learners similarly found encouraging effects of self-efficacy on

overall learner academic performance (Altun et al., 2011). Parares (1995) suggests that perceptions of self-efficacy are important because they are the bridge between knowledge and action. In a study of 366 undergraduates, Komarraju and Dial (2014) found that students with a "studious" identity, or ability orientation, have high levels of self-efficacy in academics and show high levels of motivation. They suggest that self-efficacy is a mediator for attribution (knowledge) and motivation (action). While several other researchers have documented an important association between motivation and self-efficacy (see Harter, 1982; Skaalvik & Skaalvik, 2004), the underpinning of the link tends to remain unclear (Komarraju & Dial 2014; Zimmerman, 2000). Da Costa Leite (2013) in a South African study found encouraging correlations between self-efficacy and academic performance in a research course implemented in a university setting (Da Costa Leite, 2013). Both a Nigerian and a Spanish study established similar optimistic effect in the application of self-efficacy to achievement in mathematics. In addition, a single study found that self-efficacy was significantly correlated to science performance (Adedeji & Ayotola, 2009; Coppola et al., 2003; Fernandez-Alonso et al., 2013).

According to Yusuf (2011) self-efficacy theory purports that human actions and accomplishment is dependent on how captivated a learner is with the activity and whether it consumes their individual beliefs and perceived benefits. Learners become more engaged in the learning process, by adopting self-learning strategies and self-monitoring study behaviours, which averts them from surface-level knowledge acquisition that ultimately contributes to low academic achievement (Altun et al., 2011; Yusuf, 2011). It has been postulated that "strengthening students' individual resources such as self-efficacy, would contribute to achieve to the objectives of the education system" (Altun et al., 2011, p. 2320). One can postulate based on the review of literature that cultivating the learners' skills in key cognitive strategies, academic behaviours, and self-efficacy, can support them in increasing their grade 12 results, as well as supplement useful skills that can be applied when transitioning into university. Inspiring learners to focus on their individual strengths in their attempts to improve their results, and have an overall effect on their motivation when approaching studying for exams.

2.4 Learner Aspirations

The examination of learner's aspirations is crucial when attempting to address the socio-economic inequalities within the higher education sector. Aspirations are viewed as multifaceted and are subjective to difficult concepts (Patton & Creed, 2007).Learner aspirations are moulded by a diversity of aspects comprising the learner's value systems, religion, traditional values, personal values, and socio-political convictions (Diab, Flack, Mabuza and Reid ,2012) This empirical study aims to map the differences in the educational and career aspirations of learners from rural and urban areas and examines the various factors that inform these aspirations focusing predominantly on their differences.

Researchers have maintained that the inequalities that individuals experience due to a lack of educational opportunities, has the ability to generate alternative patterns with regards to their occupational and educational aspirations (Ayalon & Yuchtman-Yaar, 1989). Furthermore Patton & Creed (2007) indicate that learner's educational and occupational aspirations have been regarded as major factors of both short-term educational and long-term career choices. McCracken and Barcinas (1991) contend that learner's educational and occupational aspirations are established and constructed based on their backgrounds and specific experiences. Families and communities that the individual fit in to are relevant in shaping their educational and occupational aspirations, as they are categorised by their own distinctive challenges, experiences, and prospects (McCracken & Barcinas, 1991). Cox, Tucker, Sharp, Gundy and Rebellon (2014) contend that different aspects of a community context may influence an individual's educational hopes and aspirations which is dependent on the accessibility of cultural, economic, and social prospects within a specific area (Cox et al., 2014). According to Apostal and Bilden (1991), the variances in the aspirations of learners from rural areas and learners from urban areas are not unanticipated owing to the differences in the opportunities available and the obstacles existent in rural areas, as opposed to individuals who live in urban areas.

2.4.1 Definition of aspirations

Aspirations are normally established by an individual and informed by their experiences. The definition of aspirations proposed by Ahmad, Hamid and Ganaie (2012) is referred to as tasks that an individual would like to achieve which is of personal importance, and they define the likelihood of them achieving it (Ahmad et al., 2012; MacBrayne, 1989). Aspirations are further defined as a form of an expectation (MacBrayne, 1989). Furthermore, educational and occupational aspirations are defined as a specific positional level that an individual would like to achieve (MacBrayne, 1989). It is noted in research literature educational and occupational goals are sub-consciously shaped by specific elements such as family, location of school and socio-economic status, to list a few. MacBrayne (1989) asserts that specific elements have the ability to negatively impact learner's decision-making process with regards to their aspirations.

2.4.1.1 Factors that shape learners' aspirations: Comparing learners from rural and urban areas

McCracken & Barcinas (1991) assert that by virtue of being part of a community presents various challenges, opportunities, and experiences to an individual, which influences their aspirations as they further claim that residing in a rural or urban residence has shown to be related to learner's occupational and educational aspirations. As previously indicated learners from rural areas, in comparison to learners from urban areas, have distinctive conditions to cope with when making decisions about their education and careers (Apostal & Bilden, 1991). Significant themes or conditions have been acknowledged which includes variables such as socio-economic issues, family (family occupation and the internalisation of values and beliefs), family size, school setting (exposure), resources, location, educators, peer influence in a school setting and exposure.

- ***Socio-economic issues***

South African are considered valued members of the nation as this cohort of individuals are a depiction of the country's hopes and aspirations (Mahadea, Ramroop, & Zewotir, 2011). However, a section of South African youth is condemned to a marginalised existence of poverty

as indicated by Mahadea et al. (2011) confirming that a third of South African youth live in poverty. This is noteworthy as Gjerustad and van Soest (2012) maintain that the socio-economic background of an individual is a vital predictor of their aspirational level. Furthermore, the high unemployment levels create major internal conflict as a result of continual and unpredictable changes in the economic and socio-political climate inside and outside of South Africa (Stead, Els and Fouad, 2004). Stead, Els and Fouad (2004) say that such socio-economic developments within South Africa exert an important influence on learners' career aspirations in terms of the materialisation of their dreams. Mahadea et al., 2011 presents the concept of marginalisation which manifests as result of poverty and the various changes in the economic and socio-political climate have the ability to shape individuals' aspirations. As a consequence, individuals interrogate their capability to get employment as well as the type of employment that they will achieve (Mahadea et al., 2011).

Individuals from low socio-economic conditions are faced with restricted prospects, and these include limited financial assets, not having the capacity to make self-determining choices about their careers, not having guidance and not having role models (Shumba & Naong, 2012). The result is that individuals of low socio-economic status may not achieve their scholastic and career aspirations. Contrasting to individuals from high socio-economic status, individuals of low socio-economic status tend to make decisions about their educational and occupational aspirations based on those that have a low likelihood of failing (Gjerustad & van Soest, 2012). Since individuals from high socio-economic status are not restricted financially and in terms of resources, when making decisions with regards to their educational and occupational aspirations (Gjerustad & van Soest, 2012).

A lack of monetary resources also contributes to the decision-making process of learners' aspirations. Choices with regards to aspirations are not entirely based on an individual but to a large degree, also on their financial resources (Diab et al., 2012), as learners from rural areas are often from disadvantaged backgrounds and are prone to experience financial difficulties. Diab et al. (2012) contend that when these individuals face difficulties due to lack of familiarity

with the financial aid application and admission processes as they do not know how and when to apply for financial assistance for higher education.

- ***Family*** *(family occupation and the internalisation of values and beliefs)*

Watson, McMahon and Longe (2011) depict how family members as social impacts learner's occupational and educational aspirations. Despite this being reliant on their awareness of their respective family members' and parents' level of satisfaction with their occupations (Watson et al., 2011). Jodl, Michael, Malanchuk, Ecceles and Sameoff (2001) they contend that parents have the potential to influence their children's activities, choices, and occupational identities through their roles as interpreters of reality and providers of experiences for their children.

Shumba & Naong (2012) note that individuals are inclined to obtain their parent's approval and backing when making decisions that will affect their careers and futures. Jodl et al. (2001) argue that individuals internalise their parents' values and beliefs. Gemici, Bendnarz, Karmel and Lim (2014) found that leaners whose parents aspire for them to attend university are four times likelier to complete their eleventh and twelfth year of high school and attend university in comparison to leaners whose parents do not expect them to attend university. This is a distinct example of how the approval and internalisation of parents' beliefs and values has the ability to influence the decision-making process of learners' aspirations.

According to Diab et al. (2012), the learners should be able to access support that a learner is parallel to their career aspirations. Urban learners in contrast to their rural counterparts have access to familial support and encouraging role models which facilitates advanced self- esteem s (McCracken & Barcinas, 1991). This has been validated in their predisposition to set advanced levels of aspirations than learners from rural areas (McCracken & Barcinas, 1991).

Antos (2012) contends that even though rural learners consider their parents as a point of locus this is often done by comparing their lives in relation to the earning and education attainment of people different from their context. Additionally, Antos (2012) postulates that as a result,

school educators are also used locus for success. Interestingly if the parent/s earns more that the educator rural learners tend not see education as a means of success.

- ***Family size***

According to Shumba & Naong (2012) family size may impact an individual's aspirations by a causative link to the person's decision-making progression regarding their career and occupational aspirations. It is well known that in rural areas in particular large families tend to have less prospects and less money (Shumba & Naong, 2012). For individuals desiring to further their education, this lack of resources limits the realisation of accessing higher education as the funds have to cater for the extended family's basic needs (Shumba & Naong, 2012).

- ***School setting*** *(exposure)*

Lawrence and Vimala (2012) discuss the how one's background has the capacity to contour character growth. Scholastic institutions do this through the selection of syllabuses, instructional techniques, and through the relationships that are formed with learners (Lawrence & Vimala, 2012). This is facilitated as a result of the amount of time a learner spends at school (Lawrence & Vimala, 2010). In addition, the school setting potentially becomes a site which provides learners with several tasks and uncovers information and guidelines realise their aspirations (Lawrence & Vimala, 2012). If a school has to deal with obstacles which includes inadequate resources, insufficient access to teaching material, and uninterested and uncommitted educators, this will create many challenging encounters for learners with respect to the modelling of their aspirations (Lawrence & Vimala, 2012).

- ***Resources***

Former research indicates that learners from rural areas are often exposed poor infrastructure within the school as well as inadequate support to assist with the realisation of their aspirations (Diab et al., 2012). Furthermore, previous research identifies that as a result of poor instructional and content knowledge of many educators, learners from rural areas do not receive formative and secondary education adequately prepares them for a university setting (Antos, 2012). This phenomenon is often observed in the high dropout rates specific to higher

education sector with the resultant adverse impact on their self-esteem and self–worth, and consequently, the shaping of their aspirations (Antos, 2012).

- ***Location***

Lawrence & Vimala (2012) argue that the location of a school is fundamental to understanding the affect it has on learners' occupational and educational aspirations. The inequitable distribution is mirrored by the access to resources such as functional science and computer laboratories (Lawrence & Vimala, 2012).

- ***Educators***

Shumba & Naong (2012) indicate that an educator's philosophies and potential outlook to influence both the learner's awareness and accordingly, their aspirations (Shumba & Naong, 2012). This is a factor that affects the aspirations of learners from both urban and rural areas. The major difference is the disparity in resource allocation between rural and urban (Diab et al., 2012).

- ***Peer influence in a school setting***

Shumba & Naong (2012) identified the role peers play with regard endorsement and support of the individuals occupational and educational aspirations. In urban areas learner have access to a diversity of varied aspirations different from their own (Lawrence & Vimala, 2012). Exposure to such contexts allows for learners to challenge the limits of their respective background and not be prevented from exploring aspirations beyond perceived ability or character constraints (Rowan-Keyon, Perna & Swan, 2011; Jodl et al., 2001).

- ***Exposure***

Residing in an urban area permits individuals to access different people, and who have dissimilar occupations, which may be unlike what learners from rural areas can access (McCracken & Barcinas, 1991). Diab et al. (2012) state often the aspirational choices of learners from rural areas, is not grounded in coherent options informed by an assortment of equivalent options, but rather on taking opportunities that are available. Diab et al. (2012) contends that the aspirations of learners from rural areas continues to be restricted on innumerable levels (Diab et al., 2012).

2.5 Critique of aspiration literature review

While previous research remains valid and presents interesting findings, most of it cannot be generalised to suit the South African context. Research continues to indicate that social influences such as family and school settings are associated with learners' educational and occupational aspirations. It is indisputable that this is a fact that needs to be taken into consideration as it is of outmost importance.

Bowden and Doughney (2010) argue that the investigation into learners' aspirations is of paramount importance as it is a part of addressing the socio-economic inequalities in higher education. However, previous research focuses primarily on the factors that shape learners' aspirations. While these factors are of great importance, there remains a lack of research regarding how these factors shape learners' educational and occupational aspirations.

Additionally, earlier research primarily focused on the factors that shape the aspirations of learners in rural areas. This effectively illustrates an imbalance in the research regarding this particular topic. While learners from rural areas do indeed face unique challenges when making decisions regarding their educational and occupational aspirations (Gjerustad & van Soest, 2012), the challenges faced by learners from urban areas cannot be discarded. It is, for example, possible that learners from urban areas may be bombarded with a variety of opportunities which could result in them having overly ambitious aspirations (Visser & Pozzeban, 2013). In addition, failing to reach these particular aspirations may have a negative influence on the learners' psychological wellbeing (Visser & Pozzeban, 2013).

The emphasis on learners from rural areas and the unique challenges they face, illustrates that further research is needed that analyses how these challenges can be tackled. Earlier research examined the external factors that may affect the decision-making process of learners regarding their educational and occupational aspirations. This resulted in a strong emphasis placed on socialisation, particularly from family and within the school setting, as a key factor in this decision-making process (Rowan-Kenyon, Perna & Swan, 2011; Jodl et al., 2001).

It is clear, however, that earlier research does not take into consideration the aspect of resilience. While there are certain factors that shape the aspirations of learners from rural areas negatively, individuals have agency. Jodl et al. (2001) argue that individual differences in aspirations are assumed to be influenced by one's self-perceptions and the ability to achieve certain tasks. While one cannot dispute that one's surroundings have an influence on the decision-making process regarding aspirations, this is a clear illustration that individuals have the ability to think and reason.

It is important to take into consideration factors that have not been considered in earlier research. This is especially due to the fact that to date, research has merely highlighted and repeated the same factors and problems, without presenting a suggestion for a way forward.

This literature review has considered the various reasons why particular attention needs to be paid to the aspirations of learners within a South African context. It has provided a thorough definition of aspirations, as well as a distinction between rural and urban learners. In addition, it has presented factors that may contribute to the formation of learners' aspirations. Furthermore, this literature review has presented the differences between the aspirations of learners in rural areas and urban areas, as well as the critiques of previous research through an examination of the strengths and limitations of the research.

2.6 Summary of chapter

From the above review of literature and the various constructs that have been identified as significant to the talent development perspective, it is evident that "the talent development framework emphasises the deliberate cultivation of psychosocial skills supportive of high achievement, persistence and creativity rather than leaving this to chance", as argued by Olszewski-Kubilius and Thomson (2015).

Chapter three will review the distinguishing features of a talent development framework, as well as its distinguishing features, including traditional giftedness programmes, and the implication of a talent development perspective for educational practice.

CHAPTER 3

DISCOURSES OF ACADEMIC TALENT DEVELOPMENT FRAMEWORKS AND TRADITIONAL GIFTEDNESS PROGRAMMES, AND THEIR IMPLICATIONS FOR EDUCATIONAL PRACTICE

3.1 Introduction

This chapter will review the unique features of an academic talent development framework and consider how it could be distinguished from traditional giftedness programmes. The implications of a talent development framework within the context of enrichment programmes will also be discussed. A broad overview of the field of academic talent in international and South African literature will be provided. As this chapter's review illustrates, multiple terms exist that refer to, or imply academic talent, and each of these terms has its own unique ideological nuance.

For the purposes of the review in this chapter, the term *academic talent* is used to encompass concepts such as giftedness, high potential, talent potential, amongst others. In order to preserve the intended meanings contained in the articles reviewed, the terms used by authors will be maintained and referred to in single inverted commas ('') to indicate a reference to their meanings in their respective contexts. Where the term 'academic talent' itself has been used by other authors in the literature, it will likewise be encased in single inverted commas. In so doing, this chapter attempts to highlight that the meanings in which the terms are used vary from context to context, depending on the purposes for which a study, literature review or critical commentary serve.

While attempts are made to preserve the use of the terms 'gifted', 'high potential', and 'academically talented' as they are found in the literature, it is necessary to remain critical of how these terms are used. Taking into account Borland (2005) and Appel's (1988) criticisms of such terms, it is also worth considering their social constructionist implications. In other words, depending on the purposes of a particular programme, academic talent may be defined narrowly (that is, based on academic achievement alone). In contexts of redress in South Africa,

more inclusionary and broader approaches to 'academic talent' or 'giftedness' may be used. Stated differently, depending on the context of use and the institutional imperatives, the use of a particular construct (such as 'giftedness', 'talent', 'potential and 'achievement') may be used to legitimise practices of segregation or, as Schroth and Helfer (2009) note, to 'even the playing field' and afford opportunities to marginalised groups. Moreover, in instances where authors do not specifically define notions of academic talent, their inferred meanings from the (explicit or implicit) assumptions underlying specific model (such as academic development programmes) are drawn out.

In this chapter, the literature review component has been structured into two main sections, namely (I) 'Discourses of Academic Talent' and (II) 'Academic Talent in Application Settings'.

Section I explores the academic discourses that have defined and shaped the field of education and its sub-disciplines. This has accordingly been organised around what may be delineated as 'traditional' and 'contemporary' notions of academic talent. Traditional conceptions have typically revolved around four main dominant intersecting discourses, namely, (i) academic talent as a fixed, innate and unidimensional attribute, (ii) academic talent as an exceptional quality possessed by the rare few, (iii) academic talent as determined largely by hereditary influences, and (iv) academic talent as having its primary basis in IQ. On the other hand, more contemporary notions of academic talent may similarly be grouped under specific discourses. These include, (i) academic talent as having an environmental basis; (ii) academic talent as a multidimensional construct; (iii) academic talent as contextually derived and, (iv) academic talent as socially constructed.

In an attempt to connect the international academic discourses to the local context, the review presents an overview of the conceptualisations of disadvantage in relation to academic talent. Local writers have drawn on much of the international literature to identify the relevance and applicability of constructs of academic talent in situations of socio-economic and historical marginalization. In light of this, the next subsection provides an exploration of the discourses of

academic talent and marginalisation within the South African context. Specific discourses may be identified in the thematic categories proposed, namely, (i) the 'giftedness' construct in South Africa; (ii) contexts of disadvantage as a barrier to nurturing academic talent; (iv) the relevance of inclusive approaches to academic talent conceptualisations; (v) the shift from 'objects' of testing to agentic, meaning-making subjects of learning and (vi) biographical, historical and socioeconomic contextual determinants of academic talent.

Section II: Academic Talent in Application Settings is structured along two subsections, namely, the identification of academically talented disadvantaged learners and developing academic talent among disadvantaged learners. The first subsection explores (i) definitional issues and their implications for the identification of academic talent, (ii) the identification of academic talent in marginalised communities, and (iii) the attributes of academically talented learners in contexts of disadvantage. Findings in the local context are provided within each of these categories. The second subsection highlights the approaches taken toward developing academic talent among disadvantaged learners. These include (i) programmatic or curriculum-based approaches, (ii) the role of mentorship and learning support, (iii) the role of teacher development for academically talented youth, (iv) the role of parents in the development of talented youth, and (v) the role of social capital in facilitating academic talent in marginalised communities. Findings in the local context are explored within each of these categories.

This chapter provides an extensive elaboration of the published research article by Richards, Z., 2015, Conceptions of Academic Talent: Implications for Talent Identification and Development. *South African Journal of Higher Education. Vol 29.1. pp. 270-293 (refer to Appendix).*

3.2 Section 1: Discourses of Academic Talent

Several different terms are used to refer to achievement within the context of education, and as a result it is possible to identify multiple discourses based on these terms and the definitions they provide. These discourses have been identified as: "(i) academic talent as a fixed, inborn

quality predominantly determined by biological predispositions, genetics and/or heredity factors, (ii) academic talent as a nurtured ability and developmental construct, (iii) academic talent as derived from the interplay between nature and nurture factors, and (iv) academic talent as a socially constructed entity which serves particular socio-political interests" (Richards 2015, p. 272). This section provides a review of the literature on academic talent in order to identify and elaborate on the specific discursive themes.

3.2.1 Traditional Conceptualisations of Academic Talent

3.2.1.1 Academic talent as a fixed, innate and unidimensional attribute

Plucker and Barab (2005) suggest that conventional approaches to the notions of giftedness and intelligence (see Cattell, 1987; Jensen, 1998; Spearman, 1994; Thurstone, 1938) were located in the supposition that these notions originate from *within* the individual. Although the equation also considers the influence of environmental factors, the principal focus is on the "individual as the locus of control and unit of interest" (p. 203). Fox (1981) provides a summary of the genesis of the various theories and concepts used to identify the 'academically gifted'. According to Richards (2015, p. 272), these "trends in understanding are reflected in Galton's (1869) initial attempt to explore the 'genius' concept, Whipple's use of the term 'gifted' to define individuals with superior intellectual ability and Terman's operationalisation of giftedness and intelligence in intelligence tests. These conceptualisations are, however, considered somewhat limiting. As documented by Fox (1981), Renzulli (1978) proposed that understandings and definitions of 'giftedness' are dependent on the area of performance and the degree of exceptionality. Additional debates concentrated on the question as to whether the notions of 'potential' in itself, or 'potential' as understood in relation to 'achievement' were necessary when seeking to define 'giftedness' (Fliegler & Bish, as cited in Fox, 1981).

In an attempt at providing a more dynamic definition or understanding of 'giftedness, Renzulli (as cited in Fox 1981, p. 1104) proposes a "Three Rings Definition", which speaks to the interaction between three separate clusters of traits or characteristics, namely "above-average

general ability, high levels of task commitment, and high levels of creativity", which are then applied to any area of performance with potential value. However, as Fox (1981) indicates, the implication for this definition is that it effectively leads to the identification and selection of fewer students, as opposed to other definitions (see Stanley, 1976) in which academic giftedness is regarded as a measure of excellence in a particular field without necessarily demonstrating overall intellectual superiority. It appears therefore, that traditional formulations of the concepts of giftedness and intelligence remain rooted in the domain of limiting constructs, and are, for the most part, operationalized in relation to the results of psychometric tests. As Lohman (2005) indicates for example, identifying academic talent on the basis of IQ tests perpetuates the belief that innate or inherent ability serves as the origin of intelligence.

3.2.1.2 Academic talent as an exceptional quality possessed by the rare few

Schroth and Helfer (2009) report on the position held by some theorists (see Brody & Stanley, 2005; Monks & Katzko, 2005; Terman, 1925) that the notion of 'giftedness' exists in reference to a learner who has been identified as extraordinary and who demonstrates characteristics of eminence. According to this position, these individuals are able to perform at a considerably higher level compared to their peers. In addition, it is possible to use objective measures to verify the performance. This is supported by the earlier work conducted by theorists specializing in the field of giftedness and talent. According to Richards (2015, p. 273), this includes the work by Francis Galton (Morelock, 1996), for example, that was directed towards a systematic examination of "individual differences and extraordinary achievement, the latter operationally defined as the attainment of eminence". The interconnected concepts of eminence and extraordinary achievement are supported in the work of Binet and Terman (Morelock, 1996). As documented by Morelock (1996), Terman (1925) considered the 'gifted' child as 'one whose mental age on intelligence tests was higher than his chronological age on abstract, logical and judgemental reasoning abilities. Based on superior performance abilities, he reasoned that that the "developmentally advanced child was bound for genius or near

genius-level achievement" (Terman, 1925, cited in Richards, 2015, p. 273). The resultant birth of the Binet-Simon scale in 1908 greatly informed the ideological approach to intelligence as a quality which could be measured and defined within the parameters of an intelligence quotient (IQ). Morelock (1996, cited in Richards, 2015, p. 273) suggests that the result was that "IQ measures and psychometric testing therefore provided the scientific and empirical basis for the identification of 'giftedness'".

3.2.1.3 Academic talent as determined largely by hereditary influences

The relationship between achievements during adulthood and their early precursors was first identified in the 1869 publication, *Hereditary Genius* by Francis Galton. In this study, Galton places considerable emphasis on the function and influence of genetic and hereditary factors on what was understood as the "emergence of genius" (Morelock, 1996, para. 12). It must be noted though, that the function and influence of external or environmental factors such as the quality of child-rearing was also acknowledged.

Morelock (1996) sought to provide an overview of the first understandings of academic talent, based on an analysis of the trends he identified amongst the early theorists. The first such trend was the notion of 'giftedness' was understood as "an unusual generalized capacity for judgement and abstract reasoning revealing itself in childhood" (para. 24). The next was that 'giftedness' was regarded as "an intellectual development surpassing that expected for a child's chronological years" (para. 24). What emerged from these understandings was that individuals who were identified as 'gifted' were thought to demonstrate heightened degrees of emotional vulnerability as well as unique social and educational requirements that necessitated different levels of attention compared to that of their fellow learners.

Theorists such as Howe, Davidson & Slobada (as cited in Simonton, 2001) argue however, that there has been a marked failure to substantiate the belief in a genetic origin for talent, indicating that there can be "no specific 'gene' for mathematics or music". Simonton (2001)

also argues against the idea of talent as an inherently hereditary concept in that it is simply not possible to identify exactly when 'gifts' manifest or demonstrate themselves in children, making it impossible to claim that 'gifts' occur either as a result of nature or nurture.

3.2.1.4 Academic talent as having its primary basis in IQ

Another factor that significantly influenced how academic talent was defined was the emergence of the IQ test. This led to the establishment of psychometric testing as the preferred scientific approach for identifying certain learners as intellectually superior to others. This was noted, for example by Appel (1988), who indicated that the major assumption informing the preference for psychometry was "the absolute dominance of heredity ... together with further assumptions as to the differential distribution of 'ability' (later 'intelligence') among different social classes and races" (Gould, as cited in Appel 1988, p. 98). Appel locates the assertion in the 'iron laws of psychometry' adopted by Brian Simon (Appel 1998, pp. 98-99) and speaks of the earlier, almost mythical tendency to regard 'intelligence' as "the highest mental function, innate, generally impervious to environmental influences, distributed 'normally', and can be measured accurately by an Intelligence Test". It could therefore be argued that the "notion that academic talent has its dominant basis in IQ therefore seems to operate alongside other traditional conceptualisations, namely, discourses prescribing talent as having a genetic basis, as a unidimensional attribute and as an exceptional quality possessed by few" (Richards 2015, p. 274).

Appel (1988) further argues that IQ testing generates certain assumptions about people, in that they then emerge as "static, finished products of genetics" (p. 99), and that this not only perpetuates a particular status quo, but it also normalizes divisions that emerge between people on the basis of race and class. Carlson (1987) similarly expresses a concern with the practice of identifying individuals or learners as either 'gifted' or 'dyslexic' and claims that this practice has been encouraged and ultimately aggravated by research in which academic excellence is equated with a high IQ. Several of these criticisms have consequently informed

contemporary conceptualisations of academic talent, where academic talent has been framed a social construct as opposed to an inherent quality (see section on 'Academic talent as a social construct').

Arguments against intelligence testing posit that quantified intelligence remains a weak and inadequate barometer for measuring academic success or success at life in general, and that proven academic achievement is ultimately more effective (Maree, 2006). Goleman (as cited in Maree, 2002) also argues against the use of IQ to predict success, and contends that on average IQ only contributes approximately twenty percent to success. Similarly, Van Eeden (as cited in Maree, 2002) equates intelligence tests with achievement tests in terms of their shared capacity to predict what has already been learned (such as previous life skills and institutionalised education), and not the potential for learning.

3.3 Contemporary conceptualisations of academic talent

3.3.1 Academic talent as having an environmental basis

A shift has been identified in contemporary formulations of academic talent. This shift has been marked by a change in the focus from academic talent as an innate biological trait, to increased awareness of the influence of environmental factors in encouraging academic achievement (Morelock, 1996; Plucker & Barab, 2005). These conceptions also advocate for definitions of the concept of 'giftedness' that are broader and more culturally sensitive, and which ultimately also take into account additional multidimensional aspects of intelligence (Ford, Baytops & Harmon, 1997). These are exemplified in various models, including Sternberg's (1985, 1986) *Triarchic Theory of Intelligence*, Ceci's (1990) *Bioecological Approach* and Gardner's (1983) *Theory of Multiple Intelligences*, all of which consider and recognize the importance and function of the environment to a much greater degree than was done in previous approaches (Plucker & Barab, 2005).

Sternberg's model (as cited in Fox, 1981) for example, proposed a theory of intelligence that was focused on the processing of information, as opposed to psychometry. In her elaboration

of this model, Sternberg (1985; 1986, cited in Richards 2015, p. 275) indicates three central domains contained within the concept of 'giftedness', namely "*metacomponents* (such as problem solving strategies), *performance components* (processes used in problem solving) and acquisition, retention and *transfer of components* (skills for learning, storing and applying information)". Plucker and Barab (2005) argue that this model lacks clarity in terms of the nature of the interaction between the individual and the environment. They also contend that the focus of the model remains on the inherent quality of 'giftedness', and that context is merely referred to in terms of the "application of talent" (p. 204). These theories do, however, represent a considered development from earlier traditional formulations of academic talent that concentrated largely on inherent or innate elements.

The recognition of the impact of cultural factors on cognitive abilities was supported to a large extent by the sociocultural theory developed by Vygotsky' (1978). This is confirmed by Morelock (1996), who "credits Vygotsky with providing a comprehensive understanding of development that is cognizant of how the individual's cognition is influenced by how s/he uses language (the *socioculturally derived symbols*) and how, through the mentoring by another, s/he is able to appropriate and understand the physical and *psychological 'tools'* and 'signs' of their culture" (Richards 2015, p. 275). Morelock (1996) indicates that through the theory developed by Vygotsky (1978), it is possible to consider all the experiences (both inner and emotional) that form part of the learning experience, as well as how these then inform later development. According to Vygotsky (1978, cited in Morelock, 1996), this "recognition of the inter-psychological aspects of learning (that is, facilitation through social interaction and the individual emotional processes) affirms the view the social and cognitive development is interrelated" (cited in Richards (2015, p. 275)

Gagné (1998) further distinguishes between aptitudes, which are defined as natural competencies in a particular area, and achievement, which is regarded as skills that are developed systematically in a specific field. These distinctions are also employed in the respective definitions of 'talent' and 'giftedness', where 'giftedness' is taken to refer to the

"possession and use of untrained and spontaneously expressed natural abilities (called outstanding aptitudes or gifts), in at least one ability domain, to a degree that places an individual at least among the top 10 per cent of age peers" (Gagné, 2004, p. 120). Talent is defined as "the outstanding mastery of systematically developed abilities (or skills) and knowledge in at least one field of human activity to a degree that places an individual at least among the top 10 per cent of age peers who are or have been active in that field or fields" (p. 120).

What is clear from these definitions is that both 'talent' and 'giftedness' embody "outstanding behaviours" (p. 120). Gagné's *Differentiated Model of Giftedness and Talent (DMGT)* presents a context in which it is possible and necessary to consider the function of hereditary elements (also regarded as natural abilities) which are reflected as indicators of giftedness in and across multiple 'intellectual, creative, socio-affective and sensorimotor fields' (Gagné, 2004, p. 122). In addition, Gagné indicates that "the model's notion of talent as a developmental construct reflects both maturational processes (for example brain physiology) and opportunities for learning and mastery (such as informal learning in the acquisition of language or social skills, self-taught learning or formal institutional learning)" (p. 125).

Gagné's model (1998) also indicates the relationship between the talent development process and the three main catalysts (interpersonal, environmental and chance catalysts) that either enable or hinder the effect of the process. "Interpersonal catalysts refer to self-management aspects (including initiative, efficient time management, autonomy, concentration and good work habits). However, both physical and mental characteristics have also been identified as having an influential role in talent development. Environmental catalysts in turn exert their influence in various ways (e.g., access to learning resources, the influence of significant others in the learner's immediate environment). Lastly, chance catalysts (e.g., socioeconomic status, quality of parenting or hereditary characteristics) influence all environmental factors. As may be gleaned from this model, the interplay between nature and nurture factors is accounted for" (Gagné, 2004, p. 121).

'Talent' as a notion in and of itself has also been interrogated by some theorists (Howe *et al*., as cited in Simonton, 2001). These authors advocate for a perspective that is more egalitarian in nature and argue that 'talent' is not exclusive, and that all individuals have the potential to "become stars in almost any domain" (Simonton 2001, p. 39) on the condition that they apply consistent and deliberate practice to the knowledge domain(s) relevant to them. This view indicates a distinct shift away from understandings of academic talent as associated with the connotations of 'rarity' and 'innate', and more of a recognition of the involvement of aspects such as individual effort and deliberate practice.

3.3.2 Academic talent as a multidimensional construct

Morelock (1996) indicates that contemporary approaches have been marked by a move away from the view of IQ as the preferred barometer of 'giftedness', towards a conceptualisation of 'talent' as a multi-faceted concept. This shift was also characterized by a recognition of 'talent' as a more democratic conceptual basis of potential, and one which opposes the inherently elitist implication of the term 'giftedness'. Morelock (1996) does, however, state that this approach was not embraced by everyone. These ideological tensions have resulted a fragmented space in the study of 'gifted' education.

Morelock (1996) reveals that IQ tests were attacked for their credibility as being the sole criterion upon which children were identified as extraordinary achievers. Within this context, tests to measure creativity followed from the recognition that creative ability was an important aspect of outstanding achievement. Moreover, an egalitarian move towards inclusionary practice was strongly encouraged by desegregation policies in schools in the United States in the 1950s. This was accompanied by the argument that IQ was biased against racial minorities and the socioeconomically disadvantaged. Marland (as cited in Morelock, 1996) reports that congressional mandates in the 1970s led to the provision of federal assistance to "gifted and talented" children. In light of this, more inclusive definitions of eligibility were proposed, namely those delineating three to five percent of school-going children "showing outstanding

promise in six categories of giftedness: general intellectual ability, specific academic aptitude, creative or productive thinking, leadership ability, visual and performing arts, and psychomotor ability" (para. 26). Morelock (1996) observes furthermore that gifted programmes targeted performance-based criteria as opposed to relying solely on measures of academic excellence.

Several theorists have been credited with taking the field of 'giftedness research' along a different pathway. Feldman (1986b) in particular proposed that rather than exhibiting all-round exceptional achievement in all areas of intellectual ability, child prodigies tended to show extraordinary achievement in domain-specific areas (such as playing chess) and average abilities in areas such as logic, moral judgement and spatial reasoning (Morelock, 1996). Gardner's (1983, cited in Morelock, 1996) work similarly provided the basis for a theory of multiple intelligences. Rather than a "generalized power of mind accounting for all abilities" (para. 30), he proposes seven distinct intelligences, namely, linguistic, logical-mathematical, spatial, inter-personal and intra-personal, musical, and bodily-kinaesthetic. Sternberg (1985; 1986) also emerged as a major contributor to the field, especially in terms of his proposal that intelligence comprises areas of practical, creative and analytic intelligence (Morelock, 1996).

In the last decade, a new approach to intelligence has been proposed that is multidimensional in nature, and that acknowledges its dynamic composition and the multiplicity of its composite elements. According to Simonton (2001), "rather than involving a unidimensional, additive, and static genetic process, talent may instead emerge from a multidimensional, multiplicative, and dynamic process" (p. 39). In the model proposed by Simonton (2001), a more sophisticated process is suggested that recognizes the joint influence of nature and nurture on the development of talent. Simonton (2001) refers to this as the interplay of "emergenic inheritance" (p. 40) and "epigenetic growth" (p. 41). According to Simonton (2001, p. 39), "emergenic inheritance "is based on the assumption that talent domains are not conditional upon the inheritance of a single trait, but "the simultaneous inheritance of several traits" (p. 39) – physical, physiological, cognitive and dispositional – that bring about the "superior expertise" within a given area". In the definition of "epigenetic growth", talent is regarded as "a dynamic

process, transforming across the developmental stages from childhood to early adulthood. According to this formulation, there may not be early indicators of talent, apparent talents may change over time and talents may be lost (Simonton, 2001, cited in Richards, 2015, p. 277).

3.3.3 Recognition of contextual variability

Students and learners from minority and socioeconomically disadvantaged backgrounds were visibly underrepresented in 'gifted' programmes. This encouraged the move toward a more concrete understanding of the mediating impact of contextual factors such as socioeconomic background and access to quality education on intelligence. In response to this shift, Lohman (2005) proposed a theory of academic talent that focused on aptitude. This was also located in response to the tendency to use concepts such as *ability*, *talent* and *potential* interchangeably. Instead, Lohman (2005) suggests that aptitude is "degree of readiness to learn and to perform well in a particular situation or domain" (p. ix) and that this includes all the elements that collectively contribute to the development of expertise, such as achievements, cognitive ability and motivation. An essential component of this perspective is the consideration that all learning acquired previously collectively represents significant aptitudes for learning. In a move away from more static formulations of academic talent, Lohman (2005) argues against the belief that aptitude be regarded as a quality which is in place from birth. Lohman's (2005) position is that aptitude "encompasses more than cognitive constructs (ability and achievement), and includes traits such as persistence. In addition, it is inextricably linked to context – defining the situation is part of defining aptitude, and it is also defined by the degree of readiness to learn. These are among the key characteristics learners bring to a situation, namely aptitudes, which include comprehending instructions, time management, the use of previously acquired knowledge, and the management of emotions, and inaptitudes, which include impulsivity and high anxiety" (cited in Richards 2015, p. 277). Through this approach it is possible to take into consideration the significant role that all kinds of previous learning, whether it be adequate or inadequate, plays in the manner in which subsequent learning experiences are understood.

Davies (2010) draws attention to the possibility that demonstrations of talent such as "advanced memory, ability to make connections, thirst for knowledge, advanced potential in a specific subject matter, excellent problem solver, uncommon ability to express oneself in speaking and writing" (p. 2) may not always be visible across learners who come from a range cultural and socioeconomic contexts. Plucker and Barab's (2005) formulation of talent echoes this sentiment and acknowledges the necessary interplay between multiple factors such as aptitude, cognitive processes and environmental influences. In doing so, they posit that talent is potential. This perspective requires that the contexts in which learners find themselves needs to be acknowledged and respected at all times. This is not only applicable to formulations of academic talent, but also to the assessment methods that inform the concept. It is stressed, however, that this does require "evidence of novel, useful accomplishment to determine the presence of gifted behaviours" (p. 207). In other words, all artefacts that can be documented or recorded, such as behaviours, products and ideas, collectively provide a foundational body of evidence on which it is possible to identify and assess 'giftedness'. Plucker and Barab (2005, cited in Richards, 2015, p. 278) therefore suggest an alternative question, "rather than focusing on 'who is gifted?', the question is, 'how can children be matched to specific educational contexts to allow them to realize their potential for giftedness?'" Richards (2015) suggests that such a perspective then assumes that all individuals have the potential for academic excellence. Cliff and Hanslo (2009) do not provide a fixed definition of 'academic talent', and instead propose that a distinction is made between the notions of potential and achievement. Richards (2015) argues that owing to the fact that these distinctions are of particular importance when referring to learners who have a background of socioeconomic and educational disadvantage, in which case the focus should not be on the knowledge that is acquired, but rather on the 'potential' of the learner to excel in the field of higher education.

Formulations of talent that are, by nature, multi-dimensional, multi-faceted and multicultural, are suggested by Passow and Frasier (1994), who use the concepts of 'talent potential' and 'giftedness' interchangeably. They argue that the fundamental components of 'talent potential' are ubiquitous, though the manifestation of these components may differ depending on the specific social and cultural context concerned. A common trait identified amongst gifted

individuals is, for example, “the ability to be highly expressive with words, numbers or symbols” (p. 59), but this may manifest itself differently depending on the culture and the context.

Hoge (1989, cited in Richards, 2015, p. 278) also argues that the notion of ‘giftedness’ cannot and should not regarded as either unidimensional or universal, and suggests that the “variability in definitions may be reflected on several dimensions: breadth of construct (such as a single characteristic or range of traits), the content of definition (such as cognitive capacities and/or personality and attitudinal variables), the level of exceptionally (such as those measured by cut-off scores on intelligence tests), static versus dynamic (for example, fixed by genetics or denoting potentiality), and the precision of definition (that is, solely based on operational definition or beyond this to consider underlying constructs)”. Richards (2015) further indicates that such a multiplicity of definitions may not be the ideal solution, as noted by Hoge (1989), “what is pertinent, however, is that the assumptions and values upon which the constructs are based need to serve the individuals within a particular context. Contextual variability therefore requires reformulations of the construct” (Richards 2015, p. 278). This is echoed by Passow and Frasier (1994), for example, who argue for the necessity for new paradigms or models of the notion of ‘giftedness’ that recognize the different ways in which ‘giftedness’ is manifested across varying socio-cultural contexts.

The myth of the homogenous group of ‘talented’ and ‘gifted’ individuals is debunked by Reis and Renzulli (2009), who argue that individuals who are identified as ‘talented’ collectively form a diverse community of people. These individuals display varying qualities of ability or potential in any particular area, be it intellectual, artistic or creative. In addition, these individuals originate from a range of ethnic and socioeconomic backgrounds, and display a diverse range of personality traits. Furthermore, even though certain characteristics are common amongst individuals identified as ‘gifted’ (such as imagination and a well-developed memory), these individuals do not always demonstrate all the characteristics (Frasier & Passow, as cited in Reis & Renzulli, 2009). Elaborating on this, many theorists (see Callahan & Miller, 2005; Renzulli & Reis, 1997; Sternberg, 2003 as cited in Schroth & Helfer, 2009) suggest that the notion should

be expanded to encompass “those students who possess a capability and a desire to engage in academic challenges or who demonstrate great achievement in matters explored in the classroom” (Schroth & Helfer, 2009, p. 389) as opposed to concentrating mainly on matters related to academic achievement. These theorists regard the exceptional potential of learners’ as the cumulative result of a commitment to tasks and a concise synthesis of thinking skills (Schroth & Helfer, 2009).

An overview of the characteristics of development is provided by Reis and Renzulli (2009), and highlights the multiple ways in which giftedness and talent may differ. The first of these sites of difference is that the demonstration of abilities and aptitudes is dependent on a range of variables, including ethnic and cultural background, disability, as well as creativity and motivation. Next, ‘high potential’ individuals demonstrate varying degrees and examples of achievement. For example, some ‘high potential’ individuals underachieve in certain areas, and other ‘high potential’ children may also have disabilities. The next site of difference is that academic development is also informed by academic background. Next, it is important to note that factors related to identity and culture interact and engage with achievement in diverse and complex ways. Next, high levels of performance are intrinsically related to factors such as motivation and effort. Finally, the maximization of potential is influenced to a large extent by factors such as individual learning styles and passions, as well as creative opportunities. In addition to these major points, Reis and Renzulli (2009) make reference to “intelligences outside the normal curve” and these include courage, empathy, optimism, and locus of control, which collectively work together with more cognitive qualities, for example, leadership and self-efficacy.

Wu (2005) aptly illustrates the significance of context through a comparison of Chinese literature on the subject of ‘giftedness’ and Western formulations of the same concept. In the comparison, Wu (2005) demonstrates that Chinese literature, which is significantly influenced by the philosophy of Confucius, invests considerable value in factors related to nurture, such as the function and importance of individual effort, school instruction and familial support. On the

other hand, Western literature, which is influenced largely by the philosophy of Plato, places emphasis on the notion of 'giftedness' as an inherent ability. In addition, the degree of the exceptionality of the individual is emphasized in Western literature (that is, the idea that only certain children are in possession of gifted potential). These assumptions are also actively influenced by debates surrounding 'nature versus nurture'. The definitions in Chinese literature suggest a more inclusive approach, in which all children are seen to have gifted potential. This signifies a vital requirement for the development of talent, namely, curiosity, individual effort and personal motivation. It has also been argued by other theorists (see Fox, 1981) that the possibility exists that learners are developed into high achievers through factors other than those measured in intelligence tests. (Further discussion of these mechanisms follows in Section II). In addition, it is possible that learners with inadequate levels of nurturing or support in their homes or in their respective environments may not be scored in the same ranges as learners from backgrounds that are more advantaged.

Morelock (1996) is of the view that a 'paradigm shift' has taken place in the field of education and research on 'giftedness', as has been demonstrated by dramatic shift away from the inherent or unidimensional conceptualisation of intelligence, to the more contextually sensitive and multidimensional understanding of the concept. This shift also indicates a progression away from approaches that are distinctly elitist and exclusionary in nature, where 'giftedness' is considered a unique and rare quality, to an approach where the development of talent is seen as something possible for all. This particular approach is focused on the development of talent for all individuals in the manner of a developing ability, opposing the idea of 'giftedness as a "mature power" (United States Department of Education, as cited in Morelock, 1996). In this manner, more focus is invested in discovering and developing talent strengths, rather than simply identifying 'giftedness'.

Definitions of 'giftedness' that are more inclusive in nature can be traced back to work produced in earlier decades as well. Feldman (1978, as cited in Fox, 1981), for example, made the suggestion that while "all children are gifted", this was not the case across all intellectual

domains. This was considered a “radical” view (Fox 1981, p. 1104), and was not readily adopted, though literature emerging more recently does appear to consider the more inclusive approach.

3.3.4 Academic talent as socially constructed

The fact that multiple definitions of ‘giftedness’ exist has been argued by some to be an indication of the fact that ‘giftedness’ itself cannot be defined. The consideration that academic talent and giftedness are institutionally crafted socially constructs designed to address the needs of a specific group has been proposed as an alternative approach (Schroth & Helfer, 2009).

The definitions which emerge from the opposing positions inform the debates concerning how these terms reinforce notions of inclusion and exclusion. The one side of this debate highlights the fact that earlier formulations of academic talent were characterized by a marginalization of disadvantaged groups, owing to the limited understandings of intelligence (intelligence based on IQ scores, for example). The other side of the debate contends that definitions of ‘giftedness’ that are more inclusive effectively “even the playing field” as Schroth and Helfer (2009, p. 387) suggest for example, and this is enabled through the provision of opportunities for marginalised groups. This view is also supported by Borland (2005), who questions the validity of ‘giftedness’ as a social construct. Borland (2005) suggests instead that it is fundamentally dependent on the historical context, and is therefore limited to a particular time and space. Tracing the origin of the term, Borland (2005) contends that the early twentieth century provided the historical basis for the invention of the construct. The emergence of the mental testing movement in particular, gave rise to the notion that a universal intelligence exists and that such a construct is measurable and quantifiable. This was aided by the influx of immigrants from various regions classified as non-Western European to the American continent before World War I and in the 1920s. This resulted in a school population which was diverse and heterogeneous. As Borland (2005) suggests, these two historical moments provided the

rationale for the organization, structuring and control of learners who were perceived as qualitatively different from the mainstream American view. Identification procedures originated from the need for the 'Americanisation' of immigrants and the inculcation of Western norms. These norms carried with them the expectation of exceptionality. In this manner, the 'giftedness' category was born, but as Borland (2005, p. 7) iterates, it was "created in advance of the identification of its members". In other words, the identification of individuals who meet the criteria for 'giftedness' both confirms and reinforces the existence of such a category. As a result, the category begins to take on a life of its own, which is independent of its existence. Therefore, 'giftedness' emerged to serve certain socio-political interests, namely "those in control of the schools and the disciplines that informed and guided American culture at that time" (p. 3).

This resulted, however, in a binary separation of 'gifted' and 'non-gifted', which Borland (2005) argues, reduces human existence to a set of labels that cannot fully explain the diversity of experience. An example may illustrate this view. Borland (2005) introduces the term "geographical giftedness" (p. 8) to highlight the contextual variability of definitions of giftedness. For example, the status of 'gifted' may be conferred on a learner within a particular educational setting, by virtue of the fact that the learner has met the presumably objective criteria for this status. In another institutional setting, however, s/he may fall short of the criteria. This error of measurement produces what Borland (2005) refers to as an existential crisis within the individual, who qualifies for advanced placement programmes in one setting, but merely performs within the norms of mainstream education in another setting. On the basis of this, Borland (2005) maintains that giftedness is "a social construction, not a fact of nature" (p. 8), in other words, giftedness is an issue of values and policy and not empirical research. This understanding has important implications for how the construct is applied. Rather than asking whether giftedness exists, questions should be directed to how the construct is used and whether it has beneficial or harmful effects. This view of 'giftedness' also clearly has important implications for interventions, which will be discussed in subsequent sections.

3.4 Conceptualisations of disadvantage in relation to academic talent

In international literature, several terms are used to denote contexts of disadvantage in relation to academic talent. These terms include, for example, 'marginalised backgrounds' (Boykin & Allen, 2004), 'rural students' and 'environments of poverty' (Burney & Cross, 2006), 'low-income populations' (Coleman, 2006), 'low-income' or 'first-generation students' (Deafenbaugh, 2007; Engle, 2007), 'minority students' (Durden, 2007), 'students of colour' (Griffen, 1999), 'underrepresented' (Kane, Beals, Valeau & Johnson, 2004), 'immigrant minority disadvantaged' (Kao, 2007), 'economically/ethnically/racially disadvantaged' (Passow & Frasier, 1996), 'underserved students' (Ybarra, 2005) or 'low-income gifted' (Swanson, 2006).

The plethora of terms can be thematically grouped according to specific markers of 'disadvantage' based on *socioeconomic status* (social class, a background of low-income and financial barriers), *access to resources* and *geographical location* (for example, inner-city and rural areas), *quality of educational background* (educationally malnourished, poor schooling resources, a history of inequitable education), *minority status* (ethnicity, history of poor achievement, proficiency in English), *access to college education* (first-generation college student), *family background* (familial dysfunction) and *access to social capital* (social support) (see Table 1.2 for summary).

These factors should not, however, be viewed in isolation. As Coleman (2006) suggests, class, ethnicity, gender and 'race' are interrelated and cumulatively produce challenges for disadvantaged learners. In effect, they increase the achievement gap and contribute to underrepresentation among the 'talented'. Aside from the issue of economic disadvantage as a barrier to access to higher education, Kane et al. (2004) highlight that for students from low-income contexts who are already admitted, financial hardship negatively impacts living conditions, health and nutrition, which in turn influences academic persistence and success.

LePage-Lees (1997), however, found that "academically successful" women students in the San Francisco Bay who met the criteria for 'disadvantaged' (see Table 1.2) experienced difficulty in appropriating the label for themselves. Several reasons were proposed for this, including for example, the fear of being pretentious by claiming a history of adversity, the stigma attached to a label that has been used by schools to identify poorly performing students, and the desire to be cast outside the negative connotations of the term (namely, being a 'victim'). This has important implications for identifying academic success among 'disadvantaged' students.

One approach to increasing the representation of disadvantaged learners in talent development programmes involves considering the life history of learners and the influence this has on academic success (Enslin, Button, Chakane, de Groot & Dison, 2006; Maree & Beck, 2002). However, as LePage-Lees' (1997) study suggests, difficulties regarding disclosure for the sake of gaining social approval may mean that the emotional and intellectual needs of such learners go unrecognised.

