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Learning strategies, self-esteem and gender in first year university students.

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Chapter 1: Introduction and Rationale

South Africa's educational system over the last decade has faced considerable change in both teaching and learning approaches. The Department of Education (DoE) recognised the limitations of policies and frameworks that previously governed the educative environment (Pityana, 2004). Students, prior to tertiary education, were seen to be facing great disadvantages in their learning approaches (Mashimye & Szunbarga, 1999). They were found to be interacting with learning material at a surface level wherein rote learning and minimal interactions with the knowledge, as set forward by teachers, were the main avenues at which learning took place. This approach, studies have shown, created difficulties for students especially when embarking on tertiary educational studies (Ballinger, 2003; Railton & Watson, 2005). Upon entering universities, colleges and other higher educational institutions, students found there to be great discrepancies in the approaches to learning in these environments, compared to those with which there are familiar (Masimbye & Szubarga, 1999).

These discrepancies were shown to make the transitional period between high school and tertiary institutions difficult (Ballinger, 2003; Waters, 2003). Students during this period were shown to face greater risks of dropping out of studies which thereby impact on the throughput of students who graduate at the end (Tinto, 1987). On a holistic level, high drop out rates in higher education meant that South Africa as a nation would face even greater challenges (Grayson, 1996). That is, higher educational institutions were seen to play a vital role in generating as many skilled workers as needed in order to sustain the

populace and to be able to maximise the economy. On a greater level, this therefore influences the ability of the nation to strive towards becoming a developed country. The transition between secondary and tertiary education for students has, as a result of the challenges confronted, been considered to be a major life transition (Ballinger, 2003; Railton, & Watson, 2005; Waters, 2003). The ramifications of neglecting to understand students at this major life transition therefore appear to threaten the future growth of our country.

In response to these challenges, the Department of Education in South Africa, through the Outcome's Based Education (OBE) approach, has attempted to review school curriculum and execute strategies in order to prepare graduates for the 'world of work' (Forbes, 2004). The aim of OBE incorporates the ideas of one of the most well-known theorists in the area of approaches to learning, Clare, E. Weinstein (1988). Both Weinstein (1988) and the approach of the OBE endorses the idea of encouraging a more student-centred approach to learning that is seen to allow students to become more self-reflective in their learning and more critical in their thinking (Forbes, 2004). More explicitly, students are to develop various abilities that include being able to collect, analyse and evaluate information, organise oneself and others as well as to engage in teamwork (Forbes, 2004; Fourie, 2006). These expectations, and the learning behaviours that assist students to achieve these objectives, Weinstein attempts to measure in the Learning and Studies Strategy Inventory (LASSI) that is comprised of three significant components to learning; cognitive (skill component), affect (will component) and self-regulating learning strategies. All three of which this study too examines.

Investigators across geographical plains, since the early 1970's, recognised and examined these components as identified by both Weinstein as well as other theorists (Biggs, 1978; Biggs, 1987; Marton and Saljo, 1976; Mischel, 1973; Ramsden and Entwistle, 1981; Vermunt and Verloop, 1999; Watkins, 1983). The components that gained much focus from the early 1970's included the self-regulation and cognitive components. Until recently, a third component was investigated in pedagogical studies, even though the significance of this was already acknowledged prior to investigations. The affective (emotional) component to learning was seen to play a significant role in student learning behaviours (Picard, *et al.*, 2004). Since all three components, namely the cognitive, affective and self-regulatory components, were shown to be crucial to the learning process, this study chose to examine these within a South African context. A major advantage of this investigation is that it responds to the fact that most studies that examine these three in South Africa, provide information about a particular faculty of students, namely a science faculty (Cliff, 1995l Felder, *et al.,* 1995; Hendrich, 2004; Van der Walt & Maree, 2007). As a result, difficulties arise when attempting to generalise student learning in South Africa (at the transitional period) to a broader range of students.

Particularly, studies in South Africa to date primarily measured the learning strategies of engineering students (Cliff, 1995; Felder, *et al.,* 1995). The difficulty with this is that these studies were biased towards a predominantly male sample and an even tighter band of students within a particular Science faculty making it difficult to form any generalisations that could assist various faculties as well as across genders. This study

therefore aimed to examine a broader population range within a general BA-Psychology course that, furthermore, allows one to gain insight into the difference in learning between both male and female students. These investigations therefore allow the assessor to gain insight into a more wide-ranging consensus on student's learning strategies in South Africa. Additionally, the study is designed to assist in understanding more broadly how learning strategies that are cognitively, affectively and self-regulatory in nature, are employed by first year university students. Being a first year university student, as mentioned earlier, brings with it many challenges that influence the emotional well-being of the individual. This emotional well-being has been argued to play an influential role in student performance at higher educational institutions (Ingleton, 1997).

Due to the social constructional nature of learning, studies have therefore shown that student learning behaviours are determined by both cognition and affect (Beard, Clegg & Smith, 2007; Pask, 1976; Marton, 1988; Vermunt, 1996) and that affect can play an inhibiting or encouraging role when it comes to learning behaviours (Ingleton, 1997). One of the most recognised affective factors that were shown to play a hindering and encouraging role, as well as influence an individual's psychological well-being, is that of self-esteem (polce-lynch, Myers, Kliewer & Kilmartin, 2001). Students with positive levels of self-esteem proved to be more motivated in their learning whereas those with negative self-esteem levels showed less motivation (Crocker, 2006; Cunningham, Wang & Bishop, 2006; Harter, 1998). On account of this widely recognised relationship, this study furthermore chose to examine the relationship between self-esteem and learning within first year psychology students. This was particularly due to the fact that the

students who participated in the study were theoretically at a difficult period of transition.

The theoretical and practical value of this study therefore, is that it would assist in creating insight into the psychological well-being of students in the first year psychology course through an exploration of their self-esteem levels. Secondly, it would assist in understanding whether the self-esteem levels of these students are related to the learning strategies that they employ, and whether affect and cognitive learning is in fact linked to each other as has been found in engineering students. Lastly, the study would alert the investigator as to whether males and females differ in their learning and self-esteem levels, possibly as a result of socialisation.

Chapter 2: Literature Review

2.1. Learning in higher education

The Department of Education (DoE) in South Africa gives special focus to teaching and learning in higher education. Former Minister of Education Prof. [1]Kader Asmal maintained, that one of the main objectives of government is to generate populations of graduates that are skilled and able to critically engage with information (as cited in Pityana, 2004). This allows individuals to function in society, contribute to the economy as well as actively engage within the globalising world (Pityana, 2004). Principal and Vice Chancellor of the University of South Africa, Barney N. Pityana, acknowledges the necessity of such objectives adding that institutions of higher education need to create opportunities for students to engage with learning strategies (such as taking part in debates) in order to find expression (Pityana, 2004), as well as to meet the objectives as set forth by Prof. Asmal. The generating of vast amounts of graduates therefore calls for significant attention to be placed on conceptualising the manner in which institutions and its populace engage with teaching and learning practices (White Paper, 1997). Specifically, government recognises the need for graduates from universities to be able to meet the expectations presented to them.

These expectations as defined by the Outcomes Based Education policy (OBE) and influenced by the behaviourist tradition, include creating an understanding of content and being flexible and critical in thinking (Constandius, 2006). Teachers are encouraged to assist students with finding ways of working collaboratively and interactively in order to

1 An opening address at a conference on Higher Education Curriculum and Society: Relevance, Quality and Development (April, 1, 2004)

achieve problem solving and self-directed learning. These problem solving skills include having the appropriate skills learning strategies. The role of the educator at universities in South Africa shifts from simply dictating to students, into one where the educator provides the structure for the co-construction of knowledge, and where students can develop into critical thinkers, an objective of South African government (Constandius, 2006, Fourie, 2006; Pityana, 2004). This great need to create critical thinkers stems from the fact that schooling systems in South Africa, has shown to produce matriculants who are not 'intellectually ready for the rigours of higher education', nor are they sufficiently equipped with the skills needed for studying at these institutions (Pityane, 2005, 3). According to the Minister of Education, Ms Naledi Pandor, this relates to the fact that the transition between high schools and universities brings with it difficulties related to inadequate learning practices in South Africa (Moloto & Motsoaladi, 2005) and shall be explored in more detail in Section 2.4.3.

Pityana (2005) and Weinstein (1988) in their investigations, furthermore appear to acknowledge the importance of a democratic relationship between teacher and student. That is, they believe that it is significant to investigate the behaviours of student learning in higher education to ensure the development of opportunities for students to take responsibility for their own learning behaviours (as also acknowledged by Weinstein (1988)), thereby creating opportunity for critical thinking, as opposed to relying solely on their educators. In response to the concerns and recommendations outlined thus far, the current study therefore aims to investigate student behaviour in relation to learning using Weinstein's conceptualisations and measurement of learning strategies, particularly at

this important transitional period.

2.2. Theoretical underpinnings of the approaches to learning

The term 'approaches to learning' was used to categorise the various factors that were seen to influence the manner in which students learn in their respective academic environments (Haggis, 2007). Various theorists extended their studies around learning in order to provide a basis from which to understand how students interact with academic material. Some of the most well-known theorists often identified in the literature expand across the geographical domains of the United Kingdom, Australia and the United States of America. These theorists are Ramsden, Entwistle and Biggs, each of whom takes a phenomenological/experiential perspective. Weinstein takes an alternate position operating from a predominantly behavioural perspective (Schmeck, 1985). The author chose from these four well-known theorists, the work and conceptualisations of Weinstein, primarily, as her theory on student learning reflects the objectives of OBE and has been argued to contain many advantages which shall be explored further on in this section.

Despite each theorist examining specific approaches to learning, investigations show that the area of teaching and learning appears to be included in the models of Biggs, Entwistle and Ramsden (Schmeck, 1985). Weinstein on the other hand, concentrates primarily on students learning behaviours as opposed to teachers teaching practices, as she believes that it is more important for students to develop responsibility for their own learning processes. The author speculates that one of the reasons for this, is that the student's

responsibility towards their learning proved to be more reliable in terms of predicting academic performance (Abisamra, 2002). Teachers may simply facilitate the various processes of instruction.

The 'approaches to learning' models commonly used in South Africa, are that of Biggs (1988) and Weinstein (1988) who appear to reflect a shared theoretical basis even though categorised differently. That is, both theorists believe that student learning occurs within a sphere of both cognition and affect. Particularly, for Biggs these approaches take the form of what he calls the motive and strategy components, whereas Weinstein (1988) conceptualises these as the skill (cognitive) and will (affective) component. Weinstein includes, however, a third component in her theory known as the self-regulation component. This includes strategies that assist with the accommodation of learning and developing of skills significant to the learning process, such as concentration during lectures and managing study time effectively. Whilst Biggs (1988) therefore conceptualises that students may be categorised as surface (minimal interactions with material), deep (extensive interactions with material) and strategic (tactful and deliberate interactions with material) thinkers, Weinstein (1988) broadens the learning domain in which students can be understood. Particularly, for Weinstein, the strengths and weaknesses of student learning can be understood along ten specific categories. These categories for instance, include their abilities with information processing, the selecting and use of study aids and to be able to select main ideas. Hence, students examined within Weinstein's model (1988) would be able to pinpoint the exact areas of the ten cognitive, affective and self-regulatory learning strategies investigated, which require

further attention.

Studies carried out by researchers in South Africa have all appeared to follow a similar pattern when attempting to investigate and understand the learning patterns of students. That is, various recent studies that examine the thinking patterns of South African students utilise Biggs's theory (Daniels, 2006; Fox, 2005). However, it is Weinstein's scale for measuring students learning behaviours (such as through the Learning and Study Strategies Inventory) that is more widely used in comparison to Biggs Study Process Questionnaire (SPQ) (Hendrich, 2004; Van der Walt & Maree, 2007). The reason for this is due to the fact that Weinstein provides a more comprehensive examination of individual learning strategies that allow the investigators to be able to diagnose the exact strengths and weaknesses of student learning behaviours. This is thereby seen to assist with the development of focused interventions such as that of helping students to be able to manage their time better (if the student scored lower on the time management scale in the LASSI). The following section will now identify five domains in the approaches to learning, however will only focus on the cognitive, affective and self-regulation strategies as is mainly depicted in the work of Biggs (1988) and Weinstein (1988).

2.3. Five domains in the approaches to learning

Literature in the region of higher education asserts that there exists a variety of factors that influence the manner in which students learn in their respective academic environments. The most significant of these factors, falls within five significant domains in the area of 'approaches to learning', (Vermunt & Verloop, 1999). The first of which is

that of affective learning that encompass behaviours that students engage in, in order to cope with emotions that may arise during learning. Secondly, the cognitive processing domain includes learning activities that allow students to indulge in processes that result in the comprehension and learning of information. Such processes include selecting, relating, structuring, analysing and rehearsing of information (Vermunt & Verloop, 1999). Thirdly, the metacognitive regulation domain encompasses the student's exertion of control over the affective and cognitive processing of information (Vermunt & Verloop, 1999). Fourthly, the self-regulation domain consists of strategies that the student utilises in order to direct and regulate the process of learning (Bembenutty, 2007; Huitt & Cain, 2005). This domain is particularly significant as it assists with the acquisition and use of cognitive learning strategies (Huitt & Cain, 2005). Lastly, the contextual regulators domain consists of factors in the environment that helps shape and influence student learning. These include resources, teaching models and family support (Ramsden & Entwistle, 1981; Street, 2006; Vermunt & Verloop, 1999). Theorists such as Entwistle, Biggs and Weinstein in their respective theories all utilise two of the five significant approaches, namely; the cognitive and affective approaches to learning, with Weinstein incorporating a third, self-regulation domain as she believes this to play an influential role within the cognitive domain.

