THE PROVISION OF REMEDIAL ACADEMIC SUPPORT TO FIRST-YEAR DENTAL THERAPY STUDENTS AT MEDUNSA

by

MARTHA PULENG TOKOZILE MOKGOKONG

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SUPERVISOR: PROF I P SONNEKUS

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Student number: **613-439-4**

I declare that **THE PROVISION OF REMEDIAL ACADEMIC SUPPORT TO FIRST-YEAR DENTAL THERAPY STUDENTS AT MEDUNSA :** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

_____ _____

SIGNATURE DATE

(Mrs M P T Mokgokong)

DEDICATION

This dissertation is dedicated to:

Sam, my dear husband, for his undying support and encouragement throughout the years and our lovely daughters, Mokgethoa, Basetsana and Moloko, for their inspiration and understanding.

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THE PROVISION OF REMEDIAL ACADEMIC SUPPORT TO FIRST-YEAR DENTAL THERAPY STUDENTS AT MEDUNSA

By	:	MPT Mokgokong
Degree	:	Magister Educationis
Department	:	Psychology of Education
University	:	University of South Africa
Promoter	:	Professor I P Sonnekus

SUMMARY

The cost of education at institutions of higher education is very high and is exacerbated by the failure rate among first-year students, in particular. Their inability to cope with academic demands is largely due to their lack of preparation as a result of poor schooling in previously disadvantaged secondary schools. In the light of this, this study was undertaken to determine the academic needs of and strategies for remedial academic support to first-year dental therapy students at Medunsa. A literature review provided a theoretical foundation and highlighted various factors which impede effective study. An empirical investigation used a combination of qualitative and quantitative approaches to explore the needs of first-year dental therapy students at Medunsa. The results corroborated the issues addressed by the literature as constraints to students' success. Diverse strategies for providing academic remedial support for first-year students were discussed based on the literature review and empirical investigation.

KEY TERMS

Provision	First-year Medunsa students
Bachelor of Dental Therapy	Remedial academic support

TABLE OF CONTENTS

CHAPTER 1	**OVERVIEW OF THE STUDY**	1
1.1	**INTRODUCTION**	1
1.2	**ORIENTATION**	1
1.3	**ANALYSIS OF THE PROBLEM**	6
1.3.1	**Background information**	6
1.3.2	**Awareness of the problem**	8
1.4	**PROBLEM STATEMENT**	11
1.5	**AIM**	11
1.5.1	**Primary aim**	11
1.5.2	**Secondary aim**	12
1.6	**JUSTIFICATION OF THE STUDY**	12
1.7	**RESEARCH DESIGN**	13
1.8	**EXPLANATION OF CONCEPTS**	13
1.9	**RESEARCH PROGRAMME**	14
1.10	**CONCLUSION**	14
CHAPTER 2	**INTERNATIONAL AND SOUTH AFRICAN STUDENT SUPPORT NEEDS**	15
2.1	**INTRODUCTION**	15
2.2	**INTERNATIONAL STUDENT SUPPORT NEEDS**	15
2.2.1	**Personal needs**	16
2.2.1.1	**Adjustment to campus life**	16
2.2.1.2	**Individually designed programmes**	17
2.2.2	**Non-cognitive attributes**	18
2.2.2.1	**Attitude**	18
2.2.2.2	**Motivation**	18
2.2.2.3	**Self-efficacy**	19
2.2.2.4	**Sleep habits**	20

2.3	**ACADEMIC NEEDS**	20
2.3.1	**Previous academic performance**	20
2.3.2	**Attendance register**	21
2.3.3	**Bridging programme**	21
2.3.4	**Orientation programme**	22
2.3.5	**Learning strategies**	23
2.3.5.1	**Learning tools**	23
2.3.5.2	**Proactive thinking skills**	23
2.3.5.3	**Cooperative learning**	24
2.3.5.4	**Peer tutoring**	24
2.3.6	**Learning disabilities**	25
2.3.7	**Teaching strategies**	25
2.3.7.1	**Classroom tests**	26
2.3.8	**Learning environment**	26
2.3.8.1	**Library usage**	26
2.3.8.2	**Media usage**	27
2.3.8.3	**Physical facilities**	27
2.3.9	**Scholarship programme**	28
2.3.10	**Conclusion to academic needs**	28
2.4	**SOUTH AFRICAN STUDENT SUPPORT NEEDS**	30
2.4.1	**Introduction**	30
2.4.2	**Personal need**	30
2.4.2.1	**Command of the language of instruction**	30
2.4.2.2	**Self-assessment and reflection**	31
2.4.2.3	**Attitude**	33
2.4.2.4	**Empowerment**	33
2.4.3	**Academic needs**	34

2.4.3.1	**Selection procedure**	34
2.4.3.2	**Prior knowledge**	34
2.4.3.3	**Academic adjustment**	35
2.4.4	**Learning strategies and styles**	35
2.4.4.1	**Reading strategies**	36
2.4.4.2	**Study habits**	37
2.4.5	**Teaching strategies**	38
2.4.5.1	**Holistic approach to teaching**	38
2.4.5.2	**Group centered approach**	39
2.4.5.3	**Structural adjustments**	39
2.4.6	**Adult centered approach**	40
2.4.7	**Conclusion to South African student**	
	support needs	40
2.5	**SPECIFIC ACADEMIC SUPPORT NEEDS FOR FIRST-YEAR STUDENTS**	41
2.5.1	**Introduction**	41
2.5.2	**Personal needs**	41
2.5.3	**Socio-economic factors**	42
2.5.3.1	**First generation university learners**	42
2.5.3.2	**Funding**	42
2.5.3.3	**University residences**	43
2.5.4	**Academic needs**	43
2.5.4.1	**Teaching strategies**	43
2.5.5	**Learning strategies**	46
2.6	**CONCLUSION**	49

CHAPTER 3	**PROVISION OF REMEDIAL ACADEMIC SUPPORT**	51
3.1	**INTRODUCTION**	51
3.2	**STRATEGIES FOR REMEDIAL ACADEMIC SUPPORT**	51
3.2.1	**Learning strategies focused on cognitive skills**	52
3.2.1.1	**Orientation programmes**	52
3.2.1.2	**Teaching strategies**	53
3.2.1.3	**Learning strategies**	58
3.2.2	**Learning strategies focused on non-cognitive skills**	59
3.2.3	**Conclusion to strategies for remedial academic support**	61
3.3	**REMEDIAL ACADEMIC SUPPORT AT MEDUNSA AND OTHER SOUTH AFRICAN HIGHER EDUCATIONAL INSTITUTIONS**	63
3.3.1	**Introduction**	63
3.3.2	**Medunsa**	64
3.3.3	**University of Limpopo (Polokwane campus)**	65
3.3.4	**Tshwane University of Technology (TUT)**	68
3.3.5	**University of Pretoria (UP)**	69
3.3.6	**University of Witwatersrand (Wits)**	71
3.3.7	**Stellenbosch University (SU)**	72
3.4	**CONCLUSION**	75
CHAPTER 4	**RESEARCH DESIGN**	77
4.1	**INTRODUCTION**	77
4.2	**RESEARCH PROBLEM**	77
4.3	**AIM OF THE RESEARCH**	78
4.4	**OBJECTIVES OF THE EMPIRICAL STUDY**	78
4.5	**RESEARCH DESIGN**	79

4.5.1	**Setting**	79
4.6	**CONSIDERATION OF RELIABILITY AND VALIDITY**	79
4.6.1	**Reliability**	79
4.6.2	**Validity**	80
4.7	**POPULATION AND SAMPLING**	81
4.8	**METHOD OF DATA COLLECTION**	82
4.9	**DATA COLLECTION**	82
4.9.1 **4.9.2** **4.9.3** **4.9.4** **4.10** **4.11** **4.12** **4.13**	**Instruments** **Observation** **Interviews** **Focus group** **PRE-TEST OF TOOLS** **ETHICAL CONSIDERATION** **DATA ANALYSIS AND INTERPRETATION** **CONCLUSION**	82 83 84 84 85 86 86 87
CHAPTER 5	**DATA ANALYSIS AND DISCUSSION OF RESULTS**	88
5.1	**INTRODUCTION**	88
5.2	**THE STEPS IN THE RESEARCH PROCESS**	88
5.2.1	**Sampling: Selection of participants**	88
5.2.1.1	**Educators, focus group interview**	89
5.2.1.2	**Students taking part in the completing of the questionnaire**	91
5.2.1.3	**Focus group interview for students**	92
5.2.2	**The work process: time and duration**	93
5.2.3	**Data collection process**	93
5.2.4	**Analysis of data**	94
5.2.4.1	**Transcription**	94
5.2.4.2	**Coding**	95
5.2.4.3	**Content analysis**	95
5.3	**DISCUSSION OF RESULTS**	96

5.3.1	**Student questionnaire**	96
5.3.2	**Students' focus group interview**	109
5.3.3	**Educators' focus group interview (with examples from raw data)**	117
5.4	**RELATIONSHIP BETWEEN LITERATURE AND EMPIRICAL RESEARCH**	129
5.5	**CONCLUSION**	136
CHAPTER 6	**SUMMARY, FINDINGS AND CONCLUSION OF THE RESEARCH**	137
6.1	**INTRODUCTION**	137
6.2	**SUMMARY OF THE STUDY, FINDINGS AND CONCLUSIONS**	137
6.2.1	**Summary, findings and conclusions emanating from the literature survey**	138
6.2.1.1	**Prior knowledge**	138
6.2.1.2	**Orientation programmes**	138
6.2.1.3	**Scholarship programmes and funding**	139
6.2.1.4	**Teaching strategies**	139
6.2.1.5	**Learning strategies**	141
6.2.2	**Summary, findings and conclusion of the empirical study**	143
6.2.2.1	**Students' questionnaire**	143
6.2.2.2	**Students' focus group interview**	145
6.2.2.3	**Educators' focus group interview**	147
6.3	**FINDINGS RELATED TO RESEARCH QUESTIONS**	148
6.3.1	**The main research question**	148
6.3.2	**The first secondary question**	150
6.3.3	**The second secondary question**	150
63.4	**The result of the empirical study**	151
6.4	**INTERPRETATION**	152
6.4.1	**Primary aim**	152
6.4.1.1	**Career guidance**	152

6.4.1.2	**Academic support from parents**	153
6.4.1.3	**Scholarship and funding**	153
6.4.1.4	**University residence**	154
6.4.1.5	**Teaching/learning strategies**	154
6.4.1.6	**Behavioural attributes**	155
6.4.2	**Secondary aims**	155
6.4.2.1	**The first secondary aim**	155
6.4.2.2	**The second secondary aim**	158
6.5	**RECOMMENDATIONS**	160
6.5.1	**Policy at Medunsa**	160
6.5.1.1	**Educators' training**	160
6.5.1.2	**Orientation programmes**	160
6.5.1.3	**Mentor-mentee programme**	161
6.5.2	**Parents involvement**	162
6.5.3	**Foundation programme**	162
6.6	**MAIN CONCLUSION OF THE RESEARCH**	163
6.6.1	**Contribution of the study**	163
6.6.2	**Limitations of the study**	164
6.6.3	**Matters requiring further research**	164
6.7	**FINAL COMMENT**	164
	REFERENCES	166
	ADDENDA	182

LIST OF FIGURES

Figure 1.1 Factors contributing to student failure

Figure 2.1 International student needs

Figure 2.2 South African student needs

Figure 2.3 Specific needs for first-year Medunsa students

Figure 3.1 International remedial academic supports

Figure 3.2 South African remedial academic supports

LIST OF TABLES

Table 1.1	Swedish scoring guide
Table 1.2	A reflection of failure rate among first-year dental therapy students from 1995-2004
Table 5.1	Summary of educators' focus group interview
Table 5.2	Summary of individual interview participant
Table 5.3	Summary of participants for the questionnaire
Table 5.4	Summary of students' focus group interview
Table 5.5	Summary of identified themes, categories and subcategories with examples
Table 5.6	Summary of links between literature and themes/categories/ subcategories from students' focus group interview
Table 5.7	Core aspects from the literature linked with focus group discussion

ADDENDA

ADDENDUM A	CORRESPONDENCES
ADDENDUM B	STUDENTS' QUESTIONNAIRE
ADDENDUM C	INTERVIEW SCHEDULES
ADDENDUM D	RATIONALE FOR THE INCLUSION OF SPECIFIC ITEMS IN THE QUESTIONNAIRE AND INTERVIEW SCHEDULES

CHAPTER 1

OVERVIEW OF THE STUDY

1.1 INTRODUCTION

The study of the provision of remedial academic support to first-year students at Medical University of Southern Africa (Medunsa) was aimed at providing ways of helping students to cope with their academic programme, by so doing trying to reduce the failure rate experienced by these students.

The need for remedial academic support of students came about by realising that students struggle with their academic programme, especially in their first-year of study. The problems encountered included the use and understanding the language of instruction, adjustment, negative attitude towards studies, study methods and financial support, as reported in the literature (Van Aardt & Van Wyk 1996:188-174, Smith 1987:51-59).

A descriptive research design was used for students at Medunsa. A qualitative research method, selecting suitable participants and adhering to ethical measures was also used, data was analysed in a responsible qualitative manner. Based on these findings suggestions were made for remedial strategies to solve problems found.

1.2 ORIENTATION

In accordance with the Mission statement of Medical University of Southern Africa (Medunsa), it caters mainly for previously disadvantaged black students who come from varying poverty-stricken backgrounds. The students' preparation, even though having obtained matriculation exemption is belaboured with academic want. To this

effect (Delvare 1995:36) reports that black students experience academic problems as a result of their poor schooling system, whereby they are taught by poorly-trained teachers in overcrowded classrooms which are poorly equipped for successful academic programmes.

Huysamen and Raubenheimer (1999:171) attest that students from schools previously falling under the Department of Education and Training (DET) were exposed to the schooling system that was inferior as compared to that of their white counterparts. They also cite Christie (1991) who states that 32% of black teachers are not matriculated, less than 5% have university degrees as compared to white teachers in advantaged schools who all have matriculation certificate and 32% have university degrees (Huysamen & Raubenheimer 1999:171). Thus it is reported that the teaching systems used in these schools are mainly teacher oriented. Students are passive, often mastering the curriculum content by rote learning. Such students are also not critical in their thinking; they do not ask questions, argue or debate issues. They often depend on the teacher for information.