There are, in addition, negative implications involved in categorizing learners as 'disadvantaged'. According to Swanson (2006), stereotypical assumptions attached to low-income minority 'gifted' learners (denoted for example, through deficit views such as 'lack', 'deprived' and 'disadvantaged') often have a negative effect not only on reducing the chances for such learners to be identified for giftedness programmes, but also lowers their motivation to succeed. As such, these views need to be challenged (through teacher development programmes, for example). Although a number of authors suggest that disadvantage and marginalisation are typically found amongst minority cultural groups, it is necessary to caution against the tendency to homogenise all cultural groups. Individuals may be homogenous in terms of culture and ethnicity, but may differ in relation to other background factors, such as language, values, family structures and levels of education and income. Moreover, some minority groups identified as 'at-risk' may not necessarily be educationally or economically disadvantaged (Passow & Frasier, 1996).

In a South African context, though 'race' was a necessary marker of disadvantage during the Apartheid period, definitions of disadvantage have evolved in recent years to incorporate other identifiers that may not necessarily be defined in terms of 'race' (such as geographical identifiers, family income level and access to schooling).

3.4.1 Exploring discourses of academic talent and disadvantage in South Africa

Echoing the trends identified in international literature, academic talent is referred to by a range of terms in South African research. These terms include 'potential' (Wallace & Adams, 1993), 'academically talented' (Cliff & Hanslo, 2009; Wallace & Adams, 1993); 'academic success' (Ross, 2009); 'academic potential' (Enslin et al., 2006) and 'high potential', 'high achieving' (Scott, 2008). It is important to note, however, that most of these terms are not accompanied by an explicit definition, encouraging the reader to interpret their meanings based on the manner in which they are applied and used within each respective unit of research. What is also of significance is the fact that work emanating from the South African context is largely aware of (and recognizes) the influence of history and context on the notion of academic talent. Drawing from terms employed in international literature, this is particularly clear in the deliberate use of concepts which include 'gifted disadvantaged' (Maree, 2006), 'black gifted children' (Scott, 2008), 'disadvantaged gifted' (van der Westhuizen, 2007), or 'non-achieving gifted' (van der Westhuizen & Maree, 2006).

3.4.1.1 The 'giftedness' construct in South Africa

Understanding the manner in which academic talent has been formulated in South Africa requires an equal understanding of the manners in which the concept of 'giftedness' has been applied in historical and contemporary contexts. Lategan (as cited in van der Westhuizen & Maree, 2006) states that the concept of giftedness was employed as a "pedagogic issue" (p. 204) in a process which consisted of two stages.

The first stage took place during the Apartheid era and was characterized by a "non-intentional provision for the gifted" (p. 204), which was ostensibly directed towards establishing a distinction between individuals or learners who were identified as 'gifted' and those who identified as 'non-gifted'. During the second stage, institutionalized programmes were designed for 'gifted' learners and implemented by four educational departments. Van der Westhuizen and Maree (2006) report that in 1965, the *Institute of Manpower Research of the Bureau for Educational and Social Research*, under the guise of highlighting the significance of education for the 'gifted', launched a testing programme for approximately 70, 000 White learners using a system of longitudinal monitoring and evaluation. The result of this was the introduction of a "system of differentiated education" as cited in van der Westhuizen & Maree (2006), in 1967, which made it possible for learners who were identified as 'gifted' to individually choose to pursue higher-grade academic streams for certain subject areas (van der Westhuizen & Maree, 2006).

The differentiation between learners identified as 'gifted' and 'non-gifted' continued in terms of the accommodations that were made for 'gifted' learners. In the 1980s, these accommodations largely took the form of extra-curricular programmes and activities such as 'vacation schools', activity sessions at local resource centres, or enrichment programmes in specifically designated spaces (Carlson, 1987; van der Merwe & Maree, 2006). These centres and spaces were located in four provinces, namely the Transvaal, Natal, the Cape and the Orange Free State, and, according to van der Westhuizen & Maree (2006), they were able to make special arrangements, such as receiving visits from overseas specialists or enlisting teachers' training colleges to offer courses to the learners.

In the late 1980s, researchers and theorists arguing for the recognition of "creative talent" as a component of 'giftedness' attempted a comparison of the concepts of creativity and talent across learners from three ethnic groups, namely White, Indian and mixed[3] (Hickson, Morse & Khatena, 1989). While the first group of learners came from the *Schmerenbeck Centre for the*

[3] The researchers refer to "mixed", the South African equivalent for which would be "Coloured". Recently "mixed race" has been introduced as the appropriate term. In this study the term "Coloured" will be used as it is the term referred to in literature utilised.

Gifted, the other two were comprised of learners who formed part of the "non-identified gifted pupil population" (p. 680). For the operational purposes of the study, ''talent" was formulated in relation to "versatility" and "creative perception". This was enabled by the psychometric assessment methods employed in the study, namely the Kahtena-Mores Multitalent Perception Inventory (KMMPI) and the Khatena-Torrance Creative Perception Inventory (KTCPI) respectively. What distinguishes the two approaches from one another is that the KMMPI operates on the belief that all previous experiences that allowed for the expression of creativity, such as art, music and leadership, can "serve as good indicators of talent", while the KTCPI is located on the assumption that it is possible to identify individuals as creative by virtue of their "perceived personality traits, thinking processes, and products resulting from creative striving" (p. 681). The results of the study indicated that the learners from the *Schmerenbeck Centre* (who were all classified as White) achieved higher or better scores than the Indian learners, and the learners classified as having mixed ethnic backgrounds. Hickson et al. (1989) note that the screening mechanisms employed in the study are essentially autobiographical instruments used to "identify giftedness and creativity and perhaps reflect broader conceptualisations beyond intellectual ability" (Richards, 2015, p. 282). This study echoes similar international projects and appears to recognize creative ability as a significant component of outstanding achievement. A major criticism of this study is that even though it does appear to signify a progression towards recognizing 'giftedness' as a dynamic and multi-faceted concept, it is primarily directed towards finding inherently racialized differences in the perceptions and expressions of creativity and talent, without considering the importance and influence of factors and contexts such as the learners' individual backgrounds and locations.

In 1988, Appel sought to critically unpack the construct of 'giftedness'. Appel (1988) argued that the rhetoric informing the construct (enabled, for example, through the discourse of *Specialised Education*) represented a covert attempt at creating and ensconcing "biased notions as a Science" (p. 102). Echoing Borland's (2005) view that 'giftedness' be regarded as a social construct, Appel (1988) argued that the dependence of *Specialised Education* on objective or IQ testing, turns it into a "hegemonic practice that is compatible with the *Apartheid Project* aimed at the categorization of people according to a hierarchical pyramid, with the 'highly gifted'

occupying one end of the spectrum and the 'handicapped and impaired' on the other" (Richards, 2015, p. 282). Similar to Borland (2005), Apple (1988) notes that the conditions and criteria for 'giftedness' are not absolute, but are instead determined by the educational system in place at the time, together with the school's "criteria for adequate performance, their resources, their teaching methods and assumptions and the degree of conformity required" (Ryan & Thomas, as cited in Appel, 1988).

With the emergence of South Africa's post-apartheid government, an attempt was made to implement a national approach to education that was more inclusive in nature, which resulted in the dismantling of the structures and spaces focused on education for the gifted (van der Westhuizen & Maree, 2006). Contemporary initiatives are led mostly by parents, and include programmes and projects such as The Growth of Children's Potential Saturday Morning Township (Soweto and Daveyton) Projects. Institutionalised projects are also in place, and include, for example, the Thinking Actively in a Social Context (TASC) project, which was initiated by the Curriculum Development Unit of the University of Natal (van der Westhuizen & Maree, 2006). (See section on 'programmatic or curriculum approaches to developing academic talent in disadvantaged learners'.)

This literature review has highlighted the extent to which the concept of 'giftedness' has developed, with specific reference to its application in select groups of learners. This development saw a move from the Apartheid-based understanding of 'giftedness' as being reserved for privileged and intellectually dominant learners, to the approach which was more inclusive in nature and encouraged the identification of talent potential from across diverse groups, including the country's marginalised groups. As will be discussed later, a shift has also been identified from a direct focus on the concept of 'achievement' to more of a consideration of the concept of 'potential'. Even though this shift has taken place, it is still important to actively critique the manner in which these terms are used, as well as their apparent functions.

This approach was encouraged by Appel (1988), who argued that by "proverbially 'casting a wider net'" (Richards, 2015, p. 282), gifted education as a field effectively drew attention away from valid criticisms of problems such as elitism. As a result, instead of strictly concentrating on

"high achievers", learners who are identified as having "great potential" are also included in the broader term of 'giftedness'. While this may appear to be inclusionary in nature, Appel (1988) suggests that it sets the stage for elitism to continue under a "sanitised cover". It is clear, therefore, that the necessity remains to consider these points in continued attempts at identifying and developing academic talent in learners from population groups that are historically marginalised.

3.4.2 Contexts of disadvantage as a barrier to nurturing academic talent

Van der Westhuizen and Maree (2006) released a review of the literature produced on the subject of gifted education, recognising the socioeconomic and historical framework which informs the manner in which developments in this particular area should ideally progress in South Africa. The authors highlight that much of the current context in South Africa is marked by a continued cycle of poverty, characterized by "escalating socio-economic deprivation, lack of education, joblessness (a large percentage of society being forced to rely on government grants for survival), and spiralling crime levels" (p. 202). This context therefore necessitates that concepts of academic talent be regarded in conjunction with the social reality of disadvantage.

A South African student is regarded as 'disadvantaged' on the condition of a lack of adequate access to quality education. The result of this is, however, that all available alternatives for the development of their academic potential are restricted (Zaaiman, as cited in Mabila, Malatje, Addo-Bediako, Kazeni & Mathabatha, 2006). Individual criteria for disadvantage have been specified in numerous studies, and are largely associated with a background that is educationally disadvantaged, a low socioeconomic status and whether the individual in a rural and isolated area (Mabila, 2006). The concept of disadvantage in South Africa is particularly relevant in relation to the context of poverty. Even though approximately a generation has passed since the demise of Apartheid, the contextual reality for most of the Black children in the country remains one that is marked by poverty, and the lack of basic sustenance and shelter, which is strongly linked to lowered academic performance (Carter & Murdock, as cited

in Dass-Bailsford, 2005). The consequences of poverty are numerous, and each of them constitutes an obstacle to achievement, as noted by Kyburg, Hertberg-Davis and Callahan (2007). Contexts that are marked by insufficient resources effectively lead to inadequate school facilities, poorly qualified teaching staff, and staff members who are ill-equipped to address the demands of a multicultural student community. These conditions have been identified by Wallace and Adams (1993) as directly related to obstacles to the development of talent with the South African context. Similar to Kyburg et al. (2007), they draw attention to the correlation between contexts of disadvantage and (See Table 1.2). This scenario includes elements that are macro-structural in nature, such as the location of the learner as well as the nature of their access to formal schooling. The micro-structural components in turn, correspond to a "lack of resources in schools, overcrowding, teacher shortages or underqualified staff, "inappropriate" curriculum and the mismatch between the language of instruction and the student's home language" (Richards, 2015, p. 283).

Howie, Scherman and Venter (2008), are of the view that the deficiencies that have been identified in the field of 'gifted' education in South Africa are compounded by "difficulties such as low socio-economic background of learners, inferior learning materials, teacher shortages, unqualified teachers, structural difficulties such as classroom overcrowding and inadequate facilities, language difficulties and an unsupportive peer environment" (Richards, 2015, p. 283). This reality informs the argument by van der Westhuizen and Maree (2006) unfortunately the majority of 'gifted' individuals in the country "do not stand even the remotest chance of achieving up to near their potential" (p. 201).

3.5 Relevance of inclusive approaches to academic talent

With these considerations in mind, the covert emphasis is therefore located at university level, and aimed at identifying moments of possible or potential academic success, as opposed to the trend identified in international literature, which was merely focused on highlighting individual qualities that were 'unusual' or 'exceptional' (see Passow & Frasier, 1996). While it is easier to identify contemporary approaches to the notion of academic talent in more recent literature,

some of the approaches have been in place since the late 1980s. A prime demonstration of this is Carlson's (1987) review of the creative potential development programme at *St Andrew's Preparatory School* in Grahamstown. Carlson (1987) is of the view that the programme addresses the importance of a policy on education for the 'gifted' that is fundamentally non-racial, as this enables the provision of learning and learning support which is not focused on product-oriented learning, but process-oriented learning for "pupils of all abilities and all race groups" (p. 31). Based on Renzulli's "Three Rings" definition of giftedness and Bloom's "Taxonomy of Talent", the programme operates on the assumption that all individuals are 'gifted' and that unique talents can be discovered and nurtured in everyone. Renzulli's theory *posits that above-average ability, task commitment and creativity form interrelated trait clusters that can be developed in 'gifted' learners. Bloomberg's model considers the natural stages of development for children as a process which also enables the development of higher order thinking skills (namely, knowledge, comprehension, application, analysis, synthesis and evaluation). Both theories therefore assume that academic talent can be nurtured when the appropriate learning conditions are in place (Carlson, 1987).

A great deal of the focus in recent literature produced during the last two decades has been on the identification of 'potential' in learners coming from previously disadvantaged backgrounds. The term 'gifted' is approached more flexibly by Zietsman & Gering (1986), who suggest a simultaneous and dual identification of learners as both 'gifted' and 'disadvantaged' as opposed to merely identifying learners demonstrating high levels of academic achievement. In this manner, "when the individual is compared to all learners nationally, s/he may be shown to be below the academic standard. Alternatively, when compared against individuals of his/her matriculation class (learners within the same school), his/her performance may be deemed superior or 'gifted'" (Richards, 2015, p. 284).

Maree (2002) argues for a progression away from the supposition that academic success is exclusively determined by cognitive processes and suggests that the notion of intellectual functioning also be approached in a more inclusive manner. Passow and Schiff (as cited in

Maree 2002) echo this sentiment and argue that using character traits such as commitment and compassion, when focused for example, on the greater good of society, also constitutes a component of 'giftedness'. In other words, to qualities related to emotional intelligence, such as the ability to control emotion, empathy, delayed gratification, and resilience, amongst others, also actively raise awareness of the individual gaps in the achievement and potential.

Maree's (2002, 2006) arguments are especially relevant when considering the South African reality and are informed in part, by Sternberg's (1999) formulation of intelligence. Maree (2006) posits that regarding and defining creativity as a combination of the qualities of resilience, unconventional creativity and resourcefulness provides the ideal basis when considering learners identified as disadvantaged. Maree (2006) uses Erikson's (1993) term 'gifted disadvantaged' to refer to and describe the learners from rural South African communities contending with the realities that are brought about by poverty, such as unemployment and poor housing, but who nonetheless actively employ creative problem-solving skills to ensure their survival. This emphasizes once again the extent to which individual lives are informed by contextual realities. Maree (2006) argues that learners from "contexts characterized by limited exposure to intellectual enrichment, lack of social experiences, behaviour models and vocabulary, may exhibit awkward outward behaviours that may mask their true potential" (Richards, 2015, p. 285).

Maree (2006) is cautious about employing 'deficit ideologies' as these perpetuate the assumption in educational settings of underperforming Black learners or students. Instead, Maree (2006) argues for a perspective that is more strengths-based in nature, as this allows individual strengths (as opposed to shortcomings) to be the focal point when considering how achievement differs from one learner to another. Maree (2006) elaborates on this perspective and argues that it provides the opportunity to recognize and appreciate the value and importance of the African philosophy of *Ubuntu*[4]. This is particularly the case when referring to

[4] *Ubuntu* is an indigenous South African and African term meaning 'humaneness' and implies social harmony through a popular adopted phrase, 'a person is a person through other people'.

contexts marked by poverty and its consequences (such as adversity, social fragmentation and inadequate resources). Such a spiritual philosophy, which is premised on the notions of collective problem solving, compassion, humanity, empathy and creative problem solving, effectively constitutes cultural capital for individuals located in these contexts (Hernandez, as cited in Maree, 2006).

3.6 Shift from 'objects' of testing to agentic meaning-making subjects of learning

In South Africa, the radical evolutions that have been identified in research on intelligence echo those that have taken place in the United States. This is particularly the case in terms of South Africa's progression away from the dependence on IQ and psychometric testing to determine intelligence (during the Apartheid era), to the current recognition of multidimensional conceptualisations of intelligence, which is strongly reflective of the 'paradigm shift' identified in gifted education in the United States, as documented by Morelock (1996). Abrahams (2001) draws critical attention to the contextual divergences of these developments. During the Apartheid era, testing for intelligence was informed by an ideological imperative that was directed towards distinguishing between various ethnic groups. Dubow (as cited in Abrahams, 2001), indicates that this process was guided by the pursuit of two vital political objectives, namely "(i) to solve the 'native' problem by segregating social life along racial lines, and (ii) to improve the living standards of the so-called 'poor whites'" (Richards, 2015, p. 285). In South Africa, the earliest evidence of psychological testing was in the form of the Binet-Simon test. Tests such as these attempted to differentiate between the White and Black population groups in the country on the basis of 'intelligence' and 'aptitude'. According to Abrahams (2001), the tests were largely preoccupied with measuring ability. Studies conducted during the period of the implementation of the 'Bantu Education' policy, that is from the 1950s to the 1980s provide compelling evidence of the existence of the widely-held assumption that Black South Africans were considered inferior to White South Africans on the basis of learning ability, thereby confirming the belief that the Black population was inherently incapable of being educated. This contrasted strongly to the approach taken towards inadequate or lower performance in the White population, which was attributed to inadequate environmental factors, as reported by the *Carnegie Commission* (Abrahams, 2001).

The ideologies of the Apartheid era, together with their explicit practices of segregation informed extensive debates concerning notions of fairness and bias inherent in the practice of testing (Foxcroft, 1997). On the one side of this debate, lobbyists advocating against testing cited the discriminatory nature of tests as the basis of their move to have the practice banned. On the other side of the debate, individuals involved in the practice, such as practitioners and those developing the tests, recognized that the tests themselves had restrictions, and called instead for the use of the tests together with alternative processes (Plug, as cited in Foxcroft, 1997). It is suggested in research following this period that the combined approach enabled an enhanced selection process for learners with disadvantaged backgrounds. Huysamen (as cited in Foxcroft, 1997), for example, recorded that the use of information obtained from psychological tests together with the demographic analysis enabled university admission procedures that were fairer and unbiased. These considerations are discussed at length in Section II on Academic Talent in Application Settings.

3.7 Biographical, historical and socioeconomic contextual determinants of academic talent

In South Africa, literature on the subject of academic talent is characterized by two main themes. The first of these themes is that traditional formulations of the notions of 'giftedness' and 'talent' are not immediately relevant in contexts of marginalization. The second theme is that factors related to culture and context mediate the potential for success. Cliff and Hanslo (2009) argue that the notions of potential and achievement are essentially "non-uniform constructs" (p. 274) and use examples which include socioeconomic status, school background and demographic group to support their argument. They posit that the greater portion of students who come from backgrounds characterized by poor schooling run the risk of being denied access to learning within the higher education space if the processes for identification do not recognize the impact of demographic factors. Cliff and Hanslo (2009) adopt a flexible approach to the concept of 'academically talented students' in reference to students who exhibit the capacity and potential to participate in learning within the higher education space, while recognizing that the likelihood exists that the students' respective schooling backgrounds "may militate against them" (p. 265).

Ross (2009) suggests that multiple factors are at work in determining and informing academic success. These include "cognitive, affective, motivational, dispositional, socio-cultural, economic and institutional variables" (p. 5). In light of this, Ross (2009) considers that the notion of "'potential' is referred to as the competence and capacity to develop cognitive ability, assessed in terms of biographical variables, matriculation scores and a test of 'potential' specifically designed for learners wanting to enter university who did not have English as a first language" (p. 6). The concept of 'giftedness' has been appropriated by Scott (2008) as well as van der Westhuizen (2007). Scott (2008) provides an extension of Frasier's definition of the concept of 'giftedness' as "a psychological construct that cannot be measured directly, but rather through multiple criteria assessments" (p. 135). According to Scott (2008), 'giftedness' is not dependent on language, race or socioeconomic status, and can be identified in any context. In addition, Scott (2008) suggests that 'giftedness' is demonstrated as superior competence in a range of fields, including intellectual or academic achievement, artistic or creative pursuits, as well as leadership. Van der Westhuizen (2007) does not provide her own definition of the concept of 'disadvantaged gifted' and draws instead from formulations that emerge from international research. An example of this, according to van der Westhuizen (cited in Richards, 2015, p. 287) is located in her argument that the "construct is not limited to intellectual or academic achievement and that focus should be on potential rather than manifest ability. Additionally, the importance of language, culture and context needs to be acknowledged". Wallace and Adams (1993) echo the position that every individual is in possession of the quality of 'potential'. Similar to the position held by Scott (2008), they argue that learners from all contexts are able to develop the cognitive tools and skills necessary to provide learning support, and that this refers to all learning contexts.

Common to these approaches to academic talent are the importance of seeing it as a multidimensional construct, and the recognition of the influence of factors related to socioeconomic disadvantage in South Africa. Maree (2006) elaborates on the concept of 'gifted disadvantage' and argues that the concept of 'giftedness' be approached from a much broader perspective. Maree (2006) draws extensively from the insights emerging in contemporary

literature to enable an understanding of how academic talent is demonstrated in contexts of impoverishment in the country. Informed by the approach adopted by Sternberg (1999), Maree (2006) argues that this is inclusive of "the ability to problem solve, competent reasoning abilities in real-life situations, creativity and its application situations requiring survival, and resourcefulness and resilience in the face of adversity" (Richards, 2015, p. 287). Additional theorists are drawn upon to demonstrate their relevance within the local context. This includes, for example, Gardner's (1999) view of multiple intelligences draws attention to "the full range of human endeavours" (Maree, 2006, p. 137), Passow and Schiff's (1999) understanding of compassionate individuals who use this form of 'giftedness' in the quest for self-fulfilment and service to others, Baron's (2004) view of emotional intelligence that fosters understanding of self and others and promotes adaptability to one's environment, and Sisk's (2002) notion of spirituality as an awareness of the dimensions of self. Enslin et al. (2006) also recognize the continued impact of education policies and practices from the Apartheid era on the nature and standard of schooling for most of the country's Black learners. Their approach to the conceptualisation of 'academic potential' is located in the understanding of learners as active, agentic and meaning-making individuals who are embedded in a particular life history (Enslin et al., 2006, p. 434). In this manner, individuals cease being test objects, and recognition is given to the characteristics that are unique to them and informed by their own personal narratives and contexts. This makes it possible to move away from regarding 'academic potential' as the objective result of a test, but rather as an "indefinable quality", "sparkle" or "talent" (p. 436). This would be inclusive of "a number of traits or qualities deduced from complementary domains of learning, namely, the cognitive, conative and affective (Brockbank & McGill, as cited in Enslin et al., 2006, p. 441), for example, motivation, persistence, self-regulation, resourcefulness, capacity for self-reflection, internal locus of control, goal orientation and an awareness of community, political or social issues (Enslin et al., 2006)". This approach reflects the position adopted by Maree (2006), namely that the notion of academic talent be considered in a more humane and holistic manner.

Dass-Brailsford's (2005) empirical work in the South African context illustrates how personality and behavioural facets contribute towards a more inclusive view of academic success. Echoing certain aspects of Maree's (2006) conception of 'gifted disadvantaged', Dass-Brailsford (2005) proposes that the factor of resilience response is particularly essential for understanding the concept of academic success amongst economically disadvantaged Black youth in South Africa. Within this context, academic achievement as a developmental task was regarded as an indicator of resilience, which is defined as "the ability to embrace the challenges of life and to retain openness to the world in the face of adversity" (p. 575). This factor is especially important as it effectively sets South Africa apart from other social contexts. As Dass-Brailsford (2005) indicates, though academic success is considered an ordinary developmental task in multiple contexts, within the South African it is a marker of resilience that enables individuals and families to transcend the poverty cycle. The context in which the participants in Dass-Brailsford's study were located was one defined as chronically stressful and the coping skills of the participants were constantly put to the test.

Multiple data collection methods (including ethnographic interviews, case studies and observations based on visits to the learners' home communities) were employed in the study, and collectively informed Dass-Brailsford 'insider's perspective' of the participating learners from a Durban township who demonstrated academic excellence (as gleaned from their university records). The data revealed two thematic strands, the first being factors perceived as stressors and the second being factors facilitating a pathway of resilience. In terms of the first strand, poverty was highlighted as a major stressor as characterized by, for example, a lack of food, under-resourced communities, financial stress and violence in communities. In the second strand, factors associated with support included on the one hand qualities displayed at the level of the individual, such as a well-developed sense of initiative and motivation, goal-directedness and experiencing of the self as in possession of agency. On the other hand, person-in-environment factors included familial support and relationships fostered with teachers, role-models, spirituality and community members. The resilience displayed by these learners was therefore characterised by their persistent attitude, their flexibility in developing a variety of strategies and skills to achieve their educational goals and a developed sense of self-confidence

and self-determination in directing their life course. For these individuals, education provided a means to upward social and economic mobility. Collectively, these supportive factors counterbalanced the deleterious effects of poverty and disadvantage.

3.8 Section II: Academic Talent in Application Settings

3.8.1 Identification of academically talented disadvantaged learners

In efforts to identify and select academically talented learners, literature is divided along two extreme positions (Hoge, 1988). Sherman (as cited in van der Westhuizen & Maree, 2006, p. 212) summarizes this debate as the "equity versus excellence" problem; the former embraced by a democratic ideology and the latter spearheaded by intellectualism. On the one side of this debate, underpinned by an egalitarian philosophy, no specific efforts are made for the 'intellectually gifted'. This view takes issue with advocates of gifted programmes for promoting an elitist and undemocratic society (See Borland, 2005). On the other side of the debate, proponents of special programmes for the 'gifted' maintain that such a system is necessary to meet the needs of a minority and underserved group, and that such programmes can be implemented without racist, elitist or sexist agendas (See Borland, 2005). As such, intensive efforts are employed in identifying such individuals with a view to developing their potential (Hoge, 1988).

Basing his argument on the assumption that a 'window period' for the development of a particular 'talent' exists, Coleman (2006) advocates for the existence of separate learning instructional models for individuals with "a propensity for advanced development" (p. 23). This has important implications for 'talented' minority youth whose disadvantage occurs as a product of the interactions of 'race', class, ethnicity, gender and socioeconomic status. Coleman (2006) provides several recommendations in order to address this, namely (i) recognise the difference between educational malnourishment and low ability, (ii) identify the specific manifestations of talent in its early stages, (iii) 'streamline' students who have similar talents and ensure that supportive structures are in place (such as guidance to deal with pressure and encouragement to move to an advanced level), (iv) promote access to advanced learning based

on interest or achievement rather than grouping according to age, (v) provide highly knowledgeable teachers, (vi) encourage experimentation of ideas among students (for example, assist them in developing metacognitive strategies, provide multiple opportunities to learn and reward action rather than intention) and (vii) build supportive networks.

In South Africa, legislation informing educational polices is largely steered toward the democratic ideology of inclusion. According to van der Westhuizen and Maree (2006), the 'inclusive' approach toward education in South Africa is centred on the view that the identification of minority 'gifted' individuals would counter a democratic ideology. The authors contend that efforts should therefore focus on the redistribution of resources to address the injustices of the past. This view is especially resonant in Africa, in light of the fact that education for the gifted is also regarded as tainted as a result of its association with the ideals of colonialism (van der Westhuizen & Maree, 2006).

Proponents of the social constructionist paradigm contend that programming for gifted students is ineffective. Though this view is somewhat extreme on the one hand, it does, on the other hand, resonate strongly with the 'inclusive' approach. Borland (2005), for example, highlights the extent to which the identification of giftedness has resulted in racial inequalities, particularly in terms of the "chronic unrepresentation of the poor and children of colour in giftedness programmes" (p. 17). Programmes for 'gifted' learners have focused largely on enrichment, which mostly translates into 'pull-out' programmes allowing students to spend a period of time outside the regular classroom hours. Learners participating in these programmes are instructed alongside other learners similarly identified as 'gifted'. Borland's (2005) review suggests, however, that the evidence to support the efficacy of these programmes remains flimsy due to methodological flaws (such as drawing comparisons across groups that have no basis for comparison). Acceleration programmes have alternatively demonstrated greater merits, though Borland (2005) indicates they are less widely used due to their controversial nature. Importantly, however, Borland (2005) advocates for the use of acceleration in schools without specifically identifying 'gifted' learners. In this manner, should students desire to work at a higher level than their peers, they should be permitted to do so without it being necessary

for them to be identified as 'gifted'. Borland (2005) proposes a pragmatic and utilitarian approach (as opposed to an ontological approach) to understand the construct of giftedness. With these debates in mind, this section proceeds to explore international and local perspectives on the issues related to the identification, selection and recruitment of academically talented disadvantaged learners.

3.8.2 Definitional issues and their implications for the identification of academic talent

Talent identification processes are informed by the definitions of the construct, and as such, carry very clear implications in terms of the labelling of individuals as either 'gifted' or 'non-gifted'. How 'giftedness' is defined in each setting needs to be explicitly stated and should be based on values and assumptions that respect the needs of children in a particular context. In addition, it is important that it promotes the most effective programming needs (Hoge, 1989). The consequences of such conceptualisations are that they serve some individuals whilst excluding others. As suggested by Wu (2005), for example, Chinese conceptualisations of 'talent performance' place greater emphasis on the factors related to nurture (such as personal effort, familial support and school instruction). Wu (2005) articulates that the task of developing talent potential is given greater weighting than 'identifying' giftedness. It is therefore necessary to propose alternative formulations of the construct of giftedness, depending on the values and assumptions embedded in a particular context (Hoge, 1989; Schroth & Helfer, 2009). This view is echoed by Passow and Frasier (1996), who note that conceptualisations of talent must be examined in the context of diverse cultures and different socioeconomic levels.

This is extended to include personal qualities and behaviours fostered in a non-Western culture, which may as a result, not be as easily promoted and recognised according to Western ideals of academic achievement. Wallace and Adams (1993), for example, note that social cohesion and collectivism, as well reverence and reticence in the presence of one's elders are highly esteemed qualities in traditional Zulu culture. Such cultural qualities may go unrecognised in more westernised schooling systems where the opposing qualities of a willingness to engage in debate,

assertiveness and independence are considered important facets of intellectual development. Passow and Frasier (1996) similarly note that markers of talent may also be culturally defined. Furthermore, it is important that the 'absence' of these markers outside of the relevant cultural contexts should not be translated to a 'lack' or 'absence' within that culture. With this in mind, it is necessary to move away from singular explanations of underachievement amongst minority and poor learners, towards a consideration of the interaction between traits, behaviours and aptitudes within a particular context that may indicate potential (see Table 1.1).

In light of these difficulties, several writers have advocated strongly for a close examination of the constructs upon which psychometric instruments are developed (Appel, 1988; Anastasi, as cited in Hodge, 1988; Maree & Beck, 2002). As Anastasi argues, the definitions of each construct need to be based on psychological theory, previous research, and the systematic observation of the behavioural domain. In addition, Messick (1990, as cited in Hodge, 1988) suggests that the construct should acknowledge how scores are used for a particular purpose and also underline the values associated with the varying labels assigned as a result. With this in mind, Hodge (1988) cautions against vague definitions of the construct that either rely on formalized definitions proposed by government ministries or on selection instruments and procedures such as teacher nomination forms. The 'mismatch' between official definitions and the underlying dimensions of intelligence tests used in selection procedures, for example, raises questions concerning the range of qualities actually being assessed. An additional problem posed by Hodge (1988) concerns the validity of measures supposedly tapping into the construct of 'giftedness'. Whilst some research exists on the various forms of validity of specific test instruments, these are nevertheless piecemeal approaches (such as correlating IQ scores with teacher ratings) that do not yield sufficient information about the construct. Hodge (1988) therefore proposes the need for correspondence between how a particular construct is defined, its operational definition represented by the selection instruments chosen, as well as its application in the programmatic context. Therefore, what is key is firstly the formulation of a construct of academic talent based on its programmatic purpose, and secondly the utilization of the appropriate selection instruments in identifying the particular construct at hand.

3.8.3 Identification of academic talent in marginalised communities.

Several authors (see Passow & Frasier, 1996) have suggested that disadvantaged learners are under-represented in programmes for the academically talented. Multiple reasons have been proposed for this, such as the ineffectiveness and inappropriateness of traditional methods of identification and selection (Passow & Frasier, 1996; Scott, 2008).

Fox (1981) raises several issues pertaining to the use of global intelligence measures for identifying individuals for placement in 'gifted' programmes. Firstly, such measures do not yield information concerning specific abilities and levels of achievement. This would be demonstrated, for example, in the fact that students yielding a score of 130 may manifest different patterns of ability on specific subjects, with one having superior abilities in mathematics and the other in the natural arts. As a result of this, the value and validity of specific aptitude and achievement tests (such as the SAT-M and SAT-V used in the United States for mathematics and verbal areas respectively) are open to question. Secondly, such tests have been criticised for their implicit cultural bias, as well as their failure to measure other cognitive skills, such as divergent thinking.

Similar difficulties have been identified in relation to the Talent Search Model. As Oszewski-Kubilius (1998) notes, the rationale underlying the model is the view that standardized in-grade achievement tests are not accurate tools when it comes to the assessment of gifted capabilities, as they are designed for assessment on a wide group of students who differ in terms of subject knowledge. Due to this, an 'off-level' testing principle is called for; that is, giving younger students tests that are designed for older children to enable an adequate 'ceiling' to be established. Owing to its emphasis on assessing already-acquired abilities, children from backgrounds of economic disadvantage or those who have not had a 'potential'-nurturing environment are not identified (Oszewski-Kubilius, 1998).

To address some of these difficulties, Ford et al. (1997) suggest that psychometric measures should be valid, reliable and culturally sensitive. It has also been proposed that only selected subscales of intelligence tests should be used (particularly the non-verbal and performance measures) (Fox, 1981). The argument has also been made that standardised intelligence tests should be abandoned

altogether in favour of tests of ranges of creative thinking. There have also been calls for the use of additional alternate instruments among minority groups. This has been demonstrated, for example, in the fact that the Raven's Matrices test has been found to be more effective than the Weschler Intelligence Scale for Children – Revised (Saccuzo, Johnson & Guertin, as cited in Ford et al., 1997). Despite the weaknesses of standard methods of assessment, Scott (2008) argues that they may be the most accurate when identifying 'gifted' children from disadvantaged backgrounds. It is cautioned, however, that these methods are most useful when combined with other measures including standardised test scores, achievement test results, performance and grades. Fox (1981) also proposes the use of both psychometric and non-psychometric based screening tools, for example, standardised intelligence and achievement, informal measures such as teacher judgements concerning projects, as well as peer/parent/self-nominations and tests of creativity.

In light of this Passow and Frasier (1996) suggest that traditional psychometric-based intelligence and achievement tests may be supplemented with dynamic and authentic assessment approaches. This involves the use of multiple criteria and non-traditional tools (such as data collection through the observation of student interaction). Alternatively, traditional selection approaches can be modified and adapted to be more culturally and socioeconomically relevant. Other authors suggest that the use of multiple identification criteria and sources has merit in terms of increasing the representation of minority students in programmes for the 'gifted' (Davies, 2010; Ford et al., 1997). Some examples of this approach include: developing a holistic profile of students prior to decision-making; using qualitative, quantitative, subjective and objective information; obtaining additional information from students, parents and teachers; considering multiple factors in the selection process (that is, the inclusion of planning and goal awareness, enthusiasm, attitudes, impulsiveness, anxiety and persistence); and utilising life histories (such as information about the individual's social, linguistic and cultural background) (Weschler, as cited in Ford et al., 1997). The use of multiple screening methods provides a broadened view of the construct of 'giftedness' that allows for greater minority representation. This is demonstrated, for example, at the Flint, a school system in Michigan, which allows students to meet the criteria in one of three ways: scoring above grade level on achievement tests for reading and mathematics; being nominated by teachers in one of six areas of giftedness (creativity, leadership and social self-awareness, intellectual ability,

learning potential, motivation, and exceptional academic achievement); or scoring at or above the 90th percentile of their grade on a survey of behavioural indicators completed by parents.

Another example of the multiple screening methods approach is located in the "A Better Chance" programme that aims to identify students with 'promise' or 'high-potential' in marginalised communities in the United States (Griffen, 1999) (See Table III). This programme is premised on the notion that such individuals, may demonstrate academic success at university level when given 'a second chance' to develop their talent, despite the fact that they come from contexts of high levels of poverty, poor access to resources and schools characterised by overcrowding and poor staffing. Apart from standard methods of selection, including application forms, academic transcripts, letters of recommendation, essays and standardised test scores, applicants' social strengths and personal qualities are also considered. Alongside these, staff utilise intuitive-humanistic approaches to evaluate applicants in terms of their academic and social strengths, that are then used as a basis for matching the applicants to particular universities. Although 'scientific' methods are used, Griffen (1999) stresses that these are not considered the most reliable indicator of success and are treated alongside other qualities. For example, anecdotes reveal that although some candidates scored in the lowest percentile categories, they still managed to demonstrate distinguished success in their respective fields (such as being a magna cum laude graduate).

In addition to the cultural bias implicit in intelligence tests, as well as their lack of sensitisation to markers of socioeconomic disadvantage or language differences (Ford et al., 1997; Scott, 2008), teacher nomination methods have also been identified as a barrier to identifying academic talent amongst disadvantaged learners (Scott, 2008). Several studies (see Clark; Jenkins as cited in Scott, 2008) have indicated that teachers were more likely to select children who exhibited qualities such as being well-behaved, well-dressed, polite and obtaining good grades, despite such students scoring lower on intelligence tests. Others have found that teacher nominations are usually quite selective when weighted against other criteria such as using student scores, with the result that fewer students were identified as 'gifted'.

Frasier (1989) has argued for the expansion of nomination and screening methods in the following ways: (i) to incorporate behavioural traits (enabling an inclusion of dynamic traits rather than just

static traits), (ii) to involve parents of unrepresentative groups to assist educators with the rewording of scale items (thereby providing a more accurate identification of culture-specific traits of giftedness), and (iii) to allow teachers to develop vignettes of marginalised groups (thus providing a prototype of successful students from disadvantaged backgrounds). These strategies represent practical ways in which minority and poor students can be increasingly represented in 'giftedness' programmes. Rather than focusing on IQ as the basis of 'giftedness', more recognition needs to be given to non-academic forms of talent, as implied by Sternberg's or Gardner's theories, for example. Several best practices are highlighted for identifying gifted potential. These include seeking nominations from sources inside and outside of school, applying cultural knowledge of giftedness in the development of nomination forms, collecting data from multiple sources (products and performances, objective and subjective), and delaying decisions until all pertinent data are considered in a case study. Beyond the selection process, Frasier (1989) suggests that curriculum accommodations are necessary to remediate the weaknesses of minority students' in the area of language and performance prior to their certification in 'gifted' programmes. In addition, it is necessary to alter misconceptions that low-incomes families are incapable of providing support for an individual's intellectual development. Families play an important role in nurturing intellectual growth. These considerations should, however, also consider the significance of social and psychological support for minority 'gifted' learners.

Tekian's (2000) review of admissions procedures for medical college further affirms the importance of utilising admissions criteria that extend beyond *cognitive factors* (quantitative variables). Although these factors formed the most significant predictor of admission into medical school, the review suggests that a large percentage of achievement in medical school is unexplained by grade-point average (GPA) and Medical College Admissions Test (MCAT) scores (the most prominent tests in medical admissions). Admissions committees may therefore be considering the wrong criteria when evaluating candidates. On the other hand, *non-cognitive factors* (qualitative variables such as leadership ability, interpersonal skills and motivation) demonstrated greater significance and influence in increasing the enrolment of students from minority groups. Tekian (2000) argues however, that there is little data to infer which qualitative factors could predict future success. Moreover, virtues such as self-reliance and

independence, both of which are extolled in western culture, may not be culturally relevant to minorities. *Interviews* were often perceived as based on subjective opinion and were thus regarded as less reliable compared to quantitative data. It was however, demonstrated that highly structured interviews provide the most reliable information. Finally, *enrichment programmes* (aimed at reversing the effects of disadvantaged educational backgrounds) may present a viable alternative to existing admissions criteria (Tekian, 2000).

3.8.3.1 Findings in the local context

In South Africa, alternative admissions procedures were proposed and some of these have been implemented. This was enabled by earlier studies that effectively paved the way for alternative approaches for admitting students to university. Zietsman and Gering (1986), for example, proposed a dual-admissions procedure for identifying students for university entry. The proposed model is based on a two-level evaluation process, and this is underpinned by the assumption that race, class and sex do not influence the distribution of 'talent'. In the first level, students are evaluated against a national standard (such as the national school-leaving examinations and the matriculation exemption). Thereafter, a safeguard criterion is invoked which enables a comparison of the student against the matriculation class, which acts as a control group. In this manner, individuals may be judged as 'gifted' in relation to the class, despite being considered 'inferior' according to national standards. On this basis, being allowed entry into university constitutes a 'second chance' at attaining academic success and gaining entry into professional careers.

This notion of 'second chances' is also the underlying rationale for the Biographical Questionnaire (BQ), which was developed during the mid 1970s, a period which became known as the Soweto uprisings, and which was marked by unrest in Black schools in South Africa. This is still relevant today, in contexts where learners are exposed to under-resourced schools and inferior quality of schooling (Enslin et al., 2006). For such learners who do not meet the criteria for automatic admission into university (based for example on matriculation results), the BQ provides an alternative procedure through which special qualities may be gleaned from the personal contexts

of learners' lives. Regarded as a form of redress, the BQ is presented as a 'biographical' tool that lends enables into the applicant's context of poverty and struggle, the degree and type of disadvantage and his/her educational trajectory. In other words, rather than privileging 'objective' methods of assessing the abilities of learners, the BQ "provides the indefinable quality of 'a feel' for the individual's attributes and allows for the interpretation of responses within the context of the applicant's background" (Enslin et al. (2006, p.435). Based on this reasoning, the BQ assesses the 'level of disadvantage' (based on factors such as the individual's educational background, access to opportunities, socioeconomic status and personal disadvantage) as well as the 'qualities of the applicant' (such as motivation, personal achievement in the broader community, resourcefulness and creativity).

Enslin et al. (2006) argue that specific personal traits and "predispositions to learning" (p. 445) correlate with university success. A study comparing the success rates of students who gained automatic admission to university (that is, with a numerical score above 18 points) with those who gained special admission (that is, with scores below 18 points) revealed no statistically significant differences. In other words, the students in the second group completed their first year of study equally or better than students of similar backgrounds from the first group.

Ross (2009) provides an overview of how the BQ was adapted for use as a selection tool among applicants for a Social Work degree at a South African university. Apart from the various constructs assessed by the BQ, additional questions were posed that were designed to evaluate personal qualities that are suitable for a career in social work (such as, a capacity for compassion, flexibility and social engagement). This selection tool was used as an adjunct alongside more 'traditional' methods of assessment that included students' matriculation symbol points as well a Placement Test in English for Educational Purposes (PTEEP), specifically designed for individuals whose home language is not English. An analysis of the responses on the BQ revealed that evidence of resourcefulness and purposeful learning was demonstrated despite the challenges (including poverty, illness, death of a family member and lack of school facilities) encountered by the applicants in their respective home and school contexts.

Van Eeden, de Beer and Coetzee (2001) propose that selection should focus on potential rather than specific skills, and that those individuals identified has having high potential could benefit from skills-specific training programmes. In other words, admissions programmes should identify both educationally advantaged as well as disadvantaged students who have the greatest chance of passing a course. This process involves identifying individuals who have the potential for development despite the fact that their current abilities are limited by historical disadvantages.

This proposition was informed by Vygotsky's theory of the zone of proximal development, which refers to the difference between the individual's level of achievement without guidance from another (actual) developmental level, and his/her achievement level with the help of another (potential) development level (Wertch, 2007). The Learning Potential Computerised Adaptive Test (LPCAT) formed part of a test battery employed in the selection of first-year disadvantaged students for Engineering and Science Technology studies at what is now known as the Durban University of Technology. In the embedded training component, the test takes into consideration the zone of proximal development in the form of a test-retest sequence. The test battery included the General Scholastic Achievement Test (GSAT), the Senior Aptitude Test (SAT) and the Sixteen Personality Factor Questionnaire (16PF).

The final evaluation indicated that (i) correlations with the analyses of criteria and regression revealed that school achievement (in the areas of Mathematics, Science and English) was the best cognitive predictor of average first-year performance, (ii) the GSAT Verbal Scale was a good predictor of first-year performance, (iii) means scores for two language groups (English and African language speakers) on the GSAT Verbal Scale and the school marks for English differed with more than one standard deviation compared to the African language speakers), (iv) pre-test and post-test scores of the LPCAT did not predict academic success. The authors suggest that cognitive predictor variables seem to reflect the disadvantage of having English as a second language for study purposes. Such students may benefit from bridging courses aimed at enhancing English proficiency. Furthermore, they argue that personality tests should not be used for the purposes of prediction (as pre-selection in terms of cognitive variables may result in conflicting results when

using personality variables as predictors). As such, the construction of personality profiles when considering the requirements for courses may be more useful.

Employing a similar rationale, the Alternative Admissions Research Project (AARP) located at the University of Cape Town (UCT) posits the view that in the case of disadvantaged learners, the sole reliance on school grades would lead to failures in the identification of learners with potential. The aim of the AARP is to identify students who have the potential to succeed at university-level studies, but whose school grades do not adequately reflect this potential (Yeld & Haeck, 1997). The authors maintain that in terms of the assessment of potential, it is necessary to measure the individual's ability to respond to appropriate educational interventions. Echoing van Eeden et al. (2001), they also advocate for a dynamic assessment approach. In terms of this approach, selection instruments should "not predict the past" but rather accommodate exercises to instruct learners how to acquire and demonstrate specific skills. The Placement Test for Educational Purposes (PTEEP), designed by AARP staff, is one illustration of the use of scaffolding in a testing context. Scaffolding refers to the approach derived from constructivist learning theory and Vyogotskian notions of the zone of proximal development discussed earlier. Simply stated, scaffolding is built into the test, in that the initial task presented is at a presumed level of difficulty at which learners would require some assistance. On the basis of statistical analyses Yeld & Haeck (1997) reported that scaffolding does not, however, uniformly benefit candidates, but rather widened the gap between weaker and stronger candidates. On the whole, the use of scaffolding may disadvantage weaker students. Clearly then, more studies are needed to clarify its uses within selection processes.

Cliff and Hanslo (2009) similarly argue that for students from historically and educationally disadvantaged backgrounds, academic performance in school is not a strong indicator of performance in higher education. Subsequently, additional selection criteria (such as skills tests, tests of academic literacy and interviews) should be used. Comprehensive information obtained from the use of non-academic and qualitative factors therefore enhances the predictive power of selection criteria. Cliff and Hanslo's (1990) study revealed that the PTEEP (a measure of 'potential' to process academic reading and writing at entry-level university), appears to have some predictive

power for determining learners' academic success in research contexts in the Humanities and Health Sciences. In the Engineering context, however, the PTEEP may contribute more significantly to variation in academic performance for students from historically disadvantaged backgrounds.

3.8.4 Attributes of academically talented learners in contexts of disadvantage

Initial conceptualisations of the emotional and social characteristics of academically talented learners were revealed in the work of Hollingworth (Morelock, 1996). Hollingworth drew attention to the discrepancy between the notions of mental and chronological age, as well as to the difficulties that emerge as a result of this discrepancy. While such children were advanced in mental age compared to their peers, their emotional needs still remained at the same level of their 'agemates'. In other words, such individuals were seen to have the "intelligence of an adult" and the "emotions of a child" (Hollingworth, as cited in Morelock, 1996).

Based on a meta-analytic review of the literature, Hoge and Renzulli (1993) concluded that studies indicated "generally higher academic self-concepts for gifted students" compared to average students (449). A different 'profile' is evident, however, among academically talented children in disadvantaged contexts. Burney and Cross (2006) locate their review of the 'gifted disadvantaged' in rural contexts in the United States, and note that 'high-ability' students from low-income families often present with difficulties associated with low self-esteem, inadequate self-efficacy and poor self-concept, which interfere with the ability to complete rigorous coursework. Whilst the authors do not indicate specific reasons for this, VanTassel-Baska, Olszewski-Kubilius and Kulieke's (1994) study sheds light on this matter. Their study on 'gifted' learners' perceptions of self-concept and social support showed distinct differences between lower and higher socioeconomic groups. Although self-esteem was high among all 'gifted' learners regardless of ethnicity, class or gender, the researchers found that disadvantaged students' levels of perceived academic potential, social self-confidence and support from family, friends and teachers was significantly lower than that of the advantaged students. VanTassel-Baska et al. (1994) cite underachievement as a key contributor to a poor self-concept, typically manifesting in "feelings of inferiority, lack of goal integration, social and emotional difficulties, and lack of persistence" (p. 190). The authors argue that to be impaired on the level of self-concept is to inhibit capacity to achieve according to one's potential.

Specific interventions may be proposed in light of the findings. Given the importance of relationship factors in the enhancement of self-concept of 'gifted' individuals, avenues such as mentorships, internships and tutorials could be considered in order to nurture a multidimensional view of self (as opposed to a merely academic self).

As Bong and Skaalvik (as cited in Burney and Cross, 2006) suggest, the development of a healthy self-concept is dependent on a sense of self-efficacy. The authors point towards possible interventions that enable the development of resilience, persistence and perseverance in overcoming personal hardships and enabling self-efficacy. These include for example, the modelling of successful strategies such as persistence and providing 'success experiences' to enhance learners' self-efficacy. In a review of the literature, Neihart (2006) identified affiliation/achievement conflicts encountered by 'minority gifted' learners that have an undermining impact on learners' identity, goals and self-concept. Achievement orientations are often associated with the betrayal of a cultural group. This is demonstrated, for example, in accusations of the individuals "acting White", "being better" than others, or "abandoning" their culture. In light of this, Kyburg et al. (2007) pointed to distinctions between 'voluntary' and 'involuntary' immigrant populations, with the latter typically manifesting resistance to assimilating mainstream educational values for fear of losing their identities. These conflicts make striving for academic success seem futile in the context of economic disadvantage, and Niehart (2006) points towards the importance of support structures for such individuals. These include, for example, the development of peer support networks that provide an avenue for open discourse and debate about class, identity and achievement, as well as the psychological difficulties associated with upward mobility. Datnow and Cooper's (1996, as cited in Niehart, 2006, unpaginated) study revealed that such avenues for expression were liberating and empowering and consequently granted students "permission to stay the course of high achievement". Other interventions include teaching students coping skills such as 'code switching', which refers to "a process of deliberately changing behaviours to accommodate the expectations of an environment" (Niehart, 2006, unpaginated). Niehart (2006) observes that negotiating different modes of behaviour across cultures could facilitate their adaptation to high-achievement contexts. A potential example of this is located in the fact that critical

questioning and debate are highly valued in accelerated programmes but are seen as a sign of disrespect of authority in other cultural contexts.