Despite the importance of these five, Vermunt and Verloop (1999) maintain that often pedagogical research around these factors is carried out in isolation from each other. This thereby poses a challenge towards creating a more global ability to understand the field of learning in students, as no one factor influences students learning, in isolation (Biggs,

1978; Biggs, 1987; Haggis, 2003; Marton & Saljo, 1976; Mischel, 1973; Ramsden & Entwistle, 1981; Street, 2006; Vermunt & Verloop, 1999; Watkins, 1983; Webster & Sudweeks, 2006). Moreover, learning in higher education and investigations thereof focused, until three decades ago, predominantly on the cognitive components in learning. The affective influence on learning, was claimed to be highly 'under-researched' and 'under-theorised', even in recent times (Beard, Clegg & Smith, 2007; Ingleton, 1997). The reason for the neglect of this significant domain was due to the fact that affect was found to be a difficult concept to measure and as such, cognitive processes in learning dominated pedagogical research. Ingleton (1997; p.1) attempted to bridge this gap with her study by trying to understand how affect relates to learning stating that, "learning environments are social environments, and learners are complex beings whose emotions interact with their learning environment in powerful ways". That is, learning is a socially-constructed phenomenon and humans are social beings that encompass various dimensions such as being able to hold intellectual capabilities and be emotively responsive. Hence the argument raised, is that the interaction between cognition and affect (emotion) should be more closely examined due to its interactive nature. Researchers therefore should attempt to capture as much as possible how factors across these five domains interact with each other. Thus in view of the fact that learning processes are not entirely isolated, the domains of learning examined in relation to each other would serve to be valuable, especially in relation to the understanding of learning and the development of teaching models (Bednar, Cunningham, Duffy & Perry, 1991; Brown, 1994; Entwistle, 1992)

Cognitive, affective and self-regulatory processing factors are argued to play a significant role, as collaboratively they were shown to influence how students' learnt and performed academically (Assiter, & Karanian, 2004; Bembenutty, 2007; Bernardo, 2003; Cliff, 1995; Felder, *et al.,* 1995; Huitt & Cain, 2005). According to many authors, these factors were thought to play a momentous role in predicting academic achievement (Assiter, & Karanian, 2004; Denton & McKinney, 2004; Entwistle & Ramsden, 1983; Everson, Weinstein, & Laitusis, 2000). Volet (1997) found that the cognitive learning factors in undergraduate students at a Western Australian University were significantly related to their affective learning factors. This relationship, as depicted by Volet (1997) as well as other investigators (Simons & Vermunt, 1986; Vermunt, 2005; Volet, 1997; Zimmerman & Schunk, 1989), appears to be the result of the interplay between affective factors such as motivation and attitudes to learn, as well as cognitive processing factors that include the planning and evaluating of information learnt. Particularly, affective elements were seen to influence the manner in which an individual engaged with cognitive processes and activities (e.g. concentrating or gaining additional study material) in order to achieve a specific goal (for instance, academic achievement). However, the opposite relationship may also exist whereby as one utilises cognitive processes, one may influence personal goals causing an increase in affective pull such as the motivation needed towards achieving that goal. A more in-depth exploration and understanding of this relationship will be attained further on in this Chapter.

Suskie (2002) argues that Weinstein's notion of the cognitive, affective and self-regulatory relationship, as operationalised in the Learning and Study Strategy Inventory

(LASSI), is particularly well suited for understanding the behaviours of learning that students at an entry level (for instance the first year psychology students in this study) in tertiary institutions engage with. That is, by allowing students to reflect on their learning strategies by completing the LASSI, it provides an opportunity for them to identify strategies that could be useful for their academic careers.

Moreover, with reference to the population utilised in this study, the author wishes to alert the reader to an important issue. That is, that the majority of the existing studies carried out on first year students using the LASSI have been administered on Engineering and Science faculty students (Cliff, 1995; Felder, *et al.,* 1995; Simons & Vermunt, 1986; Vermunt, 2005; Volet, 1997). The concern around this is that the findings from these studies create difficulty when attempting to generalise understandings as these faculties host a predominantly male population group within a particular science and technological paradigm of thinking. This dilemma relates to some of the criticisms raised by Street (2006) and Vermunt (2005) who argue that different fields and faculties of study (such as that of Engineering, Sociology and Psychology) necessitate distinctive study skills and strategies that would ensure successful completion of the course.

> The nature of the academic discipline is supposed to influence the kind of thinking strategies students use to learn. Different disciplines would pose different demands on the way subject matter can best be studied. Subject matter within the natural sciences is often hierarchical, logical, and directed at rules and procedures [e.g. engineering]. Such domains require more than other domains a thorough, analytical processing strategy to be able to reach an understanding of the subject matter… Subject domains in

> which large amounts of texts should be processed [e.g. psychology] call more for relating and structuring learning activities (Vermunt, 2005, 208)

Findings from this study will hopefully allow for an understanding on how students in the field of Psychology differ in relation to their use and selection of learning strategies. These findings would also assist in identifying specific areas of learning that students show strength as well as weakness in, thereby creating opportunities to identify possible solutions for areas of weakness. This advantage of the LASSI remains to be one of the main reasons for its popularity in the South African context (Hendrich, 2004; Van der Walt & Maree, 2007). In addition to the information gathered thus far, the author will provide an understanding of cognition and cognitive learning strategies together with self-regulatory strategies, which will then be followed by a closer look at affect and affective learning strategies. Thereafter self-esteem, as a basis of positive and negative affect (such as, shame and pride) shall be discussed mainly due to its powerful influence in the area of learning. That is, that self-esteem is seen as a significant determinant of behaviours surrounding the process of academic learning (Ingleton, 1997).

2.3.1. Understanding cognitive, self-regulatory and affective processes in learning

To begin, the early work of well known Swiss Psychologist Jean Piaget and Russian Developmentalist Lev Vygotsky, sparked a great amount of interest in the area of cognition and cognitive processes. Piaget depicted that cognition encompasses the natural processing and adapting of information over time through engagements with the physical environment, whilst Vygotsky maintained that cognition is the result of information processed through socio-cultural interactions in the environment (Schaffer, 2002; Smith,

2002). Despite the contentious nature of this definition, a common pattern appeared to emerge across various theories, including the most recent ones posed. That is that cognition involves an internal, symbolic representation of information that is perceived, coalesced, stored and reproduced (Bjorklund, 2000; Huitt & Cain, 2005; Pylynshyn, 1990; Smith, 2002). Singer and Gerson (1979, 216) additionally add that "cognitive processes [are] a control process, which is self-generated, transient, situationally determined conscious activity that a learner uses to organise and to regulate received and transmitted information, and ultimately, behaviour". The author is in support of the opinion that cognition therefore involves procedures of attending, perceiving, storing, processing and remembering of information. Similarly, cognitive processes as depicted in Section 2.3., refers to the manner in which students select means of examining information and in so doing adding to their knowledge base (Vermunt & Verloop, 1999).

Investigations of both literature in the area of cognitive processes from the late 1970's to date, as well as reports on learning in higher education, indicate that cognitive processes in learning consist of six pivotal and common aspects (Pask, 1976; Marton, 1988; Pityana, 2004; Vermunt, 1996, 1998, 2005; Vermunt & Verloop, 1999). Namely, relating/structuring, analysing, concretising and applying, memorising, processing critically and selecting information (Vermunt & Verloop, 1999). The current study acknowledges these six cognitive processes of learning as being a collective category in developmental psychology, but for purposes of the investigation at hand, the researcher here opts to outline these in a particular manner. That is, cognitive processes (information processing, selecting of main ideas, test strategies), self-regulatory processes

(concentration, self-testing, study aids and time management) and affective processes (anxiety, attitudes to learn, motivation to learn) as defined by Weinstein and Palmer (2002) as well as other similar theorists and authors (Bembenutty, 2007; Costandius, 2006; Huitt & Cain, 2005; Schaffer, 2002; Schellings, Van Hout-Wolters & Vermunt, 1996; Turkington & Harris, 2006; Vermunt & Verloop, 1999). These three categories and their respective strategies shall now be described with the inclusion of examples in which the reader can practically envision the use of the respective strategy.

2.3.1.1. Cognitive learning strategies

Cognitive learning strategies (CLS) according to many authors play a critical role with proficiency and thought processes, in that it assists in the acquiring and conceptualising of information through processes involving the identification, attainment and understanding of new information (Najar, 1999; Weinstein, Underwood, Wicker & Cubberly 1979). Weinstein (1979) additionally believed that CLS are significant to the learning process as it influences the manner in which the student behaves in the learning environment, particularly in relation to attending, managing information and developing mechanisms for resolving problems. Within the domain of cognitive processes, various learning strategies have been recognised and examined. A few of these, well known cognitive learning strategies, shall now be examined.

i) Information processing

Information processing has been identified as being the process wherein the individual

takes in information from the environment or texts, organising it in such a manner that it becomes meaningful to them (Vermunt & Verloop, 1999). The manner in which this information is organised compares to the well-known *computer model* that includes three processes (Schaffer, 2002; Turkington & Harris, 2006). The first entails having the information visually discriminated and then secondly, encoded, using systems of prior knowledge such as words. Once this information is encoded, it is then thirdly, sent to storage. This encoding process involves the individual being able to organise separate pieces of information into an integrative whole using associations and finding similarities and differences from information already learnt and thereafter allowing for the newly acquired information to become meaningful (Entwistle, 1995).

In the storage process the information is transferred from short-term memory to long term memory (Schaffer, 2002). This process is then followed by a mechanism of retrieval which allows for information to be obtained from one's long term memory. Instruments such as the Learning and Study Strategy Inventory (Weinstein & Palmer, 2002), for instance, examines information processing through the use of questions such as whether or not the student attempts to make links between information learnt with information already acquired. This investigates whether the student is able to find associations that could assist in the comprehension of new knowledge. Weinstein and Palmer (2002) maintain that students who experience difficulty in deducing meanings from information should attempt to improve their learning repertoire through the use of summarising/paraphrasing as well as creating analogies, to name a few (Weinstein & Palmer, 2002).

(ii) Selecting of main ideas

The selection of main ideas becomes an increasingly important skill that students have to acquire in their learning careers. This skill involves one's ability to select important and critical data from a large body of information making it easier to comprehend the themes being conveyed (Vermunt & Verloop, 1999; Weinstein & Palmer, 2002). Take for instance a student attempting to capture the themes from a journal article. The student would have to be able to use headings and keywords as hints of what the article contains in addition to sorting out relevant information from irrelevant information. If the student experiences difficulty with this, he or she would experience confusion and ultimately be overwhelmed by details thereby losing valuable study time. Hence, this skill requires that the student be able to select important from unimportant information in a fairly short period of time in order to meet knowledge requirements in a particular courses syllabus (Weinstein & Palmer, 2002). According to Weinstein and Palmer (2002), if the student is unable to master this skill in time, he or she will experience great difficulty in trying to analyse and learn information for examinations. One way of being able to practice this strategy is by outlining significant information such as definitions, concepts and themes of content from various study aids (a learning strategy that shall be discussed next) as well as being autonomous in their learning environment (Schellings, Van Hout-Wolters & Vermunt, 1996; Weinstein & Palmer, 2002).

(iii) Test strategies

Over and above the procedures involved in the processing of information as well as the

ability to abstract and apply important information from various study aids, it is important that students find means of preparing themselves to report the information learnt. An example of such preparation is through developing test strategies. Test strategies according to Weinstein and Palmer (2002) refer to the test preparation that a student takes in order to prepare for the manner in which the test will present itself. This entails that the student would have to infer on whether a test would present itself through a set of multiple choice questions for instance or through an in-depth analyses of a particular area of investigation. The significance of such an important strategy is that it allows for the student to determine the manner in which information should be learnt as well as how the student proceeds in planning of the answer needed (Weinstein & Palmer, 2002). Students whilst employing test taking strategies would thereby reflect on whether or not their preferred and favoured styles of studying is applicable for various courses such as mathematics or psychology. Difficulty in this area alerts the student to the fact that he or she struggles to identify and differentiate how to learn the information necessary for a particular course and how to display it in such a manner that it would accurately indicate learned knowledge (Weinstein & Palmer, 2002). Over and above this, it is not only important that the student be able to learn and display information through employing test taking strategies, but it is equally essential that he or she be able to evaluate their own understanding of the knowledge gained through strategies such as self-testing, a strategy characterised as a self-regulatory factor.

2.3.1.2. Self-regulatory learning strategies

The self-regulatory component of learning strategies according to Weinstein and Palmer

(2002) are those strategies that assist students with the management of the learning process so as to ensure that effective learning can take place. It involves 'self-guided activities' or behaviours that include processes where students can engage with material in order to monitor and evaluate their own learning processes (Huitt & Cain, 2005). Self-regulatory behaviours have been argued to play a vital role as it influences student's abilities to achieve and maintain academic goals and assist largely with the acquiring of skills that are essential to learning (Bembenutty, 2007). These behaviours form as a result of interactions with the environment and through the experience of consequences via these interactions (Huitt & Cain, 2005). According to many authors, some of the most commonly examined self-regulatory strategies are self-testing strategies, concentration, time management and the use of study aids which shall now be examined in more detail (Turkington & Harris, 2006; Weinstein & Palmer, 2002).

(i) Self-testing

Self-testing involves the student's ability to examine their own level of understanding regarding the information learnt and to be able to consolidate new knowledge (Weinstein & Palmer, 2002). These strategies allow for the student to review what has been learnt and to be able to scrutinize what they know as well as what they do not know. Some of the self-testing strategies utilised are through the invention of questions that the student may feel could be posed in the examination. Alternatively another strategy would be to mentally review what has been learnt during a study session. Weinstein and Palmer (2002) believe students should employ self-testing strategies as it would allow for information learnt to be monitored and comprehended. Such information however, can

only be learnt, monitored and comprehended if the student is able to concentrate during the learning process.

ii) Concentration

In order to maximise the ability to take in information from the environment, such as during lectures, it is important that the student maintain adequate and sufficient attention and concentration on the information being taught. This requires an active ability to divert one's attention towards a particular point and to block out any internal or external interference (Turkington & Harris, 2006; Weinstein & Palmer, 2002). These interferences may take the form of distracting thoughts, situations, feelings and emotions (Weinstein & Palmer, 2002). According to Turkington and Harris (2006), concentration requires a 'higher level of arousal' due to the sustained attention needed wherein information that is attained is held in working memory over periods of time.

A student experiencing emotional problems, for example, may find that during lectures, attention is actively diverted towards the emotional problem in an effort to alleviate pain surrounding the problem. As a result of this diversion, the student may realise that a vital piece of information is missed causing the student to experience knowledge gaps. The information taught subsequently would therefore make it difficult for the student to conceptualise the newly acquired information as basic information has already been lost at that point in time. Students with concentration problems may express that they get easily distracted during lectures, by thoughts for example (Weinstein & Palmer, 2002, 10).