Wallace and Adams (1989) in Huysamen and Raubenheimer (1999:173) put forward cultural customs and mindsets as inhibitors of an independent and enquiring mind. They give an example of a Zulu culture that insists on obedience towards figures of authority, thus children and high school students accept submissively what they are being taught.

Hysamen and Raubenheimer (1999:175) also cite poor command of the language of instruction (English) by black students as a contributing factor to academic failure. Communication still posed a problem in 2002, according to the study conducted by Legotlo, Maaga and Sebego (2002:117). They report that although mother tongue instruction is pedagogically justified students in most schools are still taught through a foreign medium of instruction, which makes understanding of complex concepts more difficult, thus students struggle to understand the language and find it difficult to

understand the subjects. The poor academic preparation is evidenced by a high failure rate in first-year at university (Legotlo et al 2002:11). The problem of medium of instruction is not only experienced in South Africa, as reported by Gumbo (2001:239), students are taught in English throughout the country irrespective of whether they understand the language or not, which negatively affects their academic performance.

Since 1994 several factors that have a negative influence on the learning environment have been highlighted. According to Smith and Schalekamp (1997), as cited by Lethoko, Heystek and Maree (2001:312), students lack motivation to learn, the ability to concentrate in class, language skills, self-discipline and punctuality. They miss lectures, use drugs and weapons, abuse alcohol and they cheat during tests and examinations. They also blame poor performance on poor management of the schools by principals, and lack of preparations for lessons by under qualified educators.

Smit and Liebenberg (2003:2) stress that educators should be more aware of the community realities confronting parents and the students especially students from troubled background. These students tend to leave school prematurely, educators are unaware of their circumstances and they blame their ill behavior and ill discipline as problems emanating from home, therefore the responsibility of parents. Parents in turn believe the schools should shoulder the responsibility. Students end up not receiving the support they require. Masitsa (1995), as cited by Lethoko et al (2001:312), is of the opinion that school environment lack discipline, respect for educators, proper role models within the school and society at large, poor infrastructure and over crowded classrooms with high educator students ratio.

Mnisi and Shilubane (1998), as cited by Lethoko et al (2001:312), maintain that non-supportive home, little parental care and involvement, little intellectual stimulation and illiterate parents are some of the demotivating factors. Van der Westhuizen and Mosoge (2001:190) believe that parental involvement “remains a crucial topic in efforts to enhance school effectiveness”. The authors indicate that the principals are of the opinion that parents in rural and lower social economic areas present a special

problem to parental involvement. Legotlo (1994), as cited by Van der Westhuizen and Mosoge (2001:190), maintains that poor and uneducated parents are reluctant to get involved in school activities because they feel inferior before educators, who are highly educated, knowledgeable and rich. They also regard educators as highly trained to deal with school matters. The authors rank lack of parental involvement as the main cause of poor grade 12 results. Johnson and Wiechers (2002:177), highlight the plight of adolescents of divorced parents, where parents are incapable of providing support and guidance their children need because they are often under tremendous stress. These students are considered as 'population at risk' and they have been observed to have 'deteriorating academic performances, behavioural problems, drug related problems and general discipline problems' (Johnson & Wiechers 2002:177).

The study conducted by Legotlo et al in 2000, confirms that the situation at previously disadvantaged schools has not improved much since 1994. In addition new problems have emerged. The study shows that unclear government policies, lack of staff discipline and commitment, union activities and lack of parental involvement are causes of poor performance in grade 12. In the interviews conducted with principals, educators, chair persons of governing bodies, learners, and officials of teacher union, it was indicated that lack of resources were major causes of poor performance in grade 12. In the study it was also established that very few high schools are well equipped with electricity, libraries, laboratories, water and toilets. The poor equipment in high schools such as lack of science laboratories, absence of chairs to sit on in the classrooms, absence of chalkboards to write on, doors and windows usually broken, all contribute to poor learning environment. Lack of amenities at school is also considered to be a factor contributing to poor academic development. Van der Westhuizen et al (2001:191) cite Kitavi (1995), who indicated that absence of telephone; duplicating machines and typewriters hinder effective communications between parents and school. Principals have to rely on verbal communication, which can easily be distorted. According to Legotlo et al (2002:115), the students' textbook ratio in most cases is 10:1, and many times textbooks arrive late in the year. In the

same study by Legotlo et al (2002:115), the students complained that educators, who are not suitably qualified, confuse them due to lack of knowledge of subjects like mathematics and science.

Added to the burden of poor schooling backgrounds, Delvare (1995:37) maintains that black students have poor management skills. This results in students not being able to seek assistance from their teachers or plan their study periods timeously. Delvare (1995:40) maintains that English as a medium of instruction presents a problem because most black students have English as a second or third language. When these students have to sit in class where English is the only means of communication, problems of understanding content and expressing themselves manifest. This view is also supported by (Hysamen 1999:134); who reports that poor command of the language of instruction by black students is a contributing factor towards academic failure. Ferreira (1995:158) sees transition from school to university as drastic, due to the difference in approach between school and university teaching. School concentrates on acquisition of knowledge while universities require the application of knowledge and independent study. He also attributes the problem to too big a ratio between lecturer and students, because too large a class does not allow individualised instruction. He reports that students from disadvantaged background are the ones experiencing the greatest difficulty in adapting. Their problems range from study methods to emotional problems. Students have to adjust to different teaching methods, new skills need to be mastered and they have to discover what is expected of them in terms of standard of work and how to go about achieving those standards. They also have to organise their own study.

Delvare (1995:37) cites economic factors as another contributing factor to academic failure. He reports that ignorance of the cost involved in tertiary education among blacks is a factor in academic development, as most of the students spent time chasing after financial assistance instead of studying. Few of them experience peace of mind, which is needed for effective studying. This view is supported by Agar (1990: 448) as

students' parents struggle to support them financially during academic life, and to augment the parents' earnings these students are forced to work part-time. The money still does not cover all the expenses such as tuition, textbooks and meals adequately. The financial burden thus affects students' quality of life in general.

Paul (1996) as cited by Legotlo et al (2002:115) reports that increased hours of employment in order to relieve financial burden and living in temporary accommodation, which is not a students' residence, contribute to academic failure of students in higher educational institutions. Poor students also struggle to obtain bursaries, loans or grants, as their academic performance is poor for merit allocation and do not have surety for grants.

1.3 ANALYSIS OF THE PROBLEM

1.3.1 Background information

At the Medical University of Southern Africa, dental therapy students in their first-year have to pass Biology 1, Biophysics 1, Chemistry 1 and Human Sciences (Psychology). The selection of these students is based on science subjects passed in high school and the teaching is also based on previous learning and familiarity with the use of laboratories for experiments. Some of the students who are admitted into the programme at the Medical University of Southern Africa have been excluded from the basic science programme due to their inability to cope with academic activities in the science faculty. The academic staff in the dental faculty is mainly white from historically advantaged institutions. English is the medium of instruction, thus communication problems and cultural misunderstandings form part of the problem.

When I reflected on the selection criteria for dental therapy students it is based on students obtaining matriculation exemption with at least a symbol D on higher grade in any two of these subjects: mathematics, biology, physical science or symbol B on a

standard grade in two of the said subjects. The selection is based on the Swedish score rating of 10.

The score is calculated in accordance with the guide provided below (see Table 1.1).

TABLE 1.1 SWEDISH SCORING GUIDE

Symbol	Higher grade	Standard grade
A	8	6
B	7	5
C	6	4
D	5	3
E	4	2
F	3	1
G	2	0
H	1	0

This therefore means that a student who has a symbol lower than D or B respectively will not be selected, but those with a symbol higher than D or B are selectable. At the dental therapy programme, students in their first-year have to pass Biology I, Biophysics 1, Chemistry and Human Science (Psychology). However, in spite of the above selection criteria the failure rate is still increasing.

TABLE 1.2 A REFLECTION OF FAILURE RATE AMONG FIRST-YEAR DENTAL THERAPY STUDENTS FROM 1995-2004.

Year	Total no. of students	Pass%	Fail%
1995	46	50	50
1996	31	61	39
1997	40	52	48
1998	57	63	37
1999	41	53	47
2000	45	52	48
2001	31	70	30

2002	12	42	58
2003	20	45	55
2004	9	47	53

In the above table there is a varying degree in performance. In 1995, the indicator of performance shows that the failure rate was very high; the same was the case in 1997, 1999, 2000, 2002 and 2003. Only three academic classes (namely 1996, 1998 and 2000) an acceptable pass rate was achieved.

1.3.2 Awareness of the problem

Dental Therapy students have Radiology as one of their learning areas. This learning area has both a theoretical and a practical component. The researcher as part of the staff member in the Radiology section comes into contact with students mainly during clinical sessions, where practical work is carried out. Students are supervised to ensure that patients' dental radiographs are of diagnostic value. Due to the supportive nature of staff in the Radiology section and mainly because most of the staff members are black, learners speak openly about their problems, frustrations and experiences. They complain about coping with the amount of work, not understanding the learning content, about their financial problems and about academic staff members who are not sympathetic towards their problems.

The present researcher realised the enormity of what the students are going through. What contributed to the inability to cope with the learning content seemed to be the problem of understanding the language of instruction. Students seemed to be finding it difficult to express themselves properly, in English, and most of them did not posses a dictionary to look up unfamiliar words. Thus if they were studying and they do not understand learning content they just proceeded to the next section. They expressed the frustration of not being able to recall most of what they have studied.

They also pointed out not understanding much during the lecture sessions. This highlights the need as a lecturer to consider using other teaching strategies. Failure to address the students' problems will increase the attrition rate and that will impact negatively on the profession.

Managers at Medunsa were consulted concerning the acceptable pass rate of students, and various opinions were raised. According to the Outcome Based Education (OBE) all students are supposed to pass, because early identification of learning problems should be done and intervention strategies put in place. However if you have a large number of students in the classroom in the region of 100 and above, it becomes problematic to apply the principles of OBE, which requires individualised teaching and group work. In such cases some managers feel that a 50% pass rate is acceptable, others feel that because the students' problems are only going to be realised after the test results are available and intervention strategies cannot be carried out in the classroom due to their large number, the institution should be informed and students who have obtained low marks be referred to remedial academic development centers. A pass rate of 70% is then acceptable. Managers feel that in classes with fewer students where individualised teaching could take place then 80%-100% pass rate is desirable.

Figure 1.1 Factors contributing to student failure

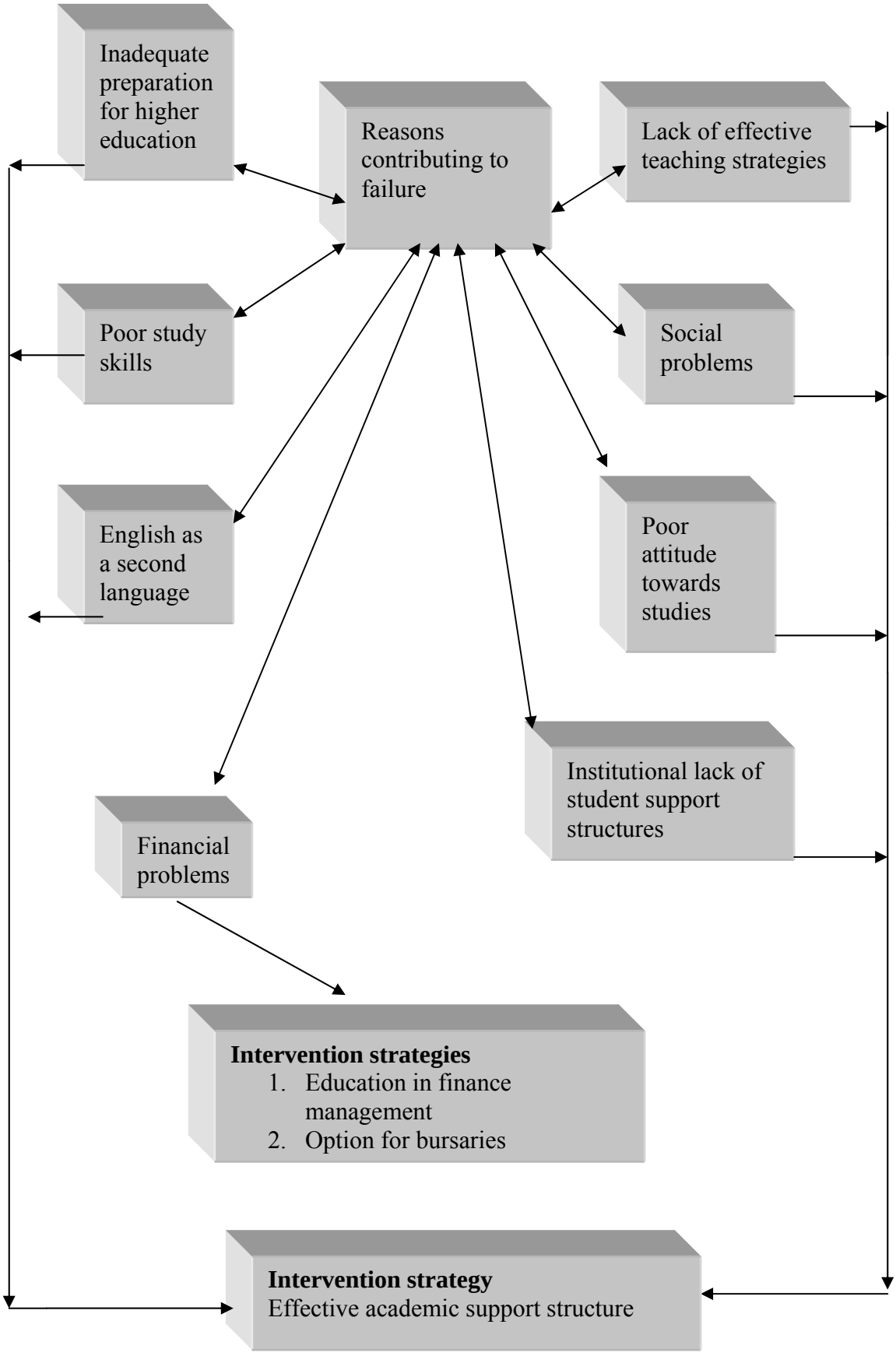


Figure 1.1 above shows the problems that contribute to poor academic performance of the students. Medunsa students experience some of the problems that have been highlighted by both the national and international researchers. In most educational institution of higher learning where the medium of instruction is the second or third language, students struggle with understanding the learning content. The problem is compounded by ineffective learning strategies, problem of social adjustments, ineffective teaching strategies. These problems are also encountered internationally. Effective academic intervention strategies that could assist the students in improving academic performances are also indicated.