Furthermore, comparison studies among low-income, minority students have highlighted personality distinctions between 'achievers' and 'underachievers. Hirsch and Costello (as cited in VanTassel-Baska et al., 1994) found that disadvantaged achievers were organised in their approaches to learning tasks, had good interpersonal skills, high capacity for individual initiative, reasonable goal-setting and task-completion capabilities, higher mental health ratings and were motivated by failure to improve efforts at success. Similarly, Glaser and Ross (as cited in VanTassel-Baska et al., 1994) found several positive distinguishing traits among such learners, namely "a strong sense of identity, some degree of alienation, supportive inspiring relationships, identification models, a questioning orientation, awareness of alternative paths, existential crises, effective channelling of rage, risk-taking capacity, and perception of rewards for change" (p. 187).

3.8.4.1 Findings in the local context

Attributes of academically talented learners in local disadvantaged contexts is scant in South African literature, but a small body of work nevertheless reveals some information concerning the attributes of disadvantaged students in relation to achievement. While some of these findings may be drawn upon to understand the contextual factors of achievement in relation to disadvantaged learners, further empirical work is necessary to explore how these specific factors play out among learners who have the potential for high achievement.

Children in township settings have demonstrated developmental delays in areas of literacy, while having or demonstrating particular cultural strengths in other areas. Pretorius and Naude (2002), for example, revealed that black disadvantaged children in township contexts exhibited delays in literacy, visual-motor integrative skills and fine-motor skills. Despite these underachievements, these disadvantaged children displayed a dynamic combination of cultural strengths, including gestalt formation, visual arts, body language interactions, pictoral and symbolic learning as well as creative movement.

In light of this, Pretorius and Naude (2002) point towards the discrepancy between rural home culture and school culture. What this indicates in other words, is that the holistic, intuitive and

ecological cognitive styles fostered by Black cultures do not reconcile with the objective, rational and analytical learning styles fostered by westernised schooling systems. Whilst the former tends to rely on right-hemisphere brain functions, the latter is largely dependent on left-brain processing. While this may be a factor, the authors also point toward the circumstances of environmental deprivation, caregivers' poor levels of literacy and the lack of exposure to pre-school education. Alternatively, children's strengths in storytelling, creative expression and movement reflect the cultural history of narrative, verse and rhyme. Although these findings do not have direct application to academically talented learners, they nevertheless point to potential areas of developmental delay among learners in disadvantaged contexts in South Africa that may stand in the way of identifying academic potential.

The connection between these developmental delays and academic abilities in later years is yet to be empirically investigated. Other studies have, however, examined the affective factors (self-concept, motivation and attitude) amongst students from the University of Venda, characterised as emerging from impoverished contexts, having a low socioeconomic status and limited opportunities for cognitive development. Similar to other economically disadvantaged students in the local setting, these students were characterised as being caught in the middle of conflicts between value orientations of home and school. Sikhwari (2009), in particular, sought to examine the role of affectivity in students' academic achievement. According to Sikhwari (2009), affective factors (or emotionality) are influenced by perceptions, desires, thoughts and beliefs about a particular issue. In short, academic success enhances a positive self-concept, while self-confidence may nurture academic achievement.

Based on a survey of students' responses, Sikhwari (2009) found a significant correlation between academic achievement and self-concept, and between motivation and academic achievement. No significant correlation was found however, between attitude (for example, toward teachers and the school) and achievement. Some recommendations are proposed on the basis of these findings, namely (i) effective learning may be fostered by educationists who need to stimulate students' intrinsic gains, as opposed to focusing solely on extrinsic gains (such as passing a test), (ii) nourishing the personal worth of students in order to enhance self-

concept, for example, through sensitivity training and self-esteem exercises, (iii) fostering an ecological environment at learning institutions (through co-operative learning between students and educationists, for example), (iv) stimulating the situational motivation of the learning material (for example, through demonstrating relevance of subject matter to personal contexts of learners' lives), (v) learning applications to attain academic competence (such as community service, peer-interactions), and (vi) developing self-regulatory capabilities, such as goal-directedness, self-control and self-initiative. Although Sikhwari's (2009) study is not focused on the affective qualities of learners 'formally identified as 'academically talented' per se, the recommendations gleaned from the results nevertheless mirror some of the directions for developing academic talent proposed by the international body of work.

In terms of personal attributes, Singh, Mbokodi and Msila's (2004) ethnographic study of learners in historically disadvantaged township schools revealed that most of the learners interviewed desired academic achievement, yet were conscious of the lack of opportunities that could result in their wishes not materialising. Some, however, manifested what Fine (as cited in Singh et al., 2004:305) terms a "complicated contradictory consciousness" through which academically successful learners demonstrate persistence and resist against stories of failure. Similarly, Singh et al. (2004) reported that learners involved in community-based organisations were able to improve their possibilities for scholastic achievement. This was demonstrated, for example, by learners who were in a reading group or in drama groups, and who acquired opportunities to improve their skills in language, history and biblical studies.

3.8.5 Developing Academic Talent Among Disadvantaged Learners

As is the case with the identification of talent, the manner in which academic talent is conceptualised also has implications for the design of programmes and models for its development (Coleman, 2006). Different pathways in nurturing academic talent are presented in the existing literature. These are (i) foundation programmes or interventions aimed at developing learners' potential prior to university, in order to improve their chances of gaining admission to tertiary education, or (ii) programmes or interventions aimed at supporting

learners already identified as 'gifted'. The international literature is largely focused on the latter, whilst interventions in South Africa tend to focus on nurturing academic talent at secondary or pre-tertiary level.

Passow and Frasier (1996) emphasise that although there is some overlap between the identification and selection of talent and the nurturing of talent, the challenges in identifying talent potential among the disadvantaged should not be conflated with those that emerge in nurturing that potential. In other words, the first step in identification provides direction for subsequent processes that form part of the talent development phase. Similarly, Ford et al. (1997) suggest that following identification and selection, specific strategies for the retention of students need to be put in place.

3.8.5.1 Programmatic or curriculum approaches to developing academic talent in disadvantaged learners

Hoge (1989) reiterates that the manner in which academic talent is conceptualised has implications for the type of programme designed to assist such learners. This in turn, carries greater weight or significance particularly in assisting disadvantaged or marginalised learners. Several talent development curricula are founded upon a holistic approach to talent development. This is demonstrated, for example, in the *Center for Talented Youth (CTY)* programme at Johns Hopkins University, which provides a range of activities to students identified as having "exceptional academic promise" (Ybarra, 2005, p. 16). In addition to the goal of nurturing intellectual abilities, students are also prepared to advance in academic achievement and personal development.

The multiple and various components of the programme include summer academic programmes which provide in-depth focus on one subject area, distance education programmes (such as accelerated mathematics courses), a civic leadership institute which develops leadership and community skills, family academic conferences, academic awards

ceremonies as well as mentoring and counselling services. Although standardised tests scores are used to identify students for participation in the CTY programme, disadvantaged students who do not meet the criteria but who show potential are placed in developmental programmes (CTY Preparatory Academy) to build knowledge and address gaps in mathematics, science and language arts. The programme is premised on the view that learners from educationally deficient backgrounds can be nurtured to compete successfully with learners who are well prepared in order to enter good universities.

Kyburg et al. (2007) examined whether Advanced Placement (AP) and International Baccalaureate (IB) programmes catered to schools, teachers and students in a high-poverty urban environment. Whereas AP programmes comprise a series of individual courses designed to retain bright students in their home high schools with the focus on content-related goals, IP programmes are essentially pre-university preparatory programmes. The aim of the latter is to "transcend achievement of particular content-related goals in specific subject areas to achieve the more comprehensive goal of developing 'to their fullest potential the powers of each individual to understand, to modify and to enjoy his or her environment, both inner and outer, in its physical, social, oral, aesthetic, and spiritual aspects'" (International Baccalaureate Organization, as cited in Kyburg et al., 2007, p. 177).

The authors highlight the benefits attached to participation in AP and IB programmes, namely that students are being better prepared for college (college-level courses are taken in high school), students spend less time and costs on college, and that such programmes are regarded as indicators of school and student quality. The authors, however, also indicate several concerns. Along with increased diversity in the United States, there has been an increased participation of minority groups in the two programmes. Despite this, there has been no corresponding increase in the number of minorities who perform successfully in the programmes (for example, in 2006, 72% of African American students taking the AP exam scored below 3 - the 3-5 score range identifies student as well-qualified or extremely well-qualified in terms of abilities and achievements). There are several barriers to achievement

among minorities, and these include poverty and the absence of cultural capital (educational background, resources, information networks and 'how-to' knowledge) (Kyburg et al., 2007). Key to their findings were two factors that were identified as integral to creating environments that nurture the growth of academic talent among students of diverse backgrounds. These were (i) "a pervasive and consistent belief" in these students' abilities to succeed, followed by instructional and group support, and (ii) scaffolding to support and challenge students with potential (for example, through extracurricular help, lunchtime discussion forums and subsidized college visits). Conversely, frustraters/inhibitors of academic achievement included, for example, having too many assignments due at the same time, an inappropriate level of curricular challenge and a lack of support for learners lacking cultural capital.

Significantly, Kyburg et al. (2007) proposed that American students' experiences of classroom and school were mediated by a complex web of interacting factors and relationships on several levels, namely superintendent /district, coordinator/central office administrative, building administrator, and teacher-student classroom. This is demonstrated, for example, in the fact that minority achievement as a philosophical orientation proposed on the superintendent level is filtered down into the administrator level where minority achievement policies are implemented (in the form of workshops on talent identification and classroom instructional strategies). On the building level, school policies may inform decisions on the hiring of teachers, professional development and curricular programming. At the teacher level, specific leadership provides for support initiatives to assist students (such as summer courses and study hall periods).

Several authors have explored other forms of curricular design to assist minority or marginalised individuals to nurture qualities of academic excellence. Key to these initiatives is the stress on the student as the subject rather than as an object of the learning experience (see Durden 2007; Wallace & Adams, 1993). This particular approach is explicated in Plucker and Barab's (2005) applied situated perspective for talent development. The authors emphasise the importance of considering individual-environment interactions in the conceptions of

'giftedness'. Applied to situations of talent development, educators are assigned the role of making learning both meaningful and relevant to the wider context of students' lives. Anchored instruction, as in the form of classroom-based, problem-based learning, for example, is about situating the learning material within a larger context, thereby opening up avenues for approaching the material from multiple perspectives. In this manner, learning is not teacher-owned but student-owned (Barab & Plucker, as cited in Plucker & Barab, 2005). Through this avenue, learners "produce the evidence that they are gifted" (p. 209).

Similar applications of a context-based model of learning are exemplified in the integrity-based perspective of learning which is underpinned by the notion that the cultivation of learner potential can be attained by increasing the diversity of cultural themes in the learning environment (Boykin & Allen, 2004). This perspective is grounded in scholarship that examines the interface between cognition and context (see Rogoff & Chavajay, 1996; Sternberg, 1986; Serpell & Boykin, 1994). Proponents of this perspective argue that the simultaneous processes of human performance, cognition and thinking are "situated within contexts of application" and that these contexts are "constituents of culture" (Boykin & Allen 2004, p. 106). This has important implications in the context of teaching, and is located in three assumptions, namely (i) culturally familiar contexts provide the trigger to accessing problem-solving strategies, skills and competencies, (ii) prior experience allows the learner to draw on information appropriate to task demands, and (iii) values and perspectives that have personal significance are more likely to enhance motivation and the enjoyment of learning.

African-centred approaches to pedagogy in the United States arose from such criticisms. Durden (2007) suggests that children of African descent are located in an ethos of communalism fostered in their culture that is not fulfilled by Eurocentric-based school systems promoting values of individualism and assertiveness. Communalism as an Afrocultural theme is a form of social capital utilized by low-income African American children. Boykin's (2001, as cited in Boykin & Allen, 2004) study revealed that African American children demonstrated a preference for learning contexts which were organised around an orientation of communalism (characterised by attitudes of cooperativeness), compared to individualist learning contexts

(characterised by competition and individual work). Similar sentiments were revealed in other studies highlighting that Black children did not perceive their schooling environment to be tolerant of "proactive integrity" (for example, sharing information and helping their peers in the classroom) (Miller, as cited in Boykin & Allen, 2004). Albury (1997, as cited in Boykin & Allen, 2004) further supports the view that honouring the psychosocial integrity of learners contributes to effective learning performance. For example, White children demonstrated the highest gains in learning when studying within a context characterized by individual criteria (such as studying alone), whereas the learning strengths of Black children were supported within a context of communal study (such as studying in a group).

The African-centred model of pedagogy is discussed by Durden (2007) as one which accommodates the unique learning styles of Black children in the United States. This approach is distinguished specifically from multicultural approaches which Durden (2007) argues euphemistically marginalises minority students by attempting to 'fit' them into a Western educational paradigm. The African-centred model is distinctive in that it adopts a holistic approach to education. Apart from drawing on the visual, audio and kinaesthetic modes of learning, the African cultural component fosters in students the development of higher-order thinking as modelled by early African scholars (mathematical models of Imhotep are incorporated in the curriculum, for example). Echoing the same rationale of anchored instruction suggested by Plucker and Barab (2005), the learning material is embedded within a particular historical context whilst providing the basis for learning through real-life application. As Durden (2007) notes, the success of such a model has been widely demonstrated (for example, Sanford as the lowest-performing school in the district has risen to the most improved school in the state of Missouri since its inception). By evoking the cultural paradigm within school curricula, children are able to situate themselves in relation to their culture as a subject of the learning experience. More central to aspects of self and identity is that rather than being defined in terms of lack or deficiency (such as qualifying for free or reduced lunch), students are able to "see themselves as leaders, contributors to the community, and extensions to the divine" (p. 29).

3.8.5.1.1 Findings in the local context

Earlier writings on educational provision for the academically talented did not explicitly address the barriers to learning faced by disadvantaged learners in South Africa. Whilst some of the recommendations suggested in these early studies have some applicability in terms of developing academic talent generally, it is important to understand the theoretical conceptualisations of academic talent from which such recommendations are derived. Behr (1983), for example, adopted Vernon's model of 'giftedness', which suggests that 'giftedness' is "a product of thought processes and specialised performance in a particular area with a substantial degree of excellence" (p. 62). Based on the assumption that an appropriate learning environment can develop specialised thought processes, Behr (1983) proposed that problem-solving skills (such as those based on types of problems, problem finding and strategies) and critical thinking skills that facilitated in-depth reflective processes can be incorporated into a curriculum for learners directed towards teaching thinking skills.

As previously discussed, a 'giftedness' policy implemented by the *St Andrew's Preparatory School* in Grahamstown reflected a "non-racial" and inclusive approach towards developing potential (Carlson, 1987). The policy draws from the theoretical insights of Renzulli and Bloom and is based on the notion that giftedness is present in all individuals and race groups. In terms of the influence of Renzulli, the policy aims to achieve "a constant flow of pupils" (p. 32) from across all activity categories, namely Types A, B and C. *Type A* activities refer to a wide range of experiences and fields of study, *Type B* activities involve specific thinking, learning, problem-solving and communication skills to allow opportunities for enrichment, and lastly *Type C* activities, which alternatively, activities allow different groups of learners into as many activities as possible (including investigative activities and artistic productions) to enable them to "assume the role of a first-hand inquirer, thinking, feeling and acting like a practising professional" (p. 32). In terms of Type C activities, the programme recognizes the natural stages during which the learner acquires knowledge that contributes to the development of his/her higher thinking skills. In light of this, the programme recognizes that talent is expressed in any one or more specific areas (including intellectual, physical, social, moral, emotional and

intuitive areas), rather than being confined to academic learning. This understanding is reflected in instructional methods that promote whole person development, for example, to facilitate thinking, decision-making, sensing and feeling processes (Carlson, 1987).

In order to accommodate these principles, the programme attempts to foster gifted education in several ways, including (i) across the grouping of standards (namely, interests groups comprising learners of different ages), (ii) guidance and counselling (that is individualised, promotes growth and assertive behaviour, involves decision-making, and is a team effort) and (iii) assessment which includes self-assessment (namely learners' own perceptions of their efforts and performance). Although such a programme provides a more equitable and inclusive approach to developing academic talent, it does not specifically address the socio-historical disadvantages and contexts of racially diverse learners.

Educational institutions in contemporary South Africa therefore face a unique set of challenges that have been inherited from the legacy of Apartheid. What is most significant is the need to identify students with potential despite their previous educational disadvantage. Discretionary mechanisms used to select such students have often led to them dropping out or resulted in previously disadvantaged individuals having to forego the prospects of higher education (Mabila et al., 2006). The strategy adopted by several local universities is based on foundational or bridging programmes that attempt to prepare such students for entry to university. Page, Lees and Du Toit (2005) report on two types of bridging programmes on offer. Academic Development Programmes (ADPs) afford students (from educationally disadvantaged backgrounds, namely from poor townships or rural areas) the opportunity to complete their first year of study in a two-year period without incurring any penalties. The other type of bridging programme (SciMathUS at the University of Stellenbosch) allows learners who do not meet the scholastic requirements for university entrance to repeat Grade 12 so that the discrepancies between their current level of competence and university requirements are lowered.

The rationale underpinning such programmes needs to be considered in light of university efforts to redress the inequities of Apartheid. Enabling access to scholastically and socio-economically disadvantaged learners required a re-visioning of admission processes by most historically White universities (Page et al., 2005). This was driven by the fact that academic achievement as a lone factor would continue to discriminate students of colour (Page et al., 2005). Wallace and Adams (1993) provide an overview of the Teaching Actively in a Social Context (TASC project, which was established in 1985 by the University of Natal and was aimed at teaching higher-level thinking and problem-solving skills to disadvantaged learners in the rural contexts of Kwa-Zulu Natal. The TASC model draws from specific theories of learning and intelligence that are assumed to have relevance to the disadvantaged learners in Kwa-Zulu Natal. The TASC model acknowledges the important role that both teachers and pupils play in the design of courses to meet learners' intellectual needs. Therefore, factors such as learners' backgrounds, experiences and problems form the basis for learning. This is located, for example, in Vygotsky's theory, which suggests that the cultural transmission and intentional mediation of the learner's experience (that is, 'scaffolding') are important aspects of acquiring knowledge. Wallace and Adams (1993) suggest that learners who have had insufficient mediation can be remediated through a range of interventions.

The assumptions underpinning this model are particularly pertinent in this study. Firstly, it advocates the view that learners across all contexts have the ability to develop the universally applicable cognitive skills that can be used in both formal and informal learning contexts. Secondly, it proposes that the development of cognitive skills takes place in relation to the learner's affective and social development. Lastly, particular emphasis is placed on the contexts relevant and meaningful to the lives of learners, as well as the roles of both learners and teachers in influencing the content of the curriculum. In this regard, learners apply acquired problem-solving skills to the difficulties encountered in their own contexts. The threefold aims of the TASC programme include (i) *maximising students' ability to make sense of and to learn from experience* (this includes basic thinking skills, tools for effective thinking, positive attitudes toward self and learning, perseverance, working co-operatively and independently, as well as

reflective modes of thinking), (ii) *improving teacher effectiveness to facilitate students' 'learning how to learn'* (such as nurturing a co-operative and democratic classroom climate, interactive learning through 'cognitive scaffolding', mediation and modelling, and extending knowledge and principles), and (iii) *modifying/reconstructing the curriculum to maximise students' and teachers' achievement of their aims* (taking into account the relevance of the curriculum to needs and experiences, active and enquiry-based learning, and skills to strengthen cognitive experiences).

Also based on a scaffolding model, the Intervention Programme (IP) implemented by the Faculty of Health at the University of Cape Town is another initiative aimed at addressing social and educational discrepancies resulting from Apartheid (Alexander, Badenhorst & Gibbs, 2005). The programme is underpinned by the view that addressing educational disadvantage is not a 'quick-fix' but requires the development of an intensive programme with an understanding of the specific issues facing the student body. The IP programme is based on two parts. IP Part I is focused on "looking back" on an introductory course to life sciences (Life Cycle) to provide a revision of basic sciences, principles and core concepts, critical reading encouraged with attention paid to written work, oral presentations, as well as written and verbal communication skills. IP Part II is focused on "forward looking" to prepare students for re-entry into mainstream programmes. In this component of the programme, students are exposed to unfamiliar material, to the foundations on which the IP is built, to activities which include the Journal Club, and supervised visits to hospitals to allow students to develop clinical skills. Importantly, the evaluation results of the programme suggest the utility of admitting all students into the mainstream programme. Following a full assessment of students' academic capabilities, learners with specific needs are therefore identified for the IP (Alexander et al., 2005).

Similarly, the University of Limpopo's Science Foundation Programme (UNIFY) aims to address the deficit (occurring as a result of an inadequate schooling system and the concurrent demands of tertiary education) through a foundation programme with the aim of increasing the

number and quality of students entering science degree programmes (Mabila et al., 2006). The programme comprises compulsory courses in Biology, Chemistry, English and Study Skills, Mathematics and Physics, Career Guidance and Computer Literacy, with course content not necessarily similar to first-year mainstream courses. The objectives are to (i) improve cognitive and practical skills (such as critical and logical thinking, experimental design, and laboratory practice) and (ii) to foster positive self-esteem and to develop ownership of learning processes. Based on the results of two tracer studies (Zaaiman, 1998; Letsoalo, 2000), Mabila et al. (2006) found that ex-UNIFY students consistently performed better than both repeating students and direct-entry students (namely those admitted directly to science degree programmes) in year one. Moreover, for second and third-year students, the difference in performance between ex-UNIFY students and direct-entry students was minimal or on par. The authors concluded that the foundation programme increases the quality of students' achievement in science programmes. The authors also suggest, however, that the programme provides many students who would ordinarily not be admitted to university on the basis of their matriculation results, the opportunity to study and ultimately contribute to the South African economy.

Advocating against promoting 'deficit ideologies' in disadvantaged contexts, Maree (2006) proposes several innovative intervention strategies. Based on the work of Passow and Schiff (as cited in Maree, 2006), he suggests that students should engage in various activities, including community development, leadership in social action, debate on local issues and networking with other students. On a more personal level, students should be taught to develop their life goals, enhance their locus of control and be equipped with problem-solving skills. In addition to this, Maree (2006) advocates for the need for personalized school environments. Teachers need to mentor students towards achieving their potential, assist in sharing and developing goals, and work closely with the learner's family. Furthermore, training in multicultural diversity is necessary to assist learners across different contexts. Maree (2006) also suggests that career guidance needs to work alongside intervention programmes and that learners need to develop some autonomy in decision-making processes.

3.9 The role of mentorship and learning support

Alongside 'curricular content', Ford et al. (1997) propose additional strategies for nurturing potential in learners identified as 'gifted'. Relying on evidence from several studies (see Muir-Broaddus, 1995; Baum, Renzulli & Herbert, 1995; Greenberg, Coleman & Rankin, 1993), the authors indicate that supportive learning structures for minority students are an essential part of providing quality educational opportunities. As these studies suggest, the common factor underlying underachievement among learners (regardless of their level of ability) was poorly developed metacognitive skills, as evident for example, in poor time-management, poor concentration, a lack of knowledge in goal setting, keeping records, or transferring knowledge from one domain to another. As Ford et al. (1997) indicate, it cannot be assumed that these skills are spontaneous among minority learners. Therefore, training in metacognitive skills, including study skills and learning strategies, could provide the necessary learning support to such learners. In light of this, educators play a crucial and instructive role. Hoover and Patton (as cited in Ford et al., 1997) stress the importance of the involvement of educators in imparting these skills to learners, for example, in guiding them towards employing different study skills, highlighting and discussing unsuccessful approaches identified in previous assignments, and encouraging students to plan, organise or evaluate their methods of study.

In addition to learning support, mentoring is also highlighted as essential in addressing the emotional needs of learners who have been selected and placed in development programmes. Some of the difficulties faced by minority students in 'gifted' programmes include isolation, negative peer influences, teacher discrimination and racial-identity conflicts (such as being accused of "being White"). Interventions to address these and other difficulties may include mentoring, group counselling and bibliotherapy to enhance insights, motivations and achievement (Ford et al., 1997).

Olszewski-Kubilius and Lee (2004) highlight the importance of social networks and social support as key aspects of talent development. Social networks comprise family members, teachers and peers or other individuals with whom the learner has contact. Social support refers to instrumental assistance, material support, emotional support and guidance, all of

which are essential to the nurturing of talent. As the authors indicate, these features are of particular importance for economically disadvantaged groups as they provide a buffer against the effects of poverty and isolation. Drawing on Bloom's (1985, as cited in Olszewski-Kubilius & Lee, 2004) study in which it was indicated that talent development is an intensive process that requires special and continuous training, the authors stress the need for special outside-of-school programmes to provide opportunities for enrichment and accelerated learning. The underlying assumption is that gifted learners process information faster and have a greater appreciation for the depth and complexity of material contents. Similar to context-based learning approaches, these programmes are based on material that relates to real-life contexts and also allows for the application of self-directed learning processes. Empirical research conducted by the authors revealed that parents of students attending a Saturday Enrichment Program (SEP) perceived important gains in their children's academic development. These gains ranged from academic skills and knowledge, increased learning motivation and interest in subject areas, to higher levels of academic confidence. The perceived gains, however, were higher for academic development than social-emotional development (such as making friends and increasing social confidence). Parents nonetheless perceived some gains related to opportunities to interact with academic peers, although the benefits were not as high as reported in previous studies (see Olszewski-Kubilius, 1989 as cited in Olszewski-Kubilius & Lee, 2004).

3.9.1 Findings in the local context

Similar to the gaps in the general literature on academic talent in South Africa, the literature regarding the role of mentorship and learning support for learners with potential for academic success is limited, with the result that lessons can only be inferred in terms of their relation to disadvantaged contexts. Page, Loots and Du Toit (2005) define peer mentoring as "more experienced or able students assisting less experienced students to adjust and successfully cope with a new environment or field of study" (p. 6). Largely underpinned by Vygotskian theory

('zone of proximal development'), peer mentoring offers several advantages such as increased interactive learning, open communication and feedback, student ownership of learning processes and reduced anxiety (Topping, as cited in Page et al., 2005).

Page et al.'s (2005) review of the implementation of such a programme at Stellenbosch University's Faculty of Health Science revealed significant findings. Firstly, in the early years of implementation (1998-2000), distinct gains were identified for students from disadvantaged backgrounds, such as a dramatic reduction in number of drop-out students prior to examinations, a reduction in the number of students sitting for re-examination, a reduction in the number of failures, and an increase in the number of first-time passes. In current redesigns of the programme (2001 to date), attempts are made to address the difficulties encountered in the early phase (such as feelings marginalisation and patronisation that resulted from top-achieving students providing mentoring to the 'at-risk' learners in the same class). Second-year students were consequently assigned the role of mentoring first-year students.

According to Page et al. (2005), the aim of empowering under-prepared students, irrespective of background, to manage their academic programmes successfully is central to the success of such an intervention. In other words, rather than rectifying problems that surface, the programme functions as a reassurance mechanism to *both* 'at-risk' students (namely those who potentially have academic difficulties) *as well as* those categorised as 'super-achievers' or 'gifted' (Page et al., 2005).

Mentoring processes also encompass teacher-learner relationships and career development processes (Page et al., 2005). Maree and Beck (2004) reflect on the relevance and applicability of a postmodern counselling approach (with specifically a narrative orientation) in assisting 'traditionally deprived learners' with aspects such as career counselling and learner support. Career-oriented training is an area of focus formulated by the *Department of Education's National Plan for Higher Education (NPHE)* alongside efforts to remedy past injustices (Maree & Beck, 2004). Raising issues related to non-applicability and a lack of relevance, the authors contend that traditional counselling approaches, with their heavy reliance on psychometric assessments, support a positivist paradigm that does not cater to the unique needs of diverse

learners in the South African context. In light of this, similar debates related to the use of intelligence tests on non-normed populations, as proposed in Section I, are of relevance here.

In order to accommodate the needs of a postmodern society, characterised by diversity in race, culture, religion, gender and sexual orientation, amongst others, a postmodern counselling approach may have relevance as a form of mentorship for disadvantaged learners (Maree & Beck, 2002). Within this paradigm, the expert roles of 'counsellor' fall away and are replaced with an empowerment approach that grants freedom to the learner to devise and implement his/her own life plan. In other words, rather than 'force-fit' individuals into a normalising discourse, the learner is guided towards creating a personal framework for his/her life based on the story of his/her life. This approach foregrounds the subjective dimensions of meaning-making (in which, for example, careers are narrated as stories) which contrast to the objectified measures found in traditional counselling approaches (including scores denoting self-concept, aptitude and interests) (Maree & Beck, 2002). Maree and Beck's (2002) adopted the approach of a case study of a Zulu-speaking girl from a 'traditionally disadvantaged' context, which revealed that the postmodern approaches effectively address the weaknesses of traditional approaches, particularly in relation to disadvantaged learners. However, in light of the shortcomings of the narrative approach (such as cost, time, logistics and potential issues with language), the authors stress the utility of using multiple approaches for data collection (including psychometric tests, drawings and storytelling).

3.10 The role of teacher development in developing academically talented youth

Several authors note the potentially positive role of teacher development in supporting talented learners (see Scott, 2007; Wallace & Adams, 1993). Swanson (2006) states that because teachers act as gatekeepers for gifted programmes, teacher development is crucial for increasing the representation of minority, low-income learners in these programmes. Swanson (2006) demonstrated the utility of using a non-traditional approach to identify 'gifted' students who have been historically under-identified. This took the form of *Project Breakthrough*, which was a project focused on teacher development alongside a rich and rigorous science and language arts

curriculum. The programme was concentrated on three main areas, namely (i) to demonstrate that high-end curricula developed for high-ability, gifted and talented students could be used with all students to positively affect students' achievements, (ii) the use of rich and rigorous curricula in aiding underrepresented gifted students, and (iii) to track successful professional development activities as teachers attempted to change their classroom practice. During the course of the programme, teachers participated in graduate classes, school-based sessions, in-class coaching and network sessions with specialists in the area of teaching learners from low-income contexts, as well as problem-based learning and curriculum development, which allowed for broadened views of intelligence.

Teacher development comprised three years. In year one, participants were taught to use specific strategies embedded in learning units, such as reasoning and critical thinking, concept development, as well as literature and vocabulary analysis. In year two, the teachers selected and taught one science and one language arts unit based on grade-level standards. In year three, teachers were required to design their own units and had to teach these alongside the units of the previous year. These units formed part of the Integrated Curriculum Model, in which science concepts were taught using real life applications and language arts were taught based on persuasive writing and literary analysis. The results of a project evaluation revealed (i) a threefold increase in the gifted population in one school, though a lack of substantial increase in students identified as gifted in other project schools (ii) an increase in achievement (although gains were not uniform over time, school or grade level), and (iii) teachers demonstrated attitudinal shifts, increased awareness of student strengths and talents, as well as ideas about how learning occurs. What this study reveals, is that it is possible to challenge teachers' assumptions about minority and low-income students.

3.10.1 Findings in the local context

The roles played by teachers and educators in terms of their attitudes towards learners, as well as their methodological approaches to teaching are central to the development of academic talent. Nkhoma (2002) identifies the teacher-centred approach, characterised by authoritarianism and a disregard of the relational understanding of learners, as the typical form

of instruction for Black learners under Apartheid. In this manner, learners and teachers therefore become "locked into the paradigm of 'teacher tells, pupils listen'". In addition, Wallace and Adams (1993), note that these traditional approaches, which are typified by memorisation and rote-learning approaches to knowledge acquisition and learning, leave little room for the exploration of individual enquiry, evaluative and creative thinking or the role of problem-solving applications. In recent years, however, there appears to be a move away from static rote-learning approaches towards interactive methods to nurture whole-person development. This is reflected in the *Curriculum 2005* approach proposed by the Department of Education, wherein the term 'learner' was to replace the term 'pupil'. This was supported by the argument that the term 'learner' implied more analytical and creative learning abilities, as opposed to a reliance on memorisation (Maree & Beck, 2002). However, as Nkhoma (2002) argues, the social contexts within Black South African schools, particularly the poorly qualified teachers, lack of discipline, and classroom overcrowding do not facilitate learner-centredness.

Echoing research conducted in the international arena, local studies have also highlighted the influential role that teachers play (as potential barriers or enablers) in the identification of academically talented individuals from marginalised contexts (see Clark as cited in Scott, 2008; Jenkins as cited in Scott, 2008). Scott's (2007) study on the perceptions of South African educator revealed that language difference was viewed as a major barrier to identifying children from Black or second language backgrounds as 'gifted'. An additional barrier was a lack of a stimulating home environment. Educators believed that an adequately resourced home environment was necessary to promote high achievement, which meant that learners from low-income backgrounds were therefore less likely to be considered 'gifted'. Moderate barriers to identification included test bias, the inability of teachers to recognize indicators of potential giftedness, as well as learners' limited proficiency in English. Minor barriers included narrow screening processes, teachers' prejudice, and the belief that 'gifted' individuals are rare among Black students or those of second language backgrounds.

Scott's (2007) findings suggest that educator training could assist in meeting the needs of 'gifted' learners who are culturally diverse. Training programmes for educators should therefore provide

information concerning the diverse abilities of children together with alternate methods of assessment, in order to equip teachers with the knowledge and skills necessary to challenge learners. In addition to this, van der Westhuizen stresses the importance of well-trained teachers who have the skills to understand the affective needs of 'gifted' learners, and the ways in which 'giftedness' is valued in different cultures. Echoing Scott (2007), van der Westhuizen proposes a that lack of training coupled with prejudice may result in the overlooking of potentially 'gifted' individuals on the basis of a poor family background or misbehaviour; factors that are not typically associated with high achievement.

Van der Westhuizen and Maree (2006) argue for the necessity of teacher training in order that they be equipped to provide for the needs of 'gifted' learners in the mainstream. Recognising social realities of poverty and crime within the country, they indicate that cultural capital, defined as the individual's perception of his/her environment, is important in the design of intervention programmes. Aside from misperceptions based on language and ethnicity highlighted by Scott (2007), van der Westhuizen and Maree (2006) indicate that biases may also result from misjudgements based on learners' potentially impoverished outward appearance or certain qualities of their behaviour that may mask their true potential. This is demonstrated, for example, in the observation that individuals from deprived contexts may be less likely to engage and share information readily and may also lack the necessary vocabulary and social experiences.

According to van der Westhuizen and Maree (2006), teacher development programmes for the 'gifted' would need to work within the existing educational framework of inclusion in South Africa. As stipulated in the Constitution of 1996, such a system entails mainstreaming the provision of education for all learners, including for example, the disabled, those who are HIV-positive, and by extension the 'gifted', in an effort to counter the "exclusionary effects caused by Apartheid" (Carrim, as cited in van der Westhuizen & Maree, 2006, p. 206). However, rather than advocating for one specific approach, van der Westhuizen and Maree draw on the insights provided by international theorists, and propose that teacher training be targeted at several levels, including not only the identification of 'gifted' children, but also training in

multiculturalism and diversity of learning styles (Bonner, as cited in van der Westhuizen & Maree, 2006). In addition to this, van der Westhuizen and Maree (2006) argue that a teacher training curriculum should also include domain-specific intelligences (as evidenced through Gardiner's model of Multiple Intelligences), the facilitation of wisdom based on Sternberg's guidelines, and also utilise emotional intelligence as the "the yardstick for identifying gifted underachievers" (p. 207). Personalised school environments are proposed for disadvantaged learners in particular (Herbert, as cited in van der Westhuizen, 2006). These factors would cumulatively enable the creation of a context in which 'gifted' learners are supported and nurtured psychologically, emotionally and socially.

Apart from content-related issues in teacher development programmes, van der Westhuizen and Maree (2006) suggest that the attitudinal qualities of teachers is also an important area of consideration if potential among the 'gifted' is to be facilitated equitably. Despite the equitable measures introduced by government into the field of education, van der Westhuizen and Maree (2006) argue that teachers' attitudes towards learners in the classroom (including towards learners identified as 'gifted') still require a considerable degree of shifting. Teachers have been shown to be less supportive of students perceived to be underachievers and who are therefore less deserving of the 'giftedness' label. In light of this there exists the need to challenge stereotypes and negative assumptions. Given the tendencies of teachers to adopt a deficit perspective of minority learners (as has been documented in several studies (see Ford et al., 1997)), extensive teacher training is necessary to equip teachers to work with culturally diverse learners. Specific training areas include, for example, gaining substantive ongoing classroom experience with minority gifted students, diversity training, and outreach skills to work with minority students, their families and communities (Ford et al., 1997).

While overcoming cross-cultural barriers has been highlighted as one of the challenges facing the development of teachers for working with academically talented groups, some studies have demonstrated the significance of the factors of affinity and shared identity, and their potential to harness and generate powerful effects between teachers and learners. In South Africa, Dass-Brailsford's (2005) study highlighted the positive influence of teachers in fostering resilience

among learners in impoverished contexts. Teachers shared similar socioeconomic characteristics with their learners (such as living in the same neighbourhood, and having knowledge about the community) and consequently developed personal bonds with their learners, allowing for relationships outside the conventional teacher role (assuming the role, for example, of mentor, adviser or counsellor). In this manner, participants noted that teachers were able to "identify with their plight" (p. 587) as they too grew up in adverse circumstances and were therefore able to positive role models for their learners.

3.11 The role of parents in the development of academically talented youth

Ablard & Parker (1996) demonstrated the importance of research into the needs of parents of academically talented learners in order to understand the achievement goals they set for their children. Parents of academically talented learners are stereotypically perceived to place tremendous pressure on their children to achieve at exceptional levels. In addition, they are seen as having unrealistic expectations of their children and are overly critical of their children's performance. Participants in the study were sets of parents (n = 127) and their 'academically talented' children who were involved in a talent search programme conducted by the *Institute of Academic Advancement Youth (IAAY)* at Johns Hopkins University. Drawing from a broad range of evidence (Bloom, 1985; Gottfried *et al.,* 1994; Kulieke & Olszewski-Kubilius, 1989, Csikszentmihalyi, Rathunde & Whalen, 1993), Ablard & Parker (1996) reveal that although parents of academically talented do emphasise the value of academic performance, they also exhibit a number of characteristics in relation to their children including encouraging good performance, becoming personally involved in their educational pursuits, providing opportunities to stretch and develop their talent, encouraging independence and challenge seeking and supporting their individual needs.

In response to this, however, Dweck (as cited in Ablard and Parker, 1996) raises an important distinction between parents or families that encourage a learning goal orientation versus a performance goal orientation. The learning goal orientation focuses not so much on external markers of achievement, but rather on understanding, enjoying and looking for challenges in the learning material. A performance goal orientation on the other hand, relies on external

validation of competence. Owing to their apparent needs for social status, these parents and families are more likely to be critical of their children's performance and display traits of perfectionism. Ablard and Parker (1996) found that children of parents of who encouraged a performance goal orientation displayed a greater likelihood for dysfunctional perfectionism than children of parents who adopted a learning goal orientation. According to Parker (as cited in Ablard & Parker (1996), children in the category of performance goal orientation are more prone to social and emotional difficulties and may be described as anxious, moody and socially detached. On the other hand, children of learning goal-oriented parents "were significantly more likely" than children of performance goal parents to be non-perfectionists. As Parker (as cited in Ablard & Parker, 1996) suggests, this may manifest as low personal standards and could potentially result in underachievement.

Literature has also highlighted the significance of extending support structures beyond the learner to include the learner's parents and family (Olszewiski-Kubilius, Grant & Seibert, 1994). In light of this, social support systems and social networks are cited as offering intervention possibilities that enable the nurturing of talent in economically disadvantaged children. For example, an optimal social network, characterised by "a high degree of consonance between home and school and other settings in terms of the value placed on intellectual pursuits and achievement" (Olszewski-Kubilius et al., 1994, p. 21) may comprise parents (or significant others), family members, teachers, coaches, the church and community leaders.

Ford et al. (1997) similarly emphasise the important roles of family and professionals in acquiring specific skills that would enable them to assist minority 'gifted' learners to reach their potential. This implies that the networks between the educational institution and parents need to be developed and maintained to allow for ways to nurture academic talent. For individuals in disadvantaged contexts, however, there is a distinct "discrepancy between an individual's capacity for development in a socially valued area and the social supports needed to achieve the potential" (Olszewski-Kubilius et al., 1994, p. 21). Several studies have demonstrated, for example, that parents of the 'gifted disadvantaged' or the 'minority gifted' are typically constrained by limitations which include language barriers, financial difficulties and a lack of

understanding of the processes involved in educational advancement or the development of talent, given their own lack of access to resources (Deafenbaugh; 2007; Olszewski-Kubilius, Grant & Seibert, 1994). Olszewski-Kubilius et al. (1994) argue that for talented economically disadvantaged children, models of talent development that assign central significance to the role of parents only, may lack a degree of applicability.

Among disadvantaged individuals (typically those in less-than-optimal family environments), extended family networks may play a more primary or influential role. Although much of the existing literature regarding social support systems is largely focused on emotional support and crisis care, the authors propose that an elaborated notion of social support may be drawn on to encompass 'giftedness and poverty'. In other words, in addition to the provision of emotional mentoring, support in the form of the provision of opportunities, resources and information to 'gifted' individuals in disadvantaged contexts may prove useful. Olszewski-Kubilius et al. (1994) stress that social support for the 'gifted disadvantaged' needs to cater to individual needs. The authors also suggest that specific programmes (including the use of teachers, peer-support and mentoring) could accommodate for deficiencies in learners' family support systems.

Ford et al. (1997) highlighted the important influence of familial involvement for both the identification and retention of gifted minority students. Several challenges remain in enlisting home-school partnerships, however. One such challenge is that minority families are sensitive to being potentially stereotyped by school personnel on the basis of the level of education of family members, the level of affluence and the difference in cultural values. Ford et al. (1997) stress the importance of substantive family involvement in the recruitment and retention of talented learners. This means that positive ongoing communication through telephone calls and letters, for example, has the capacity to break down barriers between school staff and the families of learners. In addition, Ford et al. (1997) indicate that it is essential that schools provide equal access to all minority families and that they equip families with the skills needed to advance children's achievement.

3.11.1 Findings in the local context

Jansen's (1988) brief abstract provides a glimpse into some of the research conducted into the role of parents in guiding their 'gifted' children. The insights that emerged from the review demonstrated the importance of quality relationships between 'gifted' children and their parents, as was manifested through the qualities of trust, authority and understanding. Jansen (1988) concluded that 'gifted' education is "dependent on special parent guidance" (p. 205). The study, however, assumes that all 'gifted' learners come from intact, privileged families where parents 'naturally' provide the guiding function for their children. The socioeconomic realities of the majority of families in South Africa, however, do not correspond with these 'norms' or assumptions. Considered broadly, there does, however, appear to be a scarcity of literature and research into the pivotal role played by parents in the nurturing of academically talented learners, particularly those from marginalised communities. In the absence of specific research, it is necessary to draw from related literature on academic achievement and parental support.

The South African Schools Act of 1996 (SASA) grants formal power to both parents and communities to serve as meaningful partners in school governance in order to improve the quality of education (Singh et al., 2004). Singh et al. (2004), however, indicate that within the South African context, parental involvement in educational matters is influenced by several factors, the most obvious being the level of socioeconomic status. In other words, efforts at increasing parental inclusion in children's education may exacerbate the disparities between the performance levels of children from historically disadvantaged schools versus those from middle-class schools. Whilst wealthier, educated parents may be more involved in their children's educational needs, working-class parents who may lack the required literacy levels, may not have as beneficial an impact on their children's academic performance.

Singh et al. (2004) sought to investigate the impact of the involvement of Black parents on the scholastic achievement of their children attending historically disadvantaged Black township schools. The results of this study revealed that many learners came from homes that were not necessarily conducive to learning. This was demonstrated for example, by the fact that the

performance of home chores distracted learners from schoolwork, family difficulties and the lack of parental assistance with homework. However, in cases where parents had some formal education, children were likelier to be assisted scholastically. In the study, 70% of children from low socio-economic status (SES) homes did not have parents who were equipped (financially or educationally) to assist their children to develop scholastically. On the whole, children who received attention from their parents in their early school career were more empowered to manage their schoolwork independently at later stages in their lives compared to learners who received little parental attention.

Although Dass-Brailsford (2005) found that strongly developed kinship ties fostered resilience (and academic success indirectly) amongst the township community in Durban, evidence of more purposeful support was lacking. This is consistent with other literature related to the South Africa. Singh et al. (2004) report that outcomes-based education (OBE), a system which encourages parental involvement in education, tends to have limited success in township schools due to the lack of participation of parents' in school matters. In light of this it is beneficial to draw on the insights that have emerged from international literature to make sense of these perspectives.

vanTassel-Baska et al. (1994) indicate, for example, that models of talent development that identify the parental role as pivotal may not necessarily be relevant for economically disadvantaged learners. In situations where family circumstances are not ideal, extended family members (such as grandparents and siblings), teachers and the broader community have a significant influence on talent development. Furthermore, as Pretorius and Naude (2002) report, children may not have direct interaction with parents who work away from home for extended periods. Typically, then, the parental function falls into the hands of grandparents and relatives who may not have had any formal schooling. Based on the findings highlighting underachievement in a range of areas, including literacy domains, visual-motor integration and fine-motor skills among disadvantaged children in a township setting, the authors stress the importance of nurturing parental involvement in the school readiness of children and fostering learning-mediated experiences (such as informal reading activities).

In the context of an indigenous community, it is however, necessary to consider the culture-specific values that inform these tendencies. Dass-Brailsford (2005) suggests that the cultural meanings attached to competition in a resource-scarce environment do not support features of schooling in an institutionalised context (such as competition, personal strivings, selection and evaluation). Given this dissonance with their core cultural understandings, community members may be less supportive of encouraging academic achievement.

Maree & Ebersöhn (2002, p. 264) introduce the notion of "love and intelligence". Within this notion, the child's motivational base is largely determined by parental responsiveness and interest in their child's schoolwork. Love within the family environment, together with positive feedback and encouragement, positively influence achievement. Conversely, individuals in contexts where there is little opportunity for the development of healthy relationships (identified in this case by the giving and receiving of love), actualisation and mental development may be compromised (Azzerrad, as cited in Maree, 2002).

Smit and Liebenberg (2003) highlight the significance of family-school relations as an important area where programmatic efforts could be directed in order to promote children's adjustments and competencies. Although the study does not speak directly to the role of parents in nurturing academic talent per se, it nevertheless raises important considerations for understanding the contexts in which disadvantaged parents or children are located. It also identifies possibilities for intervening in family-school relations in marginalised contexts where the potential for academic talent may be nurtured. Multiple results emerged from an analysis of responses to questionnaires, interviews and focus group discussions with parents of children in community-based support units in an impoverished context in Cape Town. The results were that (i) mainstream schools presented as barriers to parental involvement in their children's education, (ii) parents' experience of the demands of school (as being 'out of touch' with sub-economic realities) resulted in reduced parental involvement in schooling and created strains in parent-child relationships, (iii) schools could increase parental involvement by offering practical support through providing for the fundamental needs of learners, accepting school-time

responsibility for children, displaying empathy and respect towards children and their parents and by assisting parents on an emotional level.

3.12 The role of social capital in facilitating academic talent in marginalised communities

Social capital has also been identified as playing an important role in the identification and facilitation of academic talent in marginalised communities. This has been identified in international literature (see Kyburg et al., 2007; Deafenbaugh, 2007 and Kostenko & Merrotsy, 2009) as well as South African literature (see Dass-Brailsford, 2005 and Lazarus, Ratele, Seedat, Suffla & Paulse, 2010). This has been discussed in Chapter Two (Section 2.2.3).

In South Africa, social capital is also an important component of the concept of Ubuntu. Demonstrating a divergence from Western philosophy, individual achievement is celebrated by the community as a whole.

3.13 Factors that contribute to access and success at university for academically talented youth from socio-economically disadvantaged backgrounds

According to Engle (2007), first-generation college students (students of parents who did not attend college and/or did not graduate from college) are disproportionately represented among disadvantaged groups. In terms of demographics from the United States, such individuals present with a number of risk factors that are associated with lower rates of college attendance and degree completion. These include, for example, being "female, older, Black or Hispanic, have dependent children, and come from low-income families than students whose parents have college degrees" (p. 25). In addition, Engel cites several studies (see Berkner and Chavez, 1997; Bui, 2002; Chen, 2005) to reveal that first-generation status is "itself a risk factor" (p. 25) in postsecondary access to and success at college. This was the case even after factors such as demographic background, academic preparation, enrolment characteristics and college academic performance had been controlled for. Other factors contributing to the risk of leaving college prematurely included delayed entry into tertiary education, commencement of college at two-year (as opposed to four-year) institutions, required commuting to and from campus, part-time engagement in coursework whilst partaking in full-time work, and having a need for

remedial coursework. The question that arises then is why first-generation college status specifically presents as a risk.

Engle (2007) proposes that such students are disadvantaged in terms of having fewer academic preparation opportunities, lower educational aspirations, less encouragement and support to attend college, limited knowledge about applying to college and have less access to resources to afford college. These factors present restrictive opportunities for such students, including decisions to embark on a college education and the type of college chosen. However, as Horn and Nunez (2000, as cited in Engle, 2007) suggest, taking advanced high school courses in a subject (particularly mathematics) more than doubles the chances of these students enrolling in college. In light of this, parental and teacher encouragement and support are said to play a significant role in, not only encouraging advanced learning, but also in promoting learners' aspirations to attend college. Hossler (as cited in Engle, 2007), however, found that parents who were not afforded an opportunity for college attendance themselves, tended to promote it less for their children, and sometimes even discouraged it. Several factors contribute to this, namely the expectation that children work in place of study to support the family, the lack of knowledge of the benefits of tertiary education and a lack of financial support for college attendance (Engle, 2007).

Another factor limiting access to college is parents' misperceptions of the college application process. This has been supported in observations that parents who did not attend college had little knowledge about the college planning process and were less likely to assist their children in the process (for. example, on entrance tests). These parents also had inadequate access to resources to assist with the application process (such as a reliable internet connection) and lacked opportunities to take advantage of available resources (such as parent-teacher conferences) due to demanding work schedules.

In addition to questions of access, several related factors limit the success of first-generation college students. These students often lack academic preparation (they are, for example, less likely to have taken advanced courses in high school, they have lower SAT scores, and lack time management skills) and are less likely to engage in social activities associated with college

success (such as interacting with faculty, engaging in study sessions with peers, and participation in extracurricular activities) (Engle, 2007).

Highlighting several studies (see Lara, 1992; London, 1989, 1992; Phelan, Davidson, and Yu, 1993), Engle (2007) notes that such students also experience difficulties reconciling 'two worlds' – the norms, values and expectations required of their culture and the culture within the learning community. Acknowledging the need to intervene at various stages relating to college access and success, Engle (2007) proposes several strategies, which include (i) improving pre-college preparation (such as partaking in a rigorous high school curriculum, and college preparation courses), (ii) forming early aspirations and plans for college (such as outreach to parents and first-generation students in assisting with the college application process), and (iii) increasing access to financial aid, and easing the transition to college (through orientation programmes, faculty mentoring, advising and tutoring), increasing exposure to and engagement with the college environment (such as offering work-study opportunities).