Hence, as gathered thus far, it is essential that students apply adequate concentration during lectures in order to process information, utilise various study aids to add to their knowledge base (thereby selecting information from the non important information) and to use self-testing as well as test taking strategies. All of these, however, are influenced to a great extent by the ability of the student to manage their learning and study time effectively.

iii) Time management

Time management therefore becomes a significant behaviour that requires monitoring and thought about time and schedules by the student in order to ensure that he or she is able to meet the demands of a university. According to Weinstein and Palmer (2002) the creating of time schedules allows for students to take responsibility for their own studying behaviour (such as going to lectures as well as study groups and creating individual studying time) in addition to it creating insight into one's self. This insight revolves around the student being able to explore their own time frames and from a psychological perspective, to be able to identify the needs they perceive as important to be met (such as social integration or self-care). By being mindful of preparing time schedules, the student additionally will be able to identify the subjects that necessitate more learning time as well as those that require more in-depth analysis which may be time dependent (Weinstein & Palmer, 2002). For instance, a student who finds a particular course more challenging and difficult would have to incorporate additional time into their schedules for studying that courses material. It may require gaining extra

information from study aids to assist in understanding the area necessary, attending tutorials and more time being spent in analysing the information. Time schedules however need to be realistic as too great expectations within a set timeframe may result in the student loosing focus and perhaps deviating from the schedule. Hence, these schedules should preferably cater for instances where glitches and unexpected challenges may arise.

(iv) Study aids

The use of study aids such as textbooks, manuals and summary sheets are all learning materials that allow for the student to be able to assist and complement their learning in lectures. According to Weinstein and Palmer (2002) it is important for students to be able to utilise study aids created by others and to create their own as these enhance learning and retention. Some of the many advantages of using various sources of study aids to assist with learning are that it allows the student to gain a more comprehensive understanding of an area set under scrutiny. Additionally, it provides the individual with opportunities to interact and raise debates around factors that may be contradicting to each other. This as a result promotes critical thinking, which is one of the goals for secondary and higher educational institutions as set out in the Outcomes Based Education program set by the Department of Education (Costandius, 2006).

The surface approach to learning as conceptualised by Biggs (19930 may be linked to the study aids learning strategy. That is, since the study aids strategy incorporates various mediums that students may use to explore material at a greater depth, one may argue that

students who do not utilise this strategy effectively may simply be engaging in surface approaches to learning. More active interactions with study aids, such as engaging with debates, would therefore result in opportunities for students to engage with deeper approaches to learning.

Summary

As outlined by the critical outcomes of OBE, cognitive learning strategies appeared to play a pivital role in the learning processes of students in educational institutions (Constandius, 2006). These learning strategies have shown to assist in a variety of ways that include the gathering and understanding of new information as well as to assist in critical thinking. Despite the importance of cognitive processes in learning, literature has shown that learning results from the interaction of cognitive, affective and self-regulatory processes (Assiter & Karanian, 2004; Bembenutty, 2007; Huitt & Cain, 2005; Vermunt & Verloop, 1999). During the learning process, students cannot solely rely on one component of learning in their efforts to do well and succeed in their respective studying careers. Having the motivation to learn (affective learning strategy), for instance, requires time management for studying as well as concentration during the study process (self-regulatory learning strategies), in order to acquire the skills needed to learn the information (cognitive learning strategy) so that it can be applied. Such a process would therefore involve the student being able to call upon learning strategies in all three components thereby accentuating the significance and relationship between these components.

In the cognitive component of learning, the information processing strategy reflected a well-known 'three processed' computer model that included attaining information, encoding it and finally storing it. Secondly, the selection of main ideas strategy was examined and was said to focus on the individual being able to select relevant information from a large body of material (Schaffer, 2002; Turkington & Harris, 2006; Vermunt & Verloop, 1999; Weinstein & Palmer, 2002). Self-regulatory strategies such as self-testing, concentration, time management and study aids, were also explored as it proved vital to the acquisition of skills in the cognitive learning process. The use of study aids proved to assist in gaining additional information about an area of investigation, whilst test strategies and self-testing strategies were shown to evaluate the students knowledge about a subject and their ability to identify the manner in which information may be examined. Concentration, as a component of self-regulatory learning strategies, was shown to be essential to these learning processes, but it is the time management strategy however, that determines how much of learning behaviour the student can engage with in his or her time frame or learning schedule. Despite these strategies being examined in isolation from each other, it appears that each strategy cannot function without the assistance of other strategies, such as self-testing cannot be practiced on or utilised if the students' management of time was problematic. Similarly, studies have found that cognitive strategies are also determined and influenced by affective learning strategies (Huitt & Cain, 2005; Marton, 1988; Picard, *et al.,* 2004, Vermunt & Verloop, 1999). The student's attitude to learning for example, may affect the level at which he or she concentrates during lectures or attends class. Hence given these findings, the investigator includes some of the well recognised affective learning strategies.

2.3.1.3. Affective learning strategies

Affect may be defined as the mood states that occur along two poles, positive (e.g. pleasure, happiness, joy) and negative (e.g. frustration, sadness, fear). The rationale for investigating this construct is based on a variety of factors, however the author would like to alert the reader to one important factor as outlined by Picard, *et al.* (2004). Picard, *et al.* (2004) maintained, that positive and negative mood states induce a particular manner of thinking, and as such researchers in the area of approaches to learning may need to conceptualise how affect relates to cognitive processes. Positive mood states, for instance, have been linked to more creative and flexible ways of thinking in order to allow for effective problem solving (Picard, *et al.*, 2004*)*. Negative mood states on the other hand were shown to limit abilities for 'efficient problem solving', which is also one of the critical outcomes outlined by the OBE initiative (Constandius, 2006).

According to the work of Vermunt & Verloop (1999), there are four common affective categories that have been related to learning, three of which were also outlined by Weinstein and Palmer (2002) and are examined in this study. These affective learning strategies are; the anxiety experienced during learning as well as the motivation and attitudes to learn. All three affective factors were shown to impact to some degree on the level of enthusiasm the students applied in their learning behaviours, in order to meet the requirements of an academic course (Hidi, 1990; Reynolds & Shirley, 1998; Vermunt & Verloop, 1999; Wenstein & Palmer, 2002). If the student found themselves being unable to cope with the affective factors related to learning, that is anxiety, motivation and

attitudes to learn, it may be speculated that the student will experience difficulty applying themselves in their academic learning, thereby impacting on the degree to which he or she perseveres in the long term (Tinto, 1982). The three identified affective strategies that impact on learning shall now be examined in more detail.

i) Anxiety

Studies focusing on academic learning aimed to explore and comprehend the area of learning difficulties and its influence on academic performance with the intention of understanding the perpetual factors related to these difficulties and how they can be managed (Turkington & Harris, 2006). Results indicated that anxiety as an emotional response to stressors is one of the most common and contributing factors to low academic performance (Sadock & Sadock, 2003). According to Turkington and Harris (2006), anxiety in students has been linked to problems with attention and concentration. These were acknowledged to be some of the most significant factors that students' should develop mechanisms for in order to cope with the pressures of learning (Barkley, 1998; Hallowell & John, 1995; Turkington & Harris, 2006).

In other words, if a student is unable to maintain attention or concentrate because of anxiety to perform for instance, chances are that their ability to comprehend and take in information being taught would be hampered. The students would then suffer with knowledge gaps, thereby affecting their ability to build on prior knowledge. Weinstein and Palmer (2002, p. 9) maintained that, "cognitive worry, a major component of anxiety, is manifested in negative self-referent statements" and, "diverts a student's attention

away from the task at hand, such as studying or taking a test". Students struggling with anxiety may state that they often find themselves being overwhelmed with thoughts, such as about doing poorly in an exam that it interferes with their levels of concentration. In such a scenario one of the ways in which to resolve this is for the student to make attempts to acquire skills and techniques to cope and reduce anxiety in order to facilitate more attention and concentration in learning. Apart from anxiety, the attitudes to learn also appear to play a major role in learning.

ii) Attitudes to learn

By 'attitudes to learn' the author refers to the student's general feeling about learning and what it means to them on a personal basis. The type of attitude that a student holds towards learning has been argued to play an influential role in the students level of enthusiasm and persistence in selecting channels and mediums in order to achieve a goal (Weinstein & Palmer, 2002). It appears that students who do not have a clear goal set in place such as to succeed at a course, would not only find it difficult to sustain interest in that course, but would also be unable to set up reliable working habits. Furthermore, these attitudes that a student has towards learning determines the degree of motivation that will be invested in this behaviour. Let us now explore how this occurs by examining motivation to learn in more detail

iii) Motivation to learn

One of the most common affective factors that has proven to be significant in the sphere

of approaches to learning, is that of motivation (Bridges, Margie, & Zaff, 2001; Crocker, 2006; Huitt & Cain, 2005). Motivation in this sense refers to the internal process that affects the manner in which the student acts in the environment, such as through engaging in the learning process by completing tasks, in order to either avoid negative consequences or steer towards the accomplishment of a goal such as passing a subject (Turkington & Harris, 2006; Vermunt & Verloop, 1999, Weinstein & Palmer, 2002). Students require a great degree of motivation when it comes to learning, particularly as it influences the attendance of school, their determination to learn as well as taking on an active role through engaging in the learning process (Bigge, 1982). Torrano and Torres in 2004 conducted a study examining, amongst others, the relationship between the affective factor- motivations to learn and academic achievement that incorporates the use of cognitive strategies. This study indicated that motivation to learn remains to be one of the most significant and contributing factors to high academic performance confirming the need for further investigations of this factor in the development of academic programs (Torrano & Torres, 2004).

Various ideologies around motivation as an affective factor have been posed over time, but one of the most commonly agreed ideas is that motivation are of two types; extrinsic motivation (social motives) and intrinsic motivation (personal motives) (Entwistle, 1987, 1988; Entwistle & Ramsden, 1983; Bigge, 1982; Biggs, 1988; Schmeck, 1988). Extrinsic motivation is motivation fuelled by the individual's desire for approval from the external social environment that includes the individual's parents, family, friends and community members. Intrinsic motivation on the other hand is the personal desire for mastery and

achievement (Bigge, 1982; Schmeck, 1988). It is intrinsic motivation that many studies have shown to be effective in learning as it is argued to firstly facilitate the development of responsibility in one's learning process and secondly, last for longer periods of time in the study process as compared to extrinsic motivation (Abisamra, 2002; Ames & Ames, 1989). According to some authors, acknowledging and taking responsibility for one's individualised learning therefore determines the level of success that one would achieve (Vermunt & Verloop, 1999, Weinstein & Palmer, 2002). Students struggling with motivations to learn may find themselves focusing predominantly on the easy parts of the material being studied, or worse, give up studying the area all together (Weinstein & Palmer, 2002). In response to low motivations to learn, Weinstein and Palmer (2002) suggest that the student should re-evaluate their goals and take responsibility for utilising various means/strategies for studying as well as to accept the consequences for their own efforts.

Summary of affective learning strategies and conclusion

Affect, whether positive and negative has been argued to play a significant role in the manner of thinking of an individual (Picard, *et al.*, 2004*)*. This study has examined three affective learning strategies as studies have shown that all three impact on the level of enthusiasm and perseverance that students apply in their learning behaviours (Hidi, 1990; Reynolds & Shirley, 1998; Tinto, 1982; Vermunt & Verloop, 1999; Wenstein & Palmer, 2002). These three affective learning strategies are, anxiety, motivations to learn and attitudes to learn. Firstly, anxiety was seen to be the emotional response that has been linked to problems with attention and concentration (Turkington & Harris, 2006).

Students unable to monitor and develop coping mechanisms for anxiety were argued to struggle in performing at school or university (Sadock & Sadock, 2003). Secondly, the attitudes to learn of the student were shown to impact on the student's ability to sustain interest in a course over the long term and to set up reliable working habits. This attitude to learn additionally was seen to impact on the student's motivations to learn and has been linked to various behaviours that are significant to the learning process. Such behaviours of which include the attendance of school, determination to learn and lastly, taking an active role in the learning process (Bigge, 1982). The motivation of a student, according to some authors, plays a vital role in the level of responsibility that students take in their learning process (Vermunt & Verloop, 1999, Weinstein & Palmer, 2002). In addition, intrinsic motivation was claimed to be more sustainable over the long run as compared to extrinsic motivation (Abisamra, 2002; Ames & Ames, 1989). Finally, as depicted in the cognitive learning strategies Section, one can clearly see that the affective learning strategies too, particularly attitudes to learn and motivation to learn, are to a great extent influenced and dependent on one another.

Lastly, various authors depict that learning, as a social disposition, does not solely occur through a cognitive schema and that affect, which is also influenced by social constructions, determines the behaviours that students engage within learning (Beard, Clegg & Smith, 2007; Pask, 1976; Marton, 1988; Vermunt, 1996). Society as depicted in the constructivist theory prescribes norms and values that bring both shame and pride to the individual depending on the behaviour engaged with (Ingleton, 1997). These two powerful emotions, which result due to the adherence of prescribed norms and values,

play a great role in both learning as well as the functions that form as a result of one's level of self-esteem (Ingleton, 1997). That is, the function of either encouraging or inhibiting behaviours of learning due to positive or negative self-esteem levels respectively (Branden, 1994; Flynn, 2001). Therefore due to the nature of the socially constructed components, learning and self-esteem, and in attempts to investigate students on a holistic level, the author chose to examine how self-esteem, due to its function of inhibiting and encouraging learning behaviours, actually impacts on learning. Before examining this however, it is important that the reader first gain an understanding of the definition, characteristics and function of self-esteem.

2.4. Self-esteem and learning

2.4.1. The ontological underpinnings of self-esteem

Self-esteem, a component located in the sphere of an individual's self-image, is situated in both psychological and sociological paradigms, particularly since as it has been shown to affect ones' psyche and social well-being (Harter & Marold, 1994; Lane, *et al.,* 2004; Simmons & Rosenberg, 1973). Developed through the social interactions with one's environment, self-esteem is classified as being an affective component characterising a person's general worth or value of self (Feldman, 2001; Simmons & Rosenberg, 1973). According to a number of authors, self-esteem is culturally as well as socially determined (Feldman, 2001; Lane, *et al.,* 2004). For instance, values and norms that are defined in one culture may differ in comparison to other cultures, such as the eastern versus western cultures. As a result of social interactions (that is, with family, peers, schools and media) with these respective environments for example, people then learn and personalise the

cultural values of the particular society and often evaluate themselves on their adherence to these rules (Sahlstein & Allen, 2002; Small, 2001).