1.4 PROBLEM STATEMENT

Based on the background information given in Section 1.2, this study intends to research the problem: How can adequate remedial academic support be provided to first-year dental therapy students at Medunsa?

1.5 AIM

1.5.1 Primary aim

The primary aim of the study is to:

i. Identify the needs of first-year dental therapy students at Medunsa, which relate to their poor academic performance.
ii. Identify problem areas related to these needs, which should be addressed in the remedial support programme.
iii. Recommend strategies that can be used to minimise the failure rate of these students.

1.5.2 Secondary aim

The secondary aim is to do a literature study on both international and national findings regarding the needs Chapter 2 and provision of academic support Chapter 3. The findings of the study will be communicated through written reports to the relevant faculty in the institution and the student development center within the institution.

1.6 JUSTIFICATION OF THE STUDY

University education is costly and students who fail incur a lot of debt, which most are unable to pay because of their social-economic backgrounds. The university in accordance with the university funding loses a lot of money if students fail, worse still if they are suspended for a period of two years, due to academic failure within the same study programme for two consecutive years. Ferreira (1995:154) supports this view when he says that stringent budget makes it difficult to give subsidy to students at tertiary institutions. Therefore high failure rate and drop out of students can no longer be afforded.

According to South African Post Secondary Education (SAPSE) funding formula, government does not fund institutions according to student head count only; other factors like subjects enrolled for, time taken by a student to complete a course and exclusions are considered (Stumpf 2001:3). According to Till (2000:62), State (Government) funding for students is being reviewed whereby this is going to be tied to the attainment of stated targets. Therefore this means that, in future, institutions will be funded according to output. The non-completion and prolongation of programmes by students entering educational institutions of higher learning will affect funding of those institutions that seem to have admitted poor performers. Several authors have put forth views about students' performance at educational institutions of higher learning. Dhaliwal (1977:19) states that the two factors that contribute to academic performance are cognitive (intelligence) and non-cognitive issues like environment, personality and economic standing. He maintains that even though

intelligence plays an important role, where it remains constant, other causes should be looked into.

1.7 RESEARCH DESIGN

A descriptive exploratory research design was used to analyse the needs for remedial academic support among first-year dental therapy students at the Medical University of Southern Africa. The literature investigation as well as the empirical research was done Based on these findings suggestions were made for remedial strategies to solve the problems found.

1.8 EXPLANATON OF CONCEPTS

In this study the following concepts will refer to:

- Provision: the act or an instance of supplying or equipping students with necessities to succeed.
- Remedial academic support: affording the students the necessary help to assist them to be able to progress with their academic programme with minimal hinderances.
- First-year Medunsa students: students enrolling at Medunsa for the first-year of academic studies, particularly in the dental therapy programme.
- Dental therapy course: Bachelor of dental therapy is a three year degree programme and one of the three courses offered by faculty of Dentistry. Dental therapy course differs from dentistry in that dental students complete their course and become doctors. Dental therapists on completion of their course do not become doctors. Though they can work independently of dentists their scope of work is limited. It involves extraction, fillings and cleaning of teeth. They refer the complicated dental procedures to the dentists.

1.9 RESEARCH PROGRAMME

The study consists of six chapters:

Chapter 1 dealt with orientation about the first-year dental therapy programme at Medical University of Southern Africa (Medunsa). Factors resulting in poor academic performances of the students were highlighted supporting literature was consulted.

- Chapter 2 dealt with international and national students' support needs.
- Chapter 3 dealt with the provision of academic support at southern African and international levels.
- Chapters 4 described the research design and explained the methods used.
- In Chapter 5 the collected information was conveyed and the results provided were analysed and discussed.
- Chapter 6 provided a summary of the main facts found in the literature review as well as summary of the research results. Recommendations were made on the basis of the analysed and interpreted data, limitations of the study was pointed out.

1.10 CONCLUSION

This chapter introduced the study and explained the research problem, justification for the study and its aims. The research design and methodology were described briefly. In Chapter 2 the international and South African student support needs are discussed.

CHAPTER 2

INTERNATIONAL AND SOUTH AFRICAN STUDENT SUPPORT NEEDS

2.1 INTRODUCTION

The need for remedial academic support for first-year students in higher education institutions is due to various reasons, which causes students to perform poorly. From the international perspective, personal and academic needs such attitude, motivation, individually designed programmes, poor study strategies, learning disabilities; academic and campus adjustment problems are identified as causes for poor academic performance for first-year students. Local research and my observation indicate that South African higher education institution students who come mainly from a disadvantaged background share common problems which lead to poor academic performance. These problems are due to poor high schooling and poor language proficiency; as to many of these students English (the medium of instruction) is their second or third language. Further they have poor study skills, lack of motivation, lack of career guidance, lack of parental support and poor socio-economic conditions, because many of these students come from poor families with uneducated parents.

Much research has been undertaken to find reasons for the high failure rate of first year university students, and many ways of supporting students by addressing their needs in the learning process have been identified. A literature review on international and local research regarding students' support was done. These reviews are reported on in the next two sections.

2.2 INTERNATIONAL STUDENT SUPPORT NEEDS

In order to ascertain the status quo of remedial academic support, it is necessary to look at the personal and academic needs of the students. The following emerged

regarding these needs of higher education institution students at the international level.

2.2.1 Personal needs

Different international researchers report contradictory findings regarding students' needs such as motivation, orientation programmes, bridging courses and residential learning communities. There are differences of opinion whether these solutions to address these needs have a significant effect on alleviating students support needs.

2.2.1.1 Adjustment to campus life

According to Rickinson and Rutherford (1996:13-25), the main factor influencing withdrawal rates is the degree to which students can adjust to the new academic and social demands of the university environment. According to Lau (2003:2), students might be overwhelmed by the transition from high school to higher education institution, to such an extend that they become overly stressed by this dramatic change; as a result their academic performance will be severely affected. Wratcher (1991:170-177) supports this view. He is of the opinion that in order for students to achieve in their freshman year, they need to overcome academic adjustment problems, hence the need for academic and social support programmes.

According to (Gaffil 1997) as cited by Lau (2003:3), students need to be encouraged to enroll in programmes aimed at helping them to adjust to campus life, as well as life away from home. These programmes "have been found to produce higher academic achievements, increased students satisfaction and increased student retention". This view is supported by Fidler and Moore (1996:7-16), who are of the opinion that both freshmen seminar and living on campus reduced fresh men dropout rates significantly, than for the students who did neither. Kanoy and Bruhn (1996:7-23), also point out that freshmen housed in a living and learning residence hall have a higher grade point

averages in all four semester courses of the second year of college as compared to those who did not. Their study pointed out that the experimental group did not however have a higher retention rate. Skahill (2003:39-52) supports this view, as he is of the opinion that the role of social support networks is more beneficial among residential students as compared to commuter students. The finding of their research indicated that commuter students are less likely to persist, while residential students who reported making greater numbers of new friends, with connections to the school, reported attaining personal and academic goals at a significantly greater rate. Edwards and Mc Kelfresh (2002:395-402) attest to this view. They maintain that living in living and learning centers have a positive impact on academic success of students, especially on the rate of persistence for non-white students with poor academic performances, who are the focus of the Edwards and Mc Kelfresh study. To this effect Schroeder, Minor and Tarkow (1999:37-39), are of the opinion that an effective partnership for promoting students' success can be attained through the creation of residential learning communities.

On the other hand, Pike, Schroeder and Berry (1997:609-21) found that residential learning communities did not improve students' academic achievement and persistence directly, but indirectly improved students' success by enhancing their incorporation into college. A third opinion offered by Grayson (1997:1-23), who maintains that the freshmen grades of off campus students were higher than those of on campus students. In the same vein, Grayson found that students living with parents had better classroom involvement.

2.2.1.2 Individually designed programmes

These are programmes which allow the students to study at their own pace until they master the learning content, before proceeding to the next level. They are not restricted to a fixed programme.

Maudslay (2002:2), attest to the importance of individually designed programmes, but she also points out the challenges that go with such programmes. The author is of the opinion that it is much easier to measure attendance, progress and evaluation if students regularly attend day center, or follow a fixed term education course, than when they are following a more individually designed programme.

2.2.2 Non-Cognitive Attributes (Learning strategies focused on non-cognitive attributes)

2.2.2.1 Attitude

Attitudes that students have towards academic studies play an important role in their success or failure at institutions of higher learning. House (1995:473-90) is of the opinion that learning strategies focused on non-cognitive attributes such as initial attitudes were significant predictors of' students' performances better than college admissions test score. Bryant (1996:2-8) attests to this by citing late registration of students as revealing themes in students' attitude. The results of his study showed that among students that registered late, a percentage never made it to the fifth day in class, some withdrew officially and others were withdrawn administratively for failure to complete the forms.

2.2.2.2 Motivation

Research has shown that motivation plays an important role in students' success. According to the study by Svinicki, Hagen and Meyer (1996) cited by Lau (2003:6), students need to be motivated because motivation is a prerequisite for students learning. The authors are of the opinion that students who perform poorly during their first-year of study, lack motivation and are the ones to drop out of school in their first-year of study. Lau (2003:2), attest to this view. He is of the opinion that students lack the motivation to do well in school mainly because they do not understand the

importance of education. They also do not know how to apply classroom-learned theories to real life problems. Thus they fail to understand the importance of education. The author also feels that students need to be made aware about the important role that they should play, to be able to interact effectively with the learning content, in order to succeed with academic work. To attest to that Lau (2003:6), is of the opinion that students need to actively explore all opportunities offered by the campus community in order to achieve a sense of belonging and to adjust to the new environment easily.

Stage and William (1990:16-322), also attest to the important role motivation plays in academic success. They feel that students, who listed cognitive reasons as primary motive for enrolling in institution of higher learning, experience a significant decrease in scores for cognitive motivation during first-years of college.

2.2.2.3 Self-efficacy

Vrugt, Hoogstraten and Langereis (1997:61-72), are of the opinion that academic self-efficacy and personal goals contribute to positive academic performance. This view is supported by Chemers, Hu, Li- tze and Garcia (2001:55-64), who indicate that self-efficacy and optimism are strongly related to performance and adjustment, both directly on academic performance and indirectly through expectations and coping perceptions on classroom performance, stress, health and overall satisfaction and commitment to remain in school. Coffman and Gilligan (2003:53-66), attest to the importance of self-efficacy. They are of the opinion that students who reported higher levels of social support and self-efficacy and lower levels of perceived stress, report high levels of academic achievement. Stress can also be related to bad sleeping habits.

2.2.2.4 Sleep habits

According to Brown and Buboltz (2002:411-16), academic difficulties are related to sleep habits. Students need to be made aware that odd patterns of sleep have a negative effect on their academic performances. The authors point out to the need for student sleep education programme, to be incorporated into universities first-year orientation classes, as part of residential housing programme.

A further literature study revealed that apart from the personal needs of students, which were discussed in the above section, the academic needs of students also impacted on their academic success. These academic needs are discussed in the next section.

2.3 ACADEMIC NEEDS

Research has shown that most students do not perform well in higher education institutions; due to quality of instructions they received in high schools, with regard to mathematics, science, critical thinking and study skills. Thompson and Joshua-Shearer (2000:1-15), maintain that much has to be done to improve the quality of instructions that students receive in high school.

2.3.1 Previous academic performance

According to Mc Kenzie and Schweitzer (2001:21-33), previous academic performance is the most significant predictor in predicting university grades. Hermmings, Kay and Hill (1998:17-22) are of the opinion that high school academic achievement and college course satisfaction are the most important predictors of continuation to university. Griffith and Meyer (1999:103-14) examined the Texas Academic Skills Programme (TASP). This system tests freshmen entering Texas

public colleges, and they conclude that although TASP is a valid diagnostic tool, emphasis should be on improving secondary school performances.

Research has shown that most students are unable to handle the freedom that comes with being in a higher education institutions. Unlike in high schools where class attendance is compulsory, higher education institutions do not enforce it, thus in most cases non-attendance of classes impact negatively on the students' academic performances.

2.3.2 Attendance register

According to Shimoff and Catania (2001:192-195), attendance to classes has also a bearing on academic achievement. Thus there is a need for record attendance register for students, as the study showed that students who sign in, attended classes more often and have increased overall academic performance than those who attended less frequently. This view is supported by Trice, Holland and Gagne (2000:179-182), whose study has indicated that voluntarily class absence contribute to poor academic performance by students.

2.3.3 Bridging programmes

Talib, Janor, Ahmed and Aljunid (1999:205-13), feel that students who participate in a bridging programme in lieu of the required secondary level mathematics and science courses had better grades in first-year engineering courses than those who did not. Thus this indicated that bridging programmes are effective. Research has shown that orientation programmes also play an important role in helping students to succeed at higher education institutions.

2.3.4 Orientation programmes

Starke, Harth and Sirianni (2001:137-145), feel that students taking an orientation course fared significantly better in retention, graduation rate and grade point average than students who did not take the course. Wilford, Chapman and Kahrig (2001:327-40), support the notion that an extended orientation course for first-year students leads to higher retention and graduation rates. Students enrolled in the first-year orientation programme, were similar to a comparison group as far as age, sex, standardised entrance scores, degree objectives and group point average. They attempted more courses, and showed a better retention rate and had higher completion rate than the comparison group, hence the need for such seminars (Hoff 1996:33-42). However (Simmons 1995:8-14) is of the opinion that the only effect that freshmen seminar has, is the retention of low achievers rather than the underachievers.

Odell (1996:16-32) believes that students who attended non-credit first-year orientation programme, where they are taught study and coping skills, they are familiarised with campus facilities and provided with information about drug and alcohol use were less likely to experience academic difficulty and they dropped or failed fewer courses. Murtaugh, Leslie and Schuster (1999:355-71), maintain that attrition increases with age and non-resident status, and decreases with attendance in a freshmen orientation course.