Deafenbaugh's (2007) empirical study reported on the transition and persistence experiences of 'high-ability low-income' students. The majority of these students reported that parents played an influential role in their decision to pursue college studies. This 'push' factor was closely related to their parents' own lack of opportunity and their aspirations that college would provide their children with avenues to a better life. However, family difficulties also posed some challenges to students' transitions into college. This was demonstrated, for example, in the observation that some reported that financial difficulties encountered at home were constant preoccupations. Others reported having improved relationships with their families since embarking on college studies. Students relied on roommates and peers as emotional support networks during times of difficulty, and for some they were role models and mentors. Aside from these experiences, the role of finances had a strong influence on students' college experiences. As Deafenbaugh (2007) reports, the participants in her study regarded their 'high ability' status as an opportunity providing them with some options in relation to college (such as scholarship funding). Subsequently, most students expressed confidence that

their abilities would enable them to persist through college. For most students, however, their financial background continued to colour their experiences at college despite being removed from the circumstances of their home environment. Although students reported having sufficient means to survive as provided by scholarships, some expressed concern about the cost of their expenses and their family living circumstances, amongst others. Nonetheless, work-study opportunities in campus shaped their persistence experiences in positive ways.

Similar to Engle (2007), the following recommendations were suggested, namely (i) university outreach programmes should foster parental involvement in the college application process, (ii) the retention of low-income high ability students may be achieved by ensuring access to academic and social support structures and resources (such as advising tools, stress management workshops, and counselling sessions), (iii) adopting a single point of contact model which allows students encountering difficulties to have direct contact with a coordinator of scholars programme, and (iv) providing programming structures to allow students to meet with other scholars, faculty and staff members.

3.13.1 Findings in the local context

Using semi-structured qualitative interviews, Robbins, Wallis and Dunston (2003) explored the career development and academic adjustment processes of Zulu students who were transitioning into or who were in their first year of college. The specific areas explored were motivational factors, reinforcement and support systems, values and priorities and aspirations. Common in all student responses was the important influence of support from immediate and extended family members, which was regarded as an enabler of success at university. This typically took the form of emotional or practical support (through financial aid or housing). In addition to family, Robbins et al. (2003) report that other "relational enablers" (p. 16) include the support of friends and teachers. Alongside enablers, specific barriers which impeded the possibility of completing college included the lack of resources (such as financial difficulty) and limited skills in time management and study techniques. In addition, the negative influences of peer pressure and a lack of corporate sponsorship were also identified as barriers. Students' definitions of success were varied (including, for. example, reaching potential or acquiring a

good job), although 23% cited the significance of being a role model to others as critical to success.

According to Robbins et al. (2003), this reflects the importance of mentors within a collectivist culture. The participants' descriptions of their future career aspirations however, appeared to be absent, vague or underdeveloped. Suggested interventions that emanated from this include enhancing the social capital systems for learners in South Africa, which would enable exposure to business leaders who could be approached for advice, guidance and direction. In addition, the provision of positive role models to learners would also prove beneficial in helping students' transition to university and provide support to those who may be separating from their collectivist group for the first time. Given the traditional African emphasis on family and community-centredness, interventions could also blend family and social values with individual goals and aspirations.

3.14 The Targeting Talent Programme (TTP): A South African Academic Talent Development Enrichment programme

The Targeting Talent Programme (TTP) was identified as the site for research implementation and data collection for this research study owing to its status as a well-established South African academic enrichment programme. The programme has implemented an academic talent development initiative at the University of the Witwatersrand, Johannesburg, for the past fourteen years since its inception in 2007.

The goal of the programme is to increase the academic, social and psychological preparation of first and second generation (over a three-year period), academically talented learners from socioeconomically disadvantaged backgrounds for admission to South African selective universities.

Programme aim: To achieve this goal by identifying and selecting academically talented learners from socioeconomically disadvantaged backgrounds and under-resourced schools in identified areas in South Africa. The programme provides identified schools with nomination criteria that will assist educators and/or principals to identify academically talented learners.

Once learners are selected, the programme works with the **same cohort** of academically talented learners over a three-year (grade 10 to 12) period in order to increase their academic, social and psychological preparation for admission to South African universities. This three-year preparation is informed by a curriculum concentrating on residential academic enrichment, personal development skills, educator development and mathematics and science supplementation.

3.14.1 The programme definition of enrichment

Enrichment programmes are learner-centred programmes that target individual learners rather than classrooms or schools. The aim of enrichment is not to impact on a school's existing curriculum or teaching practices, but rather to supplement and extend a learner's weekday curricular and extra-curricular experiences. In keeping with the above, the aim of the Targeting Talent enrichment programme is to:

- Assist learners in reinforcing the content they are exposed to at school
- Teach learners new content **not** covered in school
- Instil a good work ethic of studying
- Motivate and prepare learners to navigate university

3.14.2 Programme selection process

A: The marking and selection process

A rigorous selection process was implemented to ensure that learners meet the selection criteria. Those who demonstrated academic talent, were identified to participate in the programme which is discussed in chapter 4. The diverse components of the marking and selection process cumulatively address the need for a more holistic and multidimensional understanding of the concept of academic talent.

B: Application forms

Nominated learners were required to submit four forms, which together constitute the TTP application pack. These forms are:

1. A Nomination Form
2. Biographical Questionnaire
3. Learner's Motivation Essay
4. Family Information Form

The forms are used to assess pertinent information about the nominated learners' academic and socio-psychological background.

C: Nomination Form

Each learner is required to be nominated by one adult who has interacted with the learner in an educational setting. Nominators are usually educators. Each nominator is required to rate the learner on various domains including learning ability, creativity, motivation and leadership characteristics, in order to assess talent potential. The nominator also provides a written explanation for why he/she has rated a learner as they have. The nomination form is designed to provide an indication of the learner's strengths and weaknesses in an educational context. It also corroborates the information obtained from the other forms (see Appendix B).

The main points that markers are able to infer from this form include the following (all in relation to their peers):

- Learning characteristics
- Creativity characteristics
- Motivation characteristics
- Leadership characteristics
- Learner's academic performance in relation to their peers
- Personal qualities of the learner
- Learner's proficiency in English

3.14.3 Biographical Questionnaire

The Biographical Questionnaire (BQ), in various formats, has been used by the University of the Witwatersrand's (WITS) Faculty of Humanities for the past 30 years, to identify academic talent and potential in candidates who do not meet the academic requirements for admission to university (Enslin et al., 2006[5]). The BQ allows the learner to contextualise his/her scholastic achievements, interests, future plans and personal situation. This assists in identifying potential to succeed despite difficult circumstances.

The main points that markers are able to infer from this form include the following:

- Greater understanding of learner's context
- Information on the learner's problem-solving techniques
- A sense of the learner's trajectory
- Learner's level of motivation
- Learner's level of reflection
- Learner's level of resourcefulness
- Learner's determination to succeed
- Learner's belief in their ability to succeed
- Learner's level of disadvantage
- Learner's level of support from those around them (including family, friends and educators)

3.14.4 Learner's Motivation Essay

Each learner is required to write an essay in which they describe their community and its influence on him/her. Nominees are also required to explain the reasons they have applied to the programme. The motivation essay provides an indication of the learner's English language

[5] Enslin, P.A., Button, A., Chakane, M., de Groot, M., & Dison, L. (2006). Assessing academic potential for university admission: The biographical questionnaire. *South African Journal of Higher Education, 20*(4), 433-448.

ability, his/her capacity for logical argument and the ability to reason, which are considered important factors for success at university (Enslin et al., 2006).

The main points that markers are able to infer from this form include the following:

- Learner's problem-solving techniques
- Learner's level of motivation
- Learner's level of reflection
- Learner's level of resourcefulness
- Learner's determination to succeed
- Learner's belief in their ability to succeed
- Greater understanding of learner's English proficiency
- Greater understanding of learner's contexts

3.14.5 Family Information Form (FIF)

The family information form is completed by the parent or guardian of the learner. This form gauges the learner's family background and financial position. It also provides an evaluation of the learner's characteristics from the perspective of the parent/ guardian.

The main points that markers are able to infer from this form include the following:

- Learning characteristics
- Creativity characteristics
- Motivation characteristics
- Leadership characteristics
- Personal qualities of the learner
- Greater understanding of learners' contexts
- The parents/guardians' level of support of learner's involvement in the programme

3.14.6 Nomination Pack

Despite examining each form submitted individually, markers base their decision on a global assessment of the information they gain from the various forms.

Criteria for selection include:

- School academic results (see Table 3.1)
- One nomination form completed by a nominator
- Biographical Questionnaire completed by the nominee under test conditions
- Learner's Motivation Essay completed by the nominee
- Family Information Form completed by the nominee's parent or guardian

Table 3.1 School academic results criteria

Grade	Mathematics	Natural Science	English	Physical Science
9	60%	60%	60%	-
10	60%	60%	60%	60%

The Markers

One marker, who is an expert in the field of talent potential and has significant experience in selecting learners for participation in this programme was involved in the marking process. In addition, five SETMU staff members, who understand the processes within the programme were involved in the marking process.

Marking criteria

The markers assessed the application forms based on a combination of the criteria set out by the merSETA and criteria formulated by the marking team. The criteria used by the markers, assessed (1) levels of disadvantage and (2) qualities of each applicant. This permitted an overall evaluation and prognosis for each learner.

3.14.7 Level of disadvantage

The level of disadvantage experienced by an applicant was rated across four different domains: (1) Educational, (2) Economic, (3) Language-related and (4) Personal/Other. Each domain was used to establish the level of disadvantage experienced by the child on a 5-point scale from none to severe (see Table 3.2).

Table 3.2 Level of disadvantage

Value	Level of disadvantage
0	None
1	Mild
2	Fair
3	Moderate
4	Severe

3.14.7.1 Qualities of applicant

The degree to which each learner exhibited qualities associated with academic talent were rated on a 5-point scale, from very weak to excellent. These qualitiies include: (1) Motivation, (2) Achievement, (3) Resourcefulness, (4) Personal/Other (such as Personal characteristics of the learners) and (5) Literacy.

3.14.7.2 Evaluation and prognosis

After rating each learner's levels of disadvantage and his/her personal qualities, the markers made a holistic evaluation of the strength of the applicant, and their suitability for the programme.

3.14.7.3 Markers' evaluations

Based on the high calibre of the pool of applicants and the competitative nature of the selection process, the markers' recommendations were made according to four categories:

1. Highly recommended
2. Recommended plus

3. Recommended
4. Not recommended

Those learners categorised as recommended plus submitted exceptionally good applications but were slightly lacking in a certain area. The applicants who were categorised as ' highly recommended' and 'recommended plus' were given preferance for selection into the programme. Thereafter, the ' recommended' candidates were considered for the programme if more positions were available. Those candidates categorised as 'not recommended' were considered unsuitable for the programme either because of their low academic results or the poor quality of their BQ and/or essay, indicating that they may not have the neccesary qualities to take full advantage of the opportunities offered by the programme.

Table 3.3 Markers' recommendation categories

Highly Recommended	Recommended plus	Recommended	Not Recommended
• Outstanding BQ (Engaged with BQ, clear articulation and logical flow) • Writes exceptionally well • Exceptional qualities which are evident • Perserverance • Resourceful • Provides good coping strategies • Resilient • Presents an argument • Coherence in thought	• Biographical questionnaire is better than average but not outstadning • Despite qualities emerging, these are not strong • Shows insight • Shows determination to succeed • Shows motivation • Shows resourcefulness • Shows belief in their ability to succeed • Shows some problem-	• Average biographical questionnaire (limited engagement) • Potential to write well but bland responses • Qualities do not emerge strongly • Simple accounts (cliches) • Formulaic responses • Tendency to be repetitive • More general engagement (reasoning is patchy)	• To many anomolies • Poor biographical questionnaire • Remedial challenges which cannot be addressed in the programme • Poor academic results • Essay-coaching or written by someone else as per handwriting discrepancies • Handwriting discrepncies • Limited responses to questions

Highly Recommended	Recommended plus	Recommended	Not Recommended
• Explanations provided • Leadership • Shows interesting insights • Demonstrates inner strength • Determined/proactive/ optimistic • More specific engagement with questions (reasoning is stronger) • Addressing questions directly • Learner has ideas (seen through use of vocabulary) • Logical structure • Good biographical questionnaire and essay	solving technqiues • Essay shows coherence in thought, logical flow and engagement	• Circular reasoning	• Thin and formulaic responses • Incoherent argument • No qualities emerge/ Literal responses

From the above review of literature and the constructs regarded as significant to the talent development perspective, it is evident that “the talent development framework emphasises the deliberate cultivation of psychosocial skills supportive of high achievement, persistence and creativity rather than leaving this to chance” (Olszewski-Kubilius, P., & Thomson, D., (Jan, 2015).

3.15 Summary

The review in this chapter has traced the evolution of conceptualisations of academic talent. While notions of talent are varied across settings (such as geographical, cultural, institutional and historical settings), literature highlights several noteworthy 'trends'. As indicated in Section I, there has been a gradual shift from notions of academic talent (or intelligence, giftedness and talent) as innate, static and determined largely by genetics, toward contemporary notions that emphasise the environmental, multidimensional and contextual nature of talent. Other theorists, moreover, have gone so far as to question the existence of 'giftedness' and its related constructs, proposing instead the view that 'giftedness' is a social construction.

In similar respects, South African literature on academic talent has evolved in the same manner. Literature produced during the 1980s focused on the construct of 'giftedness' and arguably mirrored the ideological traces of Apartheid. In particular, although studies attempted to identify academic talent among learners, they were typically silent on issues related to socioeconomic background, access to resources, and quality of schooling. Stated differently, understandings of academic talent were effectively decontextualized. Similar to developments in the United States, the theory and practice of intelligence testing was riddled with criticisms of cultural bias and insensitivity towards the socioeconomically disadvantaged and racial minorities. Locally and in the United States, there was a gradual shift towards egalitarianism and inclusionary practice. Following from international trends, South African theorists and practitioners, who became more conscientized about the deleterious policies of Apartheid, began to embrace more inclusionary definitions of academic talent that considered areas beyond intellectual ability towards consideration of other facets, such as creativity, leadership ability and personality attributes. Moreover, the post-Apartheid government's move towards inclusionary policies in education also translated into practices where 'gifted' are schooled alongside 'average' learners in the hope that the 'average' learners could benefit from the enrichment provided to the 'gifted' learners.

More contemporary understandings of academic talent have focused less on the 'giftedness' construct and have distinguished between 'achievement' and 'potential'. Others have

embraced additional terms such as ‘gifted disadvantaged’, ‘academic potential’, ‘academically talented’ or ‘high potential’. There has also been a significant shift in the meanings of academic talent that embrace a holistic view of the learner, and that demonstrate a recognition of the ‘subject of learning’ rather than the ‘object of testing’. In this regard, contemporary local writings have borrowed largely from theoretical formulations of postmodernism and the narrative to consider the life history of the learner as having a significant influence in how academic talent is developed. In similar respects, however, South African literature lends a unique slant to international perspectives on academic talent in its consideration of qualities of resilience, persistence and creativity (demonstrated in transcending contexts of poverty) as facilitators of achievement or academic success. Although deliberate efforts are made to ‘cast a wider net’, (Appel’s, 1988), it is also necessary to avoid re-institutionalising elitism through ‘handpicking’ those individuals who manifest with ‘talent potential’.

As highlighted in Section II, how a particular construct is defined has broad implications for processes of talent identification and development. In order to counter the potential for exclusionary practices, literature has pointed towards the importance of specifically defining how these terms are used, as well as their implicit or underlying values and assumptions. Due to the contextual variations in meanings of academic talent and background factors that mediate manifestations of talent, there are numerous difficulties in relying solely on westernised psychometric measures to identify academic talent. Debates in this area range from recommendations to incorporate culture-fair and unbiased tools alongside multiple forms of identification, to those that promote their complete disuse among the educationally disadvantaged. Once again, similar to developments in the international domain, local theorists and practitioners have also called for tools of identification that move beyond the cognitive domains of intelligence. In this respect, alternative admissions procedures have been developed and adopted by several national universities. The uniqueness of such approaches lies in the fact that it privileges the qualitative narratives or life histories that each applicant brings in relation to his/her educational trajectory. Local theorists and practitioners also provide alternative ways to identify ‘sparks’ of talent or ‘potential’ in learners (such as resourcefulness,

leadership potential and persistence) that allow him/her a 'second chance' at succeeding academically.

Interventions aimed at developing academic talent in South Africa typically take the form of foundational programmes offered at secondary or pre-tertiary level. Several considerations have been identified as particularly noteworthy and relevant to South Africa. Firstly, whole-person, student-centred approaches towards nurturing academic talent appear to hold more promise than teacher-oriented modes of instruction. Secondly, inclusive approaches to developing talent appear to be premised on the view that learners from educationally deficient backgrounds can be nurtured towards academic success. Thirdly, anchored instruction allows learners to own the learning material by situating its meaning within the larger context of their own lives. In this manner, various avenues for engaging with multiple perspectives are provided. Fourthly, environments of nurture and support are crucial in growing academic talent. This includes not only adequate mentorship to learners, availing them of access to social capital, but also support to parents and teachers in facilitating talent in learners. Finally, addressing educational disadvantage is not a 'quick fix' but requires intensive programming and an understanding of issues faced by disadvantaged learners (including values orientation conflicts, self-esteem and self-concept).

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

4.1 Introduction

This chapter provides a detailed discussion of the research design method selected for the study. It further provides a rationale for the research method applied, the research paradigm and approach adopted, including an overview of different mixed method research designs. Data collection methods and procedures, process and procedures for data-analysis, as well as a discussion of the validity and trustworthiness of this approach will be discussed in the chapter.

According to (Bobbitt et al. 1990) as an outcome of the importance to comprehend phenomena in qualitative research, the integration of philosophy has taken on a specific role a specific role. Sefotho (2015) states that by "implication, a phenomenon is not tangible, it is not an entity or a thing; it is an essential component of a being to be studied, a being whose meaning philosophers speculate upon and researchers seek. In other words, the essence of a phenomenon is *sub-rosa*, covert, and therefore, has to be divulged in order to be understood. Thus, through research, especially qualitative research, the essence or meaning of phenomena needs to be revealed for understanding" (p. 29). To develop on this concept Wahyuni (2012) notes that in principle, "research paradigms address the philosophical dimensions of social sciences' as phenomena to be studied" (p. 69). Huitt (2011) further describes "a research paradigm as a model for doing research". Although several models exist, the increasing importance in mixed methods was motivated by the realisation that even though there are distinct variances between quantitative and qualitative methods, and there exists areas of intersection and, notably, that the strong points of each component would add value to any given research study outside their respective individual offerings.(Burke, Johnson & Onwuegbuzie, 2004). In order to institute itself as an appropriate substitute, contemporary mixed methods movement has had to (re)introduced (Barnes, 2012, p. 464) critical historic debates about the link between philosophy and methods (Greene & Caracelli, 2003). Barnes (2012) critiques South African psychology's reliance on the emphasis of adopting epistemological perspective as a way of formulating the link between philosophy and method

which he indicates has perpetuated “qualitative and quantitative methods still being conceptualised as separate even when combined in “mixed” studies” (p. 464).

The interrogation of which paradigm best supports the new mixed methods movement has received significant consideration. Morgan (2007) demarcates a paradigm as a "systems of beliefs that influence how researchers select both the questions they study and the methods they use to study them" (p. 49). Possible philosophical associates include Barnes (2012) who reviewed a *South African Journal of Psychology, Volume 42(4), December 2012, (p.* 465) ; constructs like pragmatism (Feilzer, 2010; Burke Johnson & Onwuegbuzie, 2004; Onwuegbuzie & Leech, 2005), dialecticism (Green & Hall, 2010), realism (Maxwell & Mittapalli, 2010), the transformative paradigm (Mertens, 2007; Mertens, Bledsloe, Sullivan & Wilson, 2010) and feminism (Hesse-Biber, 2010, p. 464).

According to Andrew and Halcomb (2012), and Simons and Lathlean (2010), mixed methods designs are best suited to research designs in which “multiple perspectives of the research problem will provide a more detailed understanding than could be gleaned from a single perspective” (cited in Halcomb, E., & Hickman, L., 2015, p .4). Methodologically, the researcher proposes that the quantitative and qualitative methods are mixed to design locally appropriate instruments, which will inform the construction of appropriate interventions. In addition, it will be used to develop and expand locally relevant theories and models that promote the interests of marginalised groups.

4.2 Philosophical approach

Mesel, 2013 noted that several philosophical approaches can be used to support mixed methods research. A philosophical approach or worldview can be defined as “the lens through which one sees the world” Halcomb (2015, p. 5). Morgan (2007) further states that “a paradigm is systems of beliefs that influence how researchers select both the questions they study and the methods they use to study them" (p. 49). The possible philosophical partners for mixed method research have been recommended which include “ pragmatism (Feilzer, 2010; Burke Johnson & Onwuegbuzie, 2004; Onwuegbuzie & Leech, 2005), dialecticism (Green & Hall, 2010),

realism (Maxwell & Mittapalli, 2010), the transformative paradigm (Mertens, 2007; Mertens, Bledsloe, Sullivan & Wilson, 2010) and feminism (Hesse-Biber, 2010)" cited in Barnes (2012 p. 464) . Central to all these approaches is the refutation of the unsuitability of quantitative and qualitative methods. Interestingly they diverge on the role of philosophy in mixing methods with regard to how quantitative and qualitative methods can be importantly combined and what the envisioned outcome of doing mixed methods should be (Greene & Hall, 2010).

This study utilised a mixed method research design to demonstrate how such a design approach was able to assist the researcher in (a) exploring how academic talent was conceptualised by learners from disadvantaged communities, (b) exploring which profiles of academic talent emerged in disadvantaged communities, based on the data extracted and on the experiences of learners in the Targeting Talent Programme (TTP), and (c) identifying how learner experiences could inform a set of criteria for enrichment programmes.

4.3 Approach

According to Van der Merwe (cited by Garbers, 1996), qualitative research is aimed at the development of theories and understanding. Qualitative research as defined by Denzin and Lincoln (2005) is a "situated activity which locates the observer in the world, involves an interpretive, naturalistic approach to the world, i.e. qualitative researchers study phenomena in their natural settings, attempting to make sense of, or interpreting phenomena in terms of the meanings people bring to them. Qualitative research implies an emphasis on the qualities of entities and on processes and meanings that are not experimentally examined or measured" (Denzin & Lincoln, 2005, p. 10). Van der Merwe (1996), describes quantitative research as an approach aimed at testing theories, determining facts, demonstrating relationships between variables, and predicting outcomes. Weinreich (2009), states that the methods used in quantitative research stem from the natural sciences that are intended to ensure neutrality, generalizability and reliability.

Teddlie and Tashakkori (2009) developed a typology comprising of three general categories of reasons for conducting mixed methods research, namely (a) personal reasons for conducting

the study, (b) reasons associated with advancing knowledge, and (c) societal reasons associated with improving or empowering society, institutions and oppressed groups. According to Collins, Onwuegbuzie & Sutton (2006), several frameworks for conducting mixed methods research have been developed for many disciplines, including those in the "health or social and behavioural science field and education (Jonson & Onwuegbuzie, 2004; Onwuegbuzie & Johnson, 2004; Rocco et al., 2003); psychology (Waszak & Sines, 2003); sociology (Hunter & Brewer, 2003; Onwuegbuzie, in press); counselling (Leech & Onwuegbuzie,2005a) and counselling psychology (Hanson, Creswell , Plano Clark, Petska, & Creswell, 2005; Haverkamp, Morrow, & Ponterotto, 2005)…" (p. 282).

The research study had adopted the transformative paradigm to obtain information about the social world of the participants in the study. The transformative paradigm is also implemented at the level of ontology, as supported by Barnes (2012), who suggests that both ""real" inequality" as well as participants' perceptions and experiences of that inequality are worthy of investigation" (p. 484). Human subjective perceptions and experiences of the social worlds are what matter and multiple versions of reality may exist (Flynn & Kramer, 2019). Mertens (2003, p. 75) reminds the researcher to ensure that these viewpoints need to be contextualized within the "political, cultural, historical and economic value systems to understand the basis for difference". At the level of epistemology, the mixed method researcher does not actively engage with the "*intersubjectivity* (being both objective and subjective) but is particularly interested in, and reflexive of, the historical, class and racial influences in the relationship between the researcher and participants" (Flynn & Kramer, 2019, p. 305).

In terms of the connection of data to theory, the researcher employed a process of abduction to deductively assess the magnitude of inequality based on existing literature. Additionally, the researcher used induction to understand the participants' experiences or perceptions of that inequality in the context of developing academic talent. As result, the inputs of marginalised groups are prioritized in the design, implementation and interpretation of the study.

Johnson, Onwuegbuzie and Turner (2005) define mixed method approach as "*the class of research where the researcher mixes or combines quantitative and qualitative research techniques methods, approaches, concepts or language in a single study or set of related studies*" (p. 19). The authors advocate that this type of research should be used when the contingencies suggest that it is likely to provide superior answers to a research question or set of research questions (p. 19). For the purposes of this study a mixed method approach was considered to be most valuable to meet the aims and objectives of the research study as it would allow an understanding of how academic talent was conceptualized in disadvantaged communities. In addition, this mixed methods approach enables a more in-depth understanding of a particular strata, for example, a qualitative understanding of how learners' contextual reality and their experience of the programme may influence their understanding of academic talent, as well as a quantitative understanding of the scores on various instruments used to develop a talent profile.

The increasing popularity of mixed methods research in social science is reflected in the significant portion of literature arguing for it to be regarded as a specific method of social inquiry, which is embedded in "its own methodological, philosophical and practice guidelines" Barnes (2012, p. 463). Barnes (2012) argues that contemporary mixed methods research offers useful insights based on the following three critiques of South African research:

1) According to Barnes (2012, p. 464), "South African psychology's reliance on the epistemological stances as a way of conceptualizing the link between philosophy and method" has resulted in qualitative and quantitative methods still being conceptualized as separate even when combined in "mixed" studies.

2) South African research has not embraced the much-needed development of a transformative agenda in research. Barnes (2012, p. 464) argues further that "mixed methods can contribute to the development of transformative research within South African psychology in ways that mono methods cannot".

3) The third critique focusses on what Barnes (2012, p. 464) regards as the failure of "South African psychological mixed methods studies to incorporate important recent developments emanating from the mixed methods literature."

It is evident in the literature that qualitative studies have made considerable progress in developing our understanding of social justice related issues. There is, however, a critical need to understand the magnitude of these issues within contemporary South Africa. The transformative paradigm is a meta-physical framework that "directly engages the complexity encountered by researchers and evaluators in culturally diverse communities when their work is focused on increasing social justice" (Mertens, 2009, p. 10). Mertens (2009, p. 10), states that the advantage of the transformative paradigm is that it focuses on the "strengths that reside in communities that experience discrimination and oppression on the basis of their cultural values and experiences".

In South African psychological studies, the transformative potential of mixed methods has been demonstrated in the following two ways:

3. In the expansion of our understanding of key South African social justice issues by focusing on the magnitude (using quantitative methods) as well as the participants' perceptions of those issues (using qualitative methods)
4. Through the development of locally relevant instruments and intervention studies where these studies provided more holistic understandings of their topics of investigation than mono methods would have alone.

The transformative methodological assumptions suggest that researchers start with qualitative data collection to learn about the community and to establish trusting relationships. The qualitative data collection can then be supplemented with quantitative data. Research would rarely occur as a once-off data collection with one type of data. Therefore, the mixed methods design for this study will be a cyclical collection of data that will feed into subsequent decisions about how to use the information to move the research to the next level or to make changes in the community (Mertens, 2012).

Mixed methods studies are relatively underrepresented in published research in the domain of South African psychology, a field that has been critiqued for being slow to develop a much-needed transformative research agenda in line with the country's social and development needs (De la Rey & Ipser, 2004; Macleod, 2004). The transformative debates of disciplines are inherently concerned with the manner in which research methods have perpetuated and continue to perpetuate the types of knowledge produced. Barnes (2012) noted that given the historical domination of positivist, quantitative studies in psychology (Posel, 2000) that are often complicit with racist (Duncan and Bowman, 2009) and gendered (Kiguwa and Langa, 2011; Boozaler and Shefer, 2006) ideologies, it is unsurprising then that qualitative methods have been the method of choice for critical and transformative research (see Painter and Terre Blanche, 2004).

4.4 Research paradigm

Mixed Methods is increasingly being acknowledged as integral to the future of South African social sciences (Wagner, 2009). The question of which paradigm best supports the new mixed methods movement has received considerable attention (Barnes, 2012).

A paradigm is defined as a "system of beliefs that influence how researchers select both the questions they study and the methods they use to study them" (Morgan, 2007, p. 49). Candy (1989), identified several paradigms and isolated them according to three main taxonomic groups, namely Positivist, Interpretivist/Constructive, and Critical/Transformative paradigms. Later on, a fourth paradigm called the Pragmatic paradigm was proposed by Tashakkori and Teddlie (2003a; 2003b), which borrows elements from the previous three taxonomies. The positivist paradigm is based on scientific methods of investigation, which involves a process of experimentation to explore observations and answer questions. In the interpretivist/constructivist paradigm, data generated by the research act is grounded; in other words, it does not precede research but follows it. In the pragmatic paradigm, the approach to research allows for a combination of methods both practical and pluralistic that "shed light on the actual *behaviour* of participants, the *beliefs* that stand behind those behaviours and the

consequences that are likely to follow from different behaviours" Kivunja and Kuyini (2017, p. 35).

The critical paradigm is premised on social justice issues and aims to address social, economic and political concerns and problems resulting in social oppression and the use and misuse of power structures at various levels in society. Due to the advocacy to change, the politics so that social oppression is confronted and social justice issues are actively addressed it is sometimes called the transformative paradigm.

The transformative paradigm (Mertens, 2007; Mertens, Bledsloe, Sullivan & Wilson, 2010) has been suggested as a possible philosophical partner for the proposed mixed method study. Critical to the transformative paradigm is "the realization that discrimination and oppression are pervasive and that researchers have a moral responsibility to understand the communities in which they work in order to challenge societal process that maintain the status quo" (Mertens, 2010, p. 49). This critical ideological paradigm thus has at its core an assumption that inequity and oppression characterize real-world human interactions and that during the process of empirical inquiry, the researcher's own social justice values can and should play a role in the research process. This role is manifested in the goal of empowerment and in the emancipation of groups who experience oppression (Kincheloe & McLaren, 2000).

4.5 Mixed Methods Research Designs

4.5.1 Four decisions for mixed method designs

Methodologist, Creswell (2003, p. 211) suggested a systematic framework for approaching mixed methods research, in which he urges the consideration of four main questions as well as six strategies. The four questions are:

1. What is the implementation sequence of data collection?
2. What method takes priority during data collection and analysis?
3. What does the integration stage of finding involve?
4. Will a theoretical perspective be used?

4.5.2 Six mixed methods design strategies

Several calls have been made for researchers to apply mixed methods in cases where a combination of qualitative and quantitative approaches is used within the same study (see Chatterji, 2005; Johnson & Onwuegbuzie, 2004, and Raudenbush, 2005). Collins, Onwuegbuzie and Sutton (2006, p. 67-100) state that in support of this call, various frameworks have been developed for the implementation of mixed methods research across several disciplines in the health or social and behavioural science fields, including education (see Johnson & Onwuegbuzie, 2004; Onwuegbuzie & Johnson, 2004, and Rocco et al., 2003), and psychology (see Waszak & Sines, 2003).

Collins, Sutton & Onwuegbuzie (2006) note that the mixed methods approach has not been adopted to a similar degree by researchers in special education. This stance is informed by their finding that between 2000 and 2005, only 10.8% of articles published in the *Journal of Special Education,* combined qualitative and quantitative techniques within a single study. A possible reason for the limited utilization of mixed methods investigations in special education is located in the practical barriers involved in the combination of both qualitative and quantitative research approaches (see Onwuegbuzie & Johnson, 2004; Teddlie & Tashakkori, 2003). Compared to mono method studies (that is, either solely quantitative or qualitative research), mixed methods inquiries are perceived to be more onerous in term of resources, effort and the time required for implementation. Depending on the orientation of the researcher, it may be more difficult to design the qualitative component in a mixed method study if the primary orientation is towards quantitative analyses and vice versa. Odom et al. (2005) argue firstly that "educational researchers have acknowledged the value of mixing methodologies to provide a complementary set of information that would more effectively (than a single method) inform practice" (p. 141), and secondly that "the research methodologies that would generate this information are more likely qualitative, correlational, and mixed methods, as well as RCT [randomized controlled trials] and large-scale, single-case designs" (p. 146).

The reliance on solely experimental research has been questioned (see Chatterji, 2005; Johnson & Onwuegbuzie, 2004; Raudenbush, 2005), despite its strength being located in its ability to identify causal relationships. It is important to note that what it does not do is answer the 'why' and 'how' questions in that type of research design. Within the South African context, the mixed method techniques and guidelines are provided by Creswell (2003) who is the most notable theorist in this field.

Creswell (2003) describes six mixed methods designs summarised in Table 4.1.

Table 4.1 Six mixed methods designs

Mixed method design	Characteristics	Purpose
Sequential Explanatory	Collection and analysis of quantitative data followed by a collection and analysis of qualitative data.	To use qualitative results to assist in explaining and interpreting the findings of a quantitative study
Sequential Exploratory	An initial phase of qualitative data collection and analysis followed by a phase of quantitative data collection and analysis.	To explore a phenomenon. This strategy may also be useful when developing and testing a new instrument.
Sequential Transformative	Collection and analysis of either quantitative or qualitative data first. The results are integrated in the interpretation phase.	To employ the methods that best serve a theoretical perspective.
Concurrent Triangulation	Two or more methods used to confirm, cross-validate, or corroborate findings within a study. Data collection is concurrent.	Generally, both methods are used to overcome a weakness in using one method with the strengths of another.
Concurrent Nested	A nested approach that gives priority to one of the methods	The purpose of the nested method is to address a different

	and guides the project, while another is embedded or "nested".	question than the dominant or to seek information from different levels.
Concurrent Transformative	The use of a theoretical perspective reflected in the purpose or research questions of the study to guide all methodological choices.	To evaluate a theoretical perspective at different levels of analysis.

The concurrent transformative mixed method research design is described by Creswell (2009) as a process in which the "researcher collects both quantitative and qualitative data concurrently and then compares the two data bases to determine if there is convergence, difference or some combination. The mixing during this approach, usually found in the interpretation or discussion section, is to actually merge the data (i.e. transform one type of data to the other type of data so that they can easily compared). This side-by-side discussion section first provides quantitative statistical results followed by qualitative quotes that support or disconfirm the quantitative results" (p. 213).

This research design has been selected for this study as it allows the opportunity to not only quantify variables and their relationships, but also to explain, inform and/or validate possible findings in a single study. In the South African context, this mixed method study may also serve a transformative function through the initiation, exploration and expansion of much-needed locally relevant theory and intervention.

The proposed research method will therefore involve a concurrent transformative design as depicted in Table 4.2 below:

Table 4.2 Typology of Concurrent Transformative Mixed Methods Research Design (derived from Creswell 2009, p. 210)

QUAN + QAUL Vision, Advocacy, Ideology, Framework	quan QUAL Vision, Advocacy, Ideology, Framework

The concurrent transformative design mixes one qualitative and quantitative data unit in one phase. One method is dominant while the other is used to either answer a different research question or focus on sub-groups within a larger group. It is focused on a deeper understanding of a phenomenon and is not an attempt to validate findings.

4.6 Data collection methods

The data collection process in the TTP begins from when schools are identified, nomination forms sent to the schools who identify the learners who meet the programme selection criteria, to the completion of the biographical form by learners and parents and once received evaluated by a team of educational experts who select the successful learners. A successful learner would then participate in a three-year programme committing to attend all school holiday sessions where they are exposed to both supplementation and enrichment content sessions. Each contact session with the two-week university residential enrichment programme consist of an annual baseline and exit evaluation form which is completed by the selected participants. The study attempted to align with the TTP objectives to obtain information over a period of time and therefore data was been collected in each year of the three-year programme implementation duration of the study and the data sources are depicted in Table 4.3.

	Qualitative	Quantitative
Year 1 (phase 1)	• Biographical questionnaire • Contextual essay by learner • Baseline and Exit questionnaires to establish expectation and experience of enrichment programme	• Grade 9 school marks • LASSI (Learning Styles Inventory) • General self-efficacy scale • Aspirations/university readiness questionnaire
Year 2 (phase 2)	• Exit questionnaire to establish experience of enrichment programme	• Grade 10 school marks • LASSI (Learning Styles Inventory) • General self-efficacy scale • Aspirations/ university readiness questionnaire
Year 3 (phase 3)	• Exit questionnaire to establish experience of enrichment programme	• Grade 11 school marks • LASSI (Learning Styles Inventory) • General self-efficacy scale • Aspirations/university readiness questionnaire
Year 4		• Grade 12 NSC marks • University admission

Table 4.3 Description of data instruments utilized in the concurrent mixed method study

4.6.1 Psychometric tests administered in each phase - Quantitative Methods

The data sources presented below have been identified to provide evidence to answer the second and third research questions of the study, namely exploring what profiles of academic talent have emerged in disadvantaged communities on the basis of data extracted and the

experiences of learners in the Targeting Talent Programme (TTP), and identifying how learner experiences could inform a set of criteria for enrichment programmes.

a. LASSI-HS (Learning and Study Strategies Inventory – High School)

This instrument was created by Weinstein and Palmer (1990) and measures the critical skills necessary for academic success in high school, as well as the skills that are influential during the transition from secondary to higher education institutions. It may be used with learners at the 9th, 10th, 11th, and 12th grade levels of high school study. The LASSI-HS is made up of 10 subscales, namely, the Attitude scale, the Motivation scale, the Time Management scale, the Anxiety scale, the Concentration scale, the Information Processing scale, the Selecting Main Ideas scale, the Study Aids scale, the Self-Testing scale and the Test Strategies scale. It is a statistically valid and reliable tool, with co-efficient alphas ranging between 0.68 and 0.82 for all ten subscales, for the purposes of diagnosing students' study skills. It is an assessment tool that is used to determine how aware students are regarding the use of learning and study strategies which are related to one's skills, will and the self-regulation components of strategic learning. Once the learners have completed the LASSI-HS, their subscale scores will be calculated in order to determine which areas they are weak in. This instrument will be administered to learners in grades 10, 11 and 12. The results will be compared over the three-year period to not only assist learners in areas of development, but also to inform both the qualitative and quantitative attributes of the talent profile.

b. GSE (General Self-Efficacy Scale)

This instrument was developed by Matthias Jerusalem & Ralf Schwarzer (1999). The scale was created in order to assess a general sense of perceived self-efficacy with the aim of predicting the capacity to cope with daily hassles, as well as the adaptation necessary after experiencing stressful life events. The scale is designed for the general adult population, including adolescents. Persons below the age of 12 should not be tested. The scale is usually self-administered as part of a more comprehensive programme evaluation questionnaire. In this study, it will be administered along with the baseline questionnaire in grades 10, 11 and 12. The 10 items are mixed at random into a larger pool of items that have the same response format.

In terms of time, it requires four minutes on average, and in terms of scoring, responses are made on a 4-point scale. The final step is to sum up the responses to all 10 items to yield the final composite score with a range from 10 to 40. No recoding is required. The construct is regarded as a self-affirming factor, as it enables goal-setting, effort investment, persistence in the face of adversity, and recovery from setbacks (General Self-Efficacy Scale (GSE), 2017).

c. Perceived Self-Efficacy

The construct of Perceived Self-Efficacy reflects an optimistic self-belief (Schwarzer, 1992). This is the belief that one can perform a novel or difficult task, or cope with adversity (in various domains of human functioning). Perceived self-efficacy facilitates goal setting, effort investment, persistence in the face of barriers and recovery from setbacks. It can be regarded as a positive resistance resource factor. Ten items are designed to tap this construct. Each item refers to successful coping skills and implies an internal-stable attribution of success.

Perceived self-efficacy is an operative construct, that is, it is related to subsequent behaviour and, therefore, is relevant for clinical practice and behaviour change. In samples from 23 nations, Cronbach's alphas ranged from .76 to .90, with the majority in the high .80s. The scale is unidimensional. Criterion-related validity is documented in numerous correlation studies where positive coefficients were found with favourable emotions, dispositional optimism, and work satisfaction. Negative coefficients were found with depression, anxiety, stress, burnout, and health complaints.

The measure has been used internationally with success for two decades. It is suitable for a broad range of applications. It can be used to predict adaptation after life changes, but it is also suitable as an indicator of quality of life at any point in time. As a general measure, it does not tap specific behaviour change.

d. Learner School marks

The learner school marks were collected at the end of each year for the grades nine, 10, 11 and 12. Only the English, Mathematics and Science marks were recorded as they are the gateway subjects to access Higher Education. The following grades were recorded:

- Grade 9 (baseline mark at entry into the TTP programme)
- Grade 10 (end of year mark for year 1 in the TTP programme)
- Grade 11 (end of year mark for year 2 in the TTP programme)
- Grade 12 (end of year mark for year 3 in the TTP programme)

The results were compared over the three-year period to inform quantitative attributes for the talent profile.

e. Aspiration questionnaire

This questionnaire is administered to all the participants in grades 10, 11 and 12 in order to track changes in career and study aspirations. These results will inform the learner's conceptualisation of academic talent as it informs the development of the talent profile.

4.6.2 Description of qualitative instruments administered in each phase

The qualitative data sources have been identified to provide evidence to answer the first and second research questions of the study, namely identifying the conceptualisation of academic talent and exploring what profiles of academic talent have emerged in disadvantaged communities on the basis of data extracted and the experiences of learners in the Targeting Talent Programme (TTP).

a. Biographical Questionnaire (BQ)

Questionnaires are often used as quantitative sources of data. In this study, however, they are utilised to source both quantitative data (demographics) and qualitative data (learners' personal histories and aspirations). The Biographical Form in this study (see Appendix) is completed by all the participants and is divided into four main sections. Section A highlights the learner demographics (gender, population group). Section B explores the learner's background information (primary and high school attendance, subjects and awards), challenges experienced and the manner in which they were addressed, school performance and achievements. Section C explores the influences of role models on the learner, as well as the learner's interests and future plans. Section D summarises the learner's family background in terms of household

demographics, occupation and the skill category of members in the family, as well as the influence of community members on the learner, past experiences of death or illness in the family, and perceived challenges and the manner in which they anticipate coping with living in Johannesburg (where the programme is implemented at the University of the Witwatersrand).

The BQ was developed by Enslin, Button, Chakane, de Groot and Dison in 1985 as part of an alternative admission process for Black students to the Faculty of Humanities at the University of the Witwatersrand. Their central claim is that the BQ provides candidates with an opportunity to present themselves as active subjects with a capacity to transform, rather than as objects of a 'test'. Candidates present themselves as agents, each with a life history; a narrative which describes the context of that life. For most of the applicants in question, this is a context of poverty and struggle to succeed at school. The BQ establishes the degree and type of disadvantage that each applicant had experienced and coped with. The life history sketched in response to the BQ offers a brief but rich account of the individual's educational trajectory over time between two institutions, namely school and university. It also chronicles their engagement with the challenges of schooling in the context of a particular family and community. Enslin et al. (2006) argue that in keeping with the biographical turn in social science, the BQ allows for the 'presentation of self' (Goffman, 1959 cited in Enslin et al. 2006) in a way that empowers applicants, in contrast to the representation afforded by other instruments that measure scores, such as in English language achievement tests, which may objectify and consequently disempower the applicant.

The BQ allows an applicant to present himself/herself within the context of his/her own experience and, in so doing, to reveal the traits or characteristics which correlate with success at university. This questionnaire was adapted by the developers for the selection of high school learners to participate in the Targeting Talent Programme to ensure that the correct attributes are selected. This provided a platform for the researcher to identify those traits in consultation with the developers of the BQ and the selection team received training from the developers demonstrating the way in which the BQ could provide insight into the learners' contexts, as well as an initial conceptualisation of academic talent. Furthermore, it provided an opportunity for the identification of non-cognitive measures to inform the talent profile.

The analysis of the biographical questionnaire (BQ) proceeded according to the theoretical constructs outlined by Enslin et al. (2006). Preliminary guiding categories enabled the identification of specific criteria for university access of disadvantaged students. These criteria, as detailed by Enslin et al. (2006) are context, learners' resourcefulness in dealing with challenges in their own context, goal-directedness and career focus, awareness of community/political/social issues, and an ability to reflect critically on topical issues. Although a theory-driven process categorized the guiding framework for analysis, the texts were read for other unique responses that emerged from learners. Coded items were grouped according to predominant themes and interpretations were made based on the grouped themes and sub-themes.

b. Contextual essay by learner

Learner Motivation essays *were* submitted in grade 10 and were coded where like-codes were grouped together into themes. The significance of the submission of the essays in this grade was to gauge the learners' academic potential and insight into their contextual realities and lived experiences before they were selected for and access the programme. The coding process yielded distinct codes and supporting quotations. Like codes were grouped together, resulting in themes. Themes that were conceptually similar were merged to form the following dimensions (or conceptual categories): *Experience of community and impact on self* (community as uplifting; community as strained; community struggle, survival and transition); *Dimensions of Personal Growth* (propelling influences toward betterment; derived meanings, awareness, insights; resilience and survival); and *Perceived Benefits of TTP* (future aspirations and role preparation; present foundational support; personal, social and professional growth). The analyses would inform not only the contextual reality for each learner from a disadvantaged community, but also how that context informs their initial conceptualisation of academic talent.

c. Baseline Questionnaire

Baseline questionnaires are methods of obtaining information and opinions from participants to inform the research outcomes. A baseline questionnaire was administered to the learners during year one of the programme when they were in grade 10, with the aim of exploring their

expectations of the programme, and to provide information regarding their socio-economic backgrounds, their awareness of University Readiness and their initial conceptualisation of academic talent. The Personal Development Scale is located and implemented within the larger University Readiness Development Evaluation designed by Conley (2007). This scale has been adapted by the researchers in TTP, consists of 33 items and measures the following constructs, namely academic behaviours, key cognitive strategies, and contextual skills and awareness (Conley 2007a). It is included in both the baseline and exit evaluations. The baseline evaluation aims to understand the expectations the learners have of the programme. It consists of a Likert-type scale with 16 questions, as well as open-ended questions. The table responses range from strongly disagree to strongly agree. The response continuum for each statement is a linear scale indicating the extent of the respondents' level of agreement or disagreement with each statement. A generic response continuum ranges from 1 (minimum) to 5 (maximum). A mean for each question is obtained (called the sentiment mean) by averaging the responses to each question (this is called the sentiment mean). A sentiment mean of 4.5 and above would represent a strongly agree/excellent response.

The open-ended questions in the baseline questionnaire were analysed using thematic content analysis to develop patterns and themes within the data, in order to better understand the learners' overall experiences.

d. Exit Questionnaire

This questionnaire was administered to learners during the third (and final) year of the programme when they were in grade 12 and had completed the programme. The exit questionnaire assessed their overall programme experience, to track changes in their conceptualisation of academic talent and to gain insight into any social, academic and personal impact that occurred because of their participation in a three-year academic talent development programme. The exit questionnaire also assessed learners' holistic experiences over their three-year involvement in the programme. In addition, but not directly pertinent to the current study, the exit questionnaire provided feedback as evaluation of the programme (TTP).

The questionnaire consisted of a Likert-type scale with 16 questions, as well as open-ended questions. The questions were similar to those in the baseline questionnaire in order to measure change over time. The learners evaluate their experience of the programme by indicating their level of agreement or disagreement with statements related to various aspects of their personal development, including skills, academics, and university awareness and readiness.

The open-ended questions in both the baseline and exit evaluations were analysed using thematic content analysis. Through thematic content analysis, patterns within the data are able to emerge, which were used as themes to better understand the learners' overall experiences.

As discussed, in the concurrent transformative design, both methods are used at the same time in each phase. The key feature of a transformative design, according to Creswell (2003), is that it is underpinned by a "theoretical perspective" (p. 216). As a researcher, the selection of this design was informed by Creswell's argument that "mixed methods research can be used not only for descriptive/explanatory research, but also for transformative/critical work" (cited in Giddings & Grant, 2006, p. 11). The above data sources was identified to provide evidence for the research questions: (a) exploring how academic talent was conceptualised by learners from disadvantaged communities; (b) exploring what profiles of academic talent emerged in disadvantaged communities from data extracted and experiences of learners in the Targeting Talent Programme (TTP) and (c) identifying how learner experiences could inform a set of criterion for enrichment programmes.

4.6.3 Critique on self-report tool

The self-report method is a measurement most frequently used in psychology. According to Boruchovitch and Angeli dos Santos (2015), 90% of studies in the field of clinical and social psychology make use of self-report measures. In their additional reviews of 129 studies, 60% of those studies made use of self-report measures, and a further 20% of reviewed studies listed using self-report measures as a limitation. Interestingly, studies citing self-report measure as a limitation do not elaborate on how or why it is considered a limitation, or on the consequent influence this limitation may have on the results of the study (Boruchovitch and Angeli dos

Santos, 2015). Boruchovitch and Angeli dos Santos (2015) elaborate on the following limitations, namely:

- A lack of objectivity, with regard to individuals who do not always report truthfully when asked about their own behaviour, processes and perceptions. Organ and Podsakoff (1986) describe this as occurring due to the Social Desirability Effect, which results in respondents answering a questionnaire portraying themselves in a favourable light.
- An additional challenge was identified by Organ and Podsakoff (1986) as the Consistency Motif, which is the phenomenon of learners answering consistently with prevalent lay theories. This results in the response to different constructs being answered similarly based on the assumption that they are related.
- Demographic information can be validated by comparison to archival records; however, it is not possible to do the same for participant personality and behavioural data. Often, studies have to make use of alternative methods, such as behavioural or biological methods to increase objectivity (Boruchovitch and Angeli dos Santos, 2015).
- Lastly, Organ and Podsakoff (1986) describe the concept of Artificial Covariation as a limitation where a learner's prior interactions and experiences could have influenced their state of mind at the time of completing the questionnaire, which results in misrepresentative data.

4.7 The research participants

The population for this study were South African learners from disadvantaged communities selected from all nine provinces to participate in a three-year pre-university programme to facilitate access to Higher education.

The learners identified for participation in the Targeting Talent enrichment Programme (TTP) represent a group quite distinct from the participant characteristics reflected in the studies overviewed in the earlier section of chapter 3. In particular, the contextual locations of the

participants were distinctly removed from the participants in the studies highlighted in chapter 3.