Low levels of adherence to societal norms and values have been associated with low levels of self-esteem, and people with low levels of self-esteem tend to respond negatively by concentrating on their weaknesses that contribute to the development of the low self-esteem. Consequently this is said to perpetuate the 'cycle of low self-esteem' (Feldman, 2001). In other words, people with low self-esteem perceive themselves as being inadequate, in relation to whatever area they developed low self-esteem, therefore this negative perception creates negative expectations about the individual's ability. As a result, a negative self-fulfilling prophecy develops and the individual continues doing poorly in that particular area. This implies that low levels of self-esteem therefore becomes damaging for the individual as it may result in a self-fulfilling prophecy where the individual expects to do poorly and therefore gives up the will to try.

Being a developmental phenomenon, self-esteem has the ability to fluctuate or vary against polar opposites of positive and negative (James & Nightingale, 2005). Positive levels of self-esteem refer to the individual's satisfaction with regards to various aspects of self such as academic achievements, body image and so on. Negative levels of self-esteem on the other hand represent dissatisfactions with these various areas of self (Lane, *et al.,* 2004).

Self-esteem, as conceptualised in psychology, are of two types; global and specific.

(Owens, 1993; Schoenbach & Rosenberg, 1995; Wylie, 1979). Global self-esteem incorporates an overall value of self in relation to a multitude of areas that include social, academic, home and personal and is said to contribute to an individual's general psychological well-being (Rosenger, 1985). Specific self-esteem in contrast only encompasses the value of self in relation to a single area, for example self-esteem of academic performance or body image (Fishbein & Azjen, 1975). The contested issue however, is whether or not these two types of self-esteem should be viewed in isolation from each other when attempting to understand learning and self-esteem. According to Schoenbach & Rosenberg (1995, 148), both global and specific self-esteem are related to each other as "data suggests that global self-esteem affects specific self-esteem". The way in which it may affect the individual, is at the level of the individual's general psychological well being. That is, when the global level of self-esteem of the individual is low, possibly leading to a depressive mood, the general psychological well-being of the individual would therefore influence the energy the individual displaces in various activities such as learning. Therefore when examining the global self-esteem levels of people, one would gain a holistic view of the students general levels of self-esteem which incorporates a variety of specific areas in which self-esteem is viewed. Hence, in view of the fact that global self-esteem is more holistic, and that this study aims to examine the student's learning in various respective areas (in terms of both cognitive and affective learning strategies), a global self-esteem scale (that is, the Rosenberg Self-esteem Scale, 1965) was deemed more appropriate

2.4.2. The significance of self-esteem in learning

James and Nightingale (2005) in their paper 'Self-esteem, confidence and adult learning', outline some of the most constructive arguments for the significance of examining how self-esteem influences student learning. According to these authors, self-esteem appears to have implications for what the investigator here characterise as three basic levels; i.e. academic, social as well as personal. The reason for examining these basic levels in relation to self-esteem is due to the fact that global self-esteem, as outlined by Rosenberg (1995), encompasses self-esteem that is influenced by a variety of factors, many of which fall into these three levels (Furnham, *et al.* 2002; James & Nightingale, 2005; Lowery, 2005; O'Brian, 1991).

The first level constitutes an individuals ability to identify, and if necessary, improve their strengths and weaknesses in learning, as well as to have the confidence in their ability to apply for jobs. An individual with a positive self-esteem may see weaknesses as being obstacles towards an end goal and as such, needs to be corrected in order to satisfy and maintain a positive self-esteem. A student with a positive level of self-esteem who has failed a course for instance, may experience psychological pain due to this failure. In attempts to alleviate the pain brought by the failure, the student would have to put in extra effort in order to pass the course the next time round, so as to restore the positive level of self-esteem and the good feelings it encompasses.

Similarly, Crocker (2006) maintains that since increases in self-esteem are seen as pleasurable and decreases in self-esteem as painful, the individual may become protective over the enhancement of a positive self-esteem, such as through engaging in more

learning strategies, thereby achieving a superseding goal (example, passing a course). Cunningham, Wang and Bishop (2006) view this protective nature of students as the motivation that students regain in relation to learning. According to their study, self-esteem in students proved to have a significant relationship to the motivations to learn as they believe that the positive levels of self-esteem, formed as a result of academic achievement, would lead to the desire to maintain this value of self by increasing or creating the motivation to learn. Therefore the significance of self-esteem in relation to its influence on the academic level is predominantly that self-esteem levels are said to enhance or exacerbate students learning behaviours (James & Nightingale, 2005).

Lastly, an individual's level of self-esteem is believed to affect their degree of confidence in applying for jobs and positions that are suited for the courses studied at university (James & Nightingale, 2005). An individual with a low self-esteem for example would question his or her ability to adequately satisfy the requirements for employment given the fact that their basic self-worth is not satisfactory. This in itself relates to learning as self-esteem has been argued to influence the ability to learn and ultimately complete a course that may be a prerequisite for a specific vocational field. Over and above strengths, weaknesses and being able to apply for employment, the social level in which self-esteem impacts on learning also requires investigation.

At the second level at which self-esteem is seen to affect an individual's learning process, the social level, two interlinked arguments were raised (James & Nightingale, 2005). The first concerns how self-esteem influences the degree to which the individual engages in

social groups (that is, peer groups, tutoring groups, debate groups and so on), as well as the manner in which they are perceived in these networks resulting in possible group exclusion (James & Nightingale, 2005). An individual with a negative self-esteem may struggle to apply themselves socially in a group which may be vital, should the group pose valuable in terms of learning. For instance in social groups that provide space for learning, the individual, because of perceiving himself/herself as being inadequate, would shy away from valuable learning experiences such as when debates are being raised. This then becomes an invaluable encounter as it provides one with the ability to process information strategically, as well as being able to select important information from a body of knowledge (also known as the selecting of main ideas learning strategy).

Thirdly, beyond the academic/professional and social levels rests an equally important one that incorporates the greater sense of self, the personal level. Here James and Nightingale (2005) examine how learning becomes an influential factor in self-esteem in that it impacts on one's self-efficacy and sense of purpose. According to their understanding, "…learning can have… a positive impact on an individual's self-esteem, particularly with regards to sense of capability or efficacy, sense of purpose, experience of flow or fulfilment, sense of responsibility and accountability and sense of belonging" (James & Nightingale, 2005, p. 6). A student who incorporates and utilises appropriate learning strategies, such as the ten identified earlier, may find that he or she experiences all round satisfaction with the effort and progress made. This satisfaction and progress as a result of goal achievement (that is, sufficiently learning for a course and passing) increases his or her self-esteem levels. Once increased levels of self-esteem are achieved,

the student may attempt to maintain this good feeling by keeping his or her self-esteem levels consistent through the continued use of learning strategies (Crocker, 2006). Hence, the examination of learning strategies in relation to self-esteem proves pertinent as positive self-esteem, as depicted here, was shown to encourage the use of learning strategies in efforts to maintain one's sense of efficacy.

To conclude, investigations around the social, academic/professional and personal levels, wherein self-esteem was shown to influence learning, proved that indeed there is a relationship between self-esteem and learning. Numerous authors examining self-esteem and learning additionally acknowledged how these two factors impact on each other especially during the transitional stage from a secondary school to a tertiary institute (Cliff, 1995; Meyer, Dunn & Sass, 1992; Upcraft, *et al.* 1990). For this reason, this study also examines how such a significant stage influences self-esteem as well as learning and shall now be explored.

2.4.3. Self-esteem and learning in the transitional period of higher education

The widely examined transitional period from secondary schools to tertiary institutions have proven to be a significant time for any individual as it brings with it challenges as well as transformations in one's personality and character (Ballinger, 2003; Cassim, 2005; Cliff, 1995; Felder, *et al.* 1995; Human Sciences & Research Council (HSRC), 2004; National Resource Center, 2006; Railton & Watson, 2005; Smith, 2002; Tinto & Goodsell, 1993; Vermunt, 2005; Waters, 2003). Ballinger (2003) and Waters (2003) maintain that the transition from secondary school to university is a challenging and

difficult process as students are forced to readapt their responsibilities towards their own learning as well as dealing with new modes of teaching. Lecturers at universities for instance, aim to develop more autonomous and independent learning patterns in students whereas in secondary schools students are largely dependent on their teachers. Hence, the transition between secondary and tertiary institutions, according to a national study (Cape Town) conducted by Cliff (1995), brings with it more 'complex demands' than those which students are familiar with. Upcraft, *et al.* (1990) maintains that this period affects students in four ways. Firstly, it assists in the development of the student's competencies. Secondly, it transforms the relationships that they establish and maintain during their studies. Thirdly it is seen to influence the development of an identity, and lastly assists with decisions made about careers and lifestyle. Investigators in the field therefore question the reasons for this particular life transition being so difficult (Cliff, 1995; Meyer, Dunne & Sasse, 1992).

A study conducted by Grayson (1996, p. 993) at the University of Kwazulu Natal envisage this period of transition as being a 'gap' in which students experience a "discontinuity between the attitudes to learning, amount of work, intellectual environment and so on that are encountered at school and university". Students who enter university begin to experience the disjuncture as they are exposed to deeper approaches to learning instead of the surface approaches that they are familiar with from schools. Whilst deep approaches to learning aim to facilitate critical thinking, surface approaches to learning on the other hand, entail minimal interactions with information taught (Biggs, 1993). Grayson (1996) outlines that one of the reasons for using surface approaches to

learning at schools, especially at disadvantaged schools, is due to the fact that these school systems often experience compounding issues, which include a lack of resources (textbooks, tutors etc.), inexperienced teachers and overcrowded classrooms. This gap, formed as a result of these compounding issues, thereby creates difficulty for students to develop the skills and strategies needed for tertiary education (Cassim, 2005).

The transitional period from high schools to tertiary institutions has not only been shown to influence student's approaches to learning, but has also been proved to impact on their self-esteem levels (Feldman, 2001). Given that the transition from high schools to university brings with it challenges, in terms of learning and adjusting to the new modes of teaching, students often experience decreases in their self-esteem levels. For instance, the student may find their value or self-worth being threatened once at university, as he or she discovers that the skills needed for tertiary study is foreign or more challenging than expected. As a result the student may struggle and experience a drop in self-esteem levels due to the disjuncture in their approaches to learning.

It may therefore be hypothesized, given the literature examined thus far, that the student in response to the psychological pain experienced would attempt to resolve these difficulties in order to maintain positive levels of self-esteem (assuming that the original level of self-esteem before entering the tertiary institution was positive). One way in which the student could improve or develop the skills necessary for tertiary studies may be to interact more with learning strategies, such as the study aids or selecting main ideas strategy. If attention was not paid on working on these weaknesses for example, the

student as well as tertiary institutions may endure various implications. One of these implications is outlined by Dr. Vince Tinto (1982), a professor of Sociology and Education at Sycruse University. Dr. Tinto states that if a student does not feel as though he or she is coping at university in the first year of studying, the chances of drop out at this early stage increases. This increased drop out rate of students at universities, for example, has monetary implications for the university, as decreased throughput of graduates result in universities losing out on much needed funding (Cassim, 2005; HESA, 2007). Hence, both the student and university endure the consequences of this difficult period. Some tertiary institutions however have attempted to bridge the gap of this difficult transitional period by helping students at tertiary level to develop the skills necessary for their various courses (Grayson, 1996). Bridging programs therefore should not only incorporate techniques of increasing students learning strategies, but also equip students to utilise strategies that increase their own levels of self-esteem and as a result, enthusiasm for wanting to succeed at university.

A study carried out by The Human Sciences Research Council (HSRC) (2004) found furthermore that the increasing of student's level of self-confidence and having a positive attitude towards life (by increasing the levels of self-esteem for instance) yielded better performance at tertiary institutions. The HSRC additionally found that in order for the transition between secondary and tertiary institutions to be unproblematic, it is essential that students develop independent and autonomous selves with the support of lecturers as well as the development of skills needed (e.g. learning strategies) (Railton & Watson, 2005; Waters, 2003). Hence, by having students gain the means of developing skills

necessary to succeed with university, one would then in turn be influencing the manner in which he or she may perceive themselves, thereby increasing the degree of self-satisfaction and maintenance of a positive self-esteem.

Lastly, other epistemological studies examining learning strategies and self-esteem also appeared to examine how gender shapes and determines self-esteem levels and/or the learning strategies employed by each gender (Bembenutty, 2007; O'Brian, 1991; Toews & Yazedjian, 2007). The reason for an increasing focus on gender and learning strategies as well as self-esteem is due to the fact that each gender is socialised differently and as a result of these differences, our gender is seen to impact on the manner in which we locate ourselves and behave in societies today (Arias, 2004; Haralambos & Holborn, 2000; O'Brian, 1991). This study therefore aims to examine how each gender differs in relation to self-esteem and learning as studies examining these within a South African context, focus predominantly on a male population group within the Faculty of Engineering (Cliff, 1995). The findings from such studies however, provide information within a particular faculty (that is, BSC Engineering) therefore rendering it difficult to utilise this information whilst understanding other population groups such as the students from a psychology course.

The difficulty with this stems from the fact that students within the engineering science faculty are predominantly male, creating a wider gap in the conceptualisations of how gender impacts on learning. Thus, in attempts to widen the repertoire of information available around gender and learning as well as self-esteem in South Africa, this study

focuses on psychology students within a Humanities Faculty hosting a majority of female students. Comparatively, these would then provide insight into the dynamics of gender, self-esteem and learning which may assist with the development of course programs in the future.

2.4.4. Gender and self-esteem, learning strategies as well as year of study.

More and more investigations focus on issues around gender due to the fact that gender equality has been the aim of many feminist groups including post-modern and radical feminists (Haralambos & Holborn, 2000; Firestone, 1972; Tong, 1998). Females in some parts of the world are entering and participating in a once patriarchal domain (such as going to tertiary institutions) and men are accepting and tolerating this change (Haralambos & Holborn, 2000). This study however focuses on a unique area of gender. That is, on how males and females differ firstly in their levels of self-esteem, secondly, their learning patterns and thirdly how self-esteem in both genders differs over time spent at a tertiary institution.