Picklesimer, Miller and Carver (1999:56-61), point out that for first-year orientation programmes to be effective; they need collaborative efforts among academic departments and student affairs practitioners in structuring these programmes. This will enhance students' academic and intellectual development. They maintain that collaboration offers special opportunities for promoting positive educational and developmental experiences, for both faculty and student affairs staff members.

2.3.5 Learning strategies

Research has shown that students need good learning strategies to succeed at higher education institutions. Thompson and Gerer (2002:398-402) contend that students need good study strategies, in order to be analytic and know how to read study materials. Turner (1992: 129-134) is also of the opinion that students need effective study skills and positive attitudes towards learning. He also acknowledges the need for developing students' study behaviours, and feel that the application of these behaviours will help students to achieve academically. Students also need to be equipped with learning tools to improve their academic performances.

2.3.5.1 Learning tools

Learning tools such as orienting and self-judgment should be taught to students as study and problem solving skills in order to positively enhance their academic performances. Norton and Crowley (1995:307-28), feel that by attending essay writing and test taking skills students will have more sophisticated concepts of learning than those who did not attend.

2.3.5.2 Proactive thinking skills

Kirby, Kirby and Lewis (2002:1538-1549), maintain that students need proactive thinking skills to perform well academically. Randall and Grady (1998:29-37), support this view they are of the opinion that students need critical thinking skills to succeed in learning communities.

2.3.5.3 Cooperative learning

Cooper (1995) as cited by Lau (2003:5) feels that cooperative learning increases students' satisfaction, cognitive skills and active participation. Besides cooperative learning Lau (2003:4), cites Brace and Roberts (1997) who attest to collaborative learning as a dynamic learning process. According to the authors collaborative learning is a students-centered and task oriented learning process, which involves active students and educator participation. Besides educators, students learn more from their peers.

2.3.5.4 Peer tutoring

House and Woht (1991:135-142) maintain that under prepared students benefit more from peer tutoring to help them to achieve academically. Although the authors refer to minority under prepared students, experience has shown that the majority under prepared students can benefit as well. Students can easily interact with peer tutors than with educators where the content is not clear to them. Benware and Deci (1984) as cited by Lau (2003:6) support the view that peer tutoring is another form of learning. By teaching other students, help peer tutors to learn as well, because it increases peer tutors involvement in the learning process and increases their better understanding of the learning content. Students on the other hand need appropriate role models or mentors in the academic environment to help them to aspire to succeed. Lau (2003:7), support this view by attesting that continual positive contact with role models like educators and fellow students in the academic institution, help students to succeed and excel in classroom learning. Thus it is important that educators and other students react positively even to students who are not always successful or have learning disabilities.

2.3.6 Learning disabilities

Reyes (1997) as cited by Lau (2003:2) indicates the importance of academic and career advisors towards the success of student retention programmes. Institutions need to provide individualised and general support services to be able to assist students with all types of learning disabilities. It is thus important that the institutional administrators focus on developing and implementing academic and social programmes that will help in promoting every student's educational growth.

To this effect Hartman-Hall and Haaga (2002:263-274), are of the opinion that students need to be able to seek help if they realise that they have learning disabilities. The authors feel that students with learning disabilities demonstrate poorer academic adjustment to higher education institutions than those without learning disabilities. These students need to be encouraged to perceive their learning disabilities in a less negative way. Hartman-Hall and Haaga (2002:264), maintain that the views held by students about their learning disabilities affect their help seeking behaviours. Students, who perceive their learning disabilities in a less negative way, have better academic concepts and thus have a greater likelihood of seeking academic assistance. The authors are also of the opinion that students with learning disabilities are likely to seek help, depending on the reactions they receive from educators and other students. Positive reactions from educators to a request for help will encourage these students to seek further assistance.

2.3.7 Teaching strategies

In order for students to learn effectively, educators need to use various teaching strategies. According to Francisco, Nicoll and Trautmann (1998:210-213) research findings, multiple methods of teaching foster the metacognitive skills necessary for mastering the learning content. The researchers indicate that different approaches reinforce the concepts and help in mastery of learning content. Their study was

focused on chemistry, but experience has shown that the same can apply to other learning areas.

2.3.7.1 Classroom tests

Leeming (2002:210-212), stresses the importance of classroom testing. He is of the opinion that students need to have more frequent classroom tests, which leads to more studying and better learning for academic achievement. According to his study grades improve significantly if frequent tests are conducted, for example where class tests are written daily rather than in classes where the same material was taught but with only four tests written.

2.3.8 Learning environment

Learning environment should be ideal for effective learning to take place. Many researchers highlight the need to have a students' friendly environment, which will enhance academic performance of these students.

2.3.8.1 Library usage

According to Geffert and Christensen (1998:279-89), college freshmen with previous experience with library research perform better at universities. Thus they recommend the need for students' orientation program that includes first-week of library survey. Libraries should provide study rooms for students, especially those who live off campus. This will enable them to catch up on their homework, to conduct group studies or to socialise with other students. Besides libraries Lau (2003:4), feel that students will benefit more academically, if learning institutions have computer laboratories. They will be able to extend their learning from the teaching classroom to

the computer laboratory. Students need to integrate class learning with their computer experiences, by so doing enriching their learning. This will enrich their learning, by providing them with an opportunity of understanding difficult materials in an out-of-class setting and providing positive learning environment.

Lau (2003:1) is of the opinion that positive learning environment plays a role in academic success. The author maintains that educators can help to maintain a positive learning environment that students need by using multimedia technology and innovative instructional techniques such as cooperative and collaborative learning in the classroom.

2.3.8.1 Media usage

Wise and Groom (1996) as cited by Lau (2003:4), attest to the importance of media use in the teaching and learning environment. According to the authors, to be able to maintain positive learning environment for students, educators need to provide effective attention gathering tools, which can be used to enrich and complement classroom, teaching and learning. Multimedia tools are able to convey course materials to students in a visual and graphic form, thus helping in clarifying abstract concepts. To this effect Moore and Miller (1996) as cited by Lau (2003:4), feel that "multimedia tools can remove barriers such as language and physical handicaps".

2.3.8.2 Physical facilities

Physical facilities available on campus can have a great impact on learning activities and can contribute to the creation of meaningful environment. (Lau 2003:3), is of the opinion that higher education institutions need to develop multicultural dormitories, to assist students from differing cultural backgrounds to cope with social diversity issues. According to Belch, Gebel and Maas (2001:254-68), students who use

recreational facilities at universities have a higher persistence rate than students who did not use the recreational complex.

Another factor, which is related to the success of students in higher education institutions, is the financial aspect of their studies. The following section deals with the funding of studies at higher education institutions.

2.3.9 Scholarship programmes

Experience has shown that students, who have less financial worries, are well motivated to improve their academic performance and succeed at higher education institutions. Lau (2003:2) is of the opinion that students who have no bursaries have to work part-time in order to put themselves through school. In most instances the demand of the work situation leave students so exhausted, that they do not have the energy or desire to attend classes or study. According to Towns (1997) as cited by Lau (2003:2), students who receive scholarship tend to remain in higher education institutions and achieve higher grades than the average students.

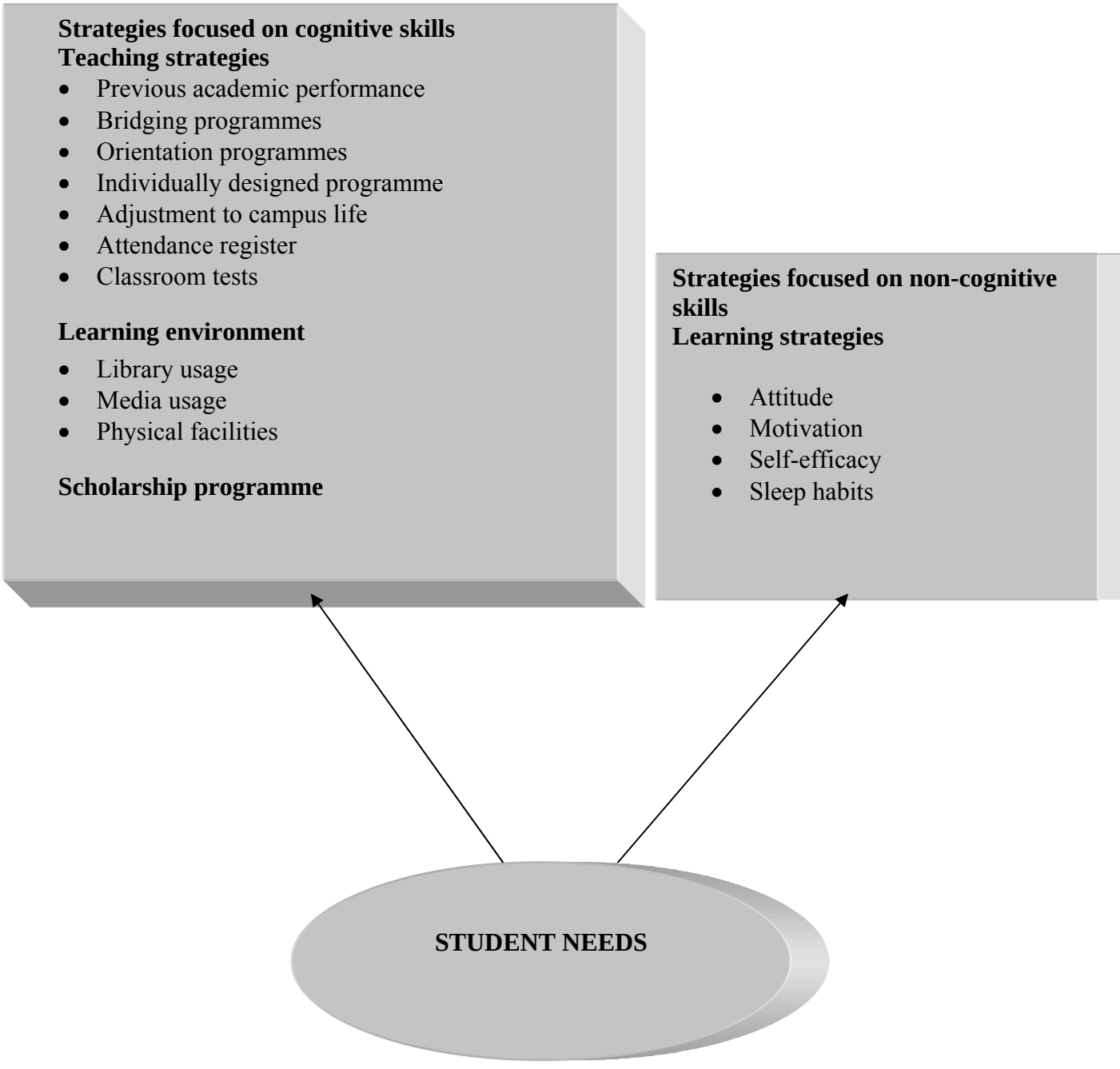
2.3.10 Conclusion to academic needs

The literature research regarding international students support needs indicates that various factors feed in to poor academic success. Students' needs are classified as personal, which encompasses the cognitive and non-cognitive. Cognitive needs relate to individually designed programme as well as the need to adjust to campus life. Strategies focused on non-cognitive skills stresses the need for students to have positive attitude, motivation, self-efficacy and sound sleeping habits to perform well academically. Researchers also point out to the academic needs of students. They see previous academic performance of students as having an effect on students' performance at higher education institutions. They also point out the need for

attendance register to encourage students to attend classes. In addition factors like bridging and orientation programmes, teaching and learning strategies, learning tools, proactive thinking skills, cooperative learning, peer tutoring and learning disabilities contribute to enhance the academic performance.

Figure 2.1 reflects the findings of Section 2.3 and thus summarises this section in a visual manner.

Figure 2.1 International student need



2.4 SOUTH AFRICAN STUDENT SUPPORT NEEDS

2.4.1 Introduction

It remains to be seen whether the organising principle structure, which was designed to create a logical arrangements of the findings in the international literature (see Figure 2.1), also holds true for the information regarding South African students' support needs. The students' support needs are categorised into personal and academic needs.

The following South African remedial academic student support needs were found in the local literature:

2.4.2 Personal needs

Personal needs are the needs that the student has to have or acquire in order to achieve at higher education institutions.

2.4.2.1 Command of language of instruction

Students' command of the language of instruction has a bearing on their academic performance. According to Huysamen (1999:135), students need acceptable command of the English language, English is the "(general medium of instruction at South African universities)" to enhance their academic performance. He feels that if students do not understand questions adequately, and have problems of expressing themselves because of the language in which questions are posed; it will then be futile to expect such students to succeed academically. (Ramist et al 1994) as cited by Huysamen (1999:135) is of the opinion that besides the acceptable command of the language of instruction, students need high aptitude for tertiary work and good performance in high school. Van der Berg (2000:106) supports this view; he feels that the problem of

language competency among first-year students is a matter of great concern among educators. He points out that it will be difficult for students to conceptualise or reason effectively if they are not competent in the language of instruction.

As Thebehali (1991:19) points out casual assessment of students' (mainly from disadvantaged high school) command of the English language, makes one wonder how well do they cope in the classroom environment, where excellent listening, note-taking skills and verbal interaction are required. She also points out that not only are these students lacking exposure to the language medium of their text, they also missed out on timeous career guidance and study techniques while at high school, since high schools do not place much emphasis on these aspects.

Although English is the medium of instruction at these schools, educators often resort to vernacular in order to clarify points that are not clear to students. Mumba, Rollnick and White (2002:154) support this view. The findings of their research, point out that "lecturers and teachers in model C taught in English while the two teachers observed in township schools generally used more than one languages". The authors point out that in the context of the township school, the teacher made the rational choice of using the language that would be understood by his students, even though its meaning could be misleading.