The selection process compromised of the following components: (1) selection of the schools; and (2) Selection of the learners. Participating schools were selected based on the following criteria:

- Only Secondary schools/High schools were considered;
- Schools identified had to located in a marginalised community;
- schools had to have a dedicated Mathematics teacher and Science teacher for a period of 5 years

Selection of learners was done according to the following procedures and criteria:

- Only learners in grade 10 were eligible from the selected schools as the …….;
- Learners had to be nominated by either the school principal or a teacher to participate;
- Learners selected by the principal or a teacher, also had to be nominated by a parent or guardian;
- Learners were also eligible for selection based on their learner grade-nine report cards. These report cards had to be submitted as evidence of meeting the nomination criterion of achieving sixty percent in Mathematics, Science, English and Life Sciences.
- learners were then required to complete the biographical questionnaire and essay under test conditions, and
- Participants for this study were selected from the initial population of learners nominated nationally, and who were selected to participate in the Targeting Talent Programme.

All participants were requested to voluntarily participate in the study by completing parent/guardian and learner consent forms (see Appendix C).

Each questionnaire was prefaced with a reminder assent /consent form, and prior to administration, all participants were briefed verbally about the use of the data and their right to choose to participate or not.

It was estimated that approximately 100 learner biographical questionnaires, essays and responses to the question "What is academic talent?", together with baseline and exit questionnaires, LASSI, general self-efficacy scores, aspiration questionnaires and grade 10 marks, were selected to provide the first phase of research data. The grade 11 school marks, LASSI (Learning Styles Inventory), general self-efficacy scale, aspirations questionnaire, and the exit questionnaire to establish their experience of the enrichment programme was selected to provide the second phase of research data.

The last phase of data collection included the Grade 12 NSC (National School Certificate), school grade marks, LASSI (Learning styles inventory), general self-efficacy scale, aspirations questionnaire, exit questionnaire to establish their experience of the enrichment programme, as well as university admission.

4.8 Participant Demographics

Firstly, learners in the WITS TTP programme were identified as potentially academically talented (that is, having academic potential to succeed at university-level studies) by a panel of selectors who consisted of psychologists, educationists and learning support academics.

Secondly, such learners came from low-income contexts where access to learning resources was scarce. Given these contextual variations, it is important to understand how their perceptions of academic talent may diverge or converge from other learners' responses reported in the published literature. As Dickson (2007) argued, minority voices (defined as low-income and having diverse ethnic, language and cultural backgrounds) provide a valuable source of information on how to "scaffold learning experiences" (p. 3) to enable their success and confidence in higher education contexts. Unfortunately, as depicted in Chapter 3, the international literature is markedly lacking in this area.

4.9 Data analysis

4.9.1 Method

The following seven phases of mixed method analysis as proposed by Onwuejbuzie and Teddlie, (2003) were implemented and were applied to learners in years one to three in the programme depicted in Table 1.4 in Chapter 1.

8. **Data reduction** - Qualitative data analysed using descriptive statistics and qualitative data categorized as descriptive themes
9. **Data display** – data pertaining to both strands are organized and presented visually in graphs and matrices
10. **Data transformation** - quantitative data converted into narrative codes (qualitized) that can be analysed using qualitative techniques and qualitative data converted into numerical codes (quantitized) and analysed using quantitative techniques
11. **Data correlation** – correlating quantitative data with qualitized data or vice versa
12. **Data consolidation** – different data types merged into one data set
13. **Data comparison** – comparing data from two different sources
14. **Data integration** – integrating qualitative and quantitative data into one coherent whole that will be analysed and interpreted either simultaneously as a single data set, or two data sets (qualitative and quantitative) to be analysed separately by the researcher.

To facilitate rigour in the study the researcher had implemented a Weakness Minimization Legitimation (WML), which refers to the extent to which the strengths of one method are used to address the weaknesses of the other. To ensure that the study has a stronger WML, the qualitative study is designed to ask questions that the quantitative study is not designed to ask. For example, the quantitative study will focus on how much the intervention worked to develop academic talent, while the qualitative study will focus on why it worked or did not work, as well as on the participant's experience of the intervention. As can be deduced from the above mixed

methods, data collection, data analysis, data validation, and data interpretation are interactive and cyclical steps in the mixed methods research process. As a result, the mixed methods researcher must remain cognizant of the planned and/or emergent relationship between the quantitative and qualitative data. Once all data was collected, analysed, and validated as depicted in Table 1.4 (see Chapter 1) the interpretation phase was implemented. The goal in the interpretation stage was to make meta - inferences, which involves combining quantitative and qualitative inferences into a coherent whole (Tashakkori & Teddlie, 2003b). It is important to note that such meta-inferences are not pertinent in mono method studies.

4.9.2 A quantitative analysis of a sample of TTP learners

In the original data set there were 102 participants, and the criteria used to select the 76 participants included using twelve sources of information – such as the biographical questionnaire (BQ), LASSI (year 1), LASSI (year 2), LASSI (year 3), university readiness (years 1-3), teacher responses, parent responses, and the final evaluation. Complete information was available for 54 learners (that is, these learners had information for all twelve data sources). A further 16 learners had information for 11 of the 12 data sources. There were also some examples where it was obvious that the learner should be removed from the analysis. For example, one learner had information for just one of the twelve sources and a few had information for just six of the twelve sources. The process of including only learners with exhaustive and important sources of information led to the final sample of 76.

The above analysis for the 76 participants was utilized to answer the second research question, namely exploring what profiles of academic talent emerged in disadvantaged communities on the basis of data extracted and the experiences of learners in the Targeting Talent Programme (TTP).

4.10 Validity and Trustworthiness

Validity

In a mixed method context, every component and stage of the research study can be examined for validity or trustworthiness (in terms of design, measurement, data collection, analysis, interpretation and writing).

The researcher adhered to the following to ensure study validity and trustworthiness:

- Descriptive validity – the factual accuracy of an account as reported by the researcher.
- Interpretive validity – the degree to which the researcher accurately portrays the participant's meaning about what is being studied. The researcher commits to collecting data that will shed light on the "emic" (insider) view of the research participant.
- Theoretical validity - the degree to which theoretical explanation developed by the researcher fits the data (Strauss & Corbin, 1998).

Additional types of validity include member checking, reflexivity, persistent observation, peer review, referential adequacy, theoretical sampling and the use of a reflexive journal (Tashakkori & Teddlie, 1998; Johnson & Christensen, 2000).

To increase the transferability of this study's results, the researcher adhered to *Sample Integration Legitimization* (SIL), which refers to the degree to which the sampling strategy allows for quality inferences. According to Onwuegbuzie and Burke Johnson (2006), "unless exactly the same individuals or groups are involved in both the qualitative and quantitative components of a study, constructing meta-inferences by pulling together the inferences from the qualitative and quantitative phases can be problematic" (p. 56). A possible limitation in using the same participants (particularly in sequential/concurrent studies) is that it may lead to bias as the participant's responses may be influenced by participating in prior phases. Onwuegbuzie and Burke Johnson (2006) suggested a number of internal checks in order to mitigate the above-mentioned limitation. This consists of insider-outsider legitimation such as peer review of interpretation (legitimation of the outsider (researcher) perspective) and/or

asking participants if their interpretation is consistent with their reality (legitimation of the insider (participant) perspective).

Trustworthiness

To ensure that credibility and accuracy of the research process was established, the criteria of credibility, transferability, dependability and confirmability (Henning et al., 2004, p. 147; Marshall & Rossman, 1995, p. 143), had to be ensured in order to reflect the trustworthiness of a qualitative research paradigm. The following proposed measures of trustworthiness, as described by Lincoln and Guba (1985, pp. 290-305) were taken into consideration:

(i) *Credibility* - this considers the actions of the researcher, or the way the research was approached and conducted. To ensure that credibility was maintained, the researcher adhered to the ethical guidelines as stated in the next measure, namely (ii) *Transferability,* which relates to how the results of the research were found to be applicable to similar studies and contexts. The focus of the research process was clearly articulated, discussed and referenced. Finally, (iii) *Dependability* – to ensure that the data gathered was trustworthy, that data was captured, cleaned and demonstrated adherence to the guidelines suggested in the literature for employing different sources of data or methods of research (Breakwell et al., 2006, p. 145). *Dependability* required continually checking, questioning and theoretically interpreting the findings (Henning et al., 2004, p. 148). Confirming data during interviews, in order to ensure that information is being recorded correctly, enhances dependability. In order to ascertain trustworthiness, the researcher cross referenced the results of the qualitative and quantitative instruments (surveys, questionnaires, psychometric instruments, and research diary) utilised in each phase of the data collection to enable a rich description of the research topic.

In the following section, a comprehensive discussion is provided regarding the ethical measures that were adhered to before, during and after the study.

4.11 Compliance with ethical standards

In any research process, the rights of the participants are of the utmost importance. As an educational psychologist, the researcher was bound to the Ethical Rules of Conduct as stipulated in the Health Professions Act of 1974 (Department of Health, 2006, pp. 41-45; Health Professions Council of South Africa, 2005), which correlates to a great extent with the ethical codes for researchers. Codes of conduct serve an important function, because they do not only regulate a particular professional's behaviour, but they also serve to justify behaviour (Collins et al., 2000, p. 107; Medical Research Council, 2003, p. 4). Ethical principles therefore provided the framework against which actions and decisions for research investigations were made. The researcher concurs with authors in the field that in any mixed methods research process, a high level of integrity should be maintained as the objects of inquiry are human beings. Ethical principles ensured that the rights and dignity of the participants were observed and protected, and also maintained the integrity of the research project (Babbie & Mouton, 2001, p. 469).

There are four moral principles that constitute the basis for ethics in research, namely the principles of nonmaleficence, beneficence, autonomy and justice (UNISA, 2008, p. 31; Wassenaar, 2006, p. 67). Nonmaleficence means that the research should not cause harm to the research participants and that their physical and emotional welfare should be taken into consideration (Mouton, 2001, p. 245).

The principle of beneficence implies that research should make a positive contribution towards the welfare of people and that the research participants in a particular situation should benefit from the research (Van der Zalm & Bergum, 2000, p. 215; Wassenaar, 2006, p. 67).

The principle of autonomy includes the notion that the research must respect and protect the rights, privacy and dignity of the participants (Strydom, 2005a, p. 61).

Finally, the principle of justice requires that researchers treat research participants with fairness and equity during all stages of the research (Wassenaar, 2006, p. 68). In addition, the principles include that the truth and reason for the research should be communicated to all participants; that they provide informed consent to participate in the research and that they

are provided the opportunity to withdraw from participating, should they wish to do so (Marshall & Rossman, 1995, p. 75; Strydom, 2005a, p. 58). See Appendix C.

Finally, researchers have the obligation to ensure their competence in embarking on a specific course of interest, as well as the skill to implement the specific test instruments envisaged (De Vos, 1998, p. 31). The researcher endeavoured to apply the ethical standards and principles consistently throughout the course of the study. Permission was requested from the University of the Witwatersrand and The University of Johannesburg Ethics Committee and the nine Departments of Education to conduct this research. Permission was granted (Appendix A). Permission to proceed with the research was obtained from the Ethics Committee of the University of Johannesburg. Informed consent was obtained from the principals of the participating schools in order to obtain the learner results. An example of all the questionnaires, as well as an example of a consent form for participants are attached in the ethics forms in Appendix C.

4.12 Summary

In this chapter, the concurrent mixed method research design was discussed to demonstrate how a mixed methods investigation was utilised to assist the researcher in; (a) exploring how academic talent was conceptualised by learners from disadvantaged communities; (b) exploring what profiles of academic talent emerged in disadvantaged communities on the basis of data extracted and the experiences of learners in the Targeting Talent Programme (TTP); and (c) identifying how learner experiences could inform a set of criteria for enrichment programmes.

The application of this approach was discussed in detail in relation to the three research questions to be addressed in this research.

This chapter provides a rationale for the research method applied, an in-depth framework of different mixed method research designs, emphasis of the research paradigm and approach adopted, data collection, statistical procedures, and validity and trustworthiness.

CHAPTER 5

RESULTS

5.1 Introduction

In this chapter, the results of the mixed methods investigation are reported in accordance with the following research questions:

- Exploring how academic talent was conceptualised by learners from disadvantaged communities. This will be discussed in Section 2.
- Exploring what profiles of academic talent emerged in disadvantaged communities on the basis of data extracted and the experiences of learners in the Targeting Talent Programme (TTP). This will be discussed in Sections 3 and 4.
- Identifying how learner experiences could inform a set of criteria for enrichment programmes. This will be discussed throughout the entire chapter. The recommended criteria for enrichment programmes will only be discussed in Chapter 6, as they will be informed by the insights gleaned from the analysis in this chapter. This is informed by the focus of the study, which is on the conceptualisations of academic talent by the learners themselves, and is recorded in their individual narratives and personal experiences of the programme as they developed over the course of the three-year programme.

This chapter is based on the analysis and findings of the evaluations of learners who were participants in a three-year *Targeting Talent Programme (TTP).* Certain sections contained in this chapter follow the outline of the Biographic Form (based on the order of the responses), which was completed by 102 participants. The chapter is then divided into six sections and provides a clarification of the empirical findings in the research. **Section 1** highlights the learner demographics (race and gender, provincial profile, and participant withdrawal, which resulted in 96 participants being retained over the three-year period). **Section 2** provides an overview of the conceptualisations of academic talent in literature, an analysis of the conceptualisations of academic talent by TTP learners, learners' understanding of academic talent (recorded in the

Baseline and Exit evaluation analysis), and TTP learners' unique conceptualisations of academic talent. **Section 3** reviews learner and family profiles in terms of (1) family background, which includes household demographics, parents' occupation and educational qualification, and residence in terms of urban and rural classifications), (2) the challenges experienced at school and how the learners addressed those challenges, (3) learner Olympiad participation, (4) personal statements in which the learners describe themselves, and (5) learner essay analysis. **Section 4** summarises learners' perspectives of their participation in the TTP programme, anticipated programme benefits, learner exit evaluation and academic talent development programme experience, as well as the academic, social and psychological benefits derived from their participation in the programme. **Section 5** provides a summary of the learners' psychosocial, school academic performance over a three-year period, the learners' access to higher education and their tertiary institution destinations. **Section 6** depicts the changes which occurred over time, primarily on the quantitative measure, namely LASSI-HS (Learning and Study Strategies Inventory – High School), Motivation, Social skills, Coping strategies and University Readiness characteristics.

The analysis in this chapter will employ Creswell's (2009) model of the concurrent transformative mixed methods study. Creswell (2009) identifies the concurrent study as the process in which "data collection may be presented in separate sections, but the analysis and the interpretation combines the two forms of data, to seek convergence or similarities among the results. The structure of this type of mixed methods study does not make a clear distinction between the qualitative and quantitative phases" (p. 220). The transformative study is identified by Creswell (2009) as one in which the "structure typically involves advancing the advocacy issue in the beginning and then using either the sequential or concurrent structure as a means of organizing the content" (p. 220).

5.2 Section 1: Learner Demographics and Background

Basic demographic information was obtained from the Biographical Questionnaire (BQ) that was administered to the research participants which included the following categories of information, namely, race and gender, school name and province.

5.2.1 Race and gender

The research participants comprised of 102 learners, of which the majority (51%, *n*=53) were African females, followed by African males (21%, n=22), and the remaining subgroups made up the smaller percentages of learners, namely Indian females (9%, n=9), followed by one Indian male, Coloured females (7%, n=7), followed by one Coloured male, and White females (5%, n=5), followed by four White males. This is captured in Table 5.1.

Table 5.1 Number of learners according to race and gender (*n*=102)

Race	Female	Male	Total - Race
African	53	22	75
Coloured	7	1	8
Indian	9	1	10
White	5	4	9
Total - Gender	74	28	102

5.2.2 Participant provincial location

Figure 5.1 provides the provincial profile of the participants, while the numerical breakdown for the provincial profile is provided in Table 5.2. Most learners were from KwaZulu-Natal province (28%), followed by the Limpopo province (19%), while the lowest number of participants came

from the Free State province (2%). The research participants were selected from 35 different schools across South Africa and the frequency distribution of selected learners per school is depicted in Appendix A.

Figure 5. 1 Participant provincial profile

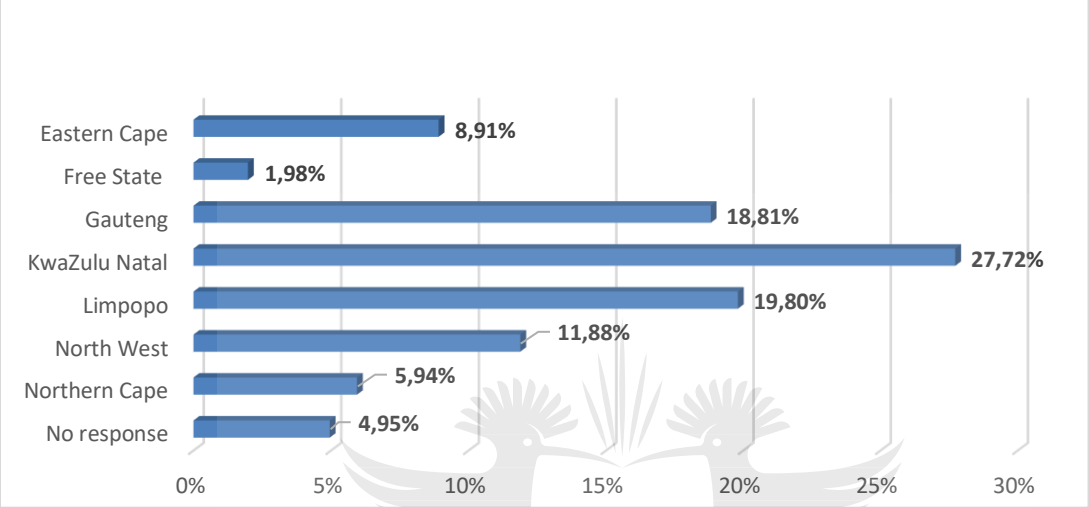


Table 5. Numerical breakdown for provincial profile

Province	African	Coloured	Indian	White	Total – Province
Eastern Cape	**6**	**1**	**1**	**1**	**9**
Free State	**2**				**2**
Gauteng	**20**	**4**		**2**	**26**
KwaZulu-Natal	**20**	**1**	**6**	**5**	**32**
Limpopo	**15**				**15**
North West	**11**		**1**		**12**
Northern Cape	**1**	**2**	**2**	**1**	**6**
Total - Province	**75**	**8**	**10**	**9**	**102**

5.2.3 Participants who withdrew

The table below provides a breakdown of learners who withdrew from the programme. Six learners withdrew from the programme, meaning that 96 learners of the 102 learners were retained over the three-year period of the study. The retention rate of participants was 94,1% over the three-year period.

Table 5.3 Reasons for learners who withdrew from the programme

Person	Year withdrew	Reason
1	2012	Unable to cope
2	2012	Unable to cope
3	2013	Other commitments
4	2013	Other commitments
5	2013	Other commitments
6	2014	Missed 3 contact sessions

The participation in the enrichment programme requires learners to attend all contact sessions hosted during the school term holidays. The programme itself simulates the demand of university life which may be difficult for some individuals to adjust to, as was the case for the two learners who cited being “unable to cope” as the reason for their withdrawal from the

programme. In the case of learner who withdrew from the programme due to "other commitments", this was largely due to their preference to participate in either local or national sporting events taking place at the same time as the contact session. Participation in the programme makes allowance for learners to only miss one contact session as part of the focus is on simulating the undergraduate university experience. Learners are therefore expected to commit to all contact sessions for the three-year period, and those who do not meet this requirement exempt themselves from the programme.

5.3 Section 2: Overview of conceptualisations of academic talent in literature

The analysis of the conceptualisations of academic talent is based on the data sources from which perceptions of academic talent were explored. The views of the learners were drawn from their responses to the 2012 Baseline and Biographical Questionnaires, together with the 2014 Exit Questionnaire, as well as the 2014 End of TTP Evaluation Form.

It is important to infer from international research studies on *conceptions or perceptions of academic talent* that have some relevance, whether directly or indirectly, to the participant groups of the TTP sample. For the purposes of this discussion, the concept of 'academic talent' will be used in a broad sense (Maree, 2006) as motivated for in Chapter 3, in order for comparisons to be made with studies in the international literature. Studies that refer to concepts of 'intelligence', 'academic success', 'giftedness', and 'gifted and talented' have been discussed in depth in Chapter 3. Given the gaps in understanding perceptions of academic talent (as well as the variable conceptions of academic talent), the overview that follows will preserve the labels provided in the research studies by referring to these in single inverted commas.

Most of the published research has focused on the views of students typically defined as "gifted". Notably, some of these studies rely on objective measures, such as rating scales (for example, Siegle et al., 2010), while others rely on direct verbatim reports from participants. Both of these types of studies are used as a referential basis that may yield some insights. Based on an overview of related studies in the area of learner perceptions, several points are

worth noting. Firstly, conceptions of academic talent (including notions of "giftedness", "intelligence", and "talent") reported by participants varied within individual studies, and generally reflected the oscillating tensions between the nature versus nurture debate. Secondly, gender differences in attributions of achievement or success were emphasized in several studies.

Participants in Siegle, Rubenstein, Pollard and Romey's (2010) study were college freshmen (n=149) enrolled in an honours programme at a top ranked public university in the Northeast United States. These students were classified as being ranked highly academically (that is, in the top 4% of their senior class) and had been selected to participate in the university's programme "by invitation only" (p. 95). Among these students, the researchers found that those who excelled in dance, music, and leadership attributed *personal effort* to their high-performance levels. Alternatively, students with high ability in academic areas perceived *natural ability* as contributing to their performance. The authors reasoned that such a perspective might not necessarily be a limiting view with "gifted achievers". For "gifted underachievers", further research is warranted to ascertain whether a fixed entity view was more prominent.

Additional qualities were identified by Rascoe and Atwater's (2006) study, which included referring to gifted ability as an *"inborn ability"* (p. 897), and associating *hard work and personal effort* with gifted potential, while others associated academic ability with *attaining good grades, self-motivation* and *"drive to learn"* or *"belief in your ability"* (p. 900). Rascoe and Atwater (2006) did not provide other demographic data to infer whether such views of academic talent represented views of Black students in specific socio-economic contexts.

Similar variations in the perceptions of intelligence were noted in studies with more controlled samples of academically talented students. In Ablard and Mills' (1996) study, "academically talented students" comprised third- to eleventh-graders (n=153) attending advanced level courses at the Center for Talented Youth at Johns Hopkins, and were defined as scoring "at least in the top one-half of the 99th percentile for their grade level for quantitative and/or verbal reasoning" (p. 141). Scores from rating scales revealed that high school students compared to elementary students demonstrated a more *stable view* of intelligence (that is,

having a fixed quality, or inherent nature), compared to younger students. However, the authors concurred that the majority of the learners in the sample held a *borderline view* of intelligence (namely intelligence as moderately stable/unstable). Concurring with an earlier study (Dweck, 1986 as cited in Ablard & Mills, 1996), the authors held that such a perspective lends itself to being most adaptive and flexible to match a learning environment.

Perceptions of academic talent, moreover, may be guided by specific attributions of academic success and failure. Based on a cognitive model, Assouline, Colangelo, Ihrig and Forstadt (2006) studied such attributions of a large sample of gifted students (n=4901). This attributional model represents two dimensions (stability and locus of control) along four elements: ability, effort, task difficulty and luck. Specifically, they questioned if the identity as a gifted learner was the result of "an attitude of academic pursuit that is related to ability" (p. 283). The results revealed multifaceted perceptions, with gifted learners recognising the link between ability and willingness to engage in personal effort and academic success. For example, rather than ascribing success to ability, it was ascribed to factors of situational effort ("doing work the right way" - 11.2%), ability (being "smart" - 35.1%), and long-term effort ("working hard - 46%). Alternatively, attributions for failure were linked to either lack of long-term effort ("did not work hard enough" - ≤ 56.7%), lack of situational effort ("not doing work the right way" - ≤ 32.1%), or task difficulty ("the work is hard" - ≤ 21.5%). What this study implied is that learners' perceptions of academic talent are somewhat influenced by their own self-perceptions (such as labelling self as smart, and expectations to perform well) based on recognised publicity of their identities as "gifted learners".

Kerr et al.'s (1986) study of the meaning of giftedness among high school juniors (n=103) selected for the Guidance for Laboratory Gifted and Talented programme (University of Nebraska-Lincoln) revealed similar dual meanings. For example, some endorsed the *trait view of giftedness* (that is, inherent ability or inborn talent), while others emphasised the *performance view* (namely, as a behaviour – as something done and requiring effort and application). As with Guskin et al.'s (1988) study, a larger percentage endorsed the latter (performance) (64%) than the former (trait) (36%). Similar themes emerged in Kim et al.'s

(2005) study. Humanities gifted learners valued task commitment more highly than science gifted learners or regular students. Moreover, the latter held higher opinions about their intelligence than the former. Kim et al. (2005) reasoned that science gifted learners may subscribe to an *entity view of intelligence* (as rigid, beyond control and innately fixed), whereas humanities gifted learners may be inclined to adopt an *incremental view* (that intelligence is changeable and can improve with effort and hard work).

One study (Chan, 2002) of primary and secondary students' self-perceived intelligences, however, reflected multidimensional views of intelligence. These learners were identified by their teachers as either "gifted intellectually or academically" (that is, as exhibited by high IQ or outstanding performances in school subjects) or had exhibited qualities of talent in non-academic areas and were nominated to participate in giftedness programmes at the Chinese University of Hong Kong. Based on self-report measures of intelligence, including multiple intelligences, emotional intelligence, and successful intelligence, as well as their engagement in activities related to leadership and creativity, students rated their *personal intelligences* (intrapersonal and interpersonal), *verbal-linguistic intelligences*, and *successful intelligences* (practical, analytical, synthetic abilities) higher than other intelligences. *Bodily-kinaesthetic intelligences* and *naturalist intelligences* received lower ratings. Overall, three specific dimensions of giftedness emerged, namely global giftedness (reflecting traditional conceptions of intelligence), socio-emotional giftedness (reflecting personal intelligences, emotional intelligences and practical abilities), and artistic giftedness (musical, visual-spatial and bodily-kinaesthetic abilities). Four group profiles emerged from the analysis. The 'supersmart' or gifted in all domains (30%) had the highest mean scores on all perceived intelligences. The 'socio-emotionally gifted' (40%) had high scores on intrapersonal, interpersonal, emotional intelligences and practical abilities. The 'modest gifted group' (14%) had a "submerged profile" compared to other groups and scored particularly low on visual-spatial, bodily-kinaesthetic, musical and naturalist intelligences. Lastly, the "artistically gifted" group (16%) had high scores in visual-spatial, musical and naturalist intelligences.

In several of these studies, there was a consistent finding related to gender differences. Boys typically placed greater emphasis on natural ability or 'being smart' in accounting for their academic success and achievement, while girls attributed their high performance levels to hard work and personal effort (Ablard & Mills, 1996; Assouline et al., 2006; Siegle et al. 2010). For example, Siegle et al. (2010) found that females were likelier than males to attribute personal effort to high performance in logic/reasoning, leadership and academic skills. An important finding of this study was that "gifted students" might attribute ability to high achievement without necessarily holding a "fixed entity view of talent development" (Siegle et al., 2010, p. 99). In Ablard and Mills' study (1996), there were no significant gender differences, although females perceived themselves as working harder than males, a view which the authors associate with a more unstable or *incremental view* of intelligence (that is, exerting effort in the face of challenging tasks). Similar to Ablard and Mills (1996), gender distinctions were apparent in Assouline et al.'s (2006) study. A larger percentage of boys attributed academic success to being smart, whereas more girls attributed the same to working hard. However, in other studies, gender differences were not apparent (such as in Kerr et al., 1986).

What these studies have shown is the contextual variability that needs to be understood in conceptions of academic talent. What is suggested is that social location (class, 'race' and minority status within a dominant western culture) alongside levels of acculturation, access to resources and positions of privilege all influence how learners conform to stereotyped notions of academic talent that are held by educators. However, studies outside of the western context have also highlighted alternative notions of academic talent held by educators that both converge and diverge from the western ideal. Acknowledging the debates about conceptions of giftedness as well as the importance of recognizing the cultural variances of the giftedness construct, Chan (n.d.) sought to determine the extent to which teachers held onto conceptions and misconceptions (or 'myths') about the construct. Winner (1996, as cited in Chan, n.d., p. 4) listed these myths as follows: "global giftedness", "talent but not gifted", "exceptional IQ", "biology versus environment", "the driving parent", "glowing with psychological health", "all children are gifted", and "gifted children become eminent adults". Based on a 17-item inventory, Chan presented teachers who were enrolled in a gifted education course. The 17

Items tapped into the 'myths' and 'realities' of giftedness. On the whole, there was general disagreement about the 'myths' of giftedness (for example, "the gifted are those with high ability in academic areas", "giftedness is entirely a matter of hard work") and agreement on the items reflecting 'reality' (for example, "while all children have relative strengths and weaknesses, some children have extreme strengths in some areas").

The synthesis of nature and nurture was also evident in Wu's (2005) study on Chinese teachers' conceptions of giftedness and talented performance. The majority of teachers (n=11) held clear distinctions between "giftedness" and "talented performance" (for example, giftedness was equated with *high innate ability* and talented performance related to *high achievement*). This was noted in statements, such as, "We cannot choose to be gifted, but we can choose to be talented" (p. 238). Although the interplay between nature and nurture was evident in teachers' responses, the majority (11 out 14 teachers) held the view that high innate ability (giftedness) was not a prerequisite for talent performance. A small number (n=5) endorsed the view that hard work could culminate in talented performance. Similarly, Kim et al. (2005) also explored the conceptions of giftedness. Participants, including 71 scientists, 73 parents, 104 teachers, 80 college students in Daejon, Korea completed an open-ended questionnaire in which they were required to list their views of giftedness. Conceptions of giftedness reflected 6 categories, namely (i) *intelligence* (high IQ, high cognitive ability, high potential, learns quickly, critical thinker), (ii) *task commitment* (competitive, challenging mind, goal-oriented, self-guided learning, (iii) *creativity* (original thinking, creativity, cognitive flexibility, curious) highly motivated), (iv) *interpersonal relationship* (leadership skills, good at speaking, communication skill, persuasive), (v) *moral sense* (e.g., generous, kind, filial piety) and (vi) artistic talent (music/art appreciation). On the whole, more students (67%) and parents (50%) held onto the traditional view of giftedness as high intelligence, compared to fewer teachers (43%) and scientists (36%). However, teachers and scientists also held expanded views of giftedness (namely traits besides intelligence). Task commitment as giftedness was reflected in the responses of students (17%), teachers (26%) and parents (24%). Creativity as giftedness was reflected in the responses of students (12%), parents (15%) and teachers and scientists (22%) in varying degrees. Kim et al. (2005) concluded that additional traits apart from above-average

ability, task commitment and creativity (Renzulli's model) were unique to conceptions of giftedness in Korean culture, namely, interpersonal relationship, moral sense, and artistic talent. While western cultures hold to values of individualism, aesthetic appreciation and self-exploration, Korean culture places greater emphasis on contributions to society and inspiring others. Moreover, creativity is less emphasized and collective and moral value is emphasized. Like the previous studies indicated, what this study shows is the contextual variations in conceptions of academic talent that are influenced by the values upheld by a particular society. Importantly, this study highlighted the implicit theories of intelligence (those derived from the common cultural views of society). (Sternberg, 1995 as cited in Kim et al., 2005) that show divergence from explicit theories of intelligence (Renzulli's Three Ring Theory).

5.3.1 Analysis of conceptualisations of academic talent by TTP learners

In terms of characteristics, the participants in the TTP programme differed significantly from studies in the preceding chapters. One of the main differences pertained to the contextual locations of the participants. The participants enter the programme as individuals who have academic potential, which is different from the conception of giftedness. In addition, the contexts for some of the learners are marked by realities of low-income and poor access to resources. Appendix B provides a depiction and discussion of learner access to resources including electricity, science and computer laboratories, library facilities and playing/sports fields.

Despite the vast contextual and demographic differences, these variable discourses found some resonance in the studies on learner perceptions of academic talent. Dweck and Leggett (1988) organised explanatory theories of intelligence into two types, namely a fixed entity theory (intelligence is stable and pre-given) or incremental theory (intelligence is fluid and malleable). The manner in which intelligence is perceived consequently influences learners' attitude toward learning (Dweck & Leggett, 1988). Rather than denoting academic talent in either category, the TTP learners' perceptions reflected a continuum of responses, some reflecting a fixed or static view (where individual agency is limited) and others assuming a more dynamic perspective (where more emphasis is given to individual control).

In the present analyses, several categories stood out in learners' understandings of academic talent in the baseline phase, namely, talent as either a composite of nature and nurture, an innate discoverable essence, an exceptional or distinguished ability, or an expression of personal passion. In the exit phase, the two prominent themes were 'talent as God-given versus talent as nurtured' and 'broader views of talent'. In the baseline phase, the most dominant theme for TTP learners' perceptions of academic talent was the notion of talent as a "natural gift". In particular, learners drew upon diverse understandings of "nature", some denoting biological discourses (such as *"the potential you develop biologically"* [BL 17]), others reflecting more religious/spiritual undertones (*"Is that gift that God gave you in something that you need to do well in them"* [BL 1]). Moreover, some upholding a natural view of talent perceived it to be an innate essence that was to be discovered. In the exit phase, learners' appeared more readily to draw upon discourses that reflected the interplay between nature and nurture in understanding talent[6], as well as broader and more diverse notions of talent that included creativity, *"academic, sports, music, and dance"* [E 181], and the possibility of a single individual owning multiple talents (as opposed to a specialist talent). This shift in perceptions of talent has not been fully explored in the literature. This altered view of talent pre- and post-programming has yet to be demonstrated in international studies.

5.3.1.1 Learners' understanding of academic talent: Baseline Analysis

(a) Talent as a natural gift

Talent as a God-given quality innate to the individual was a view adopted by a large majority of participants in the baseline phase. For example, participants offered definitions for talent, such as talent *"Is that gift that God gave you in something that you need to do well in them"* (BL 1). As illustrated, most learners understood talent to be something that is 'natural' or genetically endowed: *"the gift that a person is born with"* (BL 16); *"the potential you develop biologically"* (BL 17); *"talent is the inner element"* (BL 252). Other statements similarly reflected this view:

[6] However, frequency counts were not included in the 2012 baseline-exit analyses. Thus, this shift in perceptions is merely inferred from the themes that presented as most dominant in the analysis.

I believe that talent is like a seed, it is natural, it can only be improved towards excellence. (BL 23)

You don't have to learn or practice but it comes naturally to you. And it's always in you, with you. (BL 87)

You don't have to be taught it is bestowed by God in you. (BL 142)

A talent is a gift given to you by God which defines who you are and what you are, so gift which you are born with and always a part of you established before birth. (BL 42)

As the statements illustrate, talent is constructed as a "blessing" from God, suggesting elements of pre-ordination. Although seen as a natural gift, several learners subscribed to the view that talent reflects potential. In other words, whilst talent was seen as an innate or pre-given quality, participants recognised that it required nurturing. Learners articulated, for example, *"but one can gain talent by being self motivated to do better and gaining the skills required by that particular talent"* (BL 18). Another commented: *"And in order to keep up with it you have to excerce [sic] the faculty you have been confered [sic] with"* (BL 28). Similar views were articulated by other learners:

It's someone's gift or potential which can be improved or built into something better through practice. (BL 45)

Talent means being good at what you to, even if one does not have a bucket full of it, I believe with hardwork and practice one can enhance it. (BL 107)

It is something that needs to be discovred [sic] and natured [sic] (BL 52

Although recognising the 'nurture' elements of talent, many subscribed to the view that this unique quality was something that had to be 'found' or 'discovered', once again presupposing a natural or innate aspect to talent. As the following statements reveal, talent was seen as intrinsic to the individual, at times hidden, waiting to be uncovered:

It is usually a hidden gift which can only show itself if we work hard and are confident (BL 106)

it's something as a person you have to look for critically by doing a number of things, such as trying new thing new things that will enable you to see your weaknesses and strengths so that you are able to find your talent. (BL 16)

Talent is a special ability that some people are born with while others work hard to find talent within themselves. (BL 59)

Talent is all about skills that you are gifted by God and sometimes you need to work very hard to search. (BL 275)

A smaller number of learners, however, diverged from the view that talent is purely naturally bestowed, offering a view that incorporated both the 'nature' and the 'nurture' aspects of talent. For instance, one learner reckoned:

Talent is simply the inborn skill that your born with, and the other one is the aquired [sic] skill that you develop for yourself through practice, reading a lot and getting information, and making use of that skill to earn a living (BL 24)

(b) Talent as a distinguished ability, unique to each

Learners' responses showed some consensus in relation to understanding talent as a unique gift. Most referred to it as a distinguished ability or exceptional quality. These views were expressed variously as: *"something that makes one unique and special amongst others"* (BL 39); *"ability to excell [sic] in certain areas"* (BL 55); *"The ability to do something in a special way, one thing that is special to you and others do not have"* (BL 145). As further illustrated in the following statement, learners' views of talent denoted and reinforced notions of 'exceptional' and 'giftedness':

To perfect a certain/given task in a way that It live people amazed. Its [sic] basically the work that a person can carry with logic and Exelency [sic]". (BL 54)

Similarly, the aspect of the uniqueness of talent was stressed by several learners (*"makes one unique and special amongst others"* [BL 39]; *"makes us stand-out from the rest"* [BL 84]; *"makes one shine out from the rest"* [BL 132]). Once again supporting an essentialist view of talent, identity was seen as intrinsically linked to talent, as evident in statements such as: *"Again talent defines you"* (BL 91); *"It is in you in such a way that it is part of you"* (BL 142).

(c) Talent as passion

Emerging less prominently was learners' definitions of talent as embracing aspects of passion (for example, *"the abilty to exel [sic] in something with passion"* [BL 131], love (for example, *"being able to do what you love"* [BL 79] and delight (for example, *"enthusiasm that a person has for a particular task"* [BL 322]). Other learners' statements further illustrate this understanding:

> *Talent is the ability to do very well in what ever you love it might be sport, art or academics as long as you do extremely well in it. (BL 36)*

> *It is the ability to do something, only if you embrace it, use it and show how passionate you are with it, it can take you to greater hights [sic]. (BL 90)*

Moreover, the link between applying passion and exercising positive influence was also alluded to by several participants. Understanding talent as a positive force, one learner described it as: *"the good in you"* (BL 30). Similarly, another articulated: *"Talent is almost like energy which is the ability to do work bit in this case it is the ability to certain things that are not just done by anybody but you and a few others"* (BL 208). Translating passion into positive influence was one way that learners felt that talents could be used to the benefit of others. For example, one learner noted that talent should be *"use[d] for the benefit of himself/herself and the country at large"* (BL 27). Others emphasised the value of talent in inspiring others by being positive mentors and role models:

> *You were born with your talent, and you are expected to use it a good manner or a good way. (BL 61)*

[It is a] skill that one is given to help others or inspire others to follow one's footstep. (BL 65)

It is something which an individual can use to make the world a better place. (BL 335)

The ability of an individual to tackle certain issues and do things in their own natural way, inspiring others and making a difference. (BL 175)

5.3.1.2 Learners' understanding of talent: Exit Analysis

In response to the question: "What is your understanding of academic talent? Has your understanding of academic talent changed since your participation in *TTP*?", the majority of learners reported that *TTP* had altered their views. Whilst elements of passion (such as, *"you do it all of love and confidence"* [E 138]), distinguished ability (*"do something better/excellent that others"* [E 63]) and uniqueness were key to learners' responses, the two thematic categories below represent somewhat changed views of talent to those articulated in the baseline survey.

(a) Talent as God-given versus talent as nurtured

A number of learners noted that rather than being a gift from birth, talent was a cultivated ability or quality. The transformed understandings of several learners reflected notions of individual effort, learning, motivation and conscious decision. For instance, one participant offered the following view: *"My understanding has changed a lot, thinking that for it to be powerful its need to be nourished by working hard at all times"* (E 20). Another learner noted: *"Yes, I thought that that talent was an inborn thing but I realised that It can somehow be created and nurtured"* (E 98). Similar views were captured in other participants' responses:

Yes talent for me has been changed because I now see it as one's ability to perform good. You don't have to be born with it. (E 24)

My definition changed because I've perceived that talent goes hand-in-hand with dedication, hardwork and being ambitious. (E 25)

My understanding has ever changed since I was a TTP learner I realised that you can not be born with talent but you can learn to be talented. (E 54)

Yes it has. I thought talent was something you were born with but now I realize we are all born with different talents it is just up to us to unleash that talent and strengthen it to it's full potential. (E 81)

Others however remained static in their views of talent as a "gift from God" (E 4) or "a special feature than one is born with" (E 155). One learner noted: "Talent is the inborn potential that is in each and every one of us. I still understand talent as that (E 334)". Another stated: "It have not changed as I still believe that talent is something that you are good at doing and you are born with skills" (E 324). One learner, however, endorsed this view although claiming to have altered her views: "I know the talent that I have is not just any talent. Talent is something that you are born with, it is not man made. It is with each and every individual" (E 28).

(b) Broader views of talent

For some learners, conceptualisations of talent expanded beyond the narrow definitions of academic ability to a view that incorporated creative abilities (and vice versa). For instance, one learner commented: "My understanding of talent has indeed changed because I thought that talent is about intelligence but this programme proved me wrong" (E 155). Another learner offered a 'balanced' view of talent: "Talent is a gift or balance between academic skills and social life skills" (E 201). In some ways, such revised views appeared to offer learners with a more empowering approach towards personal and academic achievement:

Talent is the inner unique capabilities that different people have and these skills make them creative in different ways. At first I thought Talent was just academical [sic] skill but now I know it's more than that (E 37)

At first I only thought that being talent was only based on passing at school but I now see it in diverse (E 144)

My understanding of talent has changed. I am now able to distinguish different types of talent e.g. academic, sports, music, dance, etc. At first I didn't know that being academically good was a talent. (E 181)

Talent for me has to do with what a person can do, whether arts, at school and gfts (talent e.g singing). Yes, I how know that talent has to do more with hardwork [sic]. (E 217)

Yes, I firstly came here knowing that talent is just knowing how to do physical things & now I know that it is the potential that one has even intellectual. (E 218)

For others, their transformed views reflected a change in understanding talent as a challenge against oneself rather than others. For example, *"Talent is the ability to do something in an amazing and well accepted. I now fully believe in my self [sic] and do not compete against other people but myselve [sic]" (E 34)*. Another learner drew upon a view of talent as reflecting notions of personal power: *"My ability to sink into my school work with all I have left as power" (E 252).*

Another learner illustrated an understanding of talent that went beyond the individual owning a specialist talent towards the existence of multiple talents within a single person:

My understanding of talent has changed I used to think talent was just only one thing someone can do, but I was wrong talent is many thing someone is capable of doing in a better/good manner. (E 141)

Expanding on this idea, others offered a more inclusionary view of talent; one which incorporates recognition of talent in everyone, rather than being confined to the select few with exceptional abilities. One learner offered the following view: *"It has made me realise that talents are endless/uncountable and that different people have many different talents" (E 335)*. Another learner reported on how the programme had led to an acknowledgement of talents within that he did not previously recognize: *"Talent is an the acknowledgment of something that one is very good at. It has changed because I never thought that I could do so many thing with myself" (E 244).*

Others, once again, did not change their views. One learner, for instance, held onto talent as reflecting notions of giftedness that was found only in the select few: *"Talent is a unique quality in a person that makes that person outshine from a million people. My definition and understanding of Talent remains…exactly that" (E 132).*

An additional perspective provided by the learners was a potential to excel which included cognitive, personal and social attributes and were categorized into the following themes: *1.enquiring mind and thirst for knowledge; 2. profound search into subjects: ambition and drive to investigate, reason, apply logic and stretch oneself beyond any of the personal limits reached. Never satisfied with stars quo! Ability to manage change. 3) communicating ideas and thoughts. can ask questions too! 4. Academic talent involves so much more that just 'good marks'. It is the ability to reason to reason, ask questions, rationalise and argue points effectively, it involves disciples and the need to improve ones knowledge systems.*

Tables 5.4 and 5.5 depict the shift in learners' understanding of academic talent based on baseline and exit evaluations completed.

Table 5.4 Baseline Evaluation - Learners' understandings of academic talent

	Theme I	**Theme II**	**Theme III**	**Theme IV**	**Theme V**	**Theme VI**	**Theme VII**
What is your understanding of academic talent? (BL: Sec IVC)	Academic ability and success	Learned or nurtured ability	Enhanced capacity for thinking, understanding and reasoning	Personal effort and attitude towards study	Applied knowledge	As a natural, inborn, or God-given ability	Either natural ability or acquired skill
Percentage and number of respondents	21.0% (n=62)	20.0% (n=59)	18.3% (n=54)	17.6% (n=52)	14.6% (n=43)	11.2% (n=33)	4.1% (n=12)
Description	21.0% defined academic talent in terms of academic/learning ability (n=46), or as	20.0% defined academic talent as nurtured or acquired abilities. For some (n=26), the social	18.3%* defined academic talent as having superior thinking and reasoning skills (e.g., memorization ability, processing	17.6% defined academic talent in terms of 'emotional intelligence' (e.g., perseverance, motivation	14.6% defined academic talent as the optimal application of knowledge or skills (e.g., problem solving	11.2% defined academic talent as a natural, innate or God-given ability.	4.1% wavered between notions of academic talent either as a natural ability, or as an acquired skill.

	academic achievement (n=16) (i.e., proven performance or achieved goal).	context was important for nurturing talent (e.g., mentoring, support).	speed, insight).	, personal effort, determination, passion).	insights). For some (n=7), this served a collectivist function (e.g., empowerment)		

Note: percentages reflect frequencies of code occurrence in participants' responses. Total percentages across total themes do not correspond to 100% given that respondents' responses were typically coded into more than one theme. The 'n' in each case represents the number of respondents.

Table 5.5 Exit Evaluation - Learners' understandings of academic talent

	Theme I	**Theme II**	**Theme III**	**Theme IV**	**Theme V**	**Theme VI**
What is your understanding of talent? (Exit: Sec IVC)	As a natural, 'raw', intrinsic, God-given ability	As having diverse manifestations	An ability distinguishing self from others	As serving a larger purpose	As having a proficiency/ mastery element	As either a natural or learned ability
Percentage and number of respondents	51.5% (n=152)	29.5% (n=87)	23.7% (n=70)	20.0% (n=59)	17.9% (n=53)	7.5% (n=22)
Description	51.5% described talent as an intrinsic, God-given quality.	29.5% highlighted the diverse manifestations of talent, including academic ability, emotional intelligence, enhanced cognitive abilities, practical intelligence, and creativity.	23.7% emphasised that talent was a distinguished ability, based on uniqueness/special quality, or superior performance to others.	20.0% elaborated on the functionalist purposes of talent (e.g., self-improvement or welfare of others).	17.9% placed emphasis on the proficiency or mastery element of talent.	7.5% highlighted the tensions between talent as *either* natural or learned ability/skill (n=14), or as a solely learned or acquired ability/skill (n=8).

Note: percentages reflect frequencies of code occurrence in participants' responses. Total percentages across total themes do not correspond to 100% given that respondents' responses were typically coded into more than one theme. The 'n' in each case represents the number of respondents.

5.3.2 TTP learners' unique conceptualisations of academic talent

Some of the learners' conceptualisations of academic talent were unique because they had not been mentioned in literature. Standing out distinctly among TTP learners' perceptions of academic talent was the theme of *personal passion*. Passion was linked to excellence, (such as *"the abilty to exel [sic] in something with passion"* [BL 131]) and above-average ability (*"Talent is the ability to do very well in what ever you love it might be sport, art or academics as long as you do extremely well in it*" [BL 36]). In the review of studies on learners' perceptions of academic talent, the notion of personal passion did not feature significantly as a defining aspect. Only one study (see Siegle et al., 2010) referred to the importance of interest in a talent area, and the significant role it plays in student achievement. This relationship, however, was more pronounced for non-academic areas (such as leadership, music and art), although science showed a fairly strong relationship. This aspect of translating passion into positive social influence was evident among TTP learners' conceptions of academic talent. This understanding of academic talent (or high achievement) may occupy a unique place among learners who come from disadvantaged contexts, though further research is necessary to understand this notion more concretely. Learners drew upon discourses of talent and applied it to their personal contexts of disadvantage. In this respect, the learners may have been influenced by the philosophical orientation of the TTP itself. Moreover, the learners provided a unique understanding of academic talent and achievement that reflected a strong collectivist ideal. This was exemplified in notions of shared learning, skills transfer, extending learning opportunities to other disadvantaged communities, and contributing to broader social communities.

Another study by Conrad, Canetto, MacPhee, and Farro (2009) revealed similar themes that show some resonance with those highlighted by TTP learners. Importantly, however, the aim of Conrad et al.'s (2009) study was to explore high-achieving undergraduate students' attractions toward a particular major, rather than conceptualisations of academic talent per se. Nevertheless, the notions of passion and motivation to succeed seemed to be implied. The four dominant themes related to what attracted socio-economically disadvantaged individuals toward physical sciences and engineering were (i) passion for scientific research, (ii) potential

social applications, (iii) employment and financial prospects, (iv) having fun, and (v) meaningful relationships with faculty and peers in field. In this study, personal passion was exemplified in statements such as, "the ability to encompass science and learning throughout my life" (p. 1364). Alongside this notion of passion, the notion of *potential social application*, for example, as exemplified in the desire to contribute to the welfare of one's own community and society as a whole, was a prevalent theme particularly among American Indian, Native Hawaiian/Pacific Islander, and multi-ethnic participants in Conrad et al.'s study (2009).

This aspect of translating passion into positive social influence was evident among TTP learners' conceptions of academic talent (e.g., "It is something which an individual can use to make the world a better place [BL 335]). This understanding of academic talent (or high achievement) may or may not occupy a unique place among learners who come from disadvantaged contexts. Further research is necessary to understand this notion more fully.

In the baseline analysis it was interesting to note that the learners did not associate the term academic talent with themselves, as it was perceived to be a construct that was externalised and endowed by a higher being. The concept was also seen to be innate and intrinsic to the individual, and was often hidden or had to be uncovered. An essentialist view of academic talent was observed in the learner responses which linked one's identity to the construct. A transformed view in the conceptualisations of academic talent emerged in the exit analyses, which included a shift away from it being perceived as a gift from birth, to an ability that could be cultivated. Broader views in the conceptualisations included creativity and the ability to balance academic and social skills, to a more empowering approach towards personal and academic achievement. Inclusionary views were also incorporated in the learners' conceptualisations with the realisation that everyone has it (academic talent), but it manifests differently. Interestingly the inclusion of this attribute as having a larger purpose was also a significant notion within the learners' conceptualisations, once again affirming the communal value of Ubuntu.