Firstly, the difference between male and female self-esteem levels has gained a lot of attention and investigation. Despite these investigations however, particularly those examining individuals in the early adulthood stage of development, it appears that no consensus can be reached as to whether one gender proves to have more positive levels of self-esteem over the other. Global levels of self-esteem were seen to vary between positive and negative throughout one's life span as theorists speculate that the various challenges people face during their lives (such as maturation or transitions between high

school and tertiary institutions, amongst others) may be the reason for these fluctuations (Robins, *et al.,* 2002; Schaffer, 2002; Toews & Yezidjian, 2007). Some of these investigations however render it worthy to examine how genders were seen to differ in relation to self-esteem and why authors Teresa Rusillo and Arias (2004) see this as significant for investigation.

A study carried out by O'Brian (1991) on 298 men and 487 women at two universities show that there indeed are significant differences in self-esteem levels between male and female students (O'Brian, 1991). These differences were shown to correlate with various stereotypical ideologies that the students had held. Particularly, the findings indicated that men scored higher on global levels of self-esteem (that included areas of the individual's ability to self-control, body appearance, personal power, body functioning and competence) as compared to women (O'Brian, 1991, 241). According to a similar investigation carried out by Vermunt (2005) on 1279 students at the University of the Netherlands, men tend to restrict their "expressions of negative self-evaluations" as compared to women, thereby magnifying their self-esteem scores. The reason for this restriction of expression may be due to the notion that men believe that if they display their limitations to other people, they would be perceived as weak. Women on the other hand, appear to experience little difficulty expressing their thoughts and feelings related to their perceptions of self, hence easily expressing their dissatisfactions with the different areas of self.

Secondly, Teresa, Rusillo and Arias (2004), who investigated the difference between

males and females learning strategies on 521 students, found that both genders differed on three learning strategies; namely support strategies (also known as the study aids strategy), information processing and self-evaluation strategies (otherwise seen as the self-testing strategy). According to Vermunt (2005), males on average appear to do well on tasks that require undirected learning styles whereas females proved to perform better on tasks that involved direct learning styles. This, therefore, may explain the findings of Teresa, Rusillo and Arias (2004) in which females proved to utilise more study aids in their learning behaviours. Males furthermore were shown to attribute failure in academic studies to external factors such as luck or inadequate training whereas females were seen to attribute failure to internal factors that include ability and effort (Teresa, Rusillo & Arias, 2004). A widely acknowledged reason for the differences in learning between males and females according to Bembenutty (2007) is due to the fact that all through time, males and females were reared and socialised differently and were taught to occupy certain career fields. As a result, males and females developed interests in certain areas which fuelled their will and motivations to pursue career paths that were in keeping with the norms and values. As a result, this motivation and will influenced their self-regulation levels which include keeping checks on learning strategies such as time management, concentration, study aids and self-testing. Thus, these self-regulation strategies appear to be one of the areas that result in individual differences in the two genders (Bembenutty, 2007).

Furthermore, since males from an early age are encouraged to pursue scientific and technological avenues (such as engineering and mechanics) and females are steered

towards the humanities field (that include courses such as psychology and social work) (Felder, *et al.,* 1995), deviations from these societal prescriptions may produce lower levels of global self-esteem. Similarly, the author hypothesises that the male students in this study may, as a result of their course selection of psychology, too prove to have lower levels of self-esteem as compared to the females in the study.

Contradicting these studies however, Zeegers (2001) carried out a similar study but found there to be no difference in the learning strategies of male and female students. The reason for this may be due to the fact that educative environments are beginning to equalise attention on both males and females in guiding their approaches to learning as compared to the past as Noorani (1995) demonstrates in her report, "Barriers to Girls Education, Strategies and Interventions".

Lastly, in attempts to conceptualise whether or not males and females differed in self-esteem levels, as well as whether or not the year of study impacted on these levels over time, the work of Frost and McKelvie (2004) was examined. These authors, who carried out investigations on 227 students in New York, explored whether or not students in elementary school, high school and university differed in relation to their self-esteem levels. Their findings indicated that males overall appeared to have higher levels of self-esteem as the years progressed whereas the female levels of self-esteem appeared to decrease over time. A similar investigation carried out on undergraduate students by Ruth Lo (2002), found that the reason for these differences were due to the fact students developed more proactive coping behaviours in order to deal with the challenges faced at

the transitional period of time spent at tertiary institutions.

Summary

Self-esteem as conceptualised theoretically, locates itself within the area of self-image and has been defined as the worth or value that people assign to themselves (Simmons & Rosenberg, 1973). Proven to be significant to an individual's psychological well-being, self-esteem has been extensively examined within a variety of pedagogical areas. One area that has captured the interest of researchers in the educational field is that of how self-esteem, as an affective variable, impacts on student learning behaviour (Furnham, *et al.* 2002; James & Nightingale, 2005; Lowery, 2005; O'Brian, 1991). According to the work of James and Nightingale (2005) self-esteem appears to impact on students on an academic, social as well as personal level, all of which have been examined. Studies have proved that students with low levels of self-esteem tend to respond negatively to learning, thereby yielding lower results in their studies than those with high levels of self-esteem (Feldman, 2001). Furthermore, self-esteem has been argued to exist in two ways, global and specific (Owens, 1993; Schoenbach & Rosenberg, 1995; Wylie, 1979). Global self-esteem is said to consist of an individual's general perception of self incorporating an overall degree of satisfaction with who they are. It is this type of self-esteem that researchers in the field prefer to examine as this global view of self has been related to an individual's psychological well-being and incorporates investigations on specific self-esteem (Owens, 1993; Rosenger, 1985; Schoenbach & Rosenberg, 1995). Specific self-esteem, on the other hand, consists of the individual's satisfaction with self in relation to certain areas.

Still in the area of self-esteem and learning, studies have shown that the transitional period between high school and tertiary education brings with it many challenges and becomes conflicting to the student when it threatens their worth or value of self (Ballinger, 2003; Feldman, 2001). The reason for this is that we often find that when students enter higher educational institutions, they are often faced with having insufficient or poorly developed skills and learning strategies that are needed at tertiary level. Students who excelled at high school find that there performance at the tertiary institution have decreased causing the student to experience 'psychological pain'. Therefore it seems that it is at this point in the student's life that universities should intervene in order to firstly, bridge the gap between high school and tertiary institutions, in terms of providing training for skills needed (Grayson, 1996), and secondly, prepare the students for the emotional difficulties that they may predictably be faced with at this stage. By assisting students during this stage, the drop out rates decrease thereby influencing throughput that is needed at universities (Cassim, 2005; Tinto 1982).

Lastly, the differences between male and female self-esteem levels as well as the learning strategies that each employ, have also been examined due to the socially constructed nature of these variables (Arias, 2004; Haralambos & Holborn, 2000; O'Brian, 1991). Self-esteem in relation to gender has been a contested issue as studies have not been able to consistently prove whether one gender had more positive or negative self-esteem levels over the other. It appears that the results vary according to context and area in which self-esteem is being examined. A study carried out by O'Brian (1991), for example, found

that males tend to score higher on global levels of self-esteem as compared to females (O'Brian, 1991, 241). A reason provided by Vermunt (2005) for this occurrence, is that males are more inclined to restrict their "expressions of negative self-evaluations" whilst females experience little difficulty in their expression of dissatisfactions with self.

The differences in gender and the learning strategies that are used by each gender have also been explored. Teresa, Rusillo and Arias (2004) in their investigations found that males and females differed on three specific learning strategies, namely the study aids strategy, information processing and self-testing strategy. It was proposed that males tend to prefer undirected learning styles in comparison to females who prefer direct learning styles (Vermunt, 2005). The reason for this difference has been argued to be primarily due to the fact that males and females are reared and socialised differently and are encouraged to pursue particular career fields (Bembenutty, 2007). Hence, due to these modes of encouragement, each gender is motivated towards occupying specific fields in keeping with the norms set out by societies.

2.5. Research Questions

Question 1

Is there a relationship between self-esteem levels (affective factor) and each of the ten learning strategies (LASSI subscales which include affective and cognitive factors) in first year university students?

Question 2

Does self-esteem differ in relation to gender and year of study?

Question 3

Do males and females differ in their selection and use of the ten learning strategies as identified in the LASSI?

Chapter 3: Methods

3.1. Research design

The type of research design that has been utilized within this research study is known as the non-experimental research design (Potter, 1998). This design is characterized and

based on two factors (1) the independent variable (that is gender) was not manipulated within the research and (2) that the study did not utilise a control group (Potter, 1998). The sample consisted of 197 first year Psychology university students taken from the University of the Witwatersrand. The sub-type design that this study was based on is known as the convenience and purposive design[2]. The primary relationship that the researcher examined was between self-esteem perceptions (affective factor) and student learning strategies (that include cognitive and affective factors). In addition the differences between male and female self-esteem levels and learning strategies were also investigated.

3.2. Research Procedure

The researcher followed a number of procedures in order to conduct this study. These processes were as follows; firstly ethical clearance was sought and gained from the Ethics Committee of the Psychology department, the University's Ethical Board (Protocol No. IH60805, see Appendix A) as well as the University's Registrar. Permission from the registrar enabled this study to be carried out on participants from the institutions' student population, a prerequisite for the study. Once permission had been attained the investigator began the process of creating opportunities to access the students and gather the necessary data needed.

Secondly, the researcher approached a first year Psychology lecturer from the university in an attempt to gain access to a Psychology lecture. The rationale for this was so that the

2 The convenience and purposive sampling technique shall be discussed in more detail in section 3.3. Sample.

researcher could present and invite students to participate in the research project without any intimidation from either the investigator or the lecturer. The lecturer was informed about (1) the project's aims as well as (2) the lecturer's absence during the data collection. After gaining the necessary permission to utilise a lecture time, the investigator introduced herself to the students and informed them about the research project (see Appendix B).

The information that had been disclosed to the volunteers comprised of the aims, procedures, ethical considerations as well as the purpose of the research (See Appendix B). In addition to this, their rights to volunteer in the study as well as their rights to withdraw from it at any time were also made clear to them. If not more essentially, the students were also briefed on the confidential nature of the method that would be utilised during the gathering of the data. That is, aside from students being requested not to include any identifying information to ensure anonymity, the questionnaires that were retrieved after completion (indicative of the student's informed consent) would be placed in a container and sealed. Thereafter, this container would be removed onto an off campus location and the material would then be viewed and examined solely by the researcher. Approximately two years after data gathering, the material would be disposed of.

Once the participants were informed about the study, they were then invited to remain behind in the venue indicating voluntary participation in the study. Thereafter each participant received a booklet containing two questionnaires and a characteristics sheet

(Appendix C, D, & E). The instructions for these were then read out to the group and sufficient time (approximately 60-90 minutes) to complete the three items given. As soon as the questionnaires were filled in, the researcher retrieved the material and placed it in the container followed by the necessary procedures that were outlined earlier.

Time was also provided for discussion after data collection so that participants could have the chance to interact with the researcher thereby utilising their experience as a learning opportunity. Participants were then debriefed and the relevant contact details of the researcher as well as the Careers and Counselling Development Unit, were provided if the participants felt the need to gain additional assistance. Finally, students were given an option to provide their email addresses if they wished for feedback on the results gained in the study.

3.3. Sample

The sampling procedure that had been used to gather participants for the study was the convenience and purposive sampling technique which is characterised as being a non-probability sampling technique (Potter, 1998). These two systems allowed the researcher to gather participants fitting significant characteristics required for this study, that is that they were first year university students in a period of transition (from high school to university) and that they were readily available (Potter, 1998). There are approximately 1000 first year Psychology Students at the University of the Witwatersrand, the investigator chose to invite 300 of these students to take part in the study. From the 300 invited, 197 (30%) volunteered to participate (see Table: 3.1) after being informed about

the project and their rights within the study. One hundred and seventy students (25%) claimed that they were in their first year of tertiary education whilst the remaining 27 (5%) maintained that they had already been at a tertiary institution before (coded in this study as 1st year and >1st year respectively). Despite the fact that this study focuses predominantly on first year students, the findings gathered when examining self-esteem scale (through the SES) and learning strategies (through the LASSI) of the >1st year students were compared with the 1st year students when it came to examining learning strategies and self-esteem in order to examine if the year of study at tertiary institutions had any significant influences on self-esteem and learning strategies employed.

Table 3.1.

Total No. of participants in the study

	Total No. 197
Females	139 (71%)
Males	58 (29%)
1st yr of tertiary	170 (25%)
>1st yr of tertiary	27 (5 %)
Total	**197**

3.4.Instruments

A student characteristics sheet and two questionnaires, the Rosenberg Self-esteem Scale (SES) and the Learning and Study Strategies Inventory (LASSI), were utilised to collect the data needed for the research study.

3.4.1. Student Characteristics Sheet- Appendix C

The student characteristics sheet requested only the information relevant to the study, i.e. gender and year of study of the participant. At no point in this questionnaire or in the data collection had the students been requested to provide their name/s, student numbers or any other identifying information that could be linked to the students so as to ensure complete confidentiality.

3.4.2. Rosenberg Self-Esteem Scale (SES)- Appendix D

The first measuring instrument that was utilized was the Rosenberg Self-Esteem Scale (SES) (Rosenberg, 1965) (see Appendix D). The Rosenberg Self-Esteem Scale measures global self-esteem and is one of the measuring instruments commonly used to measure self-esteem in adults. That is, the perceptions of people's appraisals in relation to their abilities and evaluation of personal characteristics (Owens, 1993; Schoenbach & Rosenberg, 1995; Wylie, 1979). Even though there are many instruments measuring self-esteem, the Rosenberg version seemed to be more viable than any other as it focuses on global self-esteem (self-esteem examined holistically) and "contains two components- self confidence [positive self-esteem] and self deprecation [negative self-esteem]" (Schoenbach & Rosenberg, 1995, p. 142). The scale includes 10 items of self acceptance (global self-esteem) whereby respondents were asked to rate on a four-point Likert type scale the extent to which they agree to the statements provided (that is 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree).

The SES has been reported to be high in reliability in a sample of 238 undergraduate international students as test-retest scores showed reliability coefficients of r= .85 as well

as r= .88 respectively (Chubb, Fertman & Ross, 1997) and high figures for Cronbach alphas of .77 and .88 were reported indicating that the SES was a good statistical measure to utilise (Blascovitch & Tomaka as cited in Kirchner, 2003). In other words, these findings indicate that the Rosenberg Self-esteem Scale would produce consistent and reproducible findings if repeated (Potter, 1998). The construct validity, the ability for the measure to examine what it sets out to measure, of the Rosenberg Self-esteem scale is .58 and for convergent validity is .76 indicating that this scale has greater ability to produce converging results (Hagborg, 1993 as cited in Rosenberg, 1995).