2.4.2.2 Self-assessment and reflection

Students need to take control of their own learning. According to Greenwood and Guant (1994) as cited by Steyn (2000:183), the aim of education is to enable and empower students to take control of their own learning. This helps to empower them to maximise their capabilities, thus find joy in learning. To this effect Van Kraayenood and Paris (1996) as cited by Steyn and de Boer (1998:175), attest to the need for self-assessment by students. The authors define self-assessment as the "process in which learners determine the extent of their knowledge and skills in a

field of study, by assessing their responses to activities in assignments". Self-assessment encourages them to work and reach their goal and teaches them to control their work. Peckham and Sutherland (2000:75), who feel that students' expectations are unrealistically higher than their actual performances, support this view. The authors are of the opinion that students need to be made aware of the value of self-assessment and self-monitoring in the learning process. Boud (1995) as cited by Peckham and Sutherland (2000:75), attest to the value of self-assessment. The author feels that self-assessment is the key to lifelong learning and should therefore be encouraged. Klenwoski (1995) also cited by Peckham and Sutherland (2000:75), points out that self-assessment provides students with more opportunities to take increased responsibility for and a more active role in their own learning. Self-assessment can help students to be aware of the need for positive attitude towards learning in order to improve their academic performances.

Gibbs (1995) cited by Peckham and Sutherland (2000:77), states that students have no inborn ability to access their performance reliably. They need practice and training in order to develop this judgment. Students need to be offered correct and sufficient guidance in the assessment process, bearing in mind that for most of our students coming from disadvantaged background, the opportunity to critique and evaluate the work is a new experience (Peckham & Sutherland 2000:77). Peckham and Sutherland (2000:76) also cite Kwen and Leung (1995), who feel that the value of education is to develop reflective practitioners who are able to reflect critically on their own practice. However, it seems as if the ability to critically reflect on own practice implies a specific attitude towards the self and related studies.

2.4.2.3 Attitude

Lack of positive attitude contributes to academic failure. This view is supported by Smit (1992:23), who feels that first-year students who fail have a negative attitude towards further study at higher education institutions, resulting in valuable loss of manpower for technological advancement. De Waal and Duvel (1990:40) are of the opinion that matriculation symbol has the best prediction value, but it does not necessarily guarantee college success. They feel that academic achievement can be influenced by factors like aptitude, interest, personality and study methods, habits empowerment and academic adjustments. These factors increase the effectiveness of meaningful prediction. It can be argued that effective meaningful prediction empowers students as they have a better grasp on their own academic ability.

2.4.2.4 Empowerment

According to Simelane (1997:56), students needs to be empowered so as to inform the teaching and learning process, especially in large academic departments, which will help in bridging the gap between students' sense of competence and their actual competence. Thebehali (1991:10) highlights the importance of self-worth. She points out that many students lack self-worth and self-confidence, which play an important role in academic performance. The author feels that these factors are often very low among under prepared students. They cause devastation, hopelessness and feelings of inadequacy, which causes students to avoid confronting their studies or delays them from seeking help. Ochse (2003:67) supports this view. He is of the opinion that poor self-perceptions and low expectancies contribute to the poor academic performances of first-year students. The author point out that one's performance is determined by perceptions of one's abilities and expectations. This in turn influences one's motivation and persistence. He feels that most students perform badly academically because they believe that they have little ability, and are thus not expecting to be successful. On the other hand the author points out the danger of over optimism

(illusory optimism). He feels that if an over optimistic student does not succeed academically as he expected, he may feel angry and frustrated; as a result develop a negative attitude towards learning and academic institution (Ochse 2003:72).

2.4.3 Academic needs

These are the needs that higher education institutions need to ensure that students acquire to enhance their academic performances.

2.4.3.1 Selection procedures

Wood (1998:92), on the other hand, is of the opinion that even with the best selection procedures, students admitted to higher education institutions from disadvantaged high schools are not well prepared for higher education studies. He feels that assessment of the needs of the students who have been selected should be carried out as well as their level of preparedness, in order to address their needs via a curriculum. Thebehali (1991:6) supports this view. She points out that in spite of selection procedures and entrance test that are carried out to ascertain suitability for admission, plus ongoing orientation which comprises study skills courses, failure rate among first year learners is still unacceptably high.

2.4.3.2 Prior knowledge

Experience has shown that students with prior knowledge of field of study succeed more than those without. Postma (1995:47) is of the opinion that prior knowledge is a valid predictor of academic achievement. Recognition of prior learning is defined as "the comparisons of the previous learning and experience of a learner howsoever obtained against the learning outcomes required for a specified qualification, and the

acceptance for purposes of qualification, which meets the requirements," (Gevers, Luckert & Ogude 1999:16).

2.4.3.3 Academic adjustment

Academic adjustment plays an important role in the success of first-year students. According to Beukes (1997:47), students need to adjust to the higher education way of teaching, which needs more student involvement than the high school method, where educators do most of the work. Nolte, Heyns and Venter (1997:168), point out that there is a need to consider not only the adjustments of students entering higher education institutions, but also the adjustments that the institutions, including the educators, and the existing student population have to make. They are of the opinion that it should not be forgotten that the new students bring with them new ideas, perception and customs, that will have an influence on the institution they are joining. The authors feel that there is a need for these to be involved formally and informally in the normal activities of the institution as soon as possible to enable them to adjust quickly.

2.4.4 Learning strategies and styles

The use of variety of learning strategies and styles have an influence on academic achievements, thus students have to be helped in finding out the learning style, which will help them to achieve academically (Postma 1995:48). This view is supported by Erasmus (1994:32) who feels that learning styles should be based on education, which takes into account the nature of the learning areas, and provide the students with opportunity to better their academic achievement. He maintains that this approach tries to place emphasis on l students' strength rather than their weaknesses. Harmse (1991:41) is of the opinion that there is a connection between learning strategies and intelligence. Learning strategies are needed to equip students with self-management

skills, which the students acquire to govern their own processes of attending, learning and thinking. This will influence the success of university carrier.

Pelser (1992:67) feels that there is a significant difference with regard to personality traits, personality types and learning strategies of achieving and non-achieving first-year students. Thus non-achieving first year students should be identified in good time so that they are subjected to specific assistance programmes. Learning strategies and styles include the following aspects:

2.4.4.1 Reading strategies

As Thebehali (1991:6) points out reading is a single most important employed reading strategy in acquiring knowledge at higher education level. She feels that it is pivotal to educational achievement. Hafner (1996) as cited by Thebehali (1991:26) supports this view. He points out that ninety percent of university work involves reading, efficient comprehension and the ability to organize ideas. Despite that Hafner observes that twenty five percent of first- year students cannot read well enough to succeed at higher educational institutions.

Leighton (1992:9): feels that students' reading skills affect the way they understand the study manuals. Thebehali (1991:4) supports this view; she points out that efficient reading skill is essential for effective studying. To this effect she points out that a well-planned orientation programme should be able to fill the gap identified in clinical guidance.

Simelane (1997:56), on the other hand suggest a model of empowerment, which will inform the teaching and learning process, especially in large academic departments, which will help in bridging the gap between students' sense of competence, and their actual competence.

Effective cognitive and reading skills help to improve academic performance of students. Leighton (1992: 10) supports this view; he is of the opinion that students need cognitive skills to be able to perform and understand the learning content, and improve their academic performance. The author feels that students need to prepare themselves before engaging in the learning content in the classroom. He attributes poor participation during lecture session to lack of reading the themes by the students, before they come to lectures. By so doing they are unable to take a lively and constructive part in lectures (Leighton 1992:17). As Wood (1998:92), points out students need conceptual understanding to improve their academic performance. He explains that, students from disadvantaged backgrounds lack conceptual understanding, that their cognitive development is often poorly matched to the requirements of higher education. Thebehali (199I:30) makes the point that carefully planned development strategies like efficient reading and study skills are essentials for students.

2.4.4.2 Study habits

Cox (2000) as cited by Mumba et al (2002:148) is of the opinion that transition from high school to university is problematic, due to the differences in learning approaches. The high school stresses the mastering of content, whereas at higher education institutions the application of knowledge, skills and independent thought are important. Sedumedi (2002:168), support this view; he is of the opinion that students need to understand the process involved in university learning. He feels that students' failure to understand the process can be due to their inability to understand concepts and principles, their failure to appreciate the difference between capturing and assimilating and their failure to develop appropriate study skills.

Experience has shown that students, who study effectively, perform well academically. Thuysman (1992:132) makes the point that positive study habits and attitudes have a bearing on academic achievement.

Van Aardt and van Wyk (1996: 168) are of the opinion that due to the diverse nature of South Africa, with students with different interests, backgrounds, skills and expectations, there is a need of knowledge of individual strategies to suit individual needs. They feel that learning styles and strategies play an important role in effective and efficient learning. The study by Gabriel and Pillai (1998) as cited by Van Aardt and van Wyk (1996:169), found out that students with different academic potentials use different learning strategies. This indicates the need to assess both learning strategies and potential of individuals. For effective learning to take place, educators need to adapt their teaching strategies as well to suit all types of students.

2.4.5 Teaching strategies

To be able to help students effectively with their academic work, educators need to develop their teaching strategies as well. As English (1997:139), points out, all disciplines at higher education institutions should concern themselves with developing communication skills to enhance their teaching and their relationship with their students. Ferreira (1992:48) maintains that in order to improve the pass rate and bridge the gap between school and university, teaching strategies should be implemented at secondary school in order to bring about successful transition, which aims at developing a student in a holistic way.

2.4.5.1 Holistic approach to teaching

For education to be effective it should be able to address all needs of the student. Wood (1998:94) is of the opinion that students need to be developed holistically. They need extra curricular activities like arts, music, drama, and theatre to enhance their academic performance. Students need to work individually as well as participating in group work, as a form of engaging with their fellow students in line with South African Qualification Authority (SAQA), requirements.

2.4.5.2 Group centered approach

According to Graig (1989) as cited by Thebehali (1991:33), a group-centered approach to learning can help to liberate the individual. Interacting with peers and experiencing some of the same difficulties can remove some of the students' anxieties and conflicts. If students are isolated from their fellow students, their problems may seem bigger than they actual are, and this may cause students to perceive their academic and social problem in an exaggerated light. The researcher emphasises the need for group work, and this type of strategy impacts on structural adjustments at higher education institutions.

2.4.5.3 Structural adjustment

Simelane (1997:52) is of the opinion that structures need to be adjusted to meet with the demands of large classes of students. He points out that, structural adjustments should be put in place to bring about transformation in higher educational institutions, noting the fact that large classes would be a common phenomenon in the future. This will be in line with the recommendation from South African Qualification Authority (SAQA), which advocate the use of outcome-based education. This learning strategy recommends the use of group discussions, which becomes difficult to implement with the type of sitting arrangement found in the present lecture halls.

De Boer (1992:102) is of the opinion that there should be shift from the remedial approach of the eighties, to developmental approach of the students' full potential of the nineties. He stresses the need of developing lecture skills, integrating learning media and life skills as an ongoing activity.

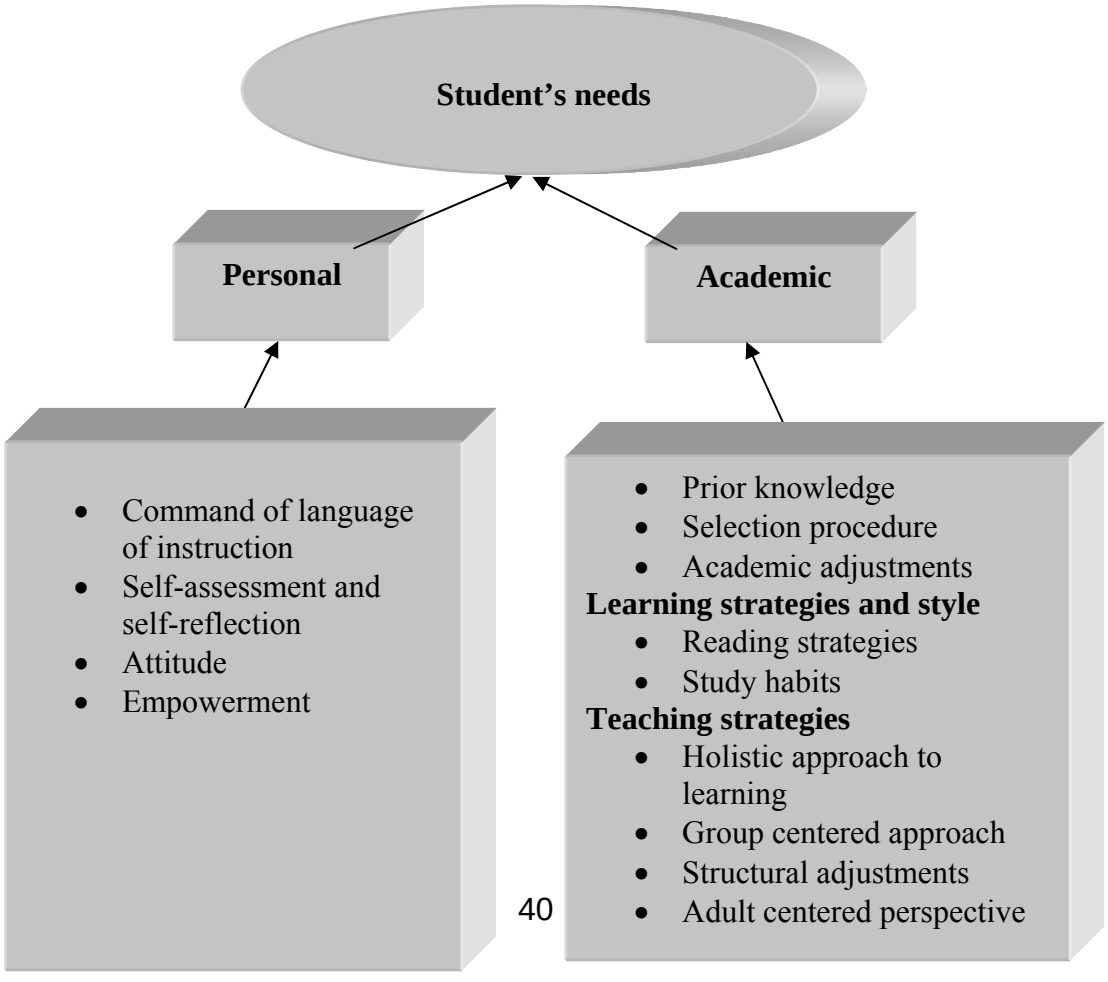
2.4.6 Adult centered perspective

Badenhorst (1994:47), on the other hand emphasises the importance of properly trained ortho-andragogues. Ortho-andragogues need to understand and use an adult centered perspective He feels that under-achievement at higher education level should be approached from an ortho-andragogic point of view, which is underpinned, by such an adult centered perspective. He maintains that pedagogic assistance cannot be 'stretched' to include pedagogic assistance to adults.