5.4 Broader conceptual implications of learners' perceptions of academic talent

From this overview, it appears that perceptions of academic talent gleaned from previous studies vary based on several considerations, namely, (i) how academic talent was defined, (ii) whether objective (or standardised) measures were used versus subjective qualitative reports, (iii) the nature of the sample (see also Chan, 2002; Kerr et al., 1988). How learners perceive academic talent might play a role in academic achievement outcomes. As Siegle et al. (2010) noted, gifted and talented learners tend to attribute ability to their high academic achievements, and that, while positive in many respects, this also yields potential difficulties. Those holding a fixed entity view (such as, successes attributed to ability) are more likely to be performance driven rather than mastery oriented. In other words, they are less likely to engage in challenging tasks that threaten the belief of having a high ability. Consequently, there is much internal pressure to live up to the "gifted" label. Research on whether this finding resonates among other learners (such as academically talented disadvantaged learners across a range of contexts, or learners not typically identified as academically talented) is necessary. For instance, how do academically talented disadvantaged learners' perceptions of academic talent contribute to their willingness to utilise personal effort in their academic learning? Moreover, how does being simultaneously labelled "disadvantaged" and "academically talented" influence perceptions of achievement and ability? These understandings are especially pertinent in light of the findings on TTP learners' evolving perceptions of talent following the completion of the WITS TTP pre-university programme.

5.5 Section 3: Learner and Family Profiles

This section is dedicated to the development of profiles as informed by the learners' academic competency, attributes and abilities. The development of learners' profiles is meant to be a holistic picture of the learner's individual narratives. The family background, socio-economic status, and size are important factors as they shape learners' aspirations and how they view educational opportunities as a means to success. This section of the chapter will provide an overview of the learners' (1) family background (household demographics, parents' occupations

and educational qualifications, residence in terms of urban and rural classifications), (2) the challenges experienced at school and how the learners addressed those challenges, learner Olympiad participation, learners' personal statements describing themselves, and lastly the learner essay analysis.

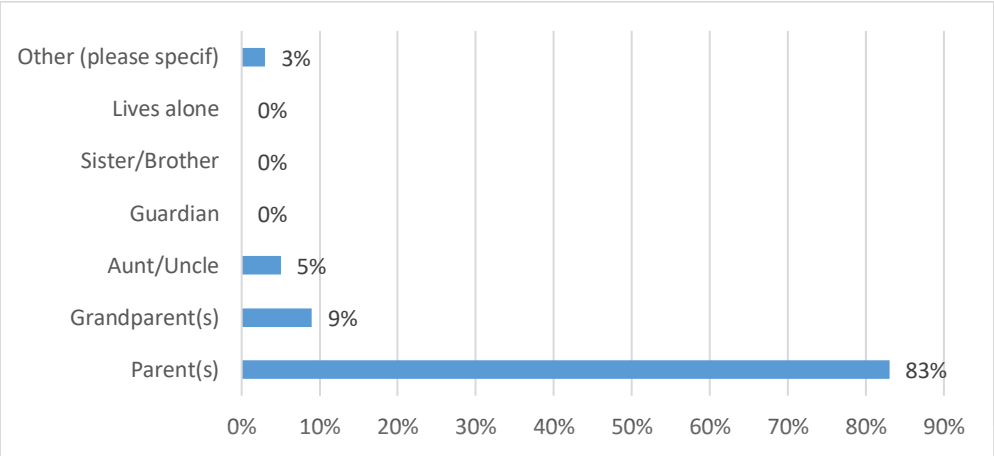
Mahadea et al. (2011) as referenced in Chapter 2 noted a large majority of youth in South Africa live in poverty. As a result, the aspirational levels for such individuals are limited, as indicated by Gjerustad and van Soest (2012), who argue that the socio-economic background of an individual is an important predictor of their career aspirational level. Shumba and Naong (2012), as discussed in Chapter 2, noted that family size plays a critical role in an individual's career/occupational aspirations and decision-making process, which are dependent on the opportunities and resources available within the family. Literature documents how family members shape learners' occupational and educational aspirations (Watson, McMahon & Longe, 2011). This view is further argued by Jodl, Michael, Malanchuk, Ecceles and Sameoff (2001) who note the potential parents have to influence their children's choices and occupational identities. Shumba and Naong (2012) confirm that individuals seek parental approval when making choices about their careers and future. Furthermore, Apostal and Bilden (1991) indicate that in comparison to learners from urban area, rural learners have distinctive conditions to cope with when making decisions about their education and careers.

5.5.1 Participant family background

5.5.1.1 Household demographics

The average number of members per household was 5 (range: 2-12). The majority of learners (n=82, 83%) stated that they lived with *both parents*, whether the living arrangements were with two parents alone, with siblings, or other configurations. Some were from *single parent* homes, either headed by the single parent alone, comprising siblings, or living with both sibling(s) and grandparent(s). Learners from *extended family* arrangements (6%) comprised learners living with relative(s), grandparent(s), or grandparent(s) and sibling(s)/relative(s).

Figure 5.2 Relationship to learner of individual who completed the FIF[7]



5.5.1.2 Parents' occupations

The parent's occupation is very important as an edict on the child's access to social capital. When learners were asked to provide their parents' profiles, occupation was also one of the parameters. The teacher/educator occupation was predominant at 38% in this mix. The second majority of learners stated that their parents were unemployed (22%). This is particularly important as it implies very low levels of social capital in this community of learners, hence more reasons for equalising access to enrichment opportunities. Additional information related to parents' occupations is provided in Figure 5.3 and Table 5.6.

[7] The proportion is calculated from a total of 102 respondents (parents and guardians)

Figure 5.3 Parents' Occupations

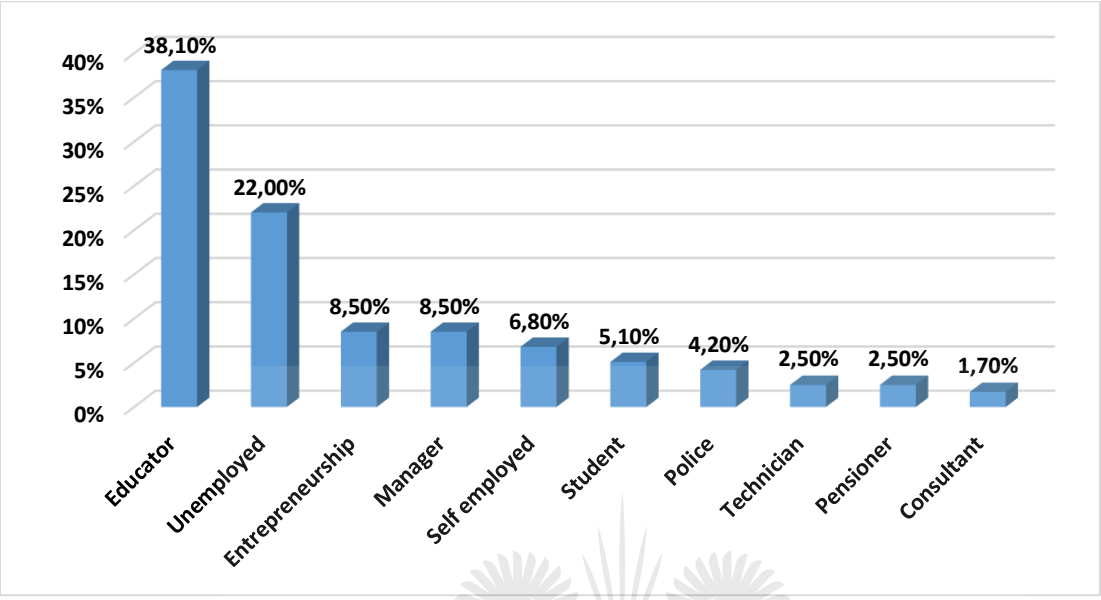


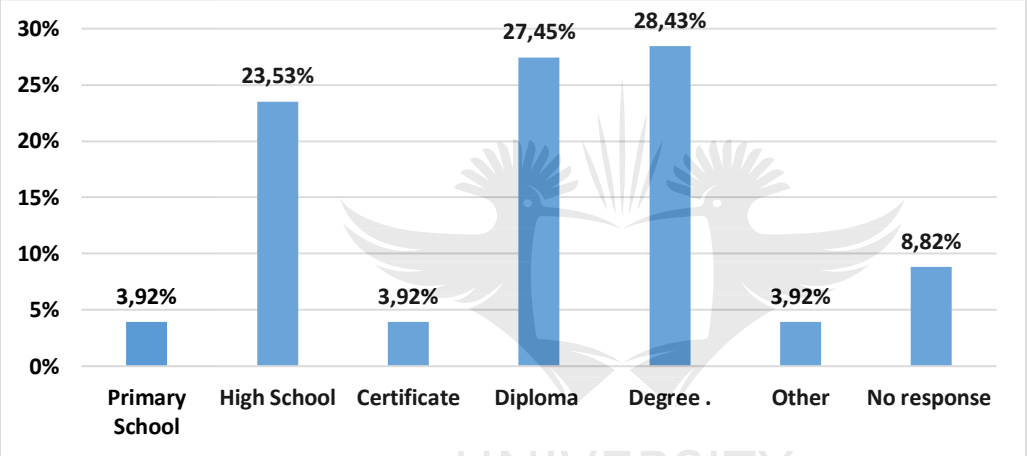
Table 5.6 Numerical breakdown for parents' occupations

Occupation	% Frequencies	Code Frequencies
Educator	38.10%	45
Unemployed	22.00%	26
Entrepreneurship	8.50%	10
Manager	8.50%	10
Self employed	6.80%	8
Student	5.10%	6
Police	4.20%	5
Technician	2.50%	3
Pensioner	2.50%	3
Consultant	1.70%	2

5.5.1.3 Highest educational level and qualification field

An academic *degree* was the highest educational level obtained, for just under a third of the parents/guardians who completed the family information form (FIF), (*n*=27, 28%), followed by *Diploma* (*n*=26, 27%) and *High School* (*n*=24, 24%) qualifications. Approximately 4% (*n*=3) obtained a *certificate,* and another 4% (*n*=4) completed *primary school. Figure 5.4 below* illustrates the percentage distribution for the educational level and qualification fields of parents/guardians who completed the *FIF*.

Figure 5.4 Educational level of guardian/family member who completed the FIF form



5.5.1.4 Parent's occupation and skill category

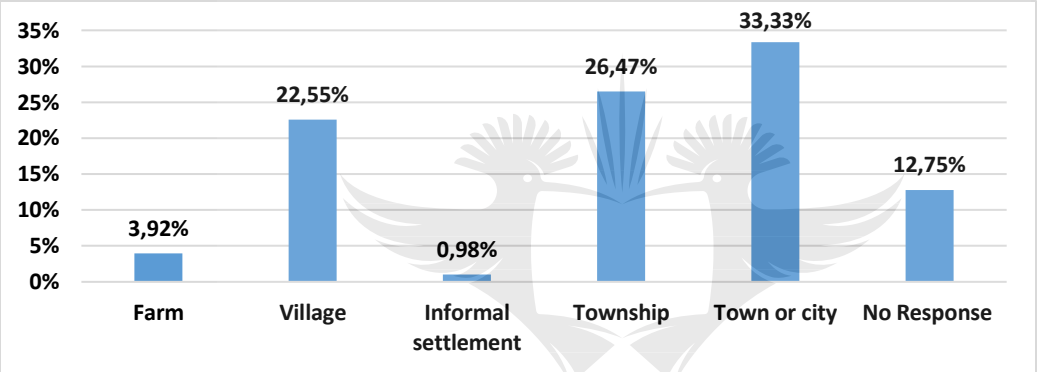
The occupations offered by the learner's parent/guardian were sorted into skill levels based on the International Standard Classification of Occupations (ISCO-88) (Elias, 1997). Once skill levels were ascertained, the occupations were sorted into occupational categories at each skill grouping. Appendix C depicts the occupation and skill category of the parent/guardian who completed the *FIF*. The majority of parents'/guardians' listed occupations were categorised as either *professionals or technicians or associates* (*n*=42, 43%) (*educator, entrepreneur, lecturer, quality officer*), followed by *legislators, senior officials and managers* (*n*=25, 25%). Occupations in this latter category included: general manager, sales manager, and business owner. S*ervice,*

shop and market sales workers were among 9% (*n*=8) (policeman, cashier, etc.), and a small percentage of respondents were categorised as possessing lower end skills: *clerks* (*n*=3, 3%).

5.5.1.5 Classification of learners' homes into urban and rural categories

Figure 5.5 illustrates the distribution of learners based on residence classifications. Based on information provided by parents/guardians, the majority of learners live in a *town/city* (n=59, 33%), 26% (n=25) live in *township* areas, and 23% (n=22) live in *villages*. Only 4 lived in *farm* areas and 1 in *informal settlements.*

Figure 5.5 Distribution of learners' homes by urban and rural type residence



5.5.1.6 Challenges experienced at school

Participants reported on past challenges experienced at school. These centred on the following: (i) difficulties related largely to limited school facilities/resources, quality of instruction received, limited extra-curricular offerings, lack of achievement recognition, or intellectual stimulation (***school resource or learning environment difficulties*** [$n_{quotations}$=68]), (ii) struggles related to victimisation and discrimination, social awkwardness, getting along with peers or teachers, experience of peer pressure, or social performance anxiety (***social, relational and interaction struggles*** [$n_{quotations}$=65]), (iii) struggles related to lowered academic performance, learning impediments, motivational or time-management issues, or lack of support - academic or logistical (**struggles with learning, or academic and logistical support** [$n_{quotations}$=46]), and,

(iv) struggles related to adjusting to academic or life transitions, or unforeseen life circumstances (***transitional struggles*** [$n_{quotations}$=31]). See Appendix H, which provides a table of supporting quotations for these codes and code definitions that were used to organise the data.

Figure 5.6 Challenges Experienced at School

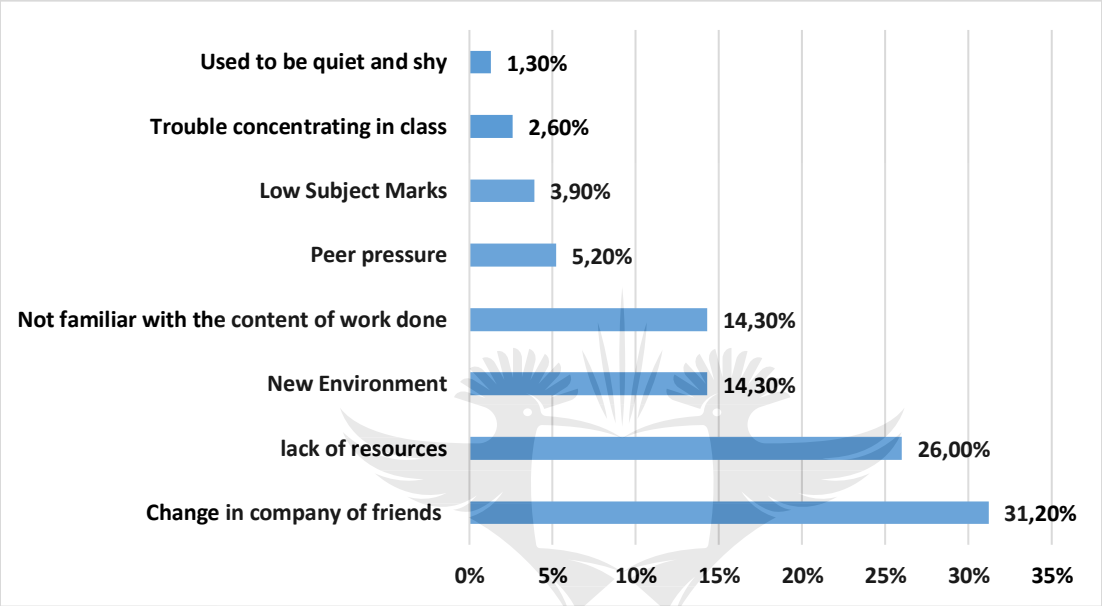


Table 5.7 Numerical breakdown for challenges experienced at school

Challenges at school	% Codes	Codes
Change in company of friends	31.20%	24
lack of resources	26.00%	20
New environment	14.30%	11
Not familiar with the content of work done	14.30%	11
Peer pressure	5.20%	4
Low subject marks	3.90%	3
Trouble concentrating in class	2.60%	2
Used to be quiet and shy	1.30%	1

In response to the question: "Describe any challenges that you have experienced at school", 19 learners categorically stated that they had *no* or *no major difficulties at school*, while 20 learners did not provide a response. The remaining 185 responses were coded and thematically grouped, deriving the following themes: *school resource or learning environment difficulties* ($n_{quotations}$=68), *social, relational and interaction struggles* ($n_{quotations}$=65), *struggles with learning, or academic and logistical support* ($n_{quotations}$=46), and *transitional struggles* ($n_{quotations}$=31) (Appendix H provides a visual illustration of these codes and code definitions that were used to organise the data). These themes and their sub-themes are explored in the sub-sections below. When considering these themes, it is important to note that that learners mainly reported on *past* as opposed to present challenges.

- **School resource or learning environment difficulties**

School resource or learning environment difficulties (n_{codes}=5; $n_{quotations}$=68) was the most dominant theme, and was defined in the data as difficulties related largely to limited school facilities/resources, but also the quality of instruction received, limited extra-curricular offerings, lack of achievement recognition, or intellectual stimulation. A number of sub-themes comprised school resource or learning environment difficulties, namely limited facilities/resources, poor quality of instruction, limited extra-curricular choices, lack of recognition, and lack of intellectual fulfilment.

- **Limited facilities/resources**

Limited facilities/resources ($n_{quotations}$=40) reflected learners' expressed difficulties related to resource shortages, substandard facilities, lack of access to technology, structural issues, or general environmental factors that hamper learning. Given the poor quality of building infrastructure, for instance, some learners noted that they had to endure extreme temperatures in the classrooms:

> *Prefab classrooms are hot during summer and cold during winter. [P9: Case 9 - 9:6]*

Others reported issues with a lack of appropriate facilities, overcrowding, limited spaces, and limited access technology resources and learning materials, as evidenced by the following sample statements:

> *There aren't smart boards in every class, there's limited internet during lessons for extra research. No proper science labs, educators have to perform experiments in very limited space. Art students do not have a fully equipped art room and have to go to external venues to attend our classes. [P 9: Case 9 - 9:6]*

> *High school- we had a library yet the books were very old, therefore information is not enough, except from the access to the Internet. [P24: Case 24 - 24:6]*

> *The playing fields were having long grass, which made it difficult to play during lunch breaks. [P64: Case 64 - 64:6]*

> *At primary school we had a very large population of pupils and only one computer lab, which means that I didn't always have access to the computers, and it is now kinda difficult because I don't really know all the uses of the computer. [P71: Case 71 - 71:41]*

Several learners highlighted the consequences of limited facilities/resources, for instance: not feeling up to date with knowledge, having difficulty conducting research for projects, and possessing only theoretical knowledge with limited practical exposure to science experiments:

> *At primary school we did not have access to the Internet or computers and so I did not know computers. [P32: Case 32 - 32:41]*

> *When I was in primary I did not have access to computers, which made it difficult because when I wanted to do research project I would struggle. The playing fields were having long grass, which made it difficult to play during lunch breaks. [P64: Case 64 - 64:6]*

> *At my school we lack resources for example we as learners do not have access to the computer, library and science lab so it is difficult for me to understand things/ experiments that are performed without seeing them. [P141: Case 141 - 141:6]*

- **Poor quality of instruction**

As a secondary sub-theme of school resource or learning environment difficulties, ***poor quality of instruction*** ($n_{quotations}$=11) reflected struggles related to perceived quality of instruction, frequent change of teachers, teacher absences or shortage, or disruptive learning. In some cases, perceived poor quality instruction translated to extra personal study time for subjects and, for others, inferior academic performance:

> *At primary school I didn't have the quality teaching most other children had, and self0-studying was mostly required. [P13: Case 13 - 13:40]*

> *I also faced difficulty of not having a good math teach thus I di not perform too well in this subject during primary school [P37: Case 37 - 37:42]*

Others highlighted difficulties related to adjusting to new teachers as a result of the high turnover of teaching staff, or being behind in the school curriculum as a result of teacher absences:

> *At times when a teacher was new in the school I would not understand him/her for the first day or so. [P160: Case 160 - 160:6]*

> *My difficulties in high school was that when I schooled in St. Thomas our teachers left the school because of not being paid so, we had no teachers. [P106: Case 106 - 106:6]*

> *Lack of educators who are dedicated. [P145: Case 145 - 145:42]*

> *In my previous high school teachers were changed too many times. [P38: Case 38 - 38:37]*

- **Limited extra-curricular choices**

Limited extra-curricular choices ($n_{quotations}$=7) emerged as a minor theme. Learners' perceptions of limited extra-curricular choices and opportunities were seen as an obstacle to developing

skills and interests, as well as an obstacle to excelling. Some learners expressed their disappointment for the lack of opportunities to cultivate their unique interests and skills, owing to the lack of extra-curricular offerings. Others noted that while they were able to participate in certain activities, their access to higher levels of achievement in these activities were limited. In essence, these limitations were imposed by various factors that were hinted at in learners' comments, for example, lack of school resources to focus on activities outside of the academic, lack of infrastructure, or specialist skills:

> *In high school was that basketball was not taken into consideration by the school so as a basketball player I did not get an opportunity to show my skills. [P20: Case 20 - 20:42]*
>
> *In primary school we had no access to opportunities of achieving greater levels colours, regional colours etc. [P58: Case 58 - 58:40]*
>
> *In primary school, we did not have sports/ playing fields. My previous high school did not have extra mural activities and clubs either. [P72: Case 72 - 72:41]*

One learner, who for health reasons was unable to participate in sporting activities, expressed struggles related to limited alternative choices available for him to participate in extra-curricular activities:

> *The debate and public speaking society of my current high school was not as active as the ones from my previous schools, I am asthmatic and sporting is compulsory in my school. [P18: Case 18 - 18:6]*

- **Lack of recognition**

Lack of recognition ($n_{quotations}$=7) also emerged as a minor sub-theme of school resource or learning environment difficulties. This was defined in the data as experiences of being overlooked academically due to a range of factors, for example, teacher favouritism, gender discrimination, or having limited opportunity to display potential. One learner stated directly: *"in primary school I felt that I was never acknowledged enough for my hard and also not recognised well enough" (P87: Case 87 - 87:6)*. Others made subtle references to perceived lost opportunities for achieving or demonstrating their potential:

A lot of favouritism took place in primary school. I lost out on achievements. [P163: Case 163 - 163:41]

The school mainly focused on developing leadership of the boys as the role of the head boy was seen as more important compared to the head girl one. [P36: Case 36 - 36:42]

In primary school I experienced difficulties of being looked down at and not being given the opportunity to showcase my potential. (P202: Case 202 - 202:41)

- **Lack of intellectual fulfilment**

Emerging as a very minor theme was ***lack of intellectual fulfillment*** ($n_{quotations}$=3) expressed by three learners. This highlighted their perceptions that classes/course offerings lacked competitiveness, or were limited. One learner stated succinctly: *"There was no competitive learning" (P142: Case 142 - 142:41)*. Another learner expressed the need to seek intellectual stimulation from sources outside of the school: *"I have been forced to look outside my usual school teachers for full achievement" (P195: Case 195 - 195:41).* Thus, for these learners, these contexts limited their opportunities to develop academically.

- **Social, relational and interactional struggles**

Social, relational and interactional struggles (n_{codes}=4; $n_{quotations}$=65) was the second most prevalent theme, defined in the data as struggles related to victimisation and discrimination, social awkwardness, getting along with peers or teachers, experience of peer pressure, or social performance anxiety. This comprised the following sub-themes: discrimination/bullying, social connection and interpersonal struggles, peer pressure, and performance anxiety.

- **Discrimination/bullying**

Discrimination/bullying ($n_{quotations}$=36) featured as the most prevalent sub-theme of social, relational and interactional struggles. This emerged as struggles with being bullied, discriminated against or alienated based on appearance, work ethic, or academic achievement. These learners highlighted several perceived reasons for being the target of discrimination or bullying. These included achieving beyond the expectations or stereotypes ascribed to their social or racial group, being perceived as part of the 'out-group', failing to conform to norms of

prescribed gender identity, appearance, or standard of achievement (whether this was overachieving academically or underperforming athletically):

> *I experienced discrimination because I was English first language and because I was the only person of colour to achieve in my old high school but I used it to my advantage (P16: Case 16 - 16:6)*
>
> *I also had people calling me names just because I am feminine. (P19: Case 19 - 19:41)*
>
> *I was teased and bullied because of the way my teeth are. In primary I am still having these two problems. (P21: Case 21 - 21:42)*
>
> *Being patronized by other people for getting good grades and working hard. (P31: Case 31 - 31:6)*
>
> *I was regularly teased for being fat and not being good at sporting activities. (P57: Case 57 - 57:6)*

- **Social connection and interpersonal struggles**

Social connection and interpersonal struggles ($n_{quotations}$=18) reflected learners' perceived difficulties connecting with others socially, or difficulties getting along with peers or teachers. In the former case, learners described themselves self as 'shy', 'introverted', having low self-esteem, or feeling different, attributing these qualities to standing in the way of connecting with others. Suggestions of social avoidance were noted in these instances:

> *I was very introverted and did not participate within a lot of group discussions. I also did not have self-confidence and high self-esteem. [P26: Case 26 - 26:40]*
>
> *The only difficulties I might have experienced at primary school are only the ability to socialize with other children. [P40: Case 40 - 40:6]*
>
> *Found it hard to make friends. Felt insecure about myself. [P194: Case 194 - 194:6]*

In the latter case, learners expressed difficulties getting along with others, or maintaining relationships with others. Hints of conflict, antagonism or disruptive behaviour were suggested:

> *I experienced a difficulty with a friend, during high school. My group of friends had a fight with another girl and she called in her parents to school. [P164: Case 164 - 164:41]*

> *The only difficulties I experienced is that I am very competitive and hardworking and some people may see me as a threat. I also have very strong opinions and will not let something be said that I do not agree with. [P204: Case 204 - 204:41]*

> *I have the difficulties any teenager would have, like fighting with your friends and not liking the teachers. [P211: Case 211 - 211:41]*

- **Peer pressure**

As a minor sub-theme, ***peer pressure*** ($n_{quotations}$=7) emerged in the data as struggles of giving in to negative peer influences, particularly drinking and smoking. Several learners articulated these thoughts in rather similar ways, for instance, giving in to peer demands:

> *At primary school I had a problem with peer pressure, my friends pressurising me to do wrong and me adapting to that. [P115: Case 115 - 115:6]*

> *Peer pressure-Friends pressuring me, to take alcohol and smoke cigarrets. [P138: Case 138 - 138:6]*

> *Peer pressure to do drugs and become drunk in school. [P42: Case 42 - 42:41]*

- **Social anxiety**

Social anxiety ($n_{quotations}$=4) was a very minor sub-theme of social, relational and interactional struggles. This was defined as difficulties engaging with peers, expressing views, or addressing a group due to feelings of anxiety. These few learners expressed their struggles related to self-expression and engaging with others, particularly in group situations:

> *In primary school I was chosen to be a class monitress by my classmates my problem was that I was shy to address my co-learners. I had stage fright. [P113: Case 113 - 113:6]*

Well, I can say stage fright was one hell of a problem, having to stand in front of a public was one difficult moment I came across. [P137: Case 137 - 137:6]

- **Struggles with learning, or academic or logistical support**

Struggles with learning, or academic or logistical support (n_{codes}=5; $n_{quotations}$=46) was the third most prevalent theme, and was defined in the data as struggles related to lowered academic performance, learning impediments, motivational or time-management issues, or lack of support - academic or logistical. A number of sub-themes comprised this theme, namely academic struggles or learning impediments, motivation, time-management struggles, financial difficulties, transport difficulties, and a lack of academic support.

- **Academic struggles or learning impediments**

Academic struggles or learning impediments ($n_{quotations}$=23) emerged as the major sub-theme, which was defined as struggles with specific subjects, perceptions of self as not having achieved to his/her potential, having limited knowledge, or having experienced learning impediments (such as stuttering, attention difficulties, and learning disability) that limit full participation in the learning experience. Most dominant was learners' articulation of subject-specific struggles:

I found some subjects challenging such as Afrikaans and Technology. [P17: Case 17 - 17:6]

In primary I had a difficulty in a particular subject, which was mathematics. [P21: Case 21 - 21:41]

Others expressed disappointments with not performing in line with their own academic standards and potential. Alternatively, others perceived that their achievements (albeit high) were not adequate enough:

I was stressed at school in grade 9. my marks were not up to the standard I have set for myself. [P90: Case 90 - 90:40]

In primary school, I was second runner up and so was placed in the A class a t high school. Everyone was extremely competitive and my end of year average went down to

80%I had great trouble dealing with stress and was very disappointed. [P191: Case 191 - 191:41]

My level of learning wasn't that good so I was not a top student. [P208: Case 208 - 208:41]

For a small number of learners, perceived learning impediments prevented them from attaining their academic potential, and in some cases, presented as debilitating to the learning experience:

In grade 1 I had a learning disability. After two years of OT the problem was fixed and now I have no problem at all. [P43: Case 43 - 43:42]

In high school I realised that I had speech problem. As I am currently in grade 11 my stuttering condition is inevitable. Its my worst nightmare, that I cant seem to wake up from. I see it as a barrier for me, stopping me from sharing my ideas and at the fullest. [P73: Case 73 - 73:41]

I battled to concentrate in primary school. [P108: Case 108 - 108:40]

- **Motivation, time management struggles**

Related to ***academic struggles or learning impediments*** were ***motivation, time management struggles*** ($n_{quotations}$=8). As a very minor sub-theme, this was reflected in the data as difficulties with motivation, applying self to school work, having no educational goals, struggles with workload or finding balance between academic and other activities. Learners who lacked motivation for academic striving described their difficulties in terms of not getting work done, having difficulty applying themselves to tasks and having little academic goals:

I lacked the skill to apply myself in subjects like mathematics and science in primary school because I didn't 3invest time and focus on my studies. [P23: Case 23 - 23:6]

In high school it is getting the work done. [P32: Case 32 - 32:42]

In high school as my school life changed. I started having difficulties with my schoolwork especially in grade 9. the reason for that is that I did not understand myself, I had no goals. [P52: Case 52 - 52:40]

Time management difficulties were related to finding balance, and managing workload:

Time management. Trying to fit school, sport, friends and relationships, family bin one day. [P102: Case 102 - 102:6]

Sometimes if I had a lot of workload. [P103: Case 103 - 103:6]

- **Other sub-themes: financial difficulties, transport difficulties, lack of academic support**

Transport difficulties ($n_{quotations}$=8), ***financial difficulties*** ($n_{quotations}$=6) and ***lack of academic support*** ($n_{quotations}$=2) emerged as very minor sub-themes of the main theme. Transport struggles were related to travelling long distances, getting to school (on time) due to transport disruptions, or difficulty partaking in activities due to transport difficulties:

Also buses strike a lot and when they do, I struggle to find transport making me arrive late for school. I don't like arriving late so this is a huge difficulty for me. [P41: Case 41 - 41:41]

Waking up at 03:30 AM for school, travelling about 30km per day, to school and back by bus. [P68: Case 68 - 68:6]

Learners also highlighted the financial logistical struggles over which they had little control. This was expressed as financial strain and associated antecedents and consequences, namely parent unemployment, homelessness, not being able to attend school, or going to school hungry:

Dealing with the fact that I had gone homeless because my mother and father were unemployed for a span of 3 years. [P27: Case 27 - 27:6]

I stayed at home and didn't go to school at the beginning of 2002 because of financial problems. [P46: Case 46 - 46:6]

At primary we used to sleep with an empty stomach, so sometimes I used to go to school

hungry. At high school it is difficult because sometimes we don't have money to survive. [P60: Case 60 - 60:6]

Finally, ***lack of academic support*** emerged as difficulties associated with limited extra help/aftercare facilities at school (structural) or lack of personal role models to provide academic mentoring (personal):

In my previous high school, they lacked many facilities and extra help with academic difficulties. [P72: Case 72 - 72:40]

To be independent, not having my own ways to deal with something, and not having someone to explain or help me, where I do not understand, over and above that I wasn't able to reach my goals. [P136: Case 136 - 136:6]

- **Transitional struggles**

Transitional struggles (n_{codes}=3; $n_{quotations}$=31) was the least prevalent theme, and was defined as struggles related to adjusting to academic or life transitions, or unforeseen life circumstances. Three sub-themes comprised this theme, namely changing circumstances, emotional stress, and language struggles.

- **Changing circumstances**

Changing circumstances ($n_{quotations}$=22) emerged as transition or adjustment difficulties, such as moving to a new school, advancing to high school, living away from home, or coping with new academic demands. Transitional circumstances forced some of these learners to adapt to new experiences, with mixed feelings. Some highlighted the transient negative impact of these changes, while others hinted at how these circumstances stimulated new learning, as reflected below:

In high school I had trouble being accustomed to the teachers- no more check-ups on homework or spoon feeding, I had to know it was my future and therefore my choice on whether I wanted to succeed or not. [P11: Case 11 - 11:6]

Coming from a co-ed school (primary) to an all girls school has been a minor difficulty for

me but I have learnt to adjust to my new school. Also being in a boarding school has had its toll on me because my home is Johannesburg but I school in Bloemfontein. [P14: Case 14 - 14:41]

I had to adjust to a community where independence was demanded. I had to learn how to cope with living without my parents. [P33: Case 33 - 33:41]

My parents have been transferred from one place to another in terms of their working conditions and position. This has had a major negative effect on me as I was compelled to continously change schools as they received a transfer. [P149: Case 149 - 149:39]

- **Other sub-themes: emotional stress, language struggles**

Other sub-themes related to **transitional struggles** were ***language struggles*** ($n_{quotations}$=6) and ***emotional stress*** ($n_{quotations}$=3). The former reflected learners' difficulties adapting to the dominant language of the school.

I had language problem, I grew up speaking Sepedi so it took me time to adapt Sotho at laretadima. When I came back to Limpopo for high school I struggled again to speak, read and write Sepedi. [P65: Case 65 - 65:6]

In primary when I first came to little flower I did not understand English I was from a bantu school. [P170: Case 170 - 170:40]

Emotional stress ($n_{quotations}$=3) reflected the manner in which learners coped with the loss of a loved one, or other disruption perceived as emotionally taxing, while engaging in or school work or preparing for exams:

The difficulty, which I experienced in high school was in 2009 when I had to go through my mothers death and write the mid year examinations. [P131: Case 131 - 131:41]

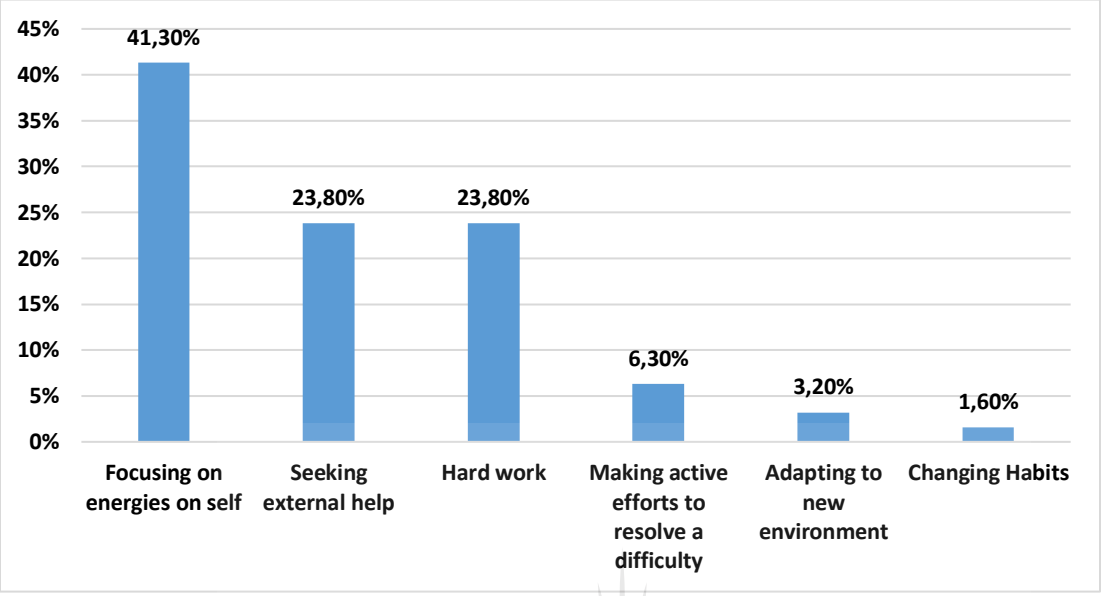
The comprehensive narrative above provided insights into the challenges experienced by the learners. These included school resource or learning environment difficulties, inadequate resources within schools, poor quality instruction, limited extra-curricular choices, lack of acknowledgement from teachers, lack of intellectual fulfillment, experiences of discrimination

and bullying, social and interpersonal struggles, peer pressure, struggles with study strategies, motivation and time management struggles, lack of academic support , financial and transport challenges and lastly transitional struggles (changes in life circumstances and adjustment to new environments). This information was important as it provided insight into the contextual realities and lived experiences of the learners in their schooling environments. The following section will explore the coping strategies adopted by the learners in an attempt to resolve and mediate their experiences.

5.5.1.7 Coping with challenges experienced at school

In response to these challenges, participants reported several coping strategies, namely (i) a strategy that involves making active efforts to resolve a difficulty or overcome a challenge through seeking external help, making changes to routine or habits, confrontation, or targeting self/personality for change (***active efforts to resolve challenges*** [$n_{quotations}$=26]), (ii) a strategy that suggests resilient adaptation to external circumstances, focusing on energies on self and own sphere of influence/control, or adopting a positive mindset (***adapting self to challenges*** [$n_{quotations}$=30]), and (iii) a passive response to challenges, for example, choosing not to resolve the problem, ignoring it, or finding resolution based on intervention by another (***passive response to challenges*** [$n_{quotations}$=19]).

Figure 5.7 Coping with challenges experienced at school



In response to the question: "Describe how you have dealt with these challenges", participants' responses were coded and thematically grouped, deriving the following themes: *active efforts to resolve challenges* ($n_{quotations}$=120), *adapting self to challenges* ($n_{quotations}$=59), and *passive response to challenges* ($n_{quotations}$=19) This is summarized in Table 5.8 below, and a narrative in Appendix I provides supporting quotations of these codes and code definitions that were used to organise the data.

Table 5.8 Dealing with challenges experienced at school

Theme	*Active Efforts to Resolve Challenges*	*Adapting Self to Challenges*	*Passive Response to Challenges*
Quotation count	120	59	19
Theme definition	Strategy involves making active efforts to resolve a difficulty or overcome a challenge through seeking external help, making changes to routine or habits, confrontation, or targeting self/personality for	Strategy suggests resilient adaptation to external circumstances, focusing on energies on self and own sphere of influence/control, or adopting a positive mindset.	Strategy suggests a passive response to challenges, for example, choosing not to resolve the problem, ignoring it, or finding resolution based on intervention by another.

	change.		
Sub-Themes (#) quotations)	*Seek resources external to self (47)*	*Adapt to external (25)*	*Continues to struggle (16)*
	Makes effort to constructively access resources or extra support (e.g., consults public library, external extra-curricular activities, or extra academic support or professional help where school resources are limited).	Moulds self positively to external struggles, without changing them; allows self to become accustomed to new experiences or makes use of what is available. Suggests mature acceptance and resilience at times.	Chooses not to resolve the problem, continues to struggle with it or ignores it; suggestions of despondency - in some cases, expressed as 'perseverance'; in others, leading to less satisfactory outcomes (e.g., below average performance).
	Makes constructive changes (27)	*Divert efforts to self (23)*	*Responds to external interventions (3)*
	Makes constructive changes to habits (e.g., sacrifices social activities), adjusts routine or circumstances that contribute to struggles.	Energies focused on aspects within own sphere of control: studying hard, excelling in sports, staying true to self; in some cases, allowing self to thrive amidst external difficulties.	Resolves struggles as a result of external intervention (e.g., by teacher/parent).
	Confronts to change (23)	*Adopt positive mindset (11)*	
	Assertively confronts the issue directly by engaging directly with those concerned, or accessing higher structures. Suggests leadership initiative and advocacy.	Adapts to situations by engaging in positive self-talk; engages in reflection to prioritise goals.	
	Expand comfort zone (12)		
	Engages in concerted actions to overcome perceived flaws in self (e.g., participates in debating to overcome fear of speaking).		
	Has self-initiative and seeks external resources (11) *Takes initiative to focus efforts in own sphere of control* *As well as seeks external resources. Suggests*		

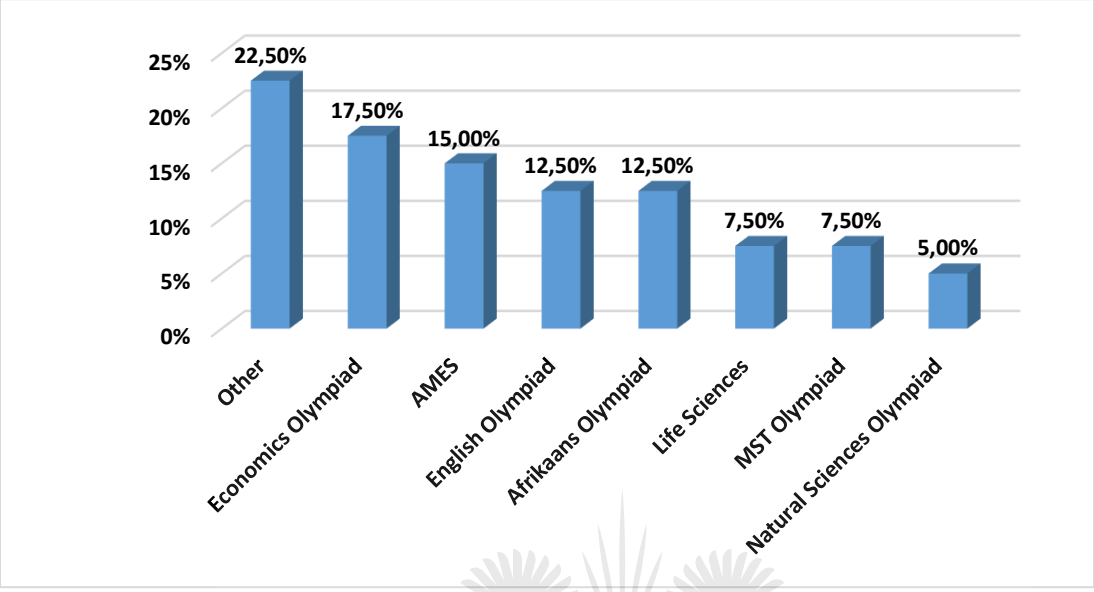
	combination of self-reflection and asking for help.		

Despite the numerous contextual, academic and personal, as well as intra-personal challenges experienced by the learners, their ability to develop the applicable self-learning strategies and self-monitoring study behaviours, indicates that learners became more involved in the learning process (see Altun et al., 2011; Yusuf, 2011). The authors further indicate that focussing on developing self-efficacy programmes strengthens students' individual capacity to accomplish the purposes of educational systems (Altun et al., 2011, p. 2320).

5.5.1.8 Olympiad Participation

The involvement in any form of Olympiad participation is included in the learner profile section to demonstrate their ability at tasks outside of the school classroom context. Olympiads provide a platform for the development of knowledge in a specific subject area and also expose learners to competitions at a local and national levels. The learners describe in detail the learning benefits of their participation in Olympiads, which facilitated expanded insights in their content knowledge of the subject. Their participation also enhanced learning approaches, which contributed to the adoption of new or advanced learning strategies along with a newfound interest in the subject. Finally, Olympiad participation Inspired feelings of confidence, a sense of mastery over learning, insight into abilities, and identification of strengths and areas for improvement (see Appendix F). The majority of participants (81%) indicated that they had participated in various Olympiads, with Economics Olympiad demonstrating the highest participation rate (23%), followed by AMESA (15%), and English and Afrikaans (13% respectively), as depicted in Figure 5.8 below.

Figure 5.8 Type of Olympiad participation



5.5.1.9 Learner personal statements

To inform the profile development, learners were requested to write three personal statements about themselves. Participants' personal statements about themselves centred on the following descriptions: (i) attitudinal orientation towards goal-driven behaviour, optimistic frame of reference, managing work and self (***motivational attitude towards success*** [$n_{quotations}$=240]), (ii) personal values, beliefs and an orientation towards life that encompassed values of character, collective/self-in-other orientation, fairness/respect attitude, being true to self, religious guidance, and balance (***beliefs, values and life orientation*** [$n_{quotations}$=121]), (iii) strengths, inclinations or tendencies in a particular area: cognitive, emotional, or practical domains (***perceived abilities/strengths*** [$n_{quotations}$=115]) and (iv) perceptions of self along several dimensions: extroverted/introverted orientation, or interpersonal/personal ways of relating (***personality orientation*** [$n_{quotations}$=106]). Appendix G provides a visual illustration of these codes and code definitions that were used to organise the data. These themes and their sub-themes are explored in the sub-sections below.

The first, most prevalent theme, **motivational attitude towards work** (n_{codes}=4; $n_{quotations}$=240) reflected personal descriptions that stress the learner's attitudinal orientation towards goal-driven behaviour, optimistic frame of reference, and managing of work and self. This theme comprised four sub-themes, namely strong work ethic, goal-driven orientation, optimistic attitude, and ability to self-manage. ***Strong work ethic*** ($n_{quotations}$=115) reflected learners' positive work ethic or attitude towards work, as evidenced in descriptive terms such as: "hardworking", "persistent" and "willing to learn". This was evident in the following sample statements:

> *Hardworking and I never sleep until a task is completed. [P19: Case 19 - 19:25]*
>
> *I am determined, hard-working and eager to always gain more knowledge. [P39: Case 39 - 39:25]*
>
> *I am diligent, persistent, tolerant and self-disciplined. [P68: Case 68 - 68:42*]

Positive attitude towards work also featured as another element of ***strong work ethic***:

> *I always try my best at a given task. [P 8: Case 8 - 8:23]*
>
> *I am a very dedicated, motivated student. [P13: Case 13 - 13:24]*
>
> *I am an achiever and always try my best at everything I do. [P43: Case 43 - 43:27]*

Goal-driven orientation ($n_{quotations}$=69) was another facet of motivational attitude towards work and captured statements denoting goal-directedness, commitment towards staying true to goals, or the ability to see the bigger picture. Learners described themselves as ambitious, driven, passionate, determined and dedicated. Some reflected on their future goals as 'dreams', and others personally acknowledged that they knew what they wanted for themselves in the future:

> *I am someone who doesn't just dream but who dreams big and working to achieve. [P93: Case 93 - 93:25]*
>
> *I know exactly what it is that I want in life. [P39: Case 39 - 39:44]*

Attitudinal characteristics of persistence, having determination, and being proactive also emerged as important facets of a goal-driven orientation:

> *I never give up and believe failure is not a bad thing but don't have to aim for it. [P94: Case 94 - 94:50]*

> *Ek het dryfkrag en hou daarvan om dinge op my manier te doen. [P107: Case 107 - 107:24]*

> *I am pro-active. [P60: Case 60 - 60:26]*

Optimistic attitude ($n_{quotations}$=48) and ***ability to self-manage*** ($n_{quotations}$=11) were minor sub-themes of motivational attitude towards work. The former referred to an optimistic outlook of the future, a positive approach towards life in general, or a generally cheerful disposition. This was articulated in statements such as:

> *I am always in a good mood. [P 6: Case 6 - 6:2]*

> *I try to maintain a positive attitude going into new things. [P 7: Case 7 - 7:25]*

> *I am an extremely happy person - it takes a lot to break my spirit. [P17: Case 17 - 17:27]*

The latter sub-theme, ***ability to self-manage***, denoted a sense of responsibility, independence, reliability, and having command over one's actions:

> *I am self-disciplined for I have self-control and can manage my time. [P53: Case 53 - 53:27]*

> *I am punctual and good at managing my time. [P191: Case 191 - 191:26]*

> *I can make decisions easily on my own. [P197: Case 197 - 197:26]*

Beliefs, values and life orientation

As a secondary theme, **beliefs, values and life orientation** (n_{codes}=6; $n_{quotations}$=121) referred to personal descriptions that emphasised personal values, beliefs and the learners' orientation towards life. This encompassed six sub-themes, namely values of character, collective/self-in-

other orientation, fairness/respect attitude, true to self, guided by religious values, and strives for balance. ***Values of character*** ($n_{quotations}$=42) denoted statements in which learners attributed worthy character values to themselves, whether this was oriented to the self or the broader environment. Values of trust, integrity, compassion and humility embraced, while negative traits such as corruption were dismissed:

> *I believe that friendliness and compassion are the qualities of a great person. [P 3: Case 3 - 3:27]*
>
> *I am a person who values integrity. [P37: Case 37 - 37:25]*
>
> *I despise corruption with everything I have. [P19: Case 19 - 19:2]*
>
> *Try to be humble at most times. [P90: Case 90 - 90:26]*

Collective/self-in-other orientation ($n_{quotations}$=28), a secondary sub-theme of beliefs, values and life orientation**,** captured descriptions whereby learners stated their interest in 'giving back' or helping others, or expressed views of themselves as interrelated to others, whether in family relationships, or broader culture/society. For a few learners, this was expressed as a collectivist orientation embodied in an *Ubuntu* philosophy:

> *I would rather work knowing I am giving something back than work for a large bank account. [P 7: Case 7 - 7:27]*
>
> *Service to others is service to myself. [P33: Case 33 - 33:48]*
>
> *I respect and follow my beliefs, culture and my belongings. [P65: Case 65 - 65:27]*
>
> *I put others first more especially, their happiness. [P65: Case 65 - 65:26]*
>
> *A considerate and active member of my community, always willing to be an asset to anybody. [P58: Case 58 - 58:26]*
>
> *I have Ubuntu [P36: Case 36 51 -36:80]*

Fairness/respect attitude ($n_{quotations}$=19) emerged as an attitudinal orientation whereby

learners' stated their beliefs in equal respect, fairness and tolerance towards others. This was embodied in the statement: *"Love helping people and animals and hate unfairness or biased views" [P183: Case 183 - 183:25]*, and was further fleshed out by other learners:

> *I am a generous, caring, fun-loving person who respects people and their differences. [P192: Case 192 - 192:24]*
>
> *My future depends on how I treat and see myself and those surrounding me. [P33: Case 33 - 33:49]*
>
> *I believe in equality and hate people being treated differently. [P 1: Case 1 - 1:44]*

True to self ($n_{quotations}$=15) captured learners' aims of staying true to themselves, as evident in descriptions of "being natural", "real" or standing up to personal beliefs, following own inclinations, or not conforming to stereotypes and expectations.

> *Not afraid to stand up for my beliefs. [P12: Case 12 - 12:26]*
>
> *I am a non-conformist. [P36: Case 36 - 36:26]*
>
> *I'm not like all girls. I'm more like a tomboy. Not caring about what I wear, etc. [P102: Case 102 - 102:45]*

The final two sub-themes, ***strives for balance*** ($n_{quotations}$=9) and ***guided by religious values*** ($n_{quotations}$=9) were minor aspects of beliefs, values and life orientation. The former denoted learners' pursuit of balance between different value systems or behaviours, for example, having fun and working hard:

> *I like having fun so that my stress levels are low since I have a hectic life. [P54: Case 54 - 54:27]*
>
> *I have my quiet moments just to be at balance with myself. [P159: Case 159 - 159:26]*
>
> *I am an active person, I like to be organised because I enjoy an active life, I enjoy playing sports and living a balanced life. [P192: Case 192 - 192:45]*

The latter sub-theme, ***guided by religious values*** captured statements that reflected learners' religious values that were perceived as important guiding influences and central to personal growth.