Scoring of the SES required that the raw scores for each question be entered into the Excel computer program where each question was assigned a value. In particular, questions 1,2,4,6,7 was scored accordingly; 4 was assigned for Strongly Agree, 3 for Agree, 2 for Disagree, and 1 for Strongly Disagree. The remaining 5 questions were reverse scored wherein questions 3,5,8,9,10 according to the following; 1 for Strongly Agree, 2 for Agree, 3 for Disagree, and 4 for Strongly Disagree (Rosenberg, 1995). The SES scores thereby ranged from 10-40, where 10 was the lowest score (negative self-esteem) and a score of 40 depicted the highest possible score (positive self-esteem) (Rosenberg, 1995). A mid-range score (median) around 21 may be seen as balanced indicating neither an extreme negative self-esteem nor an extreme positive self-esteem.

3.4.3. The Learning and Study Strategies Inventory (LASSI)- Appendix E

The third instrument that was utilized was the Learning and Study Strategies Inventory-LASSI (Weinstein, Schutte & Palmer, 1987) (see Appendix E). The LASSI aims to measure ten learning strategies that are divided into three sections; skill component, self-

regulation component and will component (Weinstein, Schutte & Palmer, 1987). In the skill component are three cognitive strategies; Firstly on the information processing subscale, the individual is measured on the ability to process ideas by mentally elaborating on them and organizing them in meaningful ways. The selecting of main ideas is the second strategy that is examined. This investigates the magnitude of the student's ability to ferret out the important information in a learning situation. Thirdly, the self-testing strategy aims to examine the student's awareness of the importance of self-testing and reviewing when learning material; and the use of those practices. The self-regulation component contains four learning strategies. The first is the time management that examines the extent to which the student creates and uses schedules to manage effectively his or her responsibilities. Secondly, the concentration strategy looks at the ability of the student to focus his or her attention, and avoid distractions, while working on university-related tasks like studying. The third strategy entails the student being measured on their ability to use or develop study aids that assist the learning process. Fourthly, the self-testing strategy measures a student's ability to effectively prepare for an exam and to reason through a question when answering it. The will component encompasses three affective learning strategies. The first strategy is known as the attitude to learn strategy. This strategy examines the student's interest and motivation to succeed at university as well as willingness to perform the tasks necessary for academic success. The second affective strategy is known as the motivation to learn strategy that measures the degree to which the student accepts the responsibility for performing those tasks by utilizing self-discipline and hard work. The last strategy is known as anxiety and looks at the students' anxiety levels related to the approaching of academic tasks.

The LASSI as depicted by Coertse and Schepers (2004) in their study carried out at the University of Johannesburg, a tertiary institution similar to that of the University of the Witwatersrand, has a high level of reliability with correlation coefficients ranging from . 72 and .82. indicative of a measure able to provide consistent and reproducible results time and time again. Alpha coefficients for the different scales ranged from .68 to .86. and Cronbach alpha coefficients for external control were a high .84 (the ability to be able generalise, to a great degree, the findings from one population towards other similar populations) and a high .84 for internal control (which is indicative that the measure has minimal sources of errors) and a high .87 for autonomy (measuring what it is set to measure solely) respectively (Coertse & Schepers, 2004). All of these figures prove to be high in reliability and validity thereby rendering the LASSI a proficient instrument for measuring learning strategies.

Scoring of the LASSI involved adding up the raw scores (that is, the shaded in numbers of the answer sheet e.g. 1 2 3 ● 5) for each of the questions stipulated for the ten different strategies (see Table: 1 in Appendix F). Once all the raw scores had been added from the questions above, they were converted to percentile scores ranging from 01-99 (see Table: 2 in Appendix F) (Weinstein, Schutte & Palmer, 1987). The highest percentile amongst the ten strategies indicated the strategy most frequently utilised by participants whilst the lowest score depicted the strategy that was least employed.

3.5. Analysis of Data

The data gathered from the participants in the study were analyzed using a statistical program called SAS Enterprise Guide. On this program, the descriptive statistical test Mann-Whitney U was carried out in order to examine normality of the data gained. This normality test provides the researcher with information about the distribution of data gathered by the participants in the study in order to ascertain which statistical tests would be best suited for an accurate conceptualisation of the data and an answer to the researcher's questions.

From the descriptive tests carried out, results depicted skewed distributions indicative that non-parametric statistical tests had to be used in order to provide accurate results for this study (see Figure 7-Figure 16 in Appendix G). Particularly, the researcher had to utilise the non-parametric Spearman's Correlation Coefficients test in order to conceptualise whether or not there was a relationship between self-esteem and each of the ten learning strategies (as identified in the LASSI). In addition, the non-parametric Kruskal-Wallis test was used to examine if males and females differed in relation to learning strategies utilised. Similarly, the non-parametric Mann-Whitney U test was used to investigate if self-esteem levels differed for males and females. The findings gained in each of these three statistical procedures shall be examined in Chapter Five.

Conclusion

In conclusion, the methods pertaining to the process of the research investigation followed several clearly defined procedures which aimed at ensuring that the study was scientifically valid and did not pose any threat to the participants in the study. These

procedures were as follows, the researcher had to identify an appropriate research design, sample, instruments as well as statistical procedures that appropriately addressed the research questions defined by this investigation. Furthermore, ethical considerations regarding the implementation of the study had been focused upon and the necessary permission had been gained. This in all, allowed the study to be scientifically valid and ethically appropriate.

Chapter 4: Results

In order to analyse the data that had been gathered in the study, three individual non-parametric statistical tests were carried out. Firstly, the non-parametric Spearman's Correlation Coefficients aimed to gather whether or not there was a relationship between self-esteem and each of the ten identified learning strategies. Secondly the Mann Whitney- U was conducted in order to investigate if males and females differed in their self-esteem levels. Lastly the Kruskall Wallis test was utilised in order to answer the investigators question around whether males and females differed in relation to learning

strategies. The findings on each of these tests shall now be discussed.

4.1. The relationship between self-esteem and the ten learning strategies

Based on the data gathered from the non-parametric Spearman's Correlation Coefficient (see Table 4.1.), results indicated that there was only one significant relationship that existed between the ten learning strategies and self-esteem. That is, the relationship between the motivation to learn and self-esteem with r= .33 with p=.0001. These findings therefore indicate that the self-esteem in students in their first year of psychology had a significant influence on their motivations to learn. However, even though the p-value indicates that there is a relationship between the student's self-esteem and their motivations, the r-value indicates that this is of moderate strength. Furthermore, results from the non-parametric Spearman's Correlation Coefficient also indicated that as students decrease their use of strategies; time management, anxiety, concentration and study aids (as indicated by the negative r-values= -.07, -.07, -.14 &-.05 respectively), the higher one's self-esteem is seen to be. For instance, as the students anxiety decreases over time (as depicted by the negative value r=-.07) it is understood that the more positive one's level of self-esteem would be. Lastly, in addition to these findings, results showed that the correlation coefficients in the remaining nine learning strategies as outlined in the LASSI (that is, attitude to learn, time management, anxiety, concentration, information processing, selecting of main ideas, study aids, self-testing and testing strategies) prove to be very weak in strength.

Table 4.1.

Spearman's Correlation Coefficient between the 10 learning strategies and self-esteem

Self-esteem	r - value	p – value *(p=.05)*
Affective Component (Will Component)		
Attitude	0.08346	0.2792
Motivation	0.33546	0.0001
Anxiety	-0.07877	0.3073
Cognitive Component (Skill Component)		
Testing strategies	0.04413	0.05677
Information processing	0.10355	0.1803
Selecting main ideas	0.04667	0.5456
Self-regulation Component		
Study aids scale	-0.05022	0.5154
Self testing scale	0.07814	0.3111
Concentration	-0.14330	0.0623
Time management	-0.07360	0.3402

4.2. Self-esteem and Gender

The results in this study suggest that majority of the first year psychology students who participated in the study were females standing on a total of 139 students (70%) whereas males made up the minority with a total of 58 students (30%) (see Table 3.1). A greater percentage (89%) of male students scored within the balanced to positive range of self esteem, indicating predominantly healthy perceptions of self-esteem (Table 4.2. also see Figure 5, Appendix G.). The majority of the female psychology students proved to have more positive self-esteems in comparison to the males who participated in the study. In addition, only a small percentage, across both genders (12%) and year of study (5%) scored within the negative range of self-esteem.

Table 4.2.

Gender, self-esteem and year of study

	N. 197	Self-Esteem Levels		
		Negative	**Balanced**	**Positive**
Females	139	2 (1%)	67 (48%)	70 (51%)
Males	58	6 (11%)	49 (89%)	0
1st year of tertiary education	170	8 (5 %)	104 (61 %)	58 (34 %)
> 1st year of tertiary education	27	0 (0 %)	15 (56 %)	12 (44 %)

In accordance with the results gained in the Mann- Whitney U test (see Table 4.3.), males and females were shown to differ in their perceptions of self-esteem where t=3.04 with p=0.0029 (Df=111, μ=1.639). Thus the difference in self-esteem between male and female first year Psychology students at the university indicated that females proved to have higher (more positive) levels of self-esteem as compared to the males.

Table 4.3.

Mann-Whitney U: Gender and Self-esteem

Variable	DF	Mean Square	t-Value	P-Value ***(p=.05)***
Self-Esteem in 1st year students.	111	1.6139	3.04	0.0029

4.3. The difference between males and females in relation to the ten learning strategies

Firstly, the investigator aimed to compare and examine the differences obtained between the averaged percentiles in each subscale of the learning strategies for both males and females (see Table 4.4.). Similarities between male and female students learning strategies were found where both scored highest in the information processing subscale with 26.71% and 25.70 % respectively. Males and females were also shown to have scored lowest in the selecting of main ideas subscale. In other words, both genders proved to experience difficulty in extracting information pertinent to their learning. In addition to this Table 4.4. indicates that the females in the study have better abilities in recognising and utilising Study aids as well as Self-testing strategies as compared to the males in the sample. This indicates that females are more self aware and tend to use techniques such as reviewing for tests and exams. Furthermore, higher scores in the study aids scale depict that females are more likely to search for means of gaining support, such as seeking assistance from tutors or using additional textbooks, in order to add to their knowledge base.

Table 4.4.

Averaged Percentiles of LASSI subscales

Subscales	Males n=58	Females n=149	1st Yr n=170	>1st Yr n=27
Will Component				
Attitude	16.66	16.38	16.54	15.96
Motivation	24	24.37	24.37	23.57
Anxiety	21.56	22.11	22.16	20.57
Skill Component				
Information processing	26.71	25.70	26.01	25.88
Selecting main ideas	12.84	13.76	13.55	12.57
Testing strategies	17.68	17.83	18	16.53

Self-regulation component				
Time management	23.94	23.42	23.71	22.65
Study aids scale	20.64	23.10	22.26	22.69
Self testing scale	20.82	22.51	21.96	21.34
Concentration	22.47	22.21	22.63	20.03

In conjunction to this, it was found that students overall attained highest scores in the information processing subscale with 26.01% and 25.88% respectively. These findings indicate that despite having more experience with the processing of information, such as those students not in their first year of tertiary study, overall, students who were in the first year psychology course had a similar ability in the processing of information, and was the most developed learning strategy from all ten learning strategies investigated. Additionally, results also depicted that both groups of students scored lowest on the selecting of main ideas subscale with 13.55% and 12.57% indicative of the difficulty that the students may experience in trying to master this strategy.

In addition to these findings, Table 4.3.1. indicate that students not in their first year of study at a tertiary institution struggled to control their anxiety and concentration when it comes to learning. In other words, students who were in their first year of study portrayed greater ability to moderate and deal with their anxiety levels as compared to their colleagues who were not in their first year of study. Furthermore, these differences indicated that students who were in not in their first year of study found it difficult to provide optimal focus on the tasks being learnt and may be easily susceptible to interference (such as that of thoughts and feelings) (Weinstein & Palmer, 2002).

Results from the Mann-Whitney U test indicated that males and females in the first year

Psychology course did differ in relation to their learning strategies utilised. However, this was only on one of the ten learning strategies, study aids. In other words, findings show that because the study aids subscale yielded findings of t=-2.20; p=.03 it was certain that there is a difference in the manner in which males and females select or employ study aids to assist with learning.

Table 4.5.

Mann-Whitney U.

Learning Strategy	DF	Mean Square	t-Value	P-Value *(p=.05)*
Affective Component (Will Component)				
Attitude	62.3	1.8542	1.58	0.1197
Motivation	142	-1.908	-1.08	0.2802
Anxiety	94.6	-0.635	-0.18	0.8587
Cognitive Component (Skill Component)				
Selecting main ideas	127	-4.119	-1.71	0.0902
Testing strategies	107	0.1051	0.05	0.9563
Information processing	85.8	5.2887	1.10	0.2726
Self-regulation Component				
Time management	94.1	2.9746	0.74	0.4642
Study aids scale	90.8	-10.21	-2.20	0.0302
Self testing scale	92.3	-5.728	-1.32	0.1916
Concentration	92.5	3.5819	0.87	0.3883

Conclusion

In conclusion, from the simple statistics and tests of normality, non-parametric tests were utilised in order to analyse the data gathered from the study. These tests were the Spearman's Correlations Coefficients, the Mann Whitney-U and the Kruskal-Wallis. From the results gained, it was depicted that only one, relatively weak, significant

relationship existed. That is, between affective factor self-esteem and the affective factor motivation to learn. A difference between male and female perceptions in self-esteem where also found wherein females in the study proved to have more positive self-esteem levels as compared to males. Lastly, despite the findings of males and females scoring highest in information processing strategies and lowest in the selecting of main ideas, it was evident that there is a difference between gender and the types of study aids that each gender employs.

Chapter 5: Discussion

The following chapter aims to explore the findings for the three main objectives of this study. The first concerns conceptualising whether or not there is a relationship between self-esteem and each of the ten learning strategies as outlined by the Learning and Study Strategies Inventory (LASSI). This objective will also allow the investigator to ascertain if the cognitive-affective link, as conceptualised in Chapter Four, still exists today. The second objective of this study is to examine if there is a difference in self-esteem across gender and year of study. Lastly, the study aims to explore if learning strategies between male and female students differs in relation to each other. The discussions in this chapter, whilst focusing on these three objectives, incorporates empirical information gathered from studies outlined in the Literature Review (Chapter Four) as well as the results found in Chapter Three. Each objective shall now be discussed independently of each other.