2.4.7 Conclusion to South African student support needs

The research carried out in South Africa shows that factors such as attitude, lack of motivation, ineffective learning and teaching strategies and structural adjustments contribute to poor academic performance at higher education institutions.

Figure 2.2 South African remedial academic student support needs



2.5 SPECIFIC ACADEMIC SUPPORT NEEDS OF FIRST-YEAR STUDENTS

2.5.1 Introduction

Research findings for both international and national student support needs hold true for first-year students at Medunsa as well. Based on my observation and discussions with our staff members from Center for Academic Development Center (CADS), most first-year students at Medunsa are first generation university students. This factor presents a problem to most students, as they do know how to cope when faced with challenges at higher education institutions. Besides being first generation university students, they also experience problems of language proficiency as well as poor socio-economic conditions

2.5.2 Personal needs

According to Kilfoil's (1999:46) study, English is an important language for South African students, since it is a medium of instruction and most of the study materials are written in English. Through my observation students at Medunsa especially those from previously disadvantaged secondary schools, struggle to engage effectively with the learning content as well as expressing themselves verbally or through a written medium. This impacts negatively on their studies. Kilfoil (1999:46), who feels that "precision in language use, particularly precise command of vocabulary, predicts academic success" supports students this view.

2.5.3 Socio-economic factors

2.5.3.1 First generation university students

Most of the students are first generation university students, with no relatives and fewer friends and acquaintances to share with them the demands of higher education. According to Sherk and Manzo (1997) as cited by Thebehali (1991:32), the lack of such background renders most students unable to take advantage of most various opportunities offered by the institution, because they do not know in the first place that such services are available. If they know, they do not know how to go about accessing them. Many students receive very little or no support at home regarding academic work, as a result of poor parental schooling.

2.5.3.2 Funding

Experience has shown that lack of funds pose as a problem to the academic progress of students. Sedumedi (2002:174) supports this view; He feels that students need to be afforded bursaries to reduce financial anxieties, which contribute to their poor academic performance. In his study students pointed to lack of money to pay for tuition, buy books and food as another contributing factor to their poor academic performances.

As Thebehali (1991:4) points out many students come to university without proper funding, hoping that they will receive bursaries. The realisation that bursaries are not available has a significant bearing on their well-being and their academic performance. She feels that bursaries need to be made available to students, to enable them to concentrate on their studies, and be housed in the university residences.

2.5.3.3 University residences

Thebehali (1991:4) also highlights the importance of living in university residences. Many students come from a standard council house with two bedrooms, with many family members, where conditions are not suitable for studying. Many students have to engage in daily household chores, and have to wait for other family members to go to bed before settling themselves in the kitchen to study. Their situation is made worse by the fact that they cannot remain late at school in order to use the library, because there is no public transport to return home at night.

2.5.4 Academic needs

Academic needs are strategies that students need to be empowered with to enable them to cope with the demands of higher education institutions.

2.5.4 1 Teaching strategies

Educators should implement strategies that will enable students to understand learning content better, in order to improve their academic performances.

- Problem based approach

Medunsa students need to be encouraged to move form lecture-based approaches to more active approaches, which demand increased involvement in students' own learning. Uys and Cassimjee (1997:133) support this view; they feel that students need to be assisted to move from the traditional learning programmes to problem-based learning. The problem based learning programme helps in addressing the deficiencies in metacognitive skills of many first-year students at higher education institutions. The authors feel that over teaching is avoided, as the programme is aimed

at developing self-learning skills and the personal development of students. Students are encouraged to analyse the problem situation as a basis of acquiring relevant knowledge, skills and attitudes. Because of the active role that students play in this programme, their personal development is enhanced in many areas such as interacting verbally, self- confidence and group leadership.

Meyers and Paris (1978) and Hare and Pulliam (1980) as cited by Thebehali (1991:89), describe metacognition "as a process of knowing what it is that one knows, or does not understand". It helps to coordinate and direct the reader's thinking and behaviour, by so doing helping with efficient learning. Flavell (1976) as cited by Harmse (1991:32), states that metacognition refers to one's knowledge concerning one's own cognitive processes and products of anything related to them. Harmse (1991:31) is of the opinion that metacognition refers on one hand to the knowledge of one's own cognitive processes, thoughts and the learning activities; on the other hand, it refers to the control on self-regulation of the cognitive process. Thus efficient learning is possible if students are able to manage and monitor their learning processes. The student will be able to use various learning strategies open to him or her.

This programme also help educators in early diagnosis of where the learning problems of each individual student lies, thus corrective intervention can be made earlier than in conventional programmes (Uys & Cassimjee 1997:135).

- Self-assessment and self-monitoring

Experience has shown that students' expectations are unrealistically higher than their actual performance, hence the need for self-assessment and self-monitoring. According to Peckham and Sutherland (2000:75), students need to be made aware of the value of self-assessment and self-monitoring. Boud (1997), as cited by Peckham

and Sutherland (2000:75), attests to the value of self- assessment. He is of the opinion that self-assessment is the key to establishing a process of life long learning, and should therefore be encouraged. Klenowski (1995) also cited by Peckham and Sutherland (2000:75), points out that self-assessment provides students with more opportunities to take increased responsibility for, and a more active role in their learning. Kwen and Leung (1996) as cited Peckham and Sutherland (2000:76) also highlight the value of self-assessment. They point out that the value of education is to develop reflective practitioners who are able to reflect critically on their own practice.

According to Gibbs (1995) as cited by Peckham and Sutherland (2000:75), students have no inborn ability to assess their performances reliably; they need practice and training in order to develop this judgement. He feels that sufficient guidance should be afforded students in the assessment process, bearing in mind that for most of our students coming from disadvantaged background, the opportunity to critique and evaluate their work is a new experience.

- Career choice

Poor career guidance at disadvantaged high schools leads to students choosing the wrong career pathway when entering higher education institutions. This view is supported by Sedumedi (2002: 170), which confirmed the lack of career guidance in secondary schools. Students claimed that they had a free period during the guidance lecture because the school had no guidance teacher. According to Nolte, Heyns and Venter (1997:174), students need to make career choices based on adequate knowledge of students themselves. The authors feel that in most cases students have unrealistic expectations of what higher education can offer as well as their abilities to deal with higher education institution studies.

2.5.5 Learning strategies

Students need to be encouraged to use various learning strategies in order to improve their academic performance.

- Cognitive thinking

Students need to be encouraged to change their learning strategies and styles, to fit the demand of higher education. According to Van Aardt and Van Wyk (1996:173), students need to realise that the learning strategies they used at high school (mainly rote learning) will not be relevant for academic performance at university. As Curtis and De Villiers (1992:461), point out, students need to be encouraged to relinquish the less effective rote learning style, and use the higher order cognitive skills that will help them to engage with the learning content in a meaningful way, using a deep level cognitive processing.

- Critical thinking

Experience has shown that most students perform poorly academically due to lack of critical thinking. They need critical thinking to be able to engage effectively with learning content. Mc Peck (1981) as cited by Thebehali (1991:79) describes critical thinking "as a process of evaluating statements, arguments and experiences and determining the meaning of statements, analysing emotional language and interpreting words with regard to context".

According to Thebehali (1991:80), some researchers rate lateral thinking above critical thinking. She points out that other researchers discourage over-emphasis on critical thinking, which they think of as being error free and thus superior. They

perceive critical thinking as being reactive and that it breeds arrogance, but "it does not teach initiative or creativity to the same extent as lateral thinking does". Lateral thinking is rated as superior because it is thought to provide creative, constructive design elements needed for solving real problems.

- Mind mapping technique

Steyns and de Boer (1998:129) are of the opinion that students need to be guided to the use of mind mapping technique as a learning strategy. They feel that students are reluctant to use mind maps because of the lack of guidance with regard to the format and structure. The results of their study reveal that if mind mapping is effectively used as a learning strategy it can assist in improving the academic performance of the students.

- Concept mapping

Students often complain that they spent a lot of time studying, but they cannot recall half of what they have studied. To this effect Gravett and Swart (1997:122), recommend the use of concept mapping, which can be used as both an instruction and learning tool. They are of the opinion that one can only understand and remember if information is placed in an organised structure. The authors feel that if one's information is organised or structured (connected), it can be effectively accessed when required. Perkins (1991) as cited by the authors is of the opinion that learning with understanding, unlike rote learning, is a meaningful learning "rich with connection making", necessary for insight and lively and flexible use of knowledge. Thus he recommends the need for the use of concept mapping.

There are different definitions of concept mapping. According to Deshler (1990) and Rafferty and Fleschner (1993) as cited by Gravett and Swart (1997:92) concept mapping is a "schematic device in which relationships between concepts are displayed hierarchically (vertically) and between concepts of approximately equal generality (horisontally). West, Farmer and Wolff (1991) as cited by Gravett and Swart (1997:123) define concept mapping as visual representation of how a person thinks important concepts in a specific domain of knowledge are related. This representation is not static, but a change as a person's knowledge grows. Concept mapping can be used as a guide for comprehension.

Figure 2.3 Specific needs for first-year Medunsa students

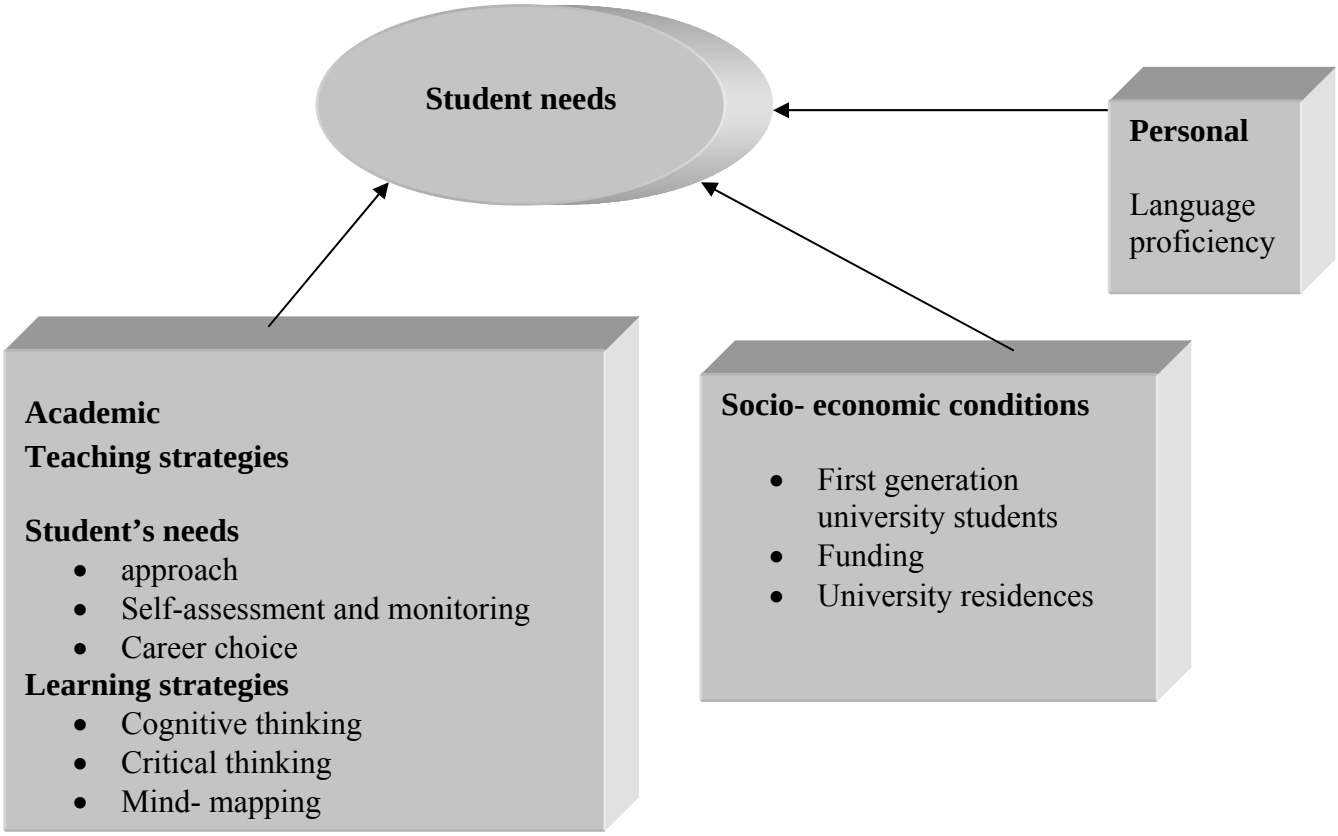


Figure 2.3 is a summary of the information given in section 2.4 in which the academic support needs of South African students at higher education institutions are investigated.

2.6 CONCLUSION

In this chapter various student needs that contribute to poor academic performances of first-year students have been outlined. The literature consulted from both an international and a national perspective, indicates that most of the students' needs are universal. Factors such attitude, academic adjustments, teaching and learning strategies, effective reading and study habits appear to contribute the most to poor academic development of most first-year students.

Students from disadvantaged secondary schools experience other problems in addition to the above-mentioned needs. Contributing factors to their poor academic performances are rote learning, lack of critical thinking skills, the use of the medium of instruction, lack of career guidance at secondary schools and lack of funding.

In Chapter 3 the focus will be on the support strategies at an international and national level that can be provided to assist the students, in improving their academic performances.

CHAPTER 3

PROVISION OF REMEDIAL ACADEMIC SUPPORT

3.1 INTRODUCTION

In Chapter 2 the academic needs of students, which might hamper the academic progress, were highlighted. This was done from an international and a South African perspective. This chapter explores various existing intervention strategies to remediate poor academic performance.

As Thebehali (1991:82) points out, in order to develop strategies that address needs determined by the holistic nature of the student, programmes should focus principally on the student. Specialists from various fields are needed to meet the divergent needs of programme participants and the system of the relevant institution should be structured to allow this to take place.

The literature, both international and national describes various strategies that can be used to enhance the academic performance of first-year students. Students worldwide are in need of academic support to enable them to cope with the academic and social demands of higher education institutions.