I am a growing Christian who thanks God for all my successes. [P16: Case 16 - 16:46]

I believe a lot in my faith to guide me. [P150: Case 150 - 150:48]

A religious person with values in life. [P62: Case 62 - 62:46]

Perceived abilities/strengths (n_{codes}=3; $n_{quotations}$=115) was the third most prevalent theme in learners' personal statements. This denoted personal descriptions that highlighted learners' strengths, inclinations or tendencies in a particular area, namely cognitive, emotional, or practical domains. Three sub-themes comprised this theme, namely cognitive strengths, ability to apply self, and practical orientation. ***Cognitive strengths*** ($n_{quotations}$=69) was a major sub-theme that captured learners' emphasis on their strengths in a cognitive domain, such as critical or analytical thinking. Expressions of intellectual curiosity and descriptions of self as *'intelligent', 'smart' and 'bright'* illuminated this sub-theme.

I am a critical thinker. [P 9: Case 9 - 9:26]

I am a critical and analytical thinker. [P10: Case 10 - 10:25]

The enjoyment associated with intellectual stimulation was captured below:

I enjoy things that broaden my mind and capabilities. [P16: Case 16 - 16:26]

I am a very inquisitive person who is always looking for information. [P21: Case 21 - 21:26]

Ability to apply self ($n_{quotations}$=42) reflected learners' ability to apply self in order to achieve desired results or solving problems, as evident across a range of personality characteristics, such as creativity, risk-taking, resourcefulness, and ability to work through challenges. This was captured in the following sample statements:

I am willing to take risks to achieve results. [P 2: Case 2 - 2:26]

I do all I can to obtain the things I need and I am an opportunist. [P186: Case 186 - 186:26]

I am an innovative person who likes coming up with ideas. [P199: Case 199 - 199:25]

Applying oneself in the midst of challenging circumstances was also noted in a few of the learners' personal statements:

My hardwork is driven by the circumstances back at home; thus I work hard and harder so I can be what I aspire to be therefore change the living conditions at home, for the better. [P35: Case 35 - 35:27]

I am a person who is able to adapt to difficult situations. [P216: Case 216 - 216:48]

The final sub-theme, ***practical orientation*** ($n_{quotations}$*=4*) was a 'catch-all' for learners' descriptions of self as hands-on, practically oriented or sporty. This was evidenced in the following statements:

I love working with my hands. [P75: Case 75 - 75:27]

Love sport and exercise. [P175: Case 175 - 175:25]

Personality orientation

The final theme was **personality orientation** (n_{codes}=5; $n_{quotations}$=106), which highlighted learners' perceptions of self along several dimensions, namely extroverted/introverted orientation, or interpersonal/personal ways of relating. This comprised five sub-themes, namely externally-oriented traits, multidimensional self, relate-ability, internally-directed traits, and personal struggles. ***Externally-oriented traits*** ($n_{quotations}$*=56*) was a major sub-theme of **personality orientation** and denoted learners' descriptions of self that suggested an externally-directed orientation towards life. This was captured in words such as: *"outgoing", "vivacious", "assertive", "talkative", "sociable", "extroverted"*. Three domains of externally-oriented traits were noted. As a personality characteristic, this encompassed descriptions of being lively and

full of energy. Interpersonally, this translated to being sociable, outgoing, talkative, a love for being with people, and an ability to lead or direct others. Both personality and interpersonal aspects are highlighted below:

I am friendly and full of energy. [P30: Case 30 - 30:27]

I am very active and hate not doing anything. [P43: Case 43 - 43:25]

Very social, friendly and kind. [P38: Case 38 - 38:24]

I am outgoing and I know exactly what it is that I want in life. [P39: Case 39 - 39:23]

I enjoy taking the leadership role. [P37: Case 37 - 37:26]

On a communication level, this translated to 'speaking one's mind', being assertive and bold:

I am very outspoken towards things which I do not agree with, but I try to see things from both sides. [P186: Case 186 - 186:48]

Multidimensional self ($n_{quotations}=21$) captured learners' descriptions of self along opposing dimensions in their personality; in some cases, describing the inner self as different to the outer self which others see:

I am very quiet, but still an ambitious person. [P 7: Case 7 - 7:26]

I am shy but enjoy meeting new people. [P64: Case 64 - 64:2]

I'm loud and evagant but also loving and compassionate. [P99: Case 99 - 99:25]

Have mood swings at times - but most of the time im happy. [P163: Case 163 - 163:47]

The third sub-theme was ***relate-ability*** ($n_{quotations}=14$), a minor facet of **personality orientation** that reflected learners' ability to get along with others, ability to listen, empathise with others, or display friendliness. As captured in the following statements, learners perceived themselves as likeable to others:

I am a person who interact easily with other learners. [P63: Case 63 - 63:27]

I am giving and empathise with people and I believe that I am able to relat eto people easily. [P117: Case 117 - 117:45]

I'm approachable, kind, trustworthy and a born leader. [P220: Case 220 - 220:27]

Internally-directed traits ($n_{quotations}=8$) was a very minor sub-theme that stood somewhat as a polar opposite to the sub-theme, ***externally-oriented traits***. These learners experienced themselves as introverted, shy or withdrawn, or conservative, as captured below:

Down to earth, enjoy being alone out in nature. [P79: Case 79 - 79:26]

Reserved, quiet, calm, controlled. I like formality and procedure. [P195: Case 195 - 195:25]

I am shy and stubborn. [P 1: Case 1 - 1:26]

Personal struggles ($n_{quotations}=7$) was a very minor sub-theme that hinted at personal struggles. Learners cited a lack of self-confidence, feelings of anxiety, and interpersonal difficulties:

I'm shy, I'm uncomfortable around new people. [P91: Case 91 - 91:26]

I do not work well under pressure and tend to stress a lot. [P191: Case 191 - 191:27]

Not too great with interpersonal relations, but not bad as well. [P57: Case 57 - 57:45]

Appendix L provides a visual depiction of the learner personal statements which describes the attributes that inform the TTP learner profiles.

5.6 Analysis of learner motivation essays

The Learner Motivation essays, which formed part of the Biographical Questionnaire, contained large sets of narrative data. In reading across each essay, there were noticeably broader 'thought categories' of organisation, which learners most probably derived from the essay question and used as guiding prompts to their essays. These included the **community narrative**; the stories that were reflected in learners' descriptions of their community that they designated as their symbolic home - whether this was in fact their community of origin, community of

residence, new community of residence or school, the **meaning elements**; personal interpretations or lessons that these learners had derived from experiences in their lives, some of which highlighted trite expressions borrowed from popular discourse, while others seemed to reflect personal insights into experiences, and the **motivations for TTP**, in other words, what they hoped to gain from the programme. These elements provided the preliminary structure for coding, but as coding progressed, finer themes and sub-themes were distilled as depicted in Tables 5.9, 5,10 and 5.11. The figures in Appendix H provide a representation of the main thematic dimensions.

Three main thematic dimensions were distilled within the Learner Motivation essays, namely *experience of community and impact on self*, *dimensions of personal growth*, and *perceived benefits of TTP.* Within the dimension of *experience of community and impact on self*, three themes were noted, namely (i) experiences of community spheres (familial, social, school or neighbourhood) as uplifting and/or as having favourable influence on self (**community as uplifting** [$n_{quotations}$= 324]), (ii) experiences of community spheres (familial, social, school, neighbourhood) as strained and/or having negative impact on self (**community as strained** [$n_{quotations}$= 206]), and experiences of their community as constantly in transition, whether changing across time, or characteristically undergoing elements of both struggle and survival (**community struggle, survival and transition** [$n_{quotations}$= 54]).

In their essays, learners defined 'community' in different ways. Some referred specifically to their home or neighbourhood community in terms of geographical space. Others chose more specific domains, such school, church, or family, and designated their community as the domain in which they had most interaction. Lastly, others referred to community in more fluid and undefined terms, some blending all domains, whilst others choosing to adopt a view of community as a constantly changing experience. Given these diverse views of what constitutes a community, definitions of community presented in the following themes will be broad, so as to encompass learners' personal meanings and definitions. For reasons of salience, the themes

community as uplifting, **community as strained** and **community struggle, survival and transition** were represented under this broad thematic dimension (see Table 5.9).

Table 5.9 **Experience of Community and Impact on Self**

Theme	*Community as Uplifting*	*Community as Strained*	*Community Struggle, Survival & Transition*
Quotation Count	324	206	54
Theme definition	Experiences spheres of own community (familial, social, school or neighbourhood) as uplifting and/or as having favourable influence on self.	Experiences spheres of community (familial, social, school, neighbourhood) as strained and/or having negative impact on self.	Experiences and views own community as constantly in transition, whether changing across time, or characteristically undergoing elements of both struggle and survival.
	Personal enhancement (80) Derives personal enhancement (or expanding sense of self) due to experiences and influences within spheres of community (family, peers, school).	*Community as limited (63)* Experiences home community as limited - whether in terms of opportunities, resources, mentality - that act as barrier to advantages, such as superior education, quality of life.	*Changing community (14)* Experiences home community as having qualitatively changed over time, or move into a new community is experienced as qualitatively different from home community.
	Nurtures success/advancement (65) Spheres within community (family, peers, school) inspires success, educational advancement or betterment.	*Self as separate from community (38)* Views self as observer, separate or not an active participant of home community, or whose attitude, mindset, ideals or values depart from those within spheres of community (peers, family, neighbourhood).	
	Community participation (41) Love for community characterised by collective activism, service, upliftment and leadership to transform community; inspires learner participation or desire to contribute to community initiatives.	*Personal struggles in context (30)* Highlights personal struggles associated with family difficulties or lack of access to advantages.	
	Respect for differences (31)	*Negative impact of community values (12)*	

	Experiences community as socially diverse and respectful of differences.	Experiences community values as impacting negatively on self, family or peers.	
	Access to resources/advantage (28) Describes community as adequately or well-resourced, having access to basic needs, entertainment facilities and/or access to educational advantages (e.g., good schools).	*Resource strains on learning (8)* Challenges experienced in community explicitly or implicitly identified as having impact on learner's ability to partake fully in learning experiences.	
	Sense of belonging and safety (22) Feeling of belonging and safety experienced in community, characterised by acceptance, intimacy and peace.		

In terms of *dimensions of personal growth*, three themes were distilled, namely (i) experiences and the influences that motivate, inspire or propel (or push) them towards success or betterment of the self, and/or community (**propelling influences toward betterment** [$n_{quotations}$= 227]), (ii) indications of newfound awareness, insights, lessons learned or personal meanings derived from experiences (**derived meanings, awareness, insights** [$n_{quotations}$= 56]), and (iii) descriptions of experiences suggesting survival, resilience, thriving or persistence through struggle (**resilience and survival** [$n_{quotations}$= 51]) see Table 5.10 below.

Table 5.10 **Dimensions of Personal Growth**

Theme	*Propelling Influences Toward Betterment*	*Derived Meanings, Awareness, Insights*	*Resilience and Survival*
Quotation Count	227	56	51
Theme definition	Influences and experiences that motivate, inspire or propel (or push) the learner towards success or betterment of the	Indications of newfound awareness, insights, lessons learned or personal meanings derived from experiences.	Descriptions of experiences that suggest survival, resilience, thriving or persistence through struggle.

	self, and/or community.		
Sub-Themes (#) quotations)	*Motivational work attitude (108)* Adopts attitude of motivation and determination to succeed, a desire to learn, alongside a positive work ethic.		*Optimistic attitude (25)* Adopts attitude of optimism in response to challenges in an effort to make the most of such situations; not to be defined by circumstances.
	Desire to transcend context (44) Perceives education/TTP to rise above the struggles that define learner's home community or personal circumstances		*Directing one's life (14)* Intentional efforts to take ownership of future direction, carving an alternative life path, or making choices that are self-promoting rather than growth-limiting.
	Exemplary success of others (28) Inspired by others who were able to persist through challenges and attain success; sees success of role models as motivation, inspiration or hope for self.		*Overcoming challenges (14)* Narratives of survival or resilience in response to challenges or threats to self, manifest as inner strength, persisting through difficulties, and adaptation.
	Grabbing opportunities (17) Experiences of lack or privilege prompt feelings of gratitude/appreciation and desire/hope to make most of passing opportunities.		
	Aspiration, purpose, dream (17) Expressed desire to fulfil purpose, passion for a learning field, or strong ambition to attain in a career field.		
	Past record of achievement (14) Perceives self as a good fit for TTP on the basis of academic ability and/or interest; regards self as academically strong, as motivated by past record of academic		

	success and/or participation in Olympiads.		
	Competition against others (10) *Experiences need to compete or excel above others in order to succeed.*		

Three themes were noted in terms of the dimension of *perceived benefits of TTP*, namely (i) anticipations that TTP would provide a gateway towards future-oriented needs and roles: career direction, anticipated aspirations, and social contribution (**future aspirations and role preparation** [$n_{quotations}$= 284]), (ii) expectations that TTP would provide the foundational support presently required to participate successfully in university (**present foundational support** [$n_{quotations}$= 218], and (iii) anticipations that TTP would empower self in skills related to personal and social growth (**personal, social and professional growth** [$n_{quotations}$= 158]). See Table 5.11 below.

Table 5.11 **Perceived Benefits of TTP**

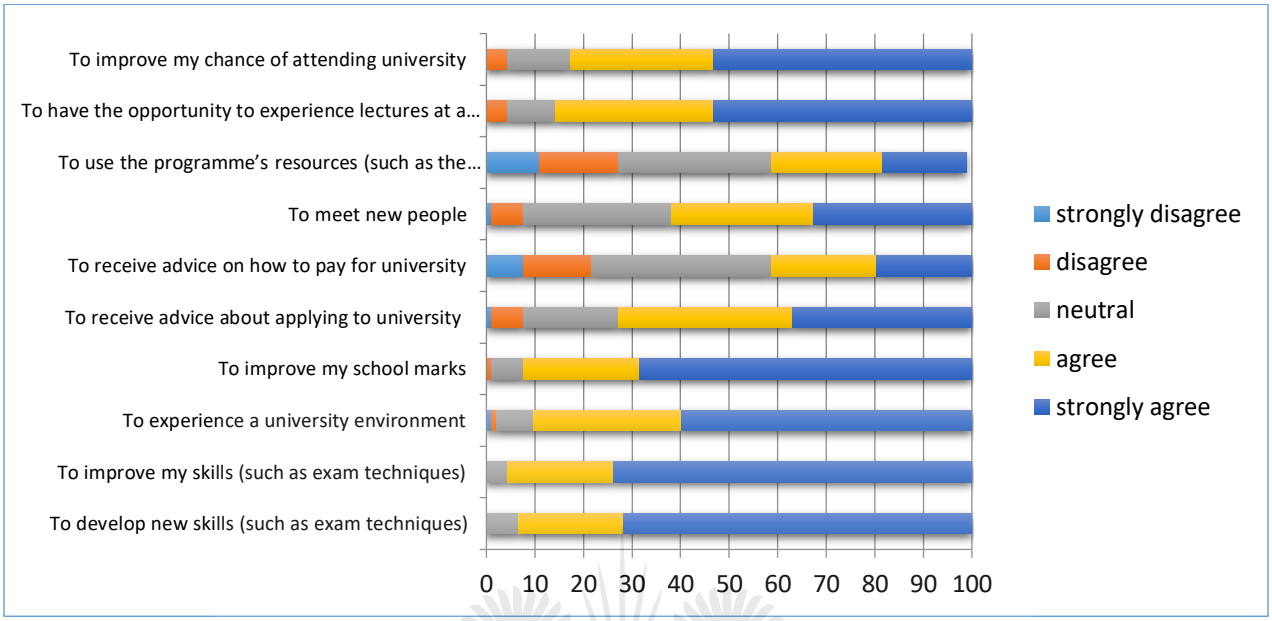
Theme	*TTP Future Aspirations & Role Preparation*	*TTP Present Foundational Support*	*TTP Personal, Social & Professional Growth*
Quotation Count	284	218	159
Theme definition	Anticipations that TTP would provide a gateway towards future-oriented needs and roles: career direction, anticipated aspirations, and social contribution.	Expectations that TTP would provide the foundational support presently required to participate successfully in university: academic enrichment, university survival skills, financial support opportunities, and goal motivation.	Anticipations that TTP would empower self in skills related to personal and social growth.
Sub-Themes (#) quotations	*Gateway to aspirations (118)* Regards TTP as stepping stone to reach personal, academic or career aspirations, discover talents or success opportunities.	*Academic enrichment (114)* Anticipates that TTP would contribute to learner's academic enhancement and improved grades.	*Personal empowerment (107)* Envisions TTP as an opportunity or vehicle for personal empowerment and enrichment.

	Contributing or making a difference (118) Views education/TTP as an avenue for success from which opportunities to 'give back' to community or family, or contribute to professional field.	*University life exposure and preparation (76)* Anticipates that selection to TTP would offer exposure to university life and, in so doing, provide academic survival skills or provide the foundation for future achievements.	*Social engagement and leadership (53)* Views TTP opportunity as one which would enhance social life, promote social relationships, and leadership skills.
	Career direction (49) Anticipates benefits of gaining a sense of direction in career path.	*Goal motivation (33)* Anticipations that TTP would equip self with motivations to study.	
		Financial support opportunities (20) Highlights family financial struggles and expressed hope that TTP would remove financial burdens of future education; or views TTP as allowing access to financial support.	

5.7 Section 4: Learners' perspectives on the TTP programme participation

Learners entering the programme in grade 10 were asked to indicate why they had chosen to participate in the TTP. The learners' responses are presented in Figures 5.9 and 5.10.

Figure 5.9 Reasons for participation in TTP – Grade 10



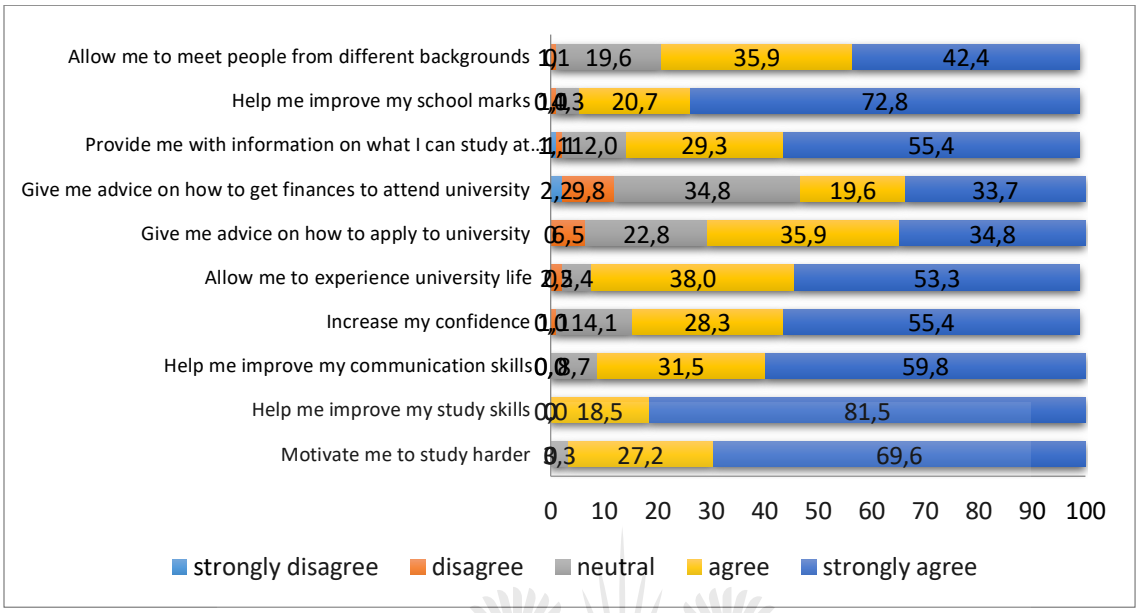
Most of the grade 10 learners viewed participation in the TTP as an opportunity to acquire new skills and to enhance their current skills. Of the grade 10 learners, 93.4 % agreed that their motivation to participate was the prospect of developing new skills (like exam techniques). A further 95.6% indicated that they were motivated to participate because they believed the programme would assist them in enhancing their existing skills. Furthermore, 92.4% indicated that they had chosen to participate in the programme in order to improve their school marks.

5.7.1 Benefits anticipated by learners in TTP

Learners entering the programme in 2012 were asked to rank the benefits they anticipated to receive from participating in the TTP.

All of the grade 10 learners indicated that they hoped that their participation in the programme would help them to improve their study skills, and most hoped that it would motivate them to study harder (96.8%), help them to improve their school marks (93.5%), help them to improve their communication skills (91.3%) and would allow them to experience university life (91.3%) (see Figure 5.10).

Figure 5.10 Grade 10 learners' anticipated benefits of TTP



5.7.2 Learner Exit evaluation

This evaluation was administered to the grade 12 learners during the final year of the programme and assessed the learners' holistic experience over their three-year involvement in the programme. All information presented is based on the learners' perspectives.

5.7.3 Academic talent development programme experience

Learners were asked to evaluate their experience of the programme, by indicating their level of agreement or disagreement with statements in relation to various aspects of their personal development, including skills, academics, and university awareness and readiness. The learners' responses are provided in Table 5.12.

Table 5.12 Academic talent development programme experience

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I developed new skills (such as exam techniques) *	2% (3)	0% (0)	4.6% (7)	35.8% (54)	57.6% (87)
2. I improved my skills (such as exam techniques)*	2.6% (4)	0% (0)	4.6% (7)	41.7% (63)	51% (77)
3. I experienced a university environment***	2% (3)	0% (0)	2% (3)	16.8% (25)	79.2% (118)
4. I improved my school marks****	1.4% (2)	1.4% (2)	10.8% (16)	54.7% (81)	31.8% (47)
5. I received advice about applying to university****	1.4% (2)	0% (0)	4.7% (7)	26.4% (39)	67.6% (100)
6. I received advice on how to pay for university**	1.3% (2)	2% (3)	12% (18)	36.7% (55)	48% (72)
7. I met new people from different backgrounds***	2% (3)	0% (0)	0.7% (1)	6.7% (10)	90.6% (135)
8. I used the programme's resources (such as the computers or library)***	2.7% (4)	0% (0)	3.4% (5)	16.1% (24)	77.9% (116)
9. I had the opportunity to experience lectures at a university****	1.4% (2)	0% (0)	1.4% (2)	10.8% (16)	86.5% (128)
10. I improved my chance of attending university***	2% (3)	0.7% (1)	4% (6)	26.2% (39)	67.1% (100)
11. It motivated me to study harder***	1.3% (2)	0% (0)	1.3% (2)	14.8% (22)	82.6% (123)
12. It helped me improve my communication skills***	2% (3)	0% (0)	2% (3)	25.5% (38)	70.5% (105)
13. My confidence increased**	2% (3)	1.3% (2)	6% (9)	27.3% (41)	63.3% (95)
14. Provided me with information on what I can study at university***	1.3% (2)	0.7% (1)	7.4% (11)	27.5% (41)	63.1% (94)

Please Note: *1 Missing response; **2 Missing responses; ***3 Missing responses; ****4 Missing responses

The grade 12 learners reported to have had a positive TTP experience with the majority of learners' ratings ranging between 84% - 98%. In line with the programme aims, the grade 12 learners stated that they improved their communication skills (96%), developed (93.4%) and improved (92.7%) their skills (such as exam techniques) and have improved their school marks (86.5%). The grade 12 learners also believed that the programme had motivated them to study harder (97.4%), assisted them in meeting new people from different backgrounds (97.3%) and increased their confidence (90.6%). In this way, the TTP learners felt that the programme had benefitted them both academically and psychosocially.

The familiarity with the university environment and the lecturing style (which differs from school-based pedagogy) may have assisted in lessening the anxiety that students may experience when accessing university. It is therefore vital to familiarise the learners with the environment and give them the opportunity to experience the university lecturing style. The grade 12 learners felt that they had the opportunity to experience lectures at a university (97.3%), had experienced a university environment (96%) and had used the programme's resources (94%). In this way, the grade 12 learners strongly felt that TTP assisted with these aspects of transitioning to and familiarisation with a university environment.

According to previous research, it has been noted that only 30% of students attending higher education institutions come from high- or middle-income socio-economic backgrounds, while many (50%) struggle to meet the basic standards of living (not considering tertiary education) (Letseka, 2009)[8]. It is therefore important to provide learners with information on the various options available to them to finance their studies. The TTP aims to achieve this through a careers day (held for grade 11 TTP learners annually) and through continuously making learners

[8] Letseka, M. (2009). University drop-out and researching (lifelong) learning and work. In L. Copper & S. Walters (Ed.). *Learning/work: Turning work and lifelong learning inside out.* HSRC Press: Cape Town, South Africa

aware of available funding opportunities through social media platforms such as Facebook. Ninety-four percent of the learners felt that they had received advice about applying to university and 84.7% of the learners felt that they had received advice on how to pay for university. In addition, 90.6% of the learners felt that the programme had provided them with information on what they can study at university. These factors refer to contextual skills and highlight the learners' understanding of how a university operates, as well as the underlying culture (Conley, 2007)[9]. According to Conley (2007), a lack of contextual skills is associated with feelings of alienation and frustration, which in turn may hinder the learners' ability to successfully navigate the university environment. Taking into consideration the above-mentioned factors, 93.3% of the grade 12 TTP learners felt that the programme had improved their chances of attending university. The majority of the learners reported having gained insight into the contextual skills of university life due to their participation in the TTP programme, and had an overall positive experience over their two- or three-year involvement in the programme.

5.7.4 Benefits of TTP

The grade 12 learners were asked if and how the programme has benefitted them academically, socially and psychologically. The number of learners responding with either 'yes' or 'no' is shown in Table 5.13.

Table 5.13 Benefits of TTP

Benefits	Yes	No
Academically*	100% (1	0% (0)
Socially*	98.7% (149)	1.3% (2)
Psychologically*	95.2% (140)	4.8% (7)
Holistically**	100% (1	0% (0)

[9] Conley, D. T. (2007). *Toward a More Comprehensive Conception of College Readiness*. Eugene, OR: Educational Policy Improvement Center.

Please Note: *1 Missing response; **2 Missing responses; ***5 Missing responses

The grade 12 learners indicated that the programme had benefitted them mostly academically (100%), then socially (98.7%) and lastly, psychologically (95.2%). The learners were then asked to explain their answers; these themes are presented below.

Theme 1: Academic Benefits

The grade 12 learners reported that the programme had benefitted them academically. The majority of the grade 12 learners felt that TTP had been a motivating factor in their academic careers. Many of the learners felt that the TTP had served as motivation for them to do their best in order to achieve success. These learners indicated that their involvement in TTP and their interaction with other learners who were driven, made them realise the importance of education and working hard. Some learners also mentioned that the programme had exposed them to their individual areas of improvement, which motivated them to improve so as to achieve academic success. Overall, the grade 12 learners mentioned that they were motivated by TTP to work harder, change their perception of certain subjects they initially disliked and improve their marks to qualify for the field of their choice in university. Therefore, TTP had seemed to inspire the learners to work harder in order to achieve academic success.

> *"TTP has helped me realise that no matter how intelligent you are, it is only by hard work that you may become a successful person. I have learnt to push myself more, and by doing so, academically, I achieve more."*

> *"I met people who were seriously passionate about education, and this inspired me to want to study harder and improve myself academically."*

> *"The TTP programme has helped me academically, because it has shown me that, you should always aspire to be greater, in a sense that I started taking my academics more*

seriously, because at first I hardly did that… I just used to take the advantage that I am smart and I didn't have to study... But right now I know that to be great I need to work extra hard... So it has really helped, as I am now dedicated to my school work more than anything."

"TTP has changed my whole perspective on education and it has changed my definition of success. They have made me realize that it's OK to fail but only if you are willing to try again until you get it right. And not to mention how much my marks have improved. I never liked studying but because they taught me a lot I now enjoy studying"

Many of the TTP learners indicated that the programme had benefitted them academically by improving their understanding of the content taught at school through providing extra material and resources and an increased depth of information. The learners stated that they were taught differing ways to approach problems that they may encounter, which assisted them in increasing their understanding of the content. Other learners stated that TTP exposed them to the importance of understanding the content taught and how to apply what is learnt to real life situations. Some of the learners were also positively influenced by the different teaching styles implemented by the TTP lecturers, stating that this had assisted in promoting their understanding of the content, which in turn enhanced their critical thinking skills.

"I am better than I was before. I study with meaning and understanding. It has made realise that learning is not about just storing information in your head."

"It helped me realise that education is not only about getting those high marks, but rather being able to comprehend the topic and its applications"

"I was exposed to a variety of subjects and learned to look at problems from many different angles"

"Exposure to different tutors who understand the work better helped us to develop as thinkers rather than consumers of information… I feel that I have a more open mind. I took advantage of the fact that there are many great minds gathered here so I always consult those who know better than me so that I can learn from them."

"TTP lecturers focus on the roots of the concept and helped us to understand why we do everything that we do. Whereas in school the concept is rushed through quickly."

Many of the learners stated that they had benefitted academically due to the different skills they had acquired or improved upon during their involvement in TTP. These skills include time management skills, which the learners believe had helped in increasing their focus and motivation to work harder and to work more efficiently. The majority of the learners also highlighted that they had improved their study skills, thus allowing them to be more focused and better prepared for exams. Other learners felt the increased depth of information provided during TTP lectures, and the encouragement to think critically, be open-minded and "think outside the box" had greatly supported them in extending the way they view the content, to think with reason and to feel more confident and comfortable with the content taught. Overall, the learners felt that their exposure to the above-mentioned skills greatly assisted and academically benefitted them.

"I improved many skills required to improve academically, such as study skills, communication skills etc. Also, this programme has motivated me to work harder."

"TTP stretched my way of seeing things. It made think outside the box rather than sticking to my school's teaching only."

"I understand concept better and my study skills have improved. Now I learn my work thoroughly and don't just cram the teacher's method"

"It has developed my studying patterns for the better and I can focus more on my school work."

"It has assisted me on managing my time better and that has resulted in me being more efficient in my studies"

"I am now comfortable with all of my school subjects, I feel that my academic reasoning is now in another level which is better than the one I had before I joined the programme"

Lastly, the grade 12 TTP learners stated that the programme had assisted in improving their school marks and shaped and reinforced their confidence and positive attitude towards school. The learners mentioned that the TTP had more resources, which was able to improve their understanding of the content taught and made studying fun for them. This was done by promoting an understanding of the content owing to the interactive nature of the lectures (through group discussions and practical work). The learners stated that through the interactive method of teaching, their interactions with other driven learners, the skills they have gained and the resources provided, they are more confident in what they are able to achieve and feel more focused and positive towards school which greatly influenced the belief and acceptance of a lifelong learning attitude.

"Ever since joining the programme, my marks have rocketed up. This is why I feel this programme has helped me."

"TTP actually changed my views about books meaning that I was lazy at first I hated studying and when I am going to write a test I usually studied the day before but now studying became a habit since I attended TTP it's really fun. And I am no longer studying to only pass but also to understand what I am being taught which helps in boosting my marks"

"There are far more resources provided in TTP than there are at my school. That gave me an opportunity to approach my school work on a more interactive (group discussions) and practical (experiments in labs, thus making it better for me to understand and grasp certain concepts easier at school. As a result of this some of my marks improved."

"For the mere fact that I met people from different backgrounds and I could relate to most of them, I got to see my academic potential. TTP has helped be ''burst'' out of my shell in terms of learning how to study efficiently, balance my school work and my social life, how and where to look for resources and to realise my goals."

"Interactions we had with the teachers helped boost my thinking and build my level of confidence because they allow you to make mistakes so that you can learn from them."

Theme 2: Social Benefits

In addition to the academic benefits of TTP, the learners indicated that the programme had benefitted them socially. Learners felt that the programme had improved their social skills as they were able to interact with other learners from diverse backgrounds. This ultimately demonstrated an opportunity to benefit from the programme beyond the classroom. Many of the learners indicated that through their interactions with other learners, they were exposed to diversity and learnt how to socialise with people from different backgrounds. As a result of this, they indicated feeling more confident in speaking to others who are different to them and view the world from a different perspective. Furthermore, these learners reported that they were more able to reflect on their own lives and realised that despite their differences, they all have a common goal to succeed.

"I got to meet a whole variety of new people. From different cultures, races, religions and so forth. By interacting with them you are able to view the world from different perspectives"

"I have met new good friends from different backgrounds, speaking different languages. This exposed me to diversity"

"I was exposed to different people with different backgrounds and experiences so I have learnt things that are beyond the classroom. I feel humbled and encouraged by other people's stories that we shared during life skills class. English, Research and Library class have all taught me to articulate my ideas confidently to other people"

"The diversity in TTP helped to learn to understand and respect people who are very different to me in terms of culture, religion and family background. And even with that much difference I still learned to make friends that I would like to keep for a very long time."

The majority of the learners also mentioned that through their interactions with other learners and exposure to diversity, they felt that they had learnt to be more tolerant, patient, accepting of others from diverse backgrounds and more accommodating of others' opinions. These learners stated that they had learnt to be more open-minded and to be less judgmental of others. The learners further believe that through their involvement in the programme, they were pushed "out of their comfort zone" and were able to develop their communication skills and express themselves more fluently, subsequently increasing their confidence and solidifying who they are. In addition, other learners felt that they were able to make new friends and were able to learn new languages and improve their English vocabulary.

"I had the chance to meet many new different people and learned how to get along even with differences."

"Yes, I am able to engage with people who don't agree with my opinions."

"Met people from all over the country, from all walks of life and I've learned how accommodate everyone equally. Also made good friends with some of the most amazing people."

"I've learnt how to tolerate people who are different to me and not feel insecure around different and diverse people."

"I am a person who doesn't like to approach people, I am short tempered but that has all changed .I can approach and socialise with people I'm not familiar with, I have learnt to control my temper."

"The interaction with the other TTP learners exposed me to different cultures, languages, etc. It took me out of my comfort-zone and allowed me the opportunity to learn and adapt to new people and their personalities. My interaction with them taught me more about myself than about them. I became more assertive and gained more confidence in myself. The group activities taught me team work and leadership qualities."

"I used to be this shy person who never really says a thing in class but now even when I am not sure of the answer I do share my thoughts"

"My communication skills have improved immensely!!! I used to be a bit shy and here I got to meet different people who helped me break out of my shell. I learned how to socialize with different people and found out that within our differences we have similarities."

"I am more confident now and I now know new languages and made lots of friends"

Theme 3: Psychological Benefits

Many of the learners reported that their involvement in the programme had changed their mindset to be more positive regarding their academics and personal life thus resulting in them feeling more able to manage and cope with problems. These learners also stated that TTP had helped in providing them with perspective due to their deepened understanding of the differences between people and their fortunate access to resources, which resulted in them feeling inspired to achieve success despite their difficulties. The learners also stated that TTP has helped motivate them to work harder and increased their confidence. These learners stated that due to the motivation and encouragement received from the programme, they had increased confidence in their abilities, had come "out of their shell" and could interact with others and have a more positive image of themselves.

"My mind-set has now shifted to a more positive perspective now because of TTP, it has shown me that we all are different and some are less privileged than I am but they still manage to pull through so I have no excuse not to succeed."

"The programme makes you change your mind-set about the idea of university, studying and high school. They make everything that you're doing more relevant and put what lies ahead into perspective."

"Meeting people from different backgrounds. This inspired and even humbled me because I got to meet people who have so much less than me and who are far less privileged than I am but still excel in school and life generally. This made me change my mind-set and taught me to think differently and view my hardships differently."

"I am now more determined and will work harder at school"

"It has changed the image that I had of myself not becoming anything in life to one that if I work hard I'll be something in life and that I'm special and talented."

Many of the learners also stated that the programme had assisted them in coping with stress and anxiety. These learners felt that TTP had taken them out of their comfort zones, and taught them how to stay away from home, endurance, how to adapt to different environments, what to expect at university and how to manage stress and deal with challenges, which resulted in them feeling more balanced and well-prepared for university. Other learners also mentioned that they havd grown emotionally as they were taught how to express themselves and better manage their areas of improvement. Some of the learners stated that TTP had assisted them in becoming more aware of themselves and their surroundings, that they had learnt self-discipline and how to balance their work and personal life, become more responsible and mature in their approach to situations. They also indicated that the programme had changed their thinking capability, enabling them to think more critically and to look at situations from a different perspective. They also indicated that the programme increased their reasoning skills and overall ability to think more broadly. In this way, the TTP learners seemed to had broadened their outlook on life and benefitted psychologically from their experience.

"The programme has helped me psychologically because it has given me an idea of what to expect in university. It has prepared me mentally on how to deal with challenges with a level head."

"It has helped me deal with issues better, adapt to different environments or situations better. I've learned to control my anger and/ or any other emotions. I think, act and behave better."

"I have grown to be more self-aware and my overall thinking has improved as a result of the activities TTP was exposing me to."

"TTP help me to understand my weakness and work on improving myself more. TTP enabled me to reach my potential."

"The life style during the two week contact session has enforced a sense of punctuality and disciple"

"I am able to think more analytically and critically assess situation and problems"

"It helped me open up to new ways of thinking and to be more receptive of other people's opinions. I also broadened my way of thinking."

Theme 4: Holistic Benefits

Overall, the TTP learners felt that they had benefitted holistically from their involvement in the programme. The grade 12 learners reported that they had experienced university life and were exposed to different careers, resources and opportunities. This experience and exposure had, in turn, resulted in the learners improving their marks and feeling more prepared for university life. The learners also felt that they had become more well-rounded and balanced and had grown due to their participation in the programme, stating that they are now more motivated, confident, independent, mature and hard working. Therefore, the grade 12 learners enjoyed their involvement in the programme and felt that they benefitted holistically from their experiences.

"The programme has made me realise that I am able. Able to be who I want to be. It has made me appreciate myself more and my talents and has made me know that I am special in my own way. It has made me see that I am capable of performing well at school and produce outstanding results"

"I had a chance to experience varsity life and also got a chance to be taught by the best lectures in the country"

"The programme has not only benefitted me academically but socially and psychologically as mentioned above. I know what to expect for university and how to deal with all the challenges that come with it. It has provided me with many opportunities and has helped me see myself in an even brighter light."

"I have grown in the past 3 years; TTP has facilitated my growth and has been a huge part of the changes in my life. I will never forget this experience as well as the people which I met here."

"In numerous ways, TTP has unlocked the potential of my mind, it has exposed me to so many new things and has allowed me to discover skills and talents I never knew I had, it has allowed me to be independent in the choices that I make."

5.7.5 Exit evaluation: Learners' reflections on initial TTP programme expectations

The learners had been involved in the programme over a three-year period. It was thus vital to assess what they expected of the programme and whether they felt that those expectations were met. When asked if the programme had met their expectations, 90.7% (136 learners) of the learners indicated that the TTP programme had met their expectations, with 9.3% (14 learners) of the learners indicating the programme had not met their expectations. The learners who answered 'no' to the above question primarily stated that TTP had exceeded their expectations.

TTP aims to support learners in accessing higher education. The majority of learners stated that the programme had exceeded their expectations and that they had learnt substantially more than they had expected to. Many of the learners felt that the programme has assisted them holistically and had helped them grow as a person, with many stating that they had gained different skills such as leadership, time management and reasoning skills. Many of the learners

expected the programme to focus on academic support, exposure to various career interests and university and university life. These learners felt that the programme had met their expectations and had helped them academically, and exposed them to how universities operate. They also felt that the programme had helped them familiarise themselves with university life. Through this, the learners reported that they had learnt how to manage various situations when at university, resulting in less uncertainty. On the other hand, some of the learners stated that they had initially expected the programme to be a break from school. They did, however, indicate that they had found the programme to be fun and interesting. The majority of the learners felt that the programme had either met or exceeded their expectations. This is illustrated in the quotes provided below:

"I expected to prepare for the end of year examinations and TTP did deliver with lecturers helping us to revise for the appropriate subjects."

"It actually surpassed my expectations. I went into the program expecting it to resemble a holiday maths and science camp. TTP is more than that; it enriches your life physically, academically and emotionally"

"TTP exceeded my expectations; I came in as a confused matriculant and am now leaving as a ready pre-university-student"

"It has empowered my mind. Unlocked potential, allowed discovery of skills and has made me a better South African youth."

"I expected to have found a career I really wanted and to be a powerful student at the end of the programme which is what I have achieved."

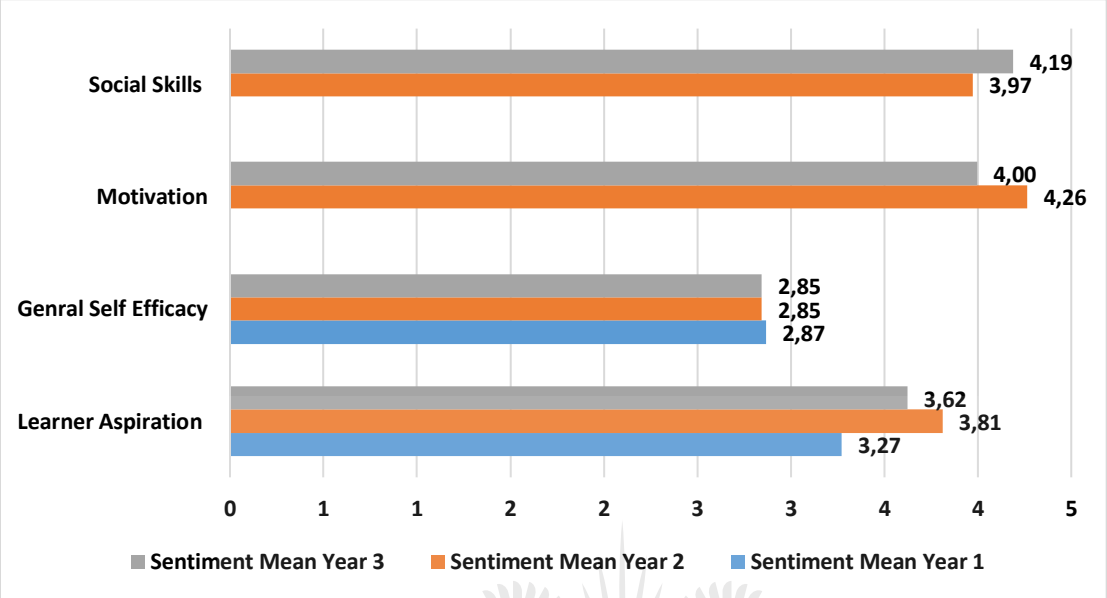
"This programme has been everything I imagined and more. It has been a mind blowing experience"

The majority of grade 12 learners reported that they had benefitted from their three-year involvement in the programme. The learners reported that they gained and developed various skills and improved their marks. They also indicated that the programme had assisted them with familiarising themselves with the university environment in various ways. The majority of TTP learners indicated that they had benefitted academically, socially and psychologically from their involvement in the programme. The TTP learners stated that they had experienced growth, personal development and a greater understanding of the content taught, resulting in them feeling more prepared for university. Lastly, the majority of the learners felt that the programme had met or exceeded their expectations as they had gained knowledge, developed their social skills and felt more equipped for university life. In this way, the TTP learners benefitted from their involvement in the programme and reported feeling more ready for university.

5.8 Section 5: Summary of Psychosocial Attributes

The General Self-Efficacy Scale (GSE) was used to assess optimistic self-beliefs that learners use to cope with a variety of different demands at school and was completed in years one to three. The questions concerning coping strategies were used to detect how learners cope under pressure, and were completed in years two and three. Social skills questions were used to test how liberal or conservative participating leaners were in social groups/interactions, and were completed by learners in years two and three. The learner aspiration section measured everything that the learner hoped to achieve, and was completed in years one to year three.

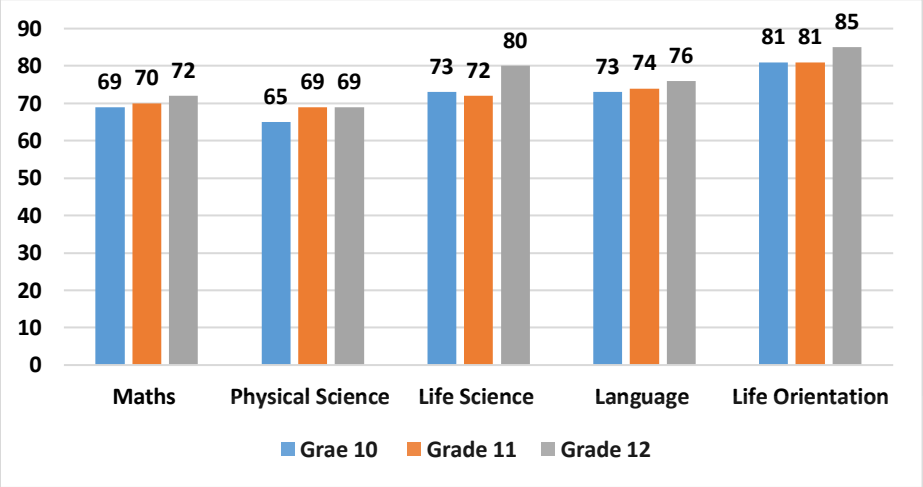
Figure 5.11 Psychosocial Attributes



5.8.1 Evaluation of school academic performance

The school grade performance of the selected learners constitutes an important criterion for the three-year participation in the TTP programme. Figure 5.12 indicates that the average score for TTP learners was within the 73% range [69: 81]. The highest subject score was in Life Orientation (81%), followed by English (74%) and then Physical Science (69%). For the grade 11 learners, the average score for TTP learners was 72% with the range [65: 81]. The highest subject score was on Life Orientation (81%,) followed by English and Life Science (73% respectively), and then Physical Science (65%). For the grade 12 results, the average score for TTP learners was 76% with the range [69: 85]. The highest subject score was in Life Orientation (85%), followed by Life Science (80%) and then Physical Science (69%). The trend of maintaining an average of 65% in Mathematics, Physical Science and English was consistent across the three-year period.

Figure 5.12 Scholastic grade-specific scores over time



5.8.2 TTP learner access to higher education

This TTP cohort of learners achieved an access rate of 99% (95 of 96 participants successfully completed their National Senior Certificate (NSC) examination (see Figure 5.13). It can thus be inferred that the TTP was successful in assisting learners in accessing higher education.

Figure 5.13 Type of Admissions Pass

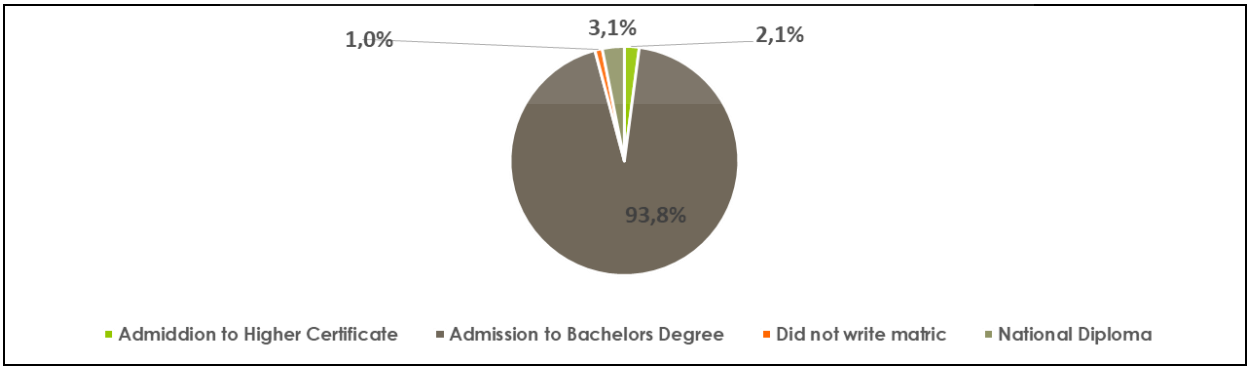
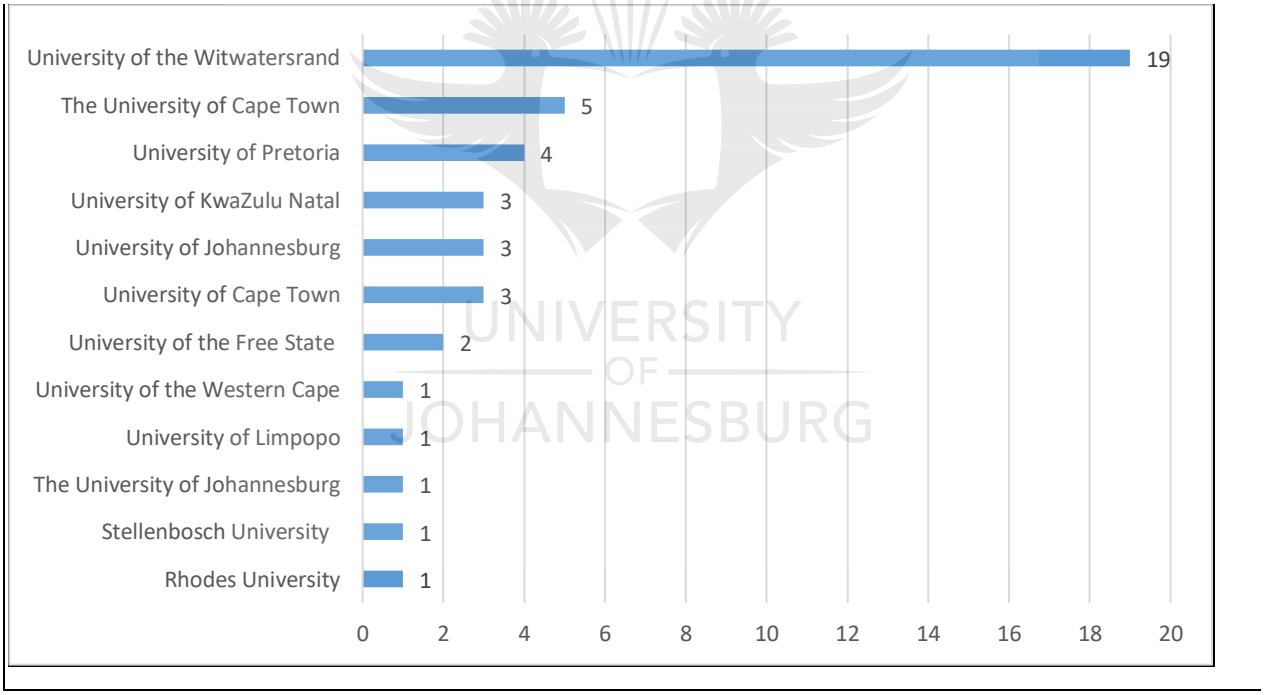


Table 5.14 Numerical breakdown for type of admissions pass

Type of pass	Count	Percentage
Admission to Bachelor's Degree	90	93,8%
Admission to Higher Certificate	2	2,1%
Did not write Matric	1	1,0%
National Diploma	3	3,1%
Grand Total	96	100%

The majority of the learners had access to traditional universities (N=91; 95%) with the rest distributed across universities of technology (see Figure 5.14).