5.1. Self-esteem and the motivation to learn

The present study examined whether global self-esteem was related to ten learning strategies (that is, processing, selecting of main ideas, testing strategies, concentration, self-testing strategies, time management, study aids, anxiety, attitudes to learn and motivations to learn) that made up cognitive, affective and self-regulated learning strategies. From the results indicated, only one significant relationship was found and that is between self-esteem and the motivations to learn strategy (an affective learning strategy). First year psychology students in the sample indicated that their levels of self-esteem were influenced by and impacted on by their levels of motivation towards their

individual learning processes in two ways.

Firstly, the relationship between self-esteem and the motivations to learn strategy appears to be based on the similar nature of each of the two affective factors. That is, firstly, motivation in general has been argued to affect the manner and degree with which individual's engage with their environments (Turkington & Harris, 2006). Specifically, the motivation to learn has been proved to influence the degree of interaction that the student takes with the learning process (Crocker, 2006). Similarly, global self-esteem was seen to influence an individual's psychological well-being that also results in the amount of energy that the individual allocates to various activities (Rosenger, 1985). Since the levels of both motivation and self-esteem were shown to impact on the manner in which people 'actively engage' with the environment, through behaviours of learning for example, the author relates the relationship found in this study to this similar nature.

Secondly, parallel to the findings gathered from this study, another investigation carried out by Cunningham, Wang and Bishop (2006) found that when a student's level of self-esteem is positive, such as when he or she accomplishes a goal that is of value to him or her (e.g. doing well in an examination), the value of this goal becomes even greater. As a result of this inflation of value placed on the goal, the student would thereby develop the need to maintain the enjoyable feelings, a positive reinforcer, that a positive self-esteem encompasses (Picard, *et al.*, 2004*)*. Many studies therefore depict that this would then result in an increase in the level of motivation in order to maintain or achieve the feelings that are associated with a positive level of self-esteem (Crocker, 2006; Cunningham,

Wang & Bishop, 2006; Harter, 1998). Alternatively, if a student finds that he or she is not meeting the academic requirements, perhaps as a consequence of low motivation and negative self-esteem, the risk of drop out from the institution becomes a probable result (Tinto, 1982).

Crocker (2006), in a similar way, depicts that an increase in self-esteem acts as a positive reinforcer whilst a decrease in self-esteem becomes distressing for the individual. In attempts to therefore protect, maintain and augment self-esteem levels, individuals were seen to utilise learning strategies during their studying (Cunningham, Wang & Bishop, 2006). Using the conceptualisations made in conjunction to the findings of this study, the investigator therefore hypothesises that since the self-esteem levels of 170 first year Psychology students were predominantly in the balanced to positive region of self-esteem, the motivation to learn and thereby succeed in their studies could be a plausible outcome for a majority (66%) of the participants in the study.

Despite the relationship established in this study between self-esteem and the motivation to learn strategy, findings indicated that nine other learning strategies (that is, information processing, selecting of main ideas, study aids, concentration, time management, self-testing, testing strategies, attitudes to learn and anxiety) did not prove to be related to self-esteem. Two plausible reasons may explain these findings. Firstly, examining the nature of the three cognitive learning strategies (information processing, selecting of main ideas and test strategies) as well as the four self-regulation strategies (that is, concentration, time-management, self-testing and study aids), it may be speculated that

since these strategies are influenced by cognitive development as well as years spent in acquiring and practicing of these skills, one may argue that due to the developmental nature of these strategies, affective factor self-esteem would not greatly influence these seven learning strategies as was indicated in the findings (Huitt & Cain, 2005). Rather, it may be speculated that these strategies are largely dependent on cognitive development and time spent in mastering these skills. The explanation for the two other strategies that also showed no relation to self-esteem, that is anxiety and the attitudes to learn, may rest in other confounding variables. For instance, the author speculates that the personality of the individual, such as an overly anxious individual, may impact on the degree to which self-esteem, independently, relates to the amount of anxiety the individual experiences during learning or the attitude that the individual has towards learning processes. According to Turkington and Harris (2006), students who are overly anxious often experience that during studying or even writing exams, they become overwhelmed with anxiety which impacts on their performance levels despite the student having high self-esteem levels or the appropriate attitude towards learning. The increased anxiety levels may have been the consequence of chemical imbalances and/or personality characterisations.

Secondly, an alternate reason for the findings between self-esteem and the nine learning strategies may be due to an unexpected statistical problem known as a ceiling effect or range restriction. Ceiling effects occur as a result of two statistical problems. Firstly, these findings indicate that there is a low variability between the test scores wherein the self-esteem scores as well as nine learning strategy scores are too high (Halette & Duke,

2004). In other words, these results illustrate that the self-esteem instrument utilised in this particular study, the Rosenberg Self-esteem Scale (SES), was not sensitive enough to be correlated with the Learning and Study Strategies Inventory (LASSI). This may be due to the fact that the former hosts only 10 statements that are too broad, not encompassing enough components of global self-esteem, equalling low levels of variability whilst the latter contains 77. The difficulty with the great difference in the number of statements hosted in each scale is that this makes it difficult for each statement in one scale to be correlated with each statement in the other scale. Perhaps, an alternate self-esteem measure such as the Coopersmith Self-esteem Inventory (1975) which encompasses 25 statements in total, could have provided a different set of results thereby portraying the widely accepted cognitive and affective link (Andrews, Garriso, & Magnusson, 1996; Beattie, Collins, & McInnes, 1997; Biggs, 1999; Lander, Walta, McCorriston & Birchall, 1995; Oliver & Trigwell, 2005; Prosser & Trigwell, 1998; Trigwell, Prosser, & Waterhouse, 1999). Nevertheless, this finding proves unique and creates an opportunity for further examination in this area such as by investigating the cognitive and affective link with an alternate group of psychology students using the Coopersmith Self-esteem Inventory (1975).

In sum, this study indicated that self-esteem relates to the motivation to learn strategy in two ways. The first is due to the characteristic of both self-esteem and motivation to learn as being elements that drive human behaviour. The second relates to the operant conditioning effect, where the feelings that arise from having a positive self-esteem, create a desire to maintain that feeling by exploiting whatever means necessary to keep

the self-esteem levels high. The existence of no relationship found between self-esteem and the remaining nine learning strategies were argued to be possibly due to cognitive development as well as a statistical problem known as ceiling effect. With the examination of self-esteem in this study, the author found that males and females showed difference in their levels of self-esteem which shall now be examined in more detail.

5.2.1. Males and females self-esteem levels.

Whilst examining whether males and females differed in relation to self-esteem and whether one gender scored higher in positive levels of self-esteem over the other, the following conclusions were reached. According to the findings in Chapter Three, results indicated, firstly, that there is indeed a difference between males and females self-esteem levels which was in accordance to many other studies located in the literature (Frost & McKelvie, 2004; Polce-Lynch, *et al.,* 2001; Lowery, *et al.* 2005). This study secondly indicated the female students in the first year psychology course had higher levels of self-esteem as compared to males.

The difference between males and females in relation to their self-esteem levels is predominantly due to the fact that each is gender has been known to be socialised differently from the other (Frost & McKelvie, 2004; Sahlstein & Allen, 2002; Polce-Lynch, *et al.,* 2001; Lowery, *et al.* 2005; McKenzie, 1999). From an early age society, media, family and peers all defined the norms and values that each gender internalised. Both males and females were moulded throughout development to fit the gender images that are defined by society and ultimately defined by themselves. One of the norms held

by society, however changing at present, is the fact that males are taught to define themselves in occupations that are more technical and scientific in nature whereas females are usually associated with health and humanity fields (Dossey, *et al.* 1988).

Being in a first year psychology course, the students in this sample may have held various opinions about their positions within the course. Given the understandings reached in other studies around gender differences in self-esteem (Felder, *et al.* 1992; Morgan, 1992; Dossey, *et al.* 1988), the author speculates that the female students in this study were more satisfied with their choice of study in comparison to the males, as it fell within the norms created by societies for females operating within the health and humanities field. These greater numbers of positive and balanced self-esteem levels in the female group is therefore indicative of higher levels of self-satisfaction as compared to the males who were not positioned in a 'male dominated' field of study (such as engineering or mechanics). Due to the higher levels of self-satisfaction in females in the psychology course, the throughput of females in psychology courses at university too is also much greater. A similar investigation carried out by Morgan (1992) on 283 students proved that females were more satisfied with career fields that were not technical in nature (i.e. engineering). The reasons provided for this was that society since the late 1970's early 1980's came to view the profession as being unfeminine and a barrier to the roles that women could occupy (Felder, *et al.,* 1995), a role which included that of being a homemaker.

Additionally, Felder *et al.* (1995) found that females in engineering courses were shown

to report more 'negative experiences' about being in the course as compared to males. Those females who persevere in courses that were technical in nature were found to also show marked regression in their self-confidence and career aspirations. As a result of these negative experiences, Dossey, *et al.* (1988) states that whilst men choose careers that are more 'hands on' and technical in nature, women appear to be more comfortable in careers that stresses cooperation, such as that in the field of Psychology. Therefore the author hypothesizes that the greater percentage of students with balanced to positive levels of self-esteem in the sample were largely influenced by a general satisfaction of being in the humanities field, adhering to the norms prescribed.

An alternate explanation for females showing higher levels of self-esteem in the sample may be due to a general characteristic that has been shown to influence male and female self-esteem levels. According to a similar study carried out by Sahlstein and Allen (2002) females when measured on a global self-esteem scale scored higher on the cognitive aspect of self-esteem (i.e. thoughts about intellectual ability) whereas males scored higher in social and physical aspects (Sahlstein & Allen, 2002). Since the Rosenberg Self-esteem Scale uses statements that do not reflect intellectual or body satisfactions we cannot claim that our result is the 'direct' result of Sahlstein and Allen's (2002) theory. However, when examining the procedures according to which the data collection had taken place, it may be assumed that due to the atmosphere set up during data collection, that is around the gathering of data on cognitive learning strategies, students in the sample may have responded to the items in the Rosenberg Self-esteem Scale as if in reference to intellect particularly. The females, due to this idea set up, may have scored

higher on the global self-esteem scale reflecting Sahlstein and Allen's (2002) theory about females and the cognitive aspects of self-esteem. Should the investigator have chosen to examine an alternate variable, such as body image[3], perhaps the males in the sample would have scored higher on self-esteem due to this atmosphere that would have then been set up. This finding would have then coincided with other investigations such as that of Frost and McKelvie (2004) who found that female perceptions of body image and physical appearance yielded more negative self-esteem results as in comparison to males.

The conceptualisation of male and female self-esteem levels, therefore, appear to be a highly contested issue. Despite their being obvious differences indicated in the literature about their self-esteem levels, particularly due to the fact that both are socialised differently, the context and area of which self-esteem is examined has proved to influence the results gained when examining which of the two has more positive self-esteem levels over the other. The current study proved that females in the first year psychology course, due to self-satisfaction about being in the humanities field, portrayed more positive self-esteem levels as compared to the males, who were not in their stereotypical field of study. Social conceptualisations, however, are not the only facets that are said to impact on the self-esteem levels of students. The year of study that the individual is in has also been argued to play a role in the level of one's self-esteem.

5.2.2. Year of study has an influence on self-esteem

3 Should the reader choose to examine the relationship between self-esteem and body image in male and female students, a paper that proves comprehensive is that titled, "Body image, self-esteem, and health related behaviours among male and female first year college students" by Lowery, *et al.* (2005).

The author therefore, also wished to examine whether the year of study that a student was in influenced their self-esteem levels. Results in chapter three compared the scores of self-esteem levels of students within their first year of tertiary education with those students who were not. The findings indicated that those students who were not in their first year of tertiary education yielded more positive and balanced levels of self-esteem as compared to the students in their first year of tertiary education. This finding coincides with results gained by Ruth Lo (2002) who carried out a longitudinal study on undergraduate students.

Lo (2002) found that students who were in their third year of academic studies had more positive levels of self-esteem in comparison to first and second year students. The reason speculated for this is that students who were not in their first year of academic studies developed, over time, more proactive coping behaviours to deal with the challenges faced by students during the transitional stage. Correspondingly, this study indicates that those students who were not in their first year of study developed higher levels of self-esteem because they felt more comfortable with the complexities that tertiary institutions initially posed to them. Such complexities may have included difficulties adjusting to the social environment, developing their skills for learning and being more confident in themselves and their choice of study. This alludes to the problem faced by students in the first year of tertiary education who are still in the process of adjusting to the difficult transitional period between high school and the tertiary institution (Ballinger, 2003; Waters, 2003).

In South Africa, the transitional difficulties as reflected by Principal Barney N. Pityana

(2004), results from the change in approaches of learning as outlined by government for institutions of higher education. These changes include the goal of having students develop their skills of learning, becoming more flexible and critical in their thinking (Fourie, 2006; Constandius, 2006). Since high schools were shown to encourage more surface approaches to learning, students find that the deep approaches to learning encountered at tertiary institutions are difficult to grasp (Grayson, 1996). As a result of the difficulties experience, students levels of self-esteem drop as they find that whilst they were excelling in high school, their performance levels have decreased. Holistically this dilemma has been linked to high levels of tertiary education drop out (Tinto, 1982)

The transitional period from high schools to tertiary institutions as maintained by Feldman (2001) impacts on students self-esteem levels as students are now confronted with having to develop responsibility for their own learning and to adjust to the new modes of teaching. These, if not resolved through tactful and responsible behaviours, such as seeking additional help from tutors or study aids, would result in students experiencing decreased levels of self-esteem such as with the first year students in the study. Therefore, the students not in their first year of tertiary education, engaged and practiced with more constructive learning strategies that resulted in them having more positive levels of self-esteem. This furthermore meant that students not in their first year of tertiary education attempted to avoid the psychological pain that negative self-esteem levels brought to them, a process known as operant conditioning. Lastly, in addition to examining how self-esteem levels differ according to the year of study, the author aimed to examine whether males and females also differed in their learning strategies as they

proved to differ in their self-esteem levels.