3.2 STRATEGIES FOR REMEDIAL ACADEMIC SUPPORT

Studies conducted by various researchers have indicated that many high-risk students have benefited by participating in different academic support programs such as orientation, advising, learning/academic support, community college activities that reinforce persistence, student/faculty contact, mentoring, peer programs, institutional commitment and early warning systems. All these programs are designed to enhance

the students' academic performances (Abrams & Jernigan 1984:266; Youn 1992:473; Brigham, Thomas, Moseley, Sneed & Fisher 1994:235). The rate of success of these approaches leads one to believe that if these approaches were applied to South African students; it would also enhance their academic success in the same way. In this section remedial academic support is discussed according to the international and national literature.

3.2.1 Learning strategies focused on cognitive skills

Learning strategies focused on cognitive skills in this study refers to academic support that institutions embark upon in order to help students adjust to the institutions of higher learning thereby enhancing the students' academic and social performances.

3.2.1.1 Orientation programmes

Ezeze (1994:2-3) acknowledges the difficult transition that first-year students have to make at higher education institutions. He encourages officers to keep in touch with first-year students to ease their transition by offering orientation programmes and year round support.

Orientation programmes are successful at increasing participants' knowledge of the university, making available support services known and adjustment to campus social environment. They play an important role in bridging the academic gap between secondary school and higher education institutions mainly for students from historically disadvantaged institutions (South African perspective) (Schwitzer 1991: 484-89; Du Plessis 1996:1).

Orientation programmes should also focus on critical thinking and metacognitive skills, which should be taught prior to content session. (Fraser and Henren 2003: 97). Similar to Fraser and Henren (2003:97), Sayer, Saintonge, Evans and Wood

(2002:644) also recommend that orientation programmes should focus more on metacognitive strategies rather than study skills. The authors define metacognition as "an awareness of thought processes and skills involved in learning and the personal control of the knowledge of learning". This helps students to accept responsibility for their own learning; it also gives students insight and knowledge about themselves as students.

3.2.1.2 Teaching strategies

Teaching strategies refer to various approaches that educators use during lectures to put across effectively what they expect the students to know and internalise.

Students benefit from multiple teaching methods. Integration of various methods of teaching like cooperative learning, class discussions, concept maps and lectures foster the metacognitive skills necessary for reinforcing the concepts and help in mastery of the learning material (Bronson and Kaufman 1993:245; Francisco, Nicoll and Trautmann 1998:10-13).

To this effect Moore and Miller cited by Lau (2003:4) point out that to accommodate various learning styles of students instructional technology development centers should assist educators in developing, utilising and integrating the latest instructional technology into their teaching.

In the following paragraphs, teaching strategies are discussed in order to highlight their value as support strategies. These are the holistic approach, peer tutoring, group centered strategy, teamwork, computer based learning and classroom assessment.

- Holistic approach

The holistic approach to teaching and learning implies that educators need to consider the whole student in their approach to teaching. The teaching should be aimed at developing the student in all spheres of life: academically, personally, psychologically and socially. Although the most important task facing students at institutions of higher learning is to study, they are also social beings. At the end of the academic life they are expected to interact with their fellow human beings in a responsible manner and since students' needs are diverse, holistic remediation programmes which address educational diagnosis and individually tailored teaching programmes should be designed (Sayer et al 2002:644; Lau 2003:6; Donald, Lazarus and Lolwane 2002:67). Educators should play an active role of continually identifying able students to work as peer tutors at the learning centers. In most cases students relate well with peers because they find it easy to communicate with them. Seeing that students need to be developed wholly, every available strategy should be used to achieve this goal. Students who experience academic difficulties should be encouraged to seek tutoring assistance.

- Peer tutoring/mentoring

According to the Concise Oxford Dictionary (1995:1506) a tutor refers to a private teacher in general charge of a person's education while a mentor refers to an experienced and trusted advisor (Concise Oxford Dictionary 1995:852). Peer tutors in this section refer to students who have been identified owing to their academic capabilities to help their fellow students who are struggling with their academic work. Peer mentors refer to senior students who have been chosen to assume the role of advisors mainly to first-year students in order to help them to adjust to the demands of institutions of higher learning.

Mentoring bridges the gap caused by more students and less staff. The presence of peer tutors enables students who need help to be assisted timeously especially in institutions where the student-educator ratio is high. Students find it easier to relate to one of their own, thus they are able to benefit more from peer tutoring. A well facilitated mentoring can be motivating to both mentors and mentees. Hence the need for both parties to take it seriously, otherwise those students who need it mostly will fail to benefit from it (Race 1998:55; Elliot 1985:1-7). This highlights the importance of teamwork.

- Teamwork

Teamwork approach enhances communication and interpersonal skills. It refers to students brainstorming, sharing, adding and discarding ideas until the best solution for the task at hand has been identified. All members in a team are expected to participate, work together and ensure that all the members of the group have assimilated the learning content. Thus, teamwork also benefits those students who are always quiet in the classroom because they are expected to express their opinion and interact with their fellow group members in order for their team to be successful and achieve the desired outcomes (Kjursdam cited by Wellington 1998:145).

To help first-year students to adjust to campus life Musehane (2001:23) recommends a joint partnership among parents, educators and senior students in the handling of first-year students on arrival at higher education institutions.

- Computer based learning

Technology has advanced to the extent where computers are used as instructional tools, which assist in enhancing the academic achievement of students. Computer Based Learning (CBL) refers to learning that is individualised in the sense that

students are allowed to work at their own pace until they have mastered the learning content before they can proceed to the next level.

If computers are used correctly, they can have a powerful motivating effect on a student by making the student interact more frequently with the learning content. With CBL students can also access feedback to tests and assessments very easily (Baker 1998:7).

- Classroom assessment

Classroom assessment plays a major role in instruction and learning. For effective teaching to take place during lecture periods, educators should continuously assess their students relative to the outcomes, and adjust their instruction based on the information found. Classroom assessment not only documents what students know and can do, but it also influences learning as well. This helps in the development of new purposes, methods and approaches to teaching and learning (McMillan 2001:1).

On the other hand, Race (1998:56) sees classroom assessment as a strong provider of the "need to learn" and very useful at enhancing the "want to learn". The author states that the "want to learn" of students can be damaged if students only learn in order to avoid failing assessments. He further states that assessments are the means of helping students learn through feedback.

For classroom assessment and feedback to be effective, I agree with researchers who suggest that educators should be conversant with English as a medium of instruction. In the next section, I focus on researchers who highlight the problems students encounter when taught by educators coming from historically disadvantaged teaching institutions and emphasise the need to improve these educator-training institutions.

- Language of instruction

The medium of instruction plays an important role in academic institutions. It enables students to interact effectively with the learning content. Unfortunately for the majority of students from previously disadvantaged secondary schools, English is not their first language. They struggle to cope academically due to lack of language proficiency, as teaching at most higher education institutions in South Africa is conducted in English.

According to Classen (1992:13) remedial strategies that can be applied to help students to cope with English as a medium of instruction comprise of the introduction of special language courses at higher education institutions. Classen also highlights the vicious cycle caused by educators who cannot teach English properly. They received poor training when they were students and thus became educators with inadequate skills who go out to teach a group of "ineffectively taught students". Classen (1992:13) points out that this vicious cycle can only be broken at the point of educators' training where English should be taught by educators who are adequately competent and positively motivated towards the language.

To this effect Smit (1992:45), maintains that students should be empowered during orientation programmes to recognise their linguistic abilities, to develop their critical thinking skills, their interpersonal and intrapersonal relations and to improve their study methods and habits.

This section dealt with what the institutions need to do to enhance academic student support. The following section deals with learning strategies, which students should possess, or need to acquire in order to deal with the learning content effectively.

3.2.1.3 Learning strategies

Closely linked to teaching strategies are learning strategies such as thinking skills, mind-mapping and concept mapping. Effective learning strategies enable students to interact with the learning content in such away that it enhances academic performance.

- Thinking skills

According to McMillan (2001:14) thinking skills such as problem solving and decision making are essential to enable the students to apply what they learn to real-world demands and challenges. This will help them to be self-regulated students and enable them to explore new ideas and develop new skills such as self-discipline, time-management and accountability. Thus, educators should ensure that instruction and assessment are designed and delivered in such a way that remedial academic support strategies enhance thinking skills.

- Mind-mapping

Mind-mapping, can be used as an instructional tool as well as a tool for students to conceptualise their learning. For this strategy to be effective the educator should be prepared to assume the role of an instructor, facilitator, evaluator, listener, motivator and supporter to students who are reluctant to engage in the new learning strategy and encourage and give beginners the opportunity to practise and use the newly acquired skills (Steyn & De Boer 1998:127; Entrekin cited by Steyn and De Boer 1998:127).

- Concept mapping

Concept maps serve as a tool to assess both the process and the product of knowledge. They foster deep understanding and also serve as a metacognitive strategy, which helps students know how to learn, by monitoring and assessing their knowledge construction during contact sessions in the classroom. Concept mapping also empower students to take charge of their own learning, and enable them to learn in a self-evaluative way (Wallace and Mintzes cited by Gravett and Swart 1997: 122).

For students to deal with the learning content effectively the need to have a positive attitude towards their studies, be able to assess themselves and have a positive self-esteem.

3.2.2 Learning strategies focused on non-cognitive skills

Learning strategies focused on non-cognitive skills in this study refer to qualities that are inborn or acquired by students in order to cope with the demands of higher academic institutions such as attitude, self-assessment and self-worth.

- Attitude

The term attitude has been defined in the Concise Oxford Dictionary (1995:80) as a settled opinion or a way of thinking. The attitude that students have regarding their success or lack of it at institutions of higher learning determines how they interact with the learning content.

There is a positive correlation between academic achievement, high student perception of self-efficiency and the greater use of learning strategies. Self-efficacy refers to the belief that students have concerning their capabilities to learn and behave

at specific levels. Students who achieve academically are those who have a positive attitude towards their studies and perceive themselves as achievers (Chye, Walker & Smith 1997:11; Exner 2003:73; Race 1998:48).

- Self-assessment

To be able to balance the demands of academic life with their social activities students need to self-assess what they are capable of doing within the allocated time so that their actions do not have a negative impact on their studies (Zimmerman, Greenberg and Weinstein cited by Chye et al (1997:4). Self-assessment is defined as the "process in which a student determines the extent of his/her knowledge and skills in the field of study by assessing his/her responsibilities in assignments" (Kraayenood and Paris cited by Steyn (2000:175). Gibbs as cited by Peckham and Sutherland (2000:77) feels that students have no inborn ability to assess their own performance reliably, thus educators should afford them the practice and training in order to develop this judgement.

- Self-worth

According to Ochse (2003:72) in order not to destroy overoptimistic of students when their academic outcomes fall short, educators should reconsider the importance of accurate self-perceptions. This should be achieved without destroying students' self-esteem. Educators should help students to diagnose their particular weaknesses in terms of requirements of their courses and help them to realise what they do not know.

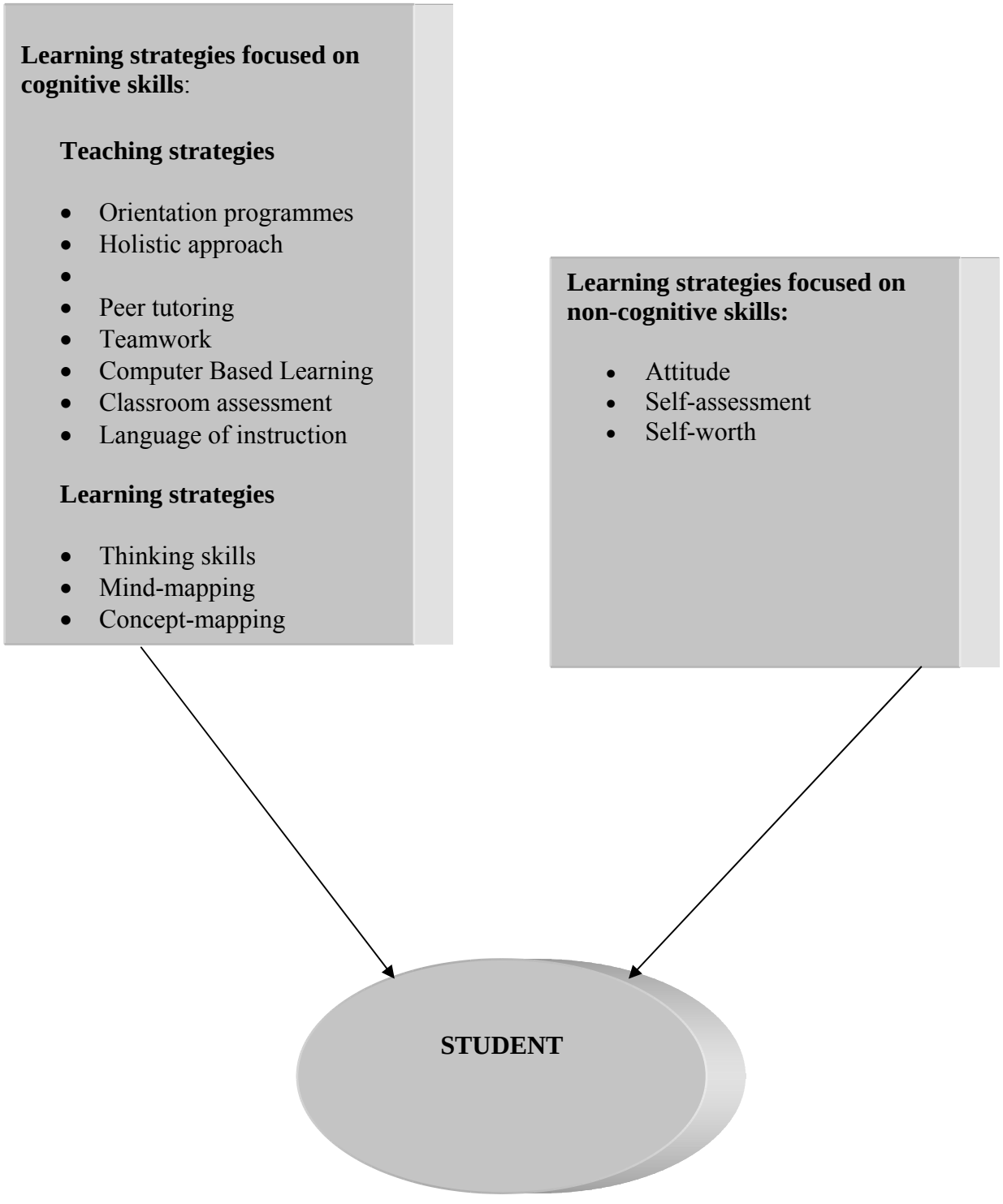
3.2.3 Conclusion to strategies for remedial academic support

Learning strategies focused on cognitive skills such as: orientation programmes, teaching strategies such as holistic approach, peer tutoring, teamwork, Computer Based Learning, classroom assessment and language of instruction as well as learning strategies like thinking skills, mind and concept mapping have been identified by researchers as remedial academic support that institutions of higher learning can adopt to help to enhance their students' academic performances.