Figure 5.14 Predominant universities attended by participants



5.9 Section 6: Quantitative findings of a sample of TTP learners

In keeping with mixed methods research methodology, this section will present the quantitative data on various tools administered. For purposes of validity, 76 out of 96 retained learners completed all the qualitative and quantitative tools. The changes over time on the various scares are discussed in this section.

This section summarises quantitative findings reflecting nominators' evaluations of learner characteristics in four domains, namely learning characteristics, creativity characteristics, motivation characteristics, and leadership characteristics, as completed by parents and educators. The learner psychosocial score will also be presented, followed by their scholastic academic focus over the three-year period, culminating in their University access destinations.

5.9.1 Quantitative changes over time (Quantitative analysis of 76 participants)

5.9.1.2 Criteria to select the 76 participants

In the original data set, there were 102 participants. Using twelve sources of information – including biographics, LASSI years one to three, university readiness years one to three, educator responses, parent responses, and the final evaluation. Complete information was obtained for 54 learners (that is, these learners had information for all twelve sources) over the three-year period. A further 16 learners had information for 11 of the 12 sources. There were also some obvious examples where the learner had to be removed from the analysis (for example, one learner had information for just one of the twelve sources of information, and a few had information for just six of the twelve sources of information). This process of including only learners with exhaustive and important sources of information led to the final sample of 76. There were three reasons for excluding the cases displaying poor levels of information, namely (1) it is questionable how committed a learner was when they have not responded to most sources of information, (2) it would not be possible to include a case in multivariate

analysis if information was missing, and (3) the researcher would be reporting many sample sizes because the number of learners answering for different sources is different.

5.9.1.3 Changes over time

(a) LASSI Results

Learning and Study strategies were used. These questions measure Attitude, Motivation, Time Management, Anxiety, Concentration, Information Processing, Selecting Main Ideas, Study Aids, Self-Testing and test strategies. These questionnaires were administered for the whole three-year period. The Friedman test was used to investigate changes in the LASSI results over three time periods (2012, 2013 and 2014). The results indicated that there was a statistically significant difference in STA scores across the three years, shown by a p-value of 0.044. The mean values indicate that there was an increase from STA_2012 (M=27.06) to STA_2013 (M=28.24) then a decrease to STA_2014 (M=27.77).

There was no significant difference in score for the other 'courses' as showed by the p-values in Table 5.15.

Table 5.15 LASSI Friedman's Test Results (years 1-3)

Table: Lassi Friedman's test results (2012-2014)			
Scale	Chi-square	df	p=value
ATT	0,008	2	0,996
MOT	0,835	2	0,659
TMT	1,169	2	0,558

ANX	3,077	2	0,215
CON	2,108	2	0,349
INP	2,618	2	0,27
SMI	3,368	2	0,186
STA	6,252	2	0,044
SFT	0,154	2	0,926
TST	0,832	2	0,66

(b) LASSI Percentage Results

The Friedman test was used to investigate changes in the LASSI percentage results over three time periods (2012, 2013 and 2014). The results indicated that there was a statistically significant difference in ATT_p scores across the three years, shown by a p-value of 0.001. The mean values indicate that there was a decrease from ATT_p_2012 (M=68.82) to ATT_p_2013 (M=65.15) then an increase to ATT_p_2014 (M=75.63). There was also a statistically significant difference in TST_p scores across the three years, shown by a p-value of 0.011. The mean values indicate that there was a decrease from TST_p_2012 (M=64.68) to TST_p_2013 (M=62.13) and a further decrease to TST_p_2014 (M=56.21).

There was no significant difference in score for the other 'courses' as showed by the p-values in Table 5.16.

Table 5.16 LASSI percentage Friedman's test results

Table: Lassi percentage Friedman's test results			
Scale	Chi-square	df	p=value
ATT_p	13,636	2	0,001
MOT_p	3,161	2	0,206
TMT_p	1,027	2	0,598
ANX_p	1,638	2	0,441
CON_p	3,689	2	0,158
INP_p	2,733	2	0,255
SMI_p	5,227	2	0,073
STA_p	2,996	2	0,224
SFT_p	0,1	2	0,951
TST_p	9,103	2	0,011

The Wilcoxon Signed Ranks test was used to investigate changes in scores over two time periods (2013 and 2014). Changes in Social skills scores, Locus control scores, Problem focus engagement scores, Key cognitive strategies scores, Academic behaviours scores and Contextual skill and awareness scores were investigated.

The results indicated that there was no significant difference in Social skills scores from 2013 to 2014 as shown by the p-value of 0.821.

There was no significant difference in Locus control scores from 2013 to 2014 as shown by the p-value of 0.052.

There was no significant difference in Problem focus engagement scores from 2013 to 2014 as shown by the p-value of 0.593.

There were no significant difference Key cognitive scores from 2013 to 2014 as shown by the p-value of 0.706.

There was no significant difference in Academic behaviours scores from 2013 to 2014 as shown by the p-value of 0.852.

There was, however, a statistically significant difference in Contextual skills and awareness scores from 2013 to 2014 as shown by the p-value of 0.000. The mean values show that there was an increase in the scores from M=3.679 to M=4.153. A major finding of this study is that norms for promoting access to post-secondary education are emphasised or institutionalised. Facilitating the development of aspirations that include tertiary education and the required contextual skills knowledge has been achieved as a result of exposure to an awareness and aspiration building enrichment programme, which aims to disrupt low expectations and narrow the information gap.

Table 5.17 Wilcoxon Signed Ranks Test Results

Table: Wilcoxon Signed Ranks test results		
Scale	Z	p-value
Social Skills (2013_2014)	-0,226	0,821
Locus of Control	-0,194	0,052
Problem Focus Engagement	-0,534	0,593

Key Cognitive Strategies	-0,377	0,706
Academic Behaviours	-0,187	0,852
Contextual Skills and Awareness	-5,411	0,000

5.9.1.4 Reliability Analysis

Reliability analysis tests the scale's internal consistency, and seeks to establish whether the items are all measuring the same underlying construct. One of most commonly used indicators of internal consistency is the Cronbach's alpha coefficient.

In this study, the internal consistency was tested for Learner characteristics, LASSI characteristics, Motivation, Social skills, Coping strategies and university readiness characteristics.

The table below shows reliability analysis results for the LASSI results. In the 2013 results, Cronbach's alpha values for TMT, ANX, CON, INP, SI, SFT and TST were above the acceptable value of 0.7, with alpha values between 0.775 and 0.830. Cronbach's alpha values for ATT, MOT and STA were 0.687, 0,616 and 0.697 respectively. The internal consistency of the scales is questionable. The Inter-item correlations mean values for ATT, MOT and STA were between 0.2 and 0.4, indicating that the scales were reliable, according to Pallant (2007).

In the 2014 results, Cronbach's alpha values for ATT, MOT, TMT, ANX, CON, INP, SI, SFT and TST were above the acceptable value of 0.7, with alpha values between 0.709 and 0.842. Cronbach's alpha value for STA was 0.673, below the acceptable value of 0.7. The internal consistency of the scale is thus questionable. The Inter-item correlations mean value was between 0.2 and 0.4, indicating that the scale was reliable, according to Pallant (2007).

Table 5.18 LASSI Reliability Analysis

Table: LASSI Reliability Analysis		
Scale	Cronbach's Alpha	N
ATT_2013 (IICM = 0,2)	0,687	7
MOT_2013 (IICM = 0,178 ~ 0,2)	0,616	8
TMT_2013	0,814	7
ANX_2013	0,781	8
CON_2013	0,873	8
INP_2013	0,83	8
SMI_2013	0,812	5
STA_2013 (IICM = 0,229)	0,697	7
SFT_2013	0,783	8
TST_2013	0,775	8
ATT_2014	0,709	8
MOT_2014	0,741	8
TMT_2014	0,723	7
ANX_2014	0,795	8
CON_2014	0,842	8

INP_2014	0,842	8
SMI_2014	0,806	5
STA_2014 (IICM = 0,205)	0,673	8
SFT_2014	0,761	8
TST_2014	0,8	8

Table 5.19 shows reliability results for the Motivation scales. Motivation 2013 and Motivation 2014 had good internal consistency with Cronbach's alpha values of 0.76 and 0.73 respectively.

Table 5.19 Motivation Reliability Analysis

Table: Motivation Reliability Analysis		
Scale	Cronbach's Alpha	N
Motivation_2013 (Item 8 removed)	0,76	9
Motivation_2014 (Item 8 removed)	0,73	9

Table 5.20 shows reliability results for the Social Skills scales. Social Skills_2013 and Social Skills_2014 had good internal consistency with Cronbach's alpha values of 0.828 and 0.781 respectively.

Table 5.20 Social Skills Reliability Analysis

Table: Social Skills Reliability Analysis		
Scale	Cronbach's Alpha	N

Social Skills _2013	0,828	13
Social Skills _2014	0,781	13

Table 5.21 shows the reliability analysis results for Coping Strategies. The problem-focussed engagement scale had good internal consistency in 2013 and 2014 with Cronbach's alpha values of 0.813 and 0.752 respectively. The other four scales had Cronbach's alpha values below the acceptable level in both years.

Table 5.21 Coping Strategies Reliability Analysis

Table: Coping Strategies Reliability Analysis		
Scale	Cronbach's Alpha	N
Coping Strategies_2013	0,586	16
Problem Focused Engagement_2013	0,813	4
Problem Focused Disengagement_2013	0,426	4
Emotion Focused Engagement_2013	0,656	4
Emotion Focused Disengagement_2013	0,418	4
Coping Strategies_2014	0,457	16
Problem Focused Engagement_2014	0,752	4
Problem Focused Disengagement_2014	0,576	4
Emotion Focused Engagement_2014	0,558	4
Emotion Focused Disengagement_2014	0,489	4

Table 5.22 shows the reliability analysis results for University Readiness characteristics. The 2012 results had Cronbach's alpha values below the acceptable value of 0.7 with values 0.569 and 0.692. The Inter-item correlations mean values were however between 0.2 and 0.4, indicating that the scales were reliable, according to Pallant (2007).

Key Cognitive strategies for 2013 and 2014 had good internal consistency with Cronbach's alpha values of 0.872 and 0.804 respectively. Academic Behaviours for 2013 and 2014 had quite acceptable internal consistency with Cronbach's alpha values of 0.665 and 0.742 respectively. Contextual Skills and Awareness for 2013 and 2014 had good internal consistency with Cronbach's alpha values of 0.768 and 0.721 respectively.

Table 5.22 University Readiness Reliability Analysis

Table: University Readiness Reliability Analysis		
Scale	Cronbach's Alpha	N
Key Cognitive Stategies_2012 (IICM = 0,197 ~ 0,2)	0,674	9
Academic Behaviours_2012 (IICM = 0,237)	0,692	7
Contextual Skills and Awareness_2012 (IICM = 0,206)	0,569	5
Key Cognitive Stategies_2013	0,872	13
Academic Behaviours_2013	0,665	11
Contextual Skills and Awareness_2013	0,768	8
Key Cognitive Stategies_2014	0,804	13
Academic Behaviours_2014	0,742	11

Contextual Skills and Awareness_2014	0,721	8

5.10 TTP programme activities that developed University Readiness

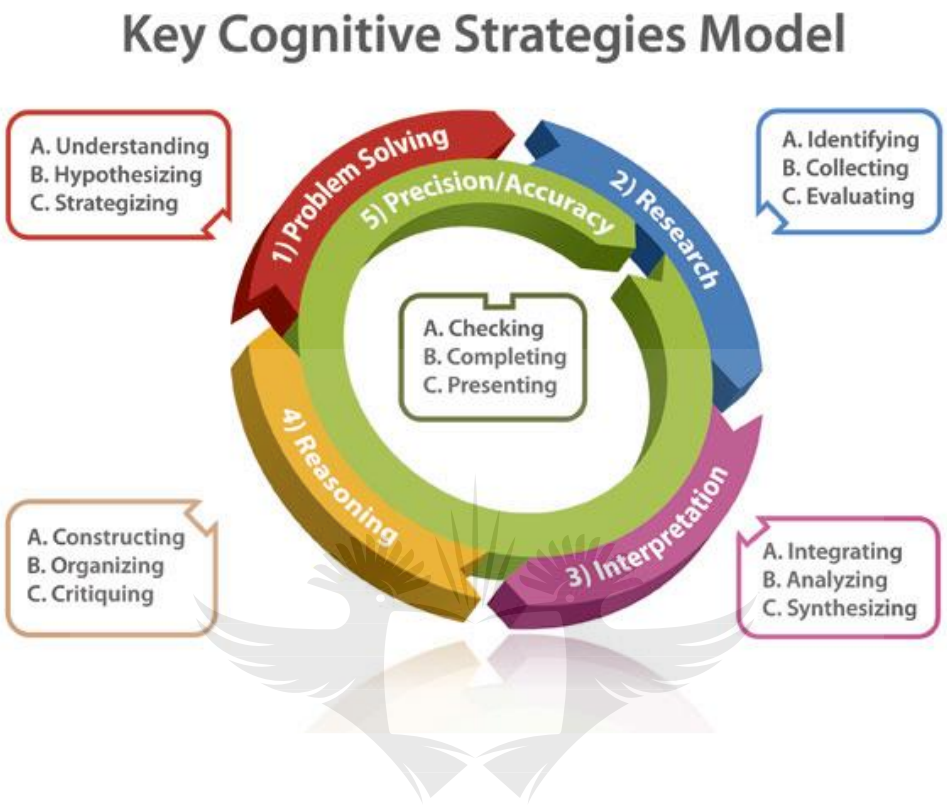
Since the inception of TTP, several programme activities were designed to address the enhancement of University Readiness. This was based on the literature highlighting the lack of university readiness as a major impediment to student success in higher education. The constructs identified by Conley (2007) have been addressed in the following ways:

a) Key Cognitive Strategies

In order for a student to be successful there are cognitive proficient strategies that need to be employed in order to meet the demands of Higher education (Conley, 2003). The cognitive strategies that are practiced habitually are strengthened and improved, so that when students access higher education they are disciplined, intentional and cognitively proficient (Costa & Kallick, 2000). These strategies are intellectual openness, inquisitiveness, analysis, reasoning, argumentative, proof, interpretation, precision and accuracy and problem-solving. These strategies require higher-order thinking and cognitive processing, which when successfully maintaining these strategies increases one's University Readiness. Conley (2003) mentions several studies which reveal a universal under-preparedness in students to the extent where students cannot meet the demands and expectations of higher education. Conley, McGaughy and Gray (2008) found that students experience "difficulty formulating and solving problems, evaluating and incorporating reference material appropriately, developing a logical and coherent argument or explanation, interpreting data or conflicting points of view, and completing their assignments and projects with precision and accuracy" (cited in Conley, 2008, p. 7). Without the use of the above-mentioned key cognitive strategies, students will not be able to successfully learn key content from various disciplines (Conley, 2008).

Figure 5.15 illustrates some facets of Key Cognitive Strategies, which are also manifestations of this higher-order thinking (derived from Conley, McGaughy & Irvine, 2009, p. 12)

Figure 5.15 College-readiness Performance Assessment System (C-PAS) conceptual design



TTP facilitated Key Cognitive strategies through engaging the learners in the following activities:

- Social Research

The Social Research component of the June residential enrichment contact session is a subject area that is taught to all TTP learners. In these lectures, learners were taught the principles of research, how to conduct research and the ethics aligned with research methods. In these classes they are given community projects which encourages them to use and develop specific skills over the course of their participation in the programme. Learners i**n grade 10** were required to identify a challenge or problem in their community. Learners were required to research their community and investigate the parameters of a problem. They are then required to identify the problem and develop a methodology dependent on their research question, culminating with the administration of a developed tool (a questionnaire, survey, interview schedule etc.) to research the answers to the research question. In **grade 11,** learners were

required to identify a solution to the problem by developing a potential solution based on the research findings in grade 10. Learners had to generate goals and an implementation plan, engage in critical refection of their group work by outlining the limitations of their research, constraints of the implementation plan, contingency plans and project sustainability. In **grade 12,** learners present their project implementation and findings to their cohort of peers.

- Extra-curricular subjects

In the June residential enrichment contact session, learners were exposed to subjects and content that they were not exposed to at school. These subjects were a simulation of subjects taught at a University level. These included; Mathematics, Science, Molecular Literacy & Scientific Thinking, Library, Language, Computing, Engineering, Diversity, Sports, Law, Social Research, Forensics, Life skills, Philosophy, International Relations, Music Appreciation, Dance and Law (see Appendix D). Most of these subjects require engagement with problem solving, interpretation, reasoning and argument in order for learning outcomes to be achieved. These skills are transferable to any subject area, that is, they can be transferred from extra-curricular subjects to school-bound subjects. In addition, TTP not only exposes learners to mathematics and science content, but also to varied pedagogies (that is, different styles or solutions to the same mathematics, science and humanities challenges). The objective of this is to aid their transformation into critical-minded learners who graduate and who are able to reach positions of influence as well as make a significant impact on society.

b) Key Content

This concept entails the knowledge of the structure, concepts and key content of core subjects. This knowledge of key content is accrued through the exercise/practice of the above-mentioned key cognitive strategies (Conley, 2007; Conley, McGaughy, Kirtner, van der Valk & Martinez-Wenzl, 2010). A learner with this University Readiness domain has a high-level knowledge of the subjects that they plan to pursue at university prior to their arrival. By having this knowledge, learners are not completely overwhelmed with the key content of core subjects

as they already have the foundational knowledge needed for the subject, as well as a high-level knowledge of it (Conley, 2008; Conley & Seburn, 2012). This was facilitated through the following activities:

- Mathematics and Science Supplementation Curriculum (MSSC) Sessions

The Mathematics and Science Supplementation Curriculum Sessions reinforced the learners' mathematics and science knowledge learnt at school. Learners gained insights into the structure, concepts and key content of those core subjects.

- Extra-curricular subjects

Outside of the MSSC session, the June/July RECS programme also provides learners with insights into the structure, concepts and key content of these extra-curricular subjects, which include:

- **Writing**

  *Abstracts

In grade 12, learners were required to submit abstracts which outlined their social research projects.

*Book reviews

TTP learners were provided with books to increase and encourage reading. Book review submissions were required each year of their programme participation.

c) Academic Behaviours

This facet of University Readiness refers to a set of behaviours that demonstrate learners' self-control, self-awareness and self-monitoring and specifically how those constructs are utilized for academic success (Conley, 2007; Conley, McGaughy, Kirtner, van der Valk & Martinez-Wenzl, 2010). These behaviours should be practiced by learners before entering higher education, so that they become a lifestyle for when they do enter higher education. Self-monitoring forms a big part of this facet as without it academic behaviours cannot be rectified

and will result in learners failing their first year. This facet also consists of study skills, which are learning and study strategies; pedagogies that help learners optimize their academic talent (Conley, 2008). It was facilitated in TTP through the following activities:

- Learning and Study Strategies (LASSI)-HS

At TTP sessions, learners were assessed on their learning and study strategies with a LASSI-HS psychometric tool. Learners self-report on their attitudes, beliefs and behaviours when learning and studying. These assessments are scored and each learner receives his/her own customised report, which includes a description and explanation of their LASSI-HS scores across the ten learning and study strategies. Learners were provided with feedback so to enhance their knowledge on what the assessment aimed to measure and their performance in relation to the constructs measured.

- Mentorship

The TTP implemented a mentorship programme in which previous TTP learners who were enrolled at the university were selected to mentor the current cohort of learners. Their role as mentors was to provide support, share knowledge as well as to be role models for TTP learners. In addition, mentors provided a brother/sister role to learners. Mentors were also expected to role model the academic behaviours that promote success.

- Plenary session

During the morning TTP sessions, learners were inducted on how to further improve their academic behaviours. Discussions around time management, alternative study strategies, taking constructive breaks, and stretching one's mental capacity were encouraged at these plenary sessions.

d) Contextual Skills and Awareness

This facet refers to the awareness of the higher education context, understanding the migration from high school to tertiary education and acknowledging the fact that the contexts are

different. This awareness of a new context thus prompts the understanding that more is required of the learners, for example, a) needing to pay more attention to details, and b) make necessary decisions in order to apply to higher education institutions and financial aid (Conley, 2010b). It refers to becoming aware of necessary knowledge relevant for the context that the learner is about to enter.

This awareness includes knowledge on the purpose and benefits of higher education, the norms and culture of the context, understanding how to apply for acceptance at the institution, courses and various financial aid options. It also includes making decisions concerning which courses to take, what the expectations and intensity of tertiary education is, knowing how to relate to diverse groups of people, how to voice themselves, as well as how to access resources available to students (Gaertner et al, 2016). TTP facilitated this through the following activities:

- June/ July RECS programme implementation

As previously indicated, the June Residential Enrichment Contact Session (RECS) was a simulated experience of university life that required learners to reside in student residences, eat at the student dining hall, attend student lecture venues to be taught by various lecturers, and in doing so, navigate across university spaces. This exposure was aimed at familiarising learners with the university structures, university life, and university routines, which increases learners' contextual awareness.

- Psychosocial activities

Learners were exposed to psychosocial activities, which consisted of activities encouraging communal development. These activities were purposeful and informed by learner, mentor and lecturer evaluation data which highlighted learners' misconceptions about university, applying to university, financial aid options and learners' desired studies. The objective was to balance academic enrichment with encouragement and motivation.

5.11 Summary

In this chapter, the results of the of the mixed methods investigation focussing on research questions one and two were elaborated on in detail. Learner demographics were presented

followed by a summary of conceptualisations of academic talent in the literature, culminating with the TTP learners' conceptualisations of academic talent as well as their unique contributions to literature. This chapter also provided an elaboration of the learner profiles, which were informed by the learners' narrative responses to the challenges experienced at school and how the they addressed those challenges. Learner profiles were also informed by their Olympiad participation, their personal statements in which they describe themselves, and the learner essay analysis. Learner expectations and anticipated benefits were highlighted, including the academic, social and psychological benefits derived from their participation in the programme. A summary of the learners' psychosocial, school academic performance over a three-year period, the learners' access to higher education and their tertiary institution destinations was also provided. The chapter concluded with a brief summary of the quantitative changes which occurred over time on the LASSI-HS (Learning and Study Strategies Inventory-High School, Motivation, Social Skills, Coping Strategies and University Readiness), culminating with the TTP activities used to engaged the learners in order to develop their University Readiness.

Chapter 6 will present how the integration of learner results to research questions one and two can inform and respond to research question three in the identification of criteria for enrichment programmes. The recommended criteria for enrichment programmes will be discussed followed by a brief discussion of the limitations and recommendations for further research, which will conclude this investigation.

CHAPTER 6

SUMMARY, CONCLUSIONS AND CRITICAL REFLECTIONS ON THE STUDY

6.1 Introduction

This chapter will incorporate the narrative analysis of learner responses to inform criteria for enrichment programmes. The findings (discussed in Chapter 5) of research question one (*exploring how academic talent was conceptualised by learners from disadvantaged communities*) and research question two (*exploring what profiles of academic talent emerged in disadvantaged communities on the basis of data extracted and the experiences of learners in the Targeting Talent Programme (TTP*) will be used to respond to research question three, namely *identifying how learner experiences could inform a set of criteria for enrichment programmes*. The recommended criteria for enrichment programmes will be discussed based on the deductions made from the literature and the mixed methods results of the study. Deductions from the results are explored in order to inform the foundational criteria for enrichment programmes, including guidelines and conditions/principles for the future implementation of enrichment programmes. A brief discussion of the limitations and recommendations for further research concludes this investigation.

6.2 Summary of findings

The analysis of the conceptualisations of academic talent by learners yielded interesting insights. On the one hand, these insights converged with literature reviewed in Chapters 1 and 2, while on the other hand, a clear divergence was evident, through the introduction of new contributions to literature. It was interesting to note that in the baseline analysis, the learners did not view the term academic talent as one that described themselves. This was informed by the sentiment that it was a construct that was externalised and divinely bestowed. The concept was also seen by some learners to be innate and inherent to the individual. In this manner, academic talent became viewed as something that was often hidden or had to be uncovered. A more essentialist view of academic talent was observed in the learners' responses linking one's

identity to the construct. A transformed view in the conceptualisations of academic talent was evident in the exit analyses. Here, a shift was observed in which academic talent evolved from being perceived as a gift from birth, to an ability that could be cultivated. Additional conceptualisations of academic talent included associations with the concept of creativity and the ability to balance academic and social skills, to a more empowering approach towards personal and academic achievement. Inclusionary views were also incorporated in the learners' conceptualisations, reflected in the sentiments that everyone possesses academic talent, though it manifests differently in each of us. Interestingly, the inclusion of this attribute associating academic talent with having a larger purpose was also a significant notion within the learner conceptualisations, once again affirming the communal value of Ubuntu.

Challenges faced by the learners were incorporated into a comprehensive narrative, and included difficulties with school resources or learning environments, inadequate resources within schools, poor quality of instruction, limited extra-curricular choices, lack of acknowledgement from teachers, lack of intellectual fulfilment, experiences of discrimination and bullying, social and interpersonal struggles, peer pressure, struggles with study strategies, motivation and time management struggles, lack of academic support , financial and transport challenges and lastly, transitional struggles (which included changes in life circumstances and adjustment to new environments). This information provided important insight into the lived realities and experiences of the learners in their respective schooling environments. Learners adopted and implemented a range of coping strategies as they attempted to address and their difficulties.

Despite the numerous challenged encountered by the learners (including contextual, academic and personal, as well as intra-personal challenges), their ability to develop the necessary and relevant self-learning strategies and self-monitoring study behaviours, indicates that they ultimately became more involved in the learning process (see Altun et al., 2011; Yusuf, 2011).

The learners employed the following strategies to address the challenges and difficulties they encountered and experienced, namely, (1) Active Efforts to Resolve Challenges – a strategy involving making active efforts to resolve a difficulty or overcome a challenge through seeking

external help, making changes to routine or habits, confrontation, or targeting self/personality for change, (2) Adapting Self to Challenges - a strategy advocating for resilient adaptation to external circumstances, focusing energies on self and own sphere of influence/control, or adopting a positive mindset and (3) Passive Response to Challenges - a strategy incorporating a passive response to challenges, for example, choosing not to resolve the problem, ignoring it, or finding resolutions based on intervention by another.

The learner personal statements, which formed a critical component of the construction of the learner profiles, generated several essential insights regarding the learners. The analysis of the personal statements revealed that TTP learners portray (i) attitudinal orientation towards goal-driven behaviour, optimistic frame of reference, managing work and self (***motivational attitude towards success***, which was most prevalent in the research cohort, followed by (ii) personal values, beliefs and an orientation towards life that encompassed values of character, collective/self-in-other orientation, fairness/respect attitude, being true to self, religious guidance, and balance (***beliefs, values and life orientation***, (iii) strengths, inclinations or tendencies in a particular area: cognitive, emotional, or practical domains (***perceived abilities/strengths*** and (iv) perceptions of self along several dimensions: extroverted/introverted orientation, or interpersonal/personal ways of relating (***personality orientation***).

Another important component in the construction of the learner profiles was the learner essays. The analysis of the essays highlighted several fundamental points, which in turn, spoke to several salient thematic areas, namely (i) the stories that were reflected in learners' descriptions of the community that they designated as their symbolic home - whether this was in fact their community of origin, community of residence, new community of residence or school **(community narrative)**, (ii) the personal interpretations or lessons that these learners had derived from experiences in their lives, some of which highlighted trite expressions borrowed from popular discourse, while others seemed to reflect personal insights into experiences **(meaning elements)**, and what they hoped to gain from the programme (**motivations for TTP)**. It was interesting to note the varying definitions of 'community' which

were generated by the learners. Some of them focused on a more a geographical understanding of community, including references to their respective homes or neighbourhoods. Others chose more specific domains, such as school, church, or family, and designated their community as the domain in which they had most interaction. Lastly, others referred to community in more fluid and undefined terms, some blending all domains, and others choosing to adopt a view of community as a constantly changing experience. The findings concluded with presenting the diverse definitions of what constitutes a community which encompass the learners' personal statements focusing on the following notions: **community as uplifting** (experiences spheres of own community (familial, social, school or neighbourhood) as uplifting and/or as having favourable influence on self), **community as strained** (Experiences spheres of community (familial, social, school, neighbourhood) as strained and/or having negative impact on self and **community struggle, survival and transition** (experiences and views of own community as constantly in transition, whether changing across time, or characteristically undergoing elements of both struggle and survival). In addition, what clearly emerged was the notion of of the terms of *dimensions of personal growth*, which referred to three characteristics, namely (i) experiences and the influences that motivate, inspire or propel (or push) them towards success or betterment of the self, and/or community, (ii) indications of newfound awareness, insights, lessons learned or personal meanings derived from experiences, and (iii) descriptions of experiences suggesting survival, resilience, thriving or persistence through struggle.

A further finding indicated that the TTP learners were in the above average sentiment range for social skills, motivation, general self-efficacy and learner aspirations. Learner aspirations did not drop significantly in year three of the programme. However, the slight decline can be attributed to the reality of applying for university entrance and financial aid.

In terms of access to higher education, the TTP cohort of learners achieved a 99% access rate with the majority of the learners registering at traditional universities (N=91; 95%) and the balance distributed across universities of technologies.

Quantitative tools were used to measure changes over the three-year period of the study. Learning and Study strategies were used which measured Attitude, Motivation, Time Management, Anxiety, Concentration, Information Processing, Selecting Main Ideas, Study Aids, Self-Testing and Test Strategies, and indicated that a statistically significant difference in Study Aids scores across the three years, with no significant difference in score for the other measures. When investigating changes in the LASSI percentage results over three time periods (years 1 to 3), the results indicated that there was a statistically significant difference in Attention scores across the three years. The mean values indicate that there was a decrease from Attention score in year 1 to year 2, followed by an increase in the attention score in year 3. There was also a statistically significant difference in Test Strategies scores across the three years as indicated by a decrease from Test Strategies scores in year 1 to year 2, and a further decrease in Test Strategies in year 3.

A further investigation was conducted into the changes in scores over two time periods (year 2 and year 3) with regard to Social Skills scores, Locus Control scores, Problem Focus Engagement scores, Key Cognitive Strategies scores, Academic Behaviours scores and Contextual Skills and Awareness scores. The results indicated that there was no significant difference in Social Skills scores, Locus Control scores, Problem Focus Engagement scores, Key Cognitive scores, and Academic Behaviours scores for years 2 and 3. There was, however, a statistically significant difference in Contextual Skills and Awareness scores from year 2 to year 3. This is a major finding of the study, in that it supports facilitating the development of aspirations through the exposure to enrichment programmes, as these provide opportunities to challenge learnt behaviours and narrow the articulation gap.

Several activities were cited to explain how they developed the University readiness components within the programme, which can be adopted as good practice examples for enrichment programmes.

Based on the deductions from the analysis, the following section will focus on the foundational criteria for enrichment programmes and will conclude with a discussion of the limitations and recommendations for further research.

6.3 Criteria for enrichment programmed as informed by learner experiences in the TTP Enrichment Programme

As discussed earlier, the participants in the TTP programme differed in relation to the characteristics of participants research studies reviewed in Chapter 2. The first fundamental difference was that that TTP learners were identified as having academic potential, which is inherently different to the concept of 'giftedness'. This is due to the fact that 'giftedness' is largely understood as representing or having a high Intelligence Quotient (IQ), whereas academic potential recognises that through demonstrated scholastic achievement, the learner has the potential to advance in their knowledge development. In addition, the TTP learners came from disadvantaged contexts where access to learning resources is scarce and even if the resources were present, they were non-functional structures. Given these contextual variations, it is important to understand how their perceptions of academic talent may diverge or converge from other learners' responses reported in the published literature. As part of the criteria, enrichment programmes need to be holistic in their orientation, and strongly embedded in a social justice ideology, especially when working with learners from disadvantaged communities. This is essential to ensure that their voices are heard, and to inform programme design and implementation. There is, as discussed, a dearth of literature in this regard.

6.3.1 Strategies for changing the conceptualisation of academic talent

Based on a review of the literature on conceptualizing academic talent of learners from socio-politically, socio-economically and socio-culturally marginalised contexts, it is clear that 'strategies' for changing the conceptions of academic talent in South Africa are not limited to the domain of theory, but are intertwined with practice (including student identification and selection, as well as university academic support programmes). Maree and Beck (2002) emphasize the importance of considering learners' historical backgrounds (socio-political, economic, cultural, familial) and their influence on academic success. Machingambi and Wadesango (2012) argue for the provision of fair opportunities to develop their talents. Equity in higher education (as defined by equality of access, programme quality, and equality in terms

of the calibre of the graduates) should extend beyond its quantitative domain in order to have and reflect substantive quality. If equity is viewed more broadly through a qualitative lens, this in turn allows for more inclusive conceptions of academic talent. Altering the conceptions of academic talent requires an unpacking of the notion of student preparedness for higher education, which is also informed by variables related to the background of the learners.

According to Monnapula-Mapesela (2015), student under-preparedness in South Africa is the prevailing learning-related reason for the observed poor performance patterns at universities. He supplements his argument by stating that "surprisingly and of concern, is the fact that still no single university in South Africa, inclusive of those that admit only the cream of the crop, can safely deny students' unpreparedness, high dropout rates, poor throughput, low success rates despite innumerable academic support structures in place, as amongst some of the challenges that confront the country's higher education" ([4] (p. 256). The contextual nature of student preparedness is affected by the country's political past and is affected by the degree of access possessed by students in terms of social, political and economic capital, which is a result of the socio-economic status of their families (Monnapula-Mapesela, 2015).

6.3.2 Addressing the socio-cultural context of talent

Traditional conceptions of talent (adopted in the international literature) have little bearing on learners in marginalised settings. South African authors have proposed that the potential for academic success is influenced by contextual (socio-political and socio-cultural) factors. In other words, the historical disadvantage, poor quality schooling, lower socio-economic status and class, and rural contexts with little resources, are some background factors, alongside minority racial, ethnicity and gender status, which actively militate against potential success in an academic context (Cliff & Hanslo, 2009). These factors influence not only the learners' subject knowledge, but also their *approaches to learning* (Scott et al., 2007). Addressing the socio-cultural context of talent, therefore, would mean viewing academic success as the product of intersecting variables, namely cognitive, affective, motivational, dispositional, socio-cultural, socio-economic and institutional, and to intervene with high potential students in a holistic manner (Ross, 2009). In terms of individual characteristics, this may manifest as the ability to

problem solve, ability to reason competently in 'real-life' situations, the ability to apply creativity to situations of survival, and the ability to demonstrate resourcefulness and resilience in the face of adversity (Maree, 2006).

6.3.3 Derive a deeper understanding of student diversity

Although empowering conceptions of academic talent are offered, the caveat issued here is that these do not unwittingly fall back onto notions that assume essentialist identities implied in terms, such as "disadvantaged" or "marginalised" learners. While efforts are made to provide channels that allow students access to learning in their mother tongues, it is necessary to consider the shifting identities of learners from disadvantaged contexts as they transition within the post-Apartheid context (Botsis, Dominguez-Whitehead & Liccardo, 2012). In Botsis et al.'s (2012) study, students and graduates of the University of the Witwatersrand's Science, Engineering and Architecture departments, highlighted the social identity shifts associated with assimilating into the dominant language ideology and "transgressing" the boundaries of their mother tongue. Similarly, Jansen (2004) points toward challenges not so much pertaining to 'race' per se, but to the background, class, status and regional character of students who study in urban institutions. These questions of identity are embedded within contexts of multiculturalism and multilingualism, as afforded by higher education institutions in urban environments, and are important considerations impacting on student adjustment, assimilation and acculturation within the social and institutional culture of the university. These questions about identity and institutional culture represent important affective factors highlighted by Scott et al. (2007) that have implications for retention in the long-term.

6.3.4 Involve students through student engagement

Drawing upon the expertise of international leaders on the subject of student engagement, Strydom and Mentz (2010) emphasize that higher education institutions need to become intentional about requiring students to engage in activities that facilitate their academic success. Importantly, rather than requiring learners to undergo a uniform set of experiences and activities, they are encouraged to select from a matrix of engagement activities offered by institutions, that provide avenues to participate in educational practices. Engaging at this level

of responsibility and participation could provide learners with an increased sense of individual agency, personal empowerment and collective belonging within the higher institutional context.

Referring to student choice models, Vossensteyn (2005) indicates that educational decisions are affected by a number of factors, including "personal (academic performance, gender), family (parental education, financial status of family, social and cultural capital), and school (type of school and class specialization) characteristics '' (p. 35). An important part is played by pre-entry courses, the patterns of which may be closely related with the above-mentioned factors (Prakhov, 2013). Prakhov (2013) also found that in terms of financial, social and cultural resources, families diverged in behavioural strategies in the selection of university courses, which further influences whether a student will study in a selective or non-selective university.

6.3.5 Improve social cohesion through diversity-related skills and activities

Apart from the individual and collective benefits for institutions and societies, diversity policies and practices also foster students' sense of belonging in a campus environment (Milem, Chang & Antonio, as cited in Strydom & Mentz, 2010). Some have suggested that universities need to play a more committed and decisive role in facilitating environments for social and personal development, by devising interventions to encourage interracial connections. It is imperative that any enrichment programme includes a residential component on campus so that learners have access to university lecturing programmes in which they are exposed to the critical thinking engagement skills required in higher education. Enrichment programmes should also address the experience of student accommodations, and expose the students to the library, computer and science laboratories, and sporting facilities available on campus. Finally, enrichment programmes should highlight avenues to foster inter-racial and inter-group relationships (such as the allocation of groups across gender and provincial categories), offering critical diversity-related courses to enhance collaborative learning, and involving learners in community engagement activities, which should be documented based on the exposure to preliminary research skills incorporated in an enrichment curriculum.

6.3.6 Increase the allocation of resources to universities to support learner enrichment programmes

Learner support programmes tend to be fragmented within the higher education sector, with 'learner access' located within foundational or extended degree programmes. In addition, enrichment programmes are perceived by leadership within institutions to be the domain and responsibility of the Department of Basic Education (DBE), requiring recognition from the state in terms of funding such initiatives. To ensure the smooth academic transition from secondary school to tertiary education for learners with academic potential therefore requires committed support from both the DBE and higher education sectors. This would provide support to learners who may be eligible for higher education due to their academic achievement, but who may not be 'university ready', so as to buffer the needs of at-risk students. Recognition by the state and higher education institutions would prioritise enrichment programmes as another systemic-level intervention that could counteract the high attrition and low completion trends (Scott et al., 2007).

6.3.7 Connect secondary and tertiary students

It is well documented that the challenges that learners bring with them when accessing higher education institutions occur as a result of inadequate secondary education (Leibowitz and Bozalek, 2014). By utilising university students from diverse backgrounds to be trained as mentors with the aim of supporting learners' aspirations to access higher education, is essential to purposefully connect secondary school learners and university students.

According to Byrne and Flood (2005), to "successfully construct an educational environment that engages the hearts and minds of students, accounting educators need to develop an awareness of, and a sensitivity to their students' motives, preparedness and expectations" (p.120). These factors influence students' learning strategies and the scope of their engagement in higher education (Byrne and Flood, 2005).

Allen, Poteet, Russell and Dobbins (1997a) suggest that mentors with prior university experience are more prone and willing to mentor others. Additionally, mentors with a higher

education than their mentees feel more capable in carrying out their role due to them being more knowledgeable and skilled, and thus have more cognitive resources to draw upon. Research shows that university experience is not only preferred by mentors, but also by mentees, as mentees prefer senior students to confide in because of the perception that senior students are older and thus wiser, hence their ability to invaluably advise not only on career-related developmental issues, but also on psychosocial issues (Mclean, 2004; Lunsford, 2016). Heirdsfield, Walker, Walsh and Wilss (2008) agree with the work done by Terrion and Leonard (2007). However, they add that a mentor's experience, irrespective of whether it is positive or negative, needs to be captured and acknowledged, and if it negatively affects the programme, it should be mediated upon as this is important for the success of the mentoring programme.

6.3.8 Include holistic emotional support services in enrichment programmes

While there are several examples of financial and academic support programmes for students in higher education institutions (such as the National Student Financial Aid Scheme (NSFAS) and the First-Year Experience (FYE) and Students in Transition programme), there has only recently been an increase in the emotional support services available to students. It is imperative to make emotional support services in the form of counselling and mentoring available to learners from rural and low economic backgrounds who participate in enrichment programmes.

6.3.9 Utilise programme data to promote accountability and persistence

Programme data management and analysis allows for transparency, a commitment to accountability, and an acknowledgement of the importance of persistence. In this context, persistence refers to the strategies employed to reduce dropout rates, and to enhance retention rates. Enrichment programmes (in this case working with learners from grades 10 -12, three years before accessing higher education) facilitate a means of gaining a greater understanding of the concept of persistence. Documented programme practices, policies and institutions could therefore replicate this in order to broadly promote persistence in higher education.

6.3.10 Include and support the needs of students with diverse abilities

While there is limited programme information on how to retain individuals with disabilities, learners with disabilities are often targeted as a group for direct equity interventions. Enrichment programmes have to both understand and advocate on behalf of their needs in programmatic design as well as the implementation of curricula. It is also crucial that Individual and structural support be provided to support students with disabilities (including physical, psychological and learning forms).

6.3.11 Partnerships with families

Working simultaneously with parents/guardians in enrichment programmes designed to foster academic talent development is critical. The family is the most important source of support for learners and it is therefore essential to include them in supporting learner aspirations. This engagement is suggested to take place annually for informational and educational purposes. Parent nominations can also provide useful information about learners and will help programme designers particularly in the areas of study habits, ability to work in groups and leadership traits.

6.3.12 Be intentional in capacity building

Capacity building has to be transformational and intentional, and this includes the areas of people-classroom, school-provincial and provincial departments of education. It is important that capacity building concentrates on the development of high-quality content and curricula, and that it includes teams that are representative of the demographics of the country. In communities and schools with high and systemic poverty, human expertise and the will to reach for excellence are often limited. As a result of this, the infrastructure needed to support learner success must be built into the programme design and implementation outcomes.

This has been extensively referenced in Chapters 2 and 3 of this study, as well as informed by the analysis of learners' responses in Chapter 5. The Department of Higher Education and Training (2013) postulates that universities in South Africa should be producing graduates that meet the scare skills labour requirements for the country, produce high level research and be

globally competitive. The white paper further asserts that universities should be accountable for social justice and create equitable conditions to reverse the destructive effects of Apartheid. Chetty and Pather (2015) identify poor throughput rates as the result of universities not being sufficiently prepared for its mission or purpose, since student and institutional preparedness are critical drivers of throughput and student educational encounters. Educational encounters must include services that support marginalised students who possess what is required.

6.4 Critical reflection and recommendations for further research

Limitations were recognised during the course of this investigation, and will be reflected on together with recommendations for further research. Although the enrichment programme was limited to one host institution, the sample included in the study came from all nine provinces in South Africa. Despite the provincial differences, the challenges faced by the learners all remain the same. As a result of this, the outcome should be meaningful for all stakeholders and not only relevant or applicable to the institutions implementing the enrichment programme. Learners are accessing tertiary institutions across the nation, entering not only under-prepared for the academic rigour required, but also failing to navigate the tertiary environment, and often dropping out before completing an undergraduate degree. It is critical for higher education institutions to implement enrichment programmes for learners with academic potential. This should be approached as a form of community engagement and knowledge development and this investigation provide an important scholarly contribution in this regard.

The conceptualisations of academic talent yielded from the sample of TTP learners reflects broad conceptions that overlap with the existing literature and indicate interesting dimensions not considered in international and local literature. In addition, lecturers, educators, peer volunteers, and parents/guardians play important roles in enrichment programmes, and research into these particular stakeholders can provide richer analyses and insights into how academic talent is identified and nurtured on a personal, academic, familial, school level, as well as in the broader societal contexts. All of the identified stakeholders play a critical role in

the support and nurturing of learners with academic talent. As highlighted in this investigation, the role of the concept of 'Ubuntu' is not only present in learners' conceptualisations of academic talent, but also in their aspirations and the perceived outcomes and benefits of the attainment of a tertiary degree. What this study shows is the contextual variations in conceptualisations of academic talent that are influenced by the values upheld by a particular society (in this case South Africa). Moreover, additional research is needed to shed light on the bi-directional influences evident between teacher expectations and perceptions of academic talent and learner outcome, particularly for students from lower socio-economic backgrounds (vanTassel et al., 2004).

Given this more expansive and inclusive view of academic talent, how are these qualities and characteristics identified in learners from marginalised contexts? How are they incorporated alongside cognitive and intellectual domains of talent emphasized by the university learning environment? How are they fostered academically and nurtured intra- and interpersonally to serve learners in attaining academic success? How do individual skills (whatever their nature) translate into talent that can be implemented in a meaningful socio-cultural context (Csikszentmihalyi, Rathunde & Whalen, 1996), but are also derived from the socio-cultural context in which the individual is embedded?

TTP learners also provided conceptualisations of academic talent which are unique and not reflected in literature. One of the main examples of this is the association of academic talent with the concept of *personal passion*. Passion was linked to excellence, and above-average ability. In the studies on learners' perceptions of academic talent reviewed, the notion of personal passion did not feature significantly as a defining aspect. Only one study (see Siegle et al., 2010) made reference to the importance of interest in a talent area, and the significant role it plays in student achievement. This relationship, however, was more pronounced for non-academic areas (such as leadership, music and art), although science showed a fairly strong relationship. This aspect of translating passion into positive social influence was especially visible in TTP learners' conceptualisations of academic talent. This understanding of academic talent (or high achievement) may potentially occupy a unique place among learners who come

from disadvantaged contexts, and further research is necessary to understand this notion more fully.

Similarly, some studies have suggested a gender difference in the perceptions of academic talent or concepts related to academic performance (see for example, Ablard & Mills, 1996; Assouline et al., 2006). Assouline et al. (2006) highlighted that students' public identity of being "gifted" potentially influenced their perceptions of academic success and giftedness. Other researchers have theorised on notions of identity and their relationship with attributes of academic success and failure (McNabb, 2003 as cited in Assouline et al., 2006). Further research into this dimension of achievement would be yield useful insights in the South African context. This will be particularly relevant in terms of how perceptions of academic talent are influenced by factors related to identity and social location (such as disadvantaged status), and may shed further light on other means of nurturing talent potential in marginalised settings.

Apart from academic performance, learners' perceptions of academic talent could also have some bearing on self-concept. Chan (2002) found that being self-critical and having high parental expectations had relevance to gifted students. Nevertheless, the perception of being different to others influenced their perceived adequacy in terms of physical appearance and negotiating social relationships. Similarly, the gifted adolescents in Kerr et al.'s (1988) study perceived their giftedness as being positive in relation to personal growth and academic performance, but limiting in terms of their social relationships. The social dimensions of identity and how these relate to academic self-concept requires further research within the local South African context.

The utilisation of teachers in the nomination of learners for submission to the TTP could be a possible a limitation of the study. Studies on educators' perceptions have typically concentrated on teachers identifying factors for giftedness, rather than perceptions of academic talent per se (see Hodge & Kemp, 2006). In terms of teachers' perceptions of academic talent, Guskin et al. (1992) proposed the need for further research, particularly utilising observations and qualitative interviews to assess teachers' "natural reactions to their own students" who show different ability patterns (p. 36). By extension, such research is necessary to extend the

boundaries of knowledge in understanding the case of rural and disadvantaged learners. Taking direction from culture-specific studies (see Kim et al., 2005; Wu, 2005; Wu, 2008), future studies in the South African context would render greater insights into the nature of perceptions of academic talent by examining the broader social context (including culture, class, 'race' and socio-economic status) in which learning takes place. An examination of these broader socio-cultural discourses could provide further understanding of the extent to which fixed, innate views interplay with malleable or incremental perceptions of academic talent, and the extent to which they influence how teachers identify and nominate learners for enrichment programmes.

It is also necessary to conduct further research on the perceptions and conceptualisations of academic talent by parents and families of learners, particularly in socio-economically and culturally disadvantaged backgrounds. In disadvantaged communities, many families will champion the academic aspirations of learners, but may struggle to provide supportive action due to inadequate access to resources (Ford, 2007). It is necessary to understand the different types of families, and the kinds of support they are able to provide the respective learners based on their contextual realities. This would enable the design and implementation of suitable support programmes for the families and communities.

When working with secondary-level data of the kind in this investigation, it is important to consider the role of dominant discourses of academic talent, and the extent to which the selection team reviewing the nomination and biographical questionnaire forms might be drawing upon these discourses (wittingly or unwittingly) to make evaluations of learners according to prescribed notions. While the results presented in Chapter 5 reflect a data-driven process of analysis, it is necessary to be reflexive about how they reproduce, reinforce, challenge or deconstruct hegemonic discourses of academic talent, and the importance of ensuring the credibility of the investigation, which may have been mitigated through the implementation of a mixed method design.

6.5 Conclusion

This study intended to answer the following three research questions:

- exploring how academic talent was conceptualised by learners from disadvantaged communities (Chapter 5, Section 2)
- exploring what profiles of academic talent emerged in disadvantaged communities from data extracted and experiences of learners in the Targeting Talent Programme (TTP) (Chapter 5, Sections 3 and 4)
- identifying how learner experiences could inform a set of criteria for enrichment programmes. (Chapter 5, Sections 1-6)

This research provided an overarching investigation incorporating a concurrent transformative mixed methodology, and provided insights into unique conceptualisations of academic talent. The study depicted a comprehensive profile of learners that was data-driven and enabled the identification of enrichment criteria for future programme implementers to utilise as a guideline to ensure that the participant's voices are not excluded from programmes that they should benefit from. It is envisaged that this study provides direction for programmes committed to improving, developing and enhancing the academic achievement of learners with academic potential through challenging curricula, intentional social cohesion interactions, and holistic interventions targeting multiple risk factors. Engagement and working together with families, communities, schools, provincial departments of education, university academics, support staff and student mentors can enable constructive and traditionally compatible coping strategies, and enhance self-efficacy in ways that recognise community realities while building the competence to overcome them.

In terms of the South African context, it has been twenty-five years since the end of Apartheid, and in a quarter of a century not much has significantly changed in the educational experiences of disadvantaged children. As articulated in the baseline conceptualisations of talent, many Black children still carry the systemic influence of not perceiving themselves as deserving of being acknowledged as academically talented, regardless of their scholastic achievements. Mediating this belief through the TTP programme, enabled critical engagement, and a notable shift in perception, as demonstrated in the analysis of the exit narratives. This highlights the importance of creating opportunities which learners from disadvantaged backgrounds can

access to increase social and cultural capital, and more importantly, to achieve their aspirations equitably. As a social justice practitioner, this investigation has enabled me to confirm the of advocating for and facilitating for equity in access to educational opportunities for all. This is an arduous task requiring grit, persistence, passion and an unwavering belief in human potential.

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APPENDICES