5.3. Males and females and their learning strategies.

Whilst examining whether or not males and females differed in the learning strategies they utilise, only one from the ten learning strategies showed a difference between the genders. The males and females in the study showed difference in the manner in which they select or employ study aids as learning strategies in order to assist with learning. This learning strategy refers to the type of study material and channels of information, such as textbooks, summaries and manuals that individual's may utilise in their learning process. Although the Learning and Study Strategy Inventory (LASSI) measures students efforts in using study aids strategies, the instrument does not explicitly identify which study aids are predominantly used by males or females hence, this study can only prove that males and females differ in the study aids used and not which aids each gender has a preference for. This however, gives way for future studies to examine which particular study aids each gender utilises.

A study carried out by Teresa, Rusillo and Arias (2004) as well as various others also found that males and females differed in relation to the type and degree of study aids utilised (Johnson, 1984; Severiens, & Ten Dam, 1994; Sizoo, Malhotra & Bearson, 2003;Vermunt, 2005; Weinburgh; 1995). It appears that the reasons speculated across these epistemological findings for the gendered differences rest on two common factors. That is that gender-bound

differences in the types of learning strategies employed by males and females may be the result of environmental as well as personal factors (Vermunt, 2005).

According to Vermunt (2005, 207), the manner in which students learn is due to the interplay of environmental and personal factors where the latter "influences cause consistency in the way students learn" whilst the former "[is] responsible for variability". Vermunt (2005) characterises personal factors as pertaining to aspects related to learning such as prior knowledge, attitudes to the course and work habits (Vermunt, 2005). Environmental or contextual factors on the other hand refer to the teaching characteristics (that is, structure, pace and enthusiasm of the teachers/lecturers) as well as course designs, objectives, study skills, freedom of choice, support and learning material. In other words, since female students were shown to have more preference for courses that are in the humanities field, such as that of psychology, the personal factors involved in learning creates more consistent learning behaviours. These consistent learning behaviours include students employing more channels of support, such as consulting tutors or study aids, in order to maintain the personal need to study the course. Thus due to the findings of this study one can claim that the reason proposed for the gender-bound differences, in male and female first year Psychology students, is primarily due to socialisation and internalisation.

Over and above the difference indicated for learning strategies in males and females, results also indicated that both males and females scored highest in the *information processing* subscale. This finding correlates with the results gained by Teresa, Rusillo

and Arias (2004) in Spain, who also found in their examination of 521 students that males and females proved to have higher scores in the information processing strategy. This finding illustrates that the students on entry to university already possessed information processing skills possibly due to the fact that this strategy cultivates over time due to its developmental nature. Weinstein and Palmer (2002) too maintain that both genders are able to create meaning with information learnt through processes such as association. Similarly, results in this study indicated that the lowest scores for both male and female students in their first year of tertiary studies were in the *selecting of main ideas* subscale. That is, both genders proved to experience greater difficulty with extracting information that is pertinent to their learning.

The reason for this finding may be because students in their first year of tertiary studies struggle to extract relevant information from a whole body of information. This may partly be due to the fact that at secondary school levels, significant information is explicitly stated such as in study guides thereby allowing students to gain the necessary information at a quicker pace making the learning process easier. According to Vermunt (2005), inexperienced students find themselves shocked when confronted by large amounts of information, such as when at a tertiary institution, where they would have to extract the necessary information themselves. The student as a result is then expected to develop responsibility for this learning process. Students who do not learn to master this skill through practice over time may find that their learning process takes longer and less work can be comprehended over a fixed time.

Despite these results, an investigation carried out by Zeegers (2001) contradicted this study and many others (Johnson, 1984; Severiens, & Ten Dam, 1994; Teresa, Rusillo & Arias, 2004; Vermunt, 2005; Weinburgh; 1995). Zeegers (2001) found that there was no difference between male and female students approaches to learning. The reason for this, as outlined by Noorani (1995), may be due to the fact that academic institutions are beginning to equalise attention on both males and females in guiding their approaches to learning in efforts of bringing about gender equality.

5.4. Summary

Whilst examining the relationship between self-esteem and the ten learning strategies, only one significant relationship was evident. That is, the relationship between self-esteem and the motivation to learn. This finding appears to correlate with many studies including the recent investigation carried out by Cunningham, Wang and Bishop (2006) (Crocker, 2006; Cunningham, Wang & Bishop, 2006; Harter, 1998). The reasons maintained by Crocker (2006) for this is that an enhanced level of self-esteem acts as a positive reinforcement for the individual and as such, motivates the individual to maintain that level of self-esteem.

Additionally, the investigator wished to examine whether or not the widely accepted cognitive-affective link still existed today (Andrews, Garriso, & Magnusson, 1996; Barr, & Tagg, 1995; Beattie, Collins, & McInnes, 1997; Biggs, 1987; Biggs, 1999; Lander,

Walta, McCorriston, & Birchall, 1995; Oliver, & Trigwell, 2005; Prawat, 1989; Prosser, & Trigwell, 1998; Ramsden, 1985; Ramsden, 1992; Trigwell, & Prosser, 1991; Trigwell, Prosser, & Waterhouse, 1999). From the results depicted, the investigator found that there were no significant relationships between the cognitive and affective factors that were outlined in the skill, will and self-regulation components of the Learning and Study Strategies Inventory (LASSI). The reason for this, as speculated by the investigator, was that a statistical problem known as the ceiling effect or range restriction unknowingly existed in the study. Nevertheless, this rare finding proved unique in that it allows opportunities for research.

This study also indicated that there is a difference in male and female self-esteem levels and that female students, as indicated by Sahlstein and Allen (2002), appeared to have a more positive level of self-esteem as compared to males. The reasons provided for this was that females scored higher on the cognitive aspects of self-esteem whereas males scored higher in social and physical aspects (Sahlstein & Allen, 2002). Interestingly, investigations carried out by Frost and McKelvie (2004), Polce-lynch, *et al.* (2001) McKenzie (1999) Lowery, *et al.* (2005) and Vermunt (2005) proved that males have higher levels of self-esteem as compared to females due to the fact that females have a greater need to conform to the norms around body image and career fields as instilled by society. Furthermore, this study proved that students not in their first year of tertiary education (>1st year) had more positive and balanced self-esteem scores as compared to students in their first year of tertiary education. The reason for these findings as maintained by Lo (2002) was that > 1st year tertiary students over time at university

developed more 'proactive coping behaviours' that assist in dealing with the various challenges that tertiary institutions bring to first year academic students.

Lastly, this study investigated whether or not males and females differed in the learning strategies they utilise. According to the results gained, it appeared that males and females do differ in relation to the study aids strategies they employ. Similar investigations carried out by Teresa, Rusillo and Arias (2004) found that males and females do differ in relation to the type and degree of study aids utilised due to the fact that learning strategies are influenced by environmental as well as personal factors (Vermunt, 2005). Since females are more content with courses that are not technical in nature, the investigator hypothesises that being in a Psychology course provided females in this study a greater desire to succeed. Hence, their increased engagements with various study aids.

Findings in this study as well as Teresa, Rusillo and Arias (2004), indicated that males and females highest scores in the LASSI were for the information processing subscale whereas their lowest score was for the selecting of main ideas subscale. This finding exemplifies the fact that students used information processing skills abundantly at secondary school whereas, because secondary schools create minimal opportunities to practice skills such as selecting of main ideas, students struggle to extract important information from a large body of information (Vermunt, 2005). Contrary to these findings, Zeegers (2001) found that male and female students do not differ in their approaches to learning. The reason for this may be due to the fact that academic institutions are focusing more and more on equal approaches to teaching amongst males

and females as compared to previous patriarchal modalities (Noorani, 1995). Finally, the discussions and literature explored in this study hoped to clarify queries around the importance of self-esteem in learning as well as the significance and influence of learning strategies in first year tertiary institutions, especially in relation to academic achievement and university retention.

Conclusion

To conclude, this study aimed to demonstrate to the reader how a majority of first year psychology students who matriculated in 2005, used learning strategies at higher educational institutions. Not being fully exposed to the implementation of the Outcomes Based Education policy, it may be argued that these students were not amongst those who were able to benefit from a student centred approach. Nor were these students exposed to skills needed for critical thinking during high school that would have prepared them for the rigours of tertiary educational learning (Pityana, 2004). The transition between high school and university for them, as depicted by various authors, may have been a difficult and challenging one (Railton & Watson, 2005; Smith, 2002; Tinto & Goodsell, 1993; Vermunt, 2005; Waters, 2003). Thus, this study aimed to examine whether this transition and its challenges impacted on the students 'global' levels of self-esteem, an indicator of their general psychological well-being. Given that the majority of the students in the study portrayed higher levels of positive self-esteem, with females indicating more positive self-esteem levels over the males, it may be argued that the first year psychology students may have been able to develop during the first semester at university (prior to data gathering) sufficient coping mechanisms to deal with the challenges they had faced

on entry to university. Students who participated in the study as a result of possible coping mechanisms therefore, have indicated through the SES, good levels of psychological well-being (Rosenger, 1985). The hypothesis on coping mechanisms, the author suggests, should be further explored, as insight into how students deal with the challenges of transition would provide valuable information around how students could settle faster in higher educational institutions.

Recognising the significance of self-esteem during learning and the transitional period, the author also investigated whether self-esteem was related to three separate components of learning strategies, namely, the cognitive, affective and self-regulatory learning strategies (Huitt & Cain, 2005; Marton, 1988; Picard, *et al.,* 2004, Vermunt & Verloop, 1999). These strategies reflected the work of other authors in the field as well as well-known theorist in the area of approaches to learning, Weinstein. Weinstein's theory upon examination mirrored the same behavioural perspective incorporated into the objectives of the Outcomes Based Education policy in South Africa. For instance, both argue for a student centred approach to learning and having the student develop responsibility to interact with information and their learning process. Hence the use of Weinstein's (1987) theory as well as instrument for investigating student learning strategies, the LASSI, proved valuable when attempting to examine first year students learning strategies. The findings suggested that first year students were struggling to employ the strategy, selecting of main ideas. This finding coincides with some of the arguments raised around students not being skilled enough for tertiary studies (Pityana, 2004). Since teaching at high schools incorporated surface approaches to learning, students were not able to

engage with material on a deeper level. This thereby made it difficult for these students to extract information that would be relevant to their argument, that would for instance, assist in critically engaging with information.

Whilst recognising the demographic ratio of males to females in the first year psychology course, the author also aimed to examine how one's gender may have played a role in the type of learning strategies that were employed. The study suggested that males and females do differ in a specific type of learning strategy, which is the study aids strategy. Given this finding, the social constructions of gender stereotypes were consulted in order to contextualise how genders differ in their course selections and the type of learning strategies that they employ. It appears that males in the study may have been influenced to a great degree by gender stereotypes about vocational fields, yielding the results gained where males scored lower than females on the positive self-esteem level. Despite Weinstein & Palmer's (2002) extensive examination of learning strategies via the LASSI, it failed to assist the author with understanding exactly what study aids each gender had preference for. This nonetheless, creates room for future investigations.

Chapter 6

Limitations and Recommendations for Future Research

This research report provides insight into the relationships between ten learning strategies and self-esteem, the cognitive and affective components in learning. Investigations around gender differences in terms of self-esteem and learning strategies have also been carried out and implications of one's year of study on learning strategies were also examined. Despite the contributions made in this study, the study was curtailed by restrictions and limitations that made it difficult to fully conceptualise learning, self-esteem and gender in first year university students. Therefore, this section presents the reader with insight into the limitations that have been encountered during this study, as well as recommendations for ways in which other studies could avoid these in the future.

6.1. Theoretical implications

Weinstein's theory of learning in students, though conceptually more compelling than some of the alternate theories explored in the area of approaches to learning, does have limitations with particular reference to the examination of learning strategies via the Learning and Study Strategies Inventory (LASSI) (Weinstein & Palmer, 2002). Firstly, with regards to the findings in this study, that is that males and females differ in relation to their study aids, the LASSI fails to give an account for which study aids they differ in, or which study aids each gender has more preference for over the other. Perhaps a more qualitative account of these could provide insight into the types of study aids that are commonly used is first year psychology students as well as the differences of these across genders.

6.2. Practical implications

The practical implications that the investigator found to have governed this study were of two types, statistical and technical. Firstly, in relation to the cognitive and affective link finding, the author maintains that the unforeseen statistical problem, ceiling effect or range restriction, limited the conceptualisations that could have been reached in this study. The ceiling effect as outlined in Chapter 5 is the result of too many high scores resulting in low variability between the test scores. Perhaps through usage of an alternate Self-esteem inventory such as the Coopersmith Self-esteem Inventory (1975), more relationships would have been depicted, demonstrating the well established link between cognitive and affective factors in the area of approaches to learning. In light of the cognitive affective link being disputed in this study, perhaps it would have been useful to examine the two alternate approaches to learning as has been outlined in various sources of literature. That is, how metacognitive regulation and contextual regulative factors (in the area of approaches to learning) is conceptualised today (Ramsden and Entwistle, 1981; Street, 2006; Vermunt and Verloop, 1999).

Secondly, during the data gathering procedure, the investigator may have set up an atmosphere of concentrating more on the cognitive and intellectual information (with regards to the learning strategies that student's employ) over the affect (emotional) information thereby influencing the students response on the self-esteem scales. One therefore cannot assume that compounding issues, such as which information is relayed first or second during the procedure of data gathering, has no effect on scores. In order to create a sound piece of statistical information, it is significant that researchers become

sensitive to even the mundane things that appear inconsequential in the research investigation. Perhaps, if more emphasis was firstly placed on gathering affective information during the study, males may have scored higher on the positive self-esteem pole in comparison to the females.

6.3. Recommendations for future research

Given the diverse background of students, in relation to the different schools attended and so on, the author firstly recommends that a combination of quantitative and qualitative investigations would assist to take contextual and social factors into account, yielding a much richer body of information around learning in South Africa. The investigation of factors such as prior knowledge and skills gained at high school, secondly, could assist in the conceptualisation of how students at first year university level use acquired skills to cope with the pressures and challenges that this major transitional period bring to students. Thirdly, a longitudinal study would furthermore prove invaluable when examining how student levels of motivation and self-esteem increase over time, as practice and mastery over the challenges faced by students at university, are reached. Lastly, the replication of this study on first year students within other faculties would prove useful, in order to determine if the strengths and weaknesses in learning strategies of psychology students are similar to the strengths and weaknesses of students within other faculties.

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