In addition students need also to acquire learning strategies which focus on non-cognitive skills like attitude, self-assessment and self-worth in order to cope with the demands of institutions of higher learning.

Figure 3.1 reflects the findings of Section 3.2 and thus summarises this section in a visual manner.

Figure 3.1 Remedial academic supports as reflected in literature



3.3 REMEDIAL ACADEMIC SUPPORT AT MEDUNSA AND OTHER SOUTH AFRICAN HIGHER EDUCATIONAL INSTITUTIONS

3.3.1 Introduction

The universities of Limpopo (Polokwane campus) and Tshwane University of Technology which comprises of three campuses namely Soshanguve, Ga-Rankuwa and Pretoria, were chosen for the purpose of this study because their science students population comes from poor rural communities and historically disadvantaged high schools just like students at Medunsa thus their first-year academic support programmes can benefit dental therapy students at Medunsa. The majority of these high schools are ill equipped as far as libraries and science laboratories are concerned. Most of the educators at these schools are not well qualified to teach subjects such as mathematics and science. Research has indicated that most of these educators are products of previously disadvantaged educator training institutions, which did not prepare these educators adequately for effective teaching. Research has also indicated that these educators are not well conversant with English as a medium of instruction (see Section 3.2.1.2). This contributes to the educators not being able to teach students well, students in turn because of lack of proficiency with the language of instruction fail to engage effectively with the learning content.

Communities from which the majority of these students come from are poor, with many family members living in one house with no running water and most households still lack electricity. These conditions are not conducive for studying. Most family members are illiterate; students can therefore not be assisted with schoolwork.

Universities of Pretoria, Witwatersrand and Stellenbosch in addition to having some of their student population as for the above universities have faculties of dentistry and

their remedial academic support programmes are relevant and can help first-year dental therapy students at Medunsa to deal effectively with their academic work.

3.3.2 Medunsa

In order to assist first-year students to receive remedial academic support the Center For Academic Development (CADS) at Medunsa invited each department to identify senior students to serve as mentors to all first-year students for their departments. Mentors are assigned not more than five first-year students preferably. Their task is to help first-year students to adjust to campus life, to use their own experience in showing them how to avoid unpleasant experiences, making them aware of support services available at the campus and to help them with academic matters. Mentors are encouraged to meet with their mentees every two weeks to discuss their experiences and progresses. Each department was also requested to forward the name of one staff member to serve as a coordinator of mentors. The coordinator meets with mentors once a month to check on the progress and advise the mentors where necessary. Every quarter the coordinators meet with the staff from CADS to give a report on the programme. Educators play an important part in identifying students in need of the various academic strategies. This can be easily achieved in classes with small number of students, but with about hundred students in a class it will be a while before educators identify students in need of remedial academic support, thus delaying the intervention strategies that could have been implemented thus mentors help a great deal in this regard.

At the end of the year the coordinators, mentors and mentees write a report of about the programme and the coordinators together with staff members from CADS assess the findings of all the reports in order to improve the programme accordingly for the following year.

The support strategies that CADS offers to students include study skills, time management skills, coping skills and they also address the psychological problems of students. The Department of English offers a one-year programme to all first-year students at Medunsa. This programme includes the following:

Academic language skills*:* Reading skills, which include text organisation, vocabulary development, the importance of purposeful reading and interpreting graphic information, reading and using different types of sources, critical reading.

Academic reading: Writing skills, which include understanding the writing process, effective writing strategies at sentence, paragraph and essay levels, writing an assignment, referencing techniques, journaling technique (for practicals and clinicals), oral presentation of written and research work.

3.3.3 University of Limpopo (Polokwane campus)

In 2005 the Polokwane campus and Medunsa campus merged to become The University of Limpopo. The Polokwane campus has the peer counsellor and The University of the North Foundation Year (UNIFY) programmes which aim at increasing the number of successful first-year students in the faculties of Mathematics, Natural and Health Sciences.

- Peer Counsellor's Programme

Each year senior students apply to become peer counsellors and those selected undergo a rigorous selection process carried out by psychologists at the Center for Student Counselling and Development. (Dawn 2006:3). The selected students undergo a week's intensive training in basic counselling skills where they are also taught to help their colleagues to cope with academic, psychosocial and other problems.

Thereafter they are to work two hours a day at the university's Center for Student Counselling and Development.

According to Msimeki (2006:3) director for the Center for Student Counselling and Development at the campus, "the idea is to have someone who has faced similar problems and challenges". The peer counsellors are placed strategically throughout the campus for easy access to students. They are the first people to help fellow students overcome emotional, social or learning problems. They refer students to the counselling center if their problems are beyond their scope. Peer counsellors take part during orientation to help new students adjust to campus life. Throughout the year they assist in running projects like Graduate Placement Programme and life skills programme such as interpersonal skills, decision-making skills, skills for coping with a variety of life challenges, personal finance management skills that helps to promote the effective adjustment and wellness of the individual student (Dawn 2006:3).

- University of the North Foundation Year programme (UNIFY)

In order to increase the number of students in the Polokwane campus Science faculties, the UNIFY programme was introduced. The programme is aimed at giving educationally disadvantaged students a chance of developing their potential in Mathematics and Science and creases the quality of first-year students in the Science faculties (Zaaiman 1996:6). According to (Zaaiman1996: 6). many students from the former Department of Education and Training (DET) do not meet the entrance requirements for the faculties of Mathematics and Natural Sciences. UNIFY programme gives these students the necessary academic support to enable them to qualify for first-year studies.

The programme aims at improving the students' analytic, study, communication skills and content knowledge without emphasising rote learning. The programme further

aims at developing conceptual understanding, problem solving skills, confidence and positive attitude towards learning.

To qualify for the programme the students need to have passed Matric with exemption. The subjects taken in Matric should include Mathematics and either Physical Science or Biology though the students need not to have passed these subjects. A pass in the UNIFY programme enable the students to register for first-year in the faculties of Mathematics and Natural Sciences regardless of their Matric symbols (Zaaiman1996: 6).

In order to determine the impact of the remedial academic support offered by Polokwane campus, I had a telephonic interview with the person who is in charge of the foundation programme (Netshisaule 2005: telephonic interview). He spoke highly about their foundation programme and subsequently sent the brochure outlining the effectiveness of support programme.

To evaluate the effectiveness of the UNIFY programme a comparison study was conducted between UNIFY and non-UNIFY students for the period 1994-2004 (Grayson 2005:5). The aim was to compare how many students from the two groups pass their first-year of study, as well as the number of students who complete their degrees in the minimum time of 4 years of study. According to Grayson (2005:2) more UNIFY students than non-UNIFY students were successful in passing their first-year of study and completing their degrees in minimum time of four years. The study indicates that 66% of first-year UNIFY passed Biology 1 compared to 55% of first-year non-UNIFY students, 59% of first-year UNIFY students passed Chemistry 1 compared to 47% of first-year non-UNIFY students, 67% of first-year UNIFY students passed Physics 1 compared to 56% of first-year non-UNIFY students and 45% of first-year UNIFY students passed Mathematics 1 compared to 40% of first-year non UNIFY students (Grayson 2005:2;14).

According to Grayson (2005:2), the interviews conducted with former UNIFY students highlighted various benefits derived from the programme, which students said helped them to succeed with their academic and social aspects of institutions of higher learning. The students said the programme helped them to acquire cognitive and academic skills such as learning to think critically, to read and write scientific English, to develop life and study skills. They also identified various environmental supports such as the provision of textbooks, bursaries, personal attention, familiarity with university and campus life, laboratory equipment which helped them to succeed in the mainstream studies. Non-UNIFY students interviewed experienced problems in all the areas in which UNIFY students benefited.

Both UNIFY and non-UNIFY students identified financial problems as the main stumbling block to studies at institutions of higher learning. Some students had to interrupt their studies for one or more years and seek employment to raise money before regaining academic life (Grayson 2005:3).

The results of the study confirm the success of the UNIFY programme. The programme helps in enabling students who could not have entered science programmes to obtain university degrees. This shows that the remedial academic support is invaluable in any institution of higher learning.

3.3.4 Tshwane University of Technology (TUT)

Students who undergo the foundation programme at this institution need to have a Senior Certificate with a pass in Mathematics, Physical science and English at higher or standard grades. The students' selection is based on the TUT Potential Assessment battery with a minimum score of 70. Learning areas for the foundation programme include English, computer literacy and life skills.

The life skills curriculum comprises of the following: Campus ethics, learning style and whole brain thinking, self-management and assertive behaviour, time management, self-motivation, conflict management, sexuality and relationships, problem solving skills, stress management and creativity. Life-skills sessions are participative, with group discussions and personal application to optimise student's learning experience. After the one year of foundation programme with a pass mark of 50%, successful students receive a TUT certificate and are enrolled in the mainstream programme according to their field of choice.

I had a personal interview with the person who runs the foundation programme at TUT (Painter 2005: personal interview) and obtain a brochure about the foundation programme applicable to all the campuses of Tshwane University of Technology. Mr Painter pointed out that their support programme has benefited students a great deal in coping with the academic and social aspects of higher educational institution. According to Mr Painter the foundation programme started in 2005. Four hundred and fifty two students (452) were admitted for the programme. One hundred and thirty eight (138) succeeded and passed the foundation programme and joined the mainstream studies. The students will be assessed at the end of the year (2006) to check how many students manage to pass their first-year of study. According to Mr Painter once the students have passed the foundation programme, they are able to cope with mainstream studies. The success of the foundation programme further highlights the importance of remedial academic support to first-year students.

3.3.5 University of Pretoria (UP)

The University of Pretoria runs a remedial academic support programme called University of Pretoria Foundation Year Programme (UPFY). This is an official and registered programme in the faculty of Natural and Agricultural Sciences. It is a foundation programme in Mathematics and Basic Sciences in order to address the low number of black students entering the science faculties. Since this academic support

programme addresses the needs of science students it can be valuable to first-year dental therapy students who have biophysics in their dental therapy programme.

The objectives of the foundation programme are to:

- Remediate the deficiencies in the students prior schooling
- Deepen the insight in the subject matter by placing emphasis on the concept development
- Equip students in skills required for further studies
- Promote positive self-esteem

To be able to attract and increase the number of black students in the Science faculty, UPFY requires a lower entrance than that required by the mainstream science and science based faculties. The foundation programme runs for the full academic year and prepare the students to be able to deal with mainstream programme in the Science faculty. The students' admission to the mainstream studies is based on the performances in the UPFY programme which replaces the requirements based on Matric symbols.

The UPFY programme comprised of the following subjects: foundation courses in Mathematics, Chemistry, Physics English, study skills and computer literacy.

To be awarded the UPFY certificate, the student should obtain a final mark of 60% or more in the four out of five of the following foundation courses: Mathematics, Biology, Chemistry, Physics, English and Study skills. The final mark in the foundation course failed should not be less than 50% and the student must obtain a pass in all examination of the computer literacy course.

English, study skills and computer literacy courses help to prepare the student adequately for academic studies in which mastery of communication and computer

skills are important. The foundation programme further develops the student as far as cognitive and attitudinal skills, which are needed to be able to cope with the demand of higher education institutions, are concerned.

A telephonic conversation with a member staff (Smith 2006:08.24) in the UPIFY programme, revealed that 192 students are admitted into the programme every year. To ensure quality education and to provide intensive student support, students are divided in 6 groups of 32. An average of three to four students who do not show commitment are excluded from the programme yearly and 66% of the students admitted into the programme pass the foundation year. An average of 66% of UPIFY students pass their first-year of study. The results of the UPIFY indicated the commitment and success enjoyed by students who underwent the programme.

3.3.6 University of Witwatersrand (Wits)

University of Witwatersrand has an academic support programme for science students who experience difficulties in coping with the academic and social aspects of educational institution of higher learning. The Counselling and Careers Development Unit (CCDU) offers various programmes to WITS as well as non-WITS members. This unit offers the programmes in:

Academic skills which focus on: note-taking and note-making, reading, study skills, text anxiety and tips for academic success.

Counselling comprises of: confidential individual psychotherapy, appropriately tailored group therapy, specifically designed psycho-educational workshops, trauma debriefing sessions and ongoing debriefing programmes.

Life-skills include the following: stress management, time management, adjustment to university life, self-esteem, personal growth, bereavement, communication, trauma and recovery, anxiety and depression.

Career services programmes include: career education and planning, decision-making and psychometric assessment.

The **sexual harassment programme** aims at empowering students to recognise any form of unwanted sexual advances which can be physical, verbal or non-verbal. Students are made aware of the difference between sexual harassment and flirting, who the victims of sexual harassment can be, who are the harassers and what action to take if encountering sexual harassment.

Crisis center/ Peer support programme is a counselling service for students on campus; it helps students deal with problems, which they are unable to cope with on their own. Students are helped to deal with personal problems such as relationship difficulties, anxiety, stress, depression, family issues and basic support. The WITS peer support programme was initiated by Student Representative Council and has now been incorporated into CCDU. It is run by peer supporters for Wits students and helps students deal with issues mentioned above.

I had a telephonic interview with the person who is (Wadee 2006: personal interview). Professor Wadee is in charge of Science students undergoing the CCDU programme. He informed me that 90% of students who attend the programme succeed with their academic studies. Wits offers an extensive academic support programmes which can benefit dental therapy students at Medunsa as well because the majority of first-year students lack most of the academic skills identified as necessary for achieving academic performances. They can also benefit a great deal from the life skills programmes.

3.3.7 Stellenbosch University (SU)

Although Stellenbosch University has no dental therapy programme in the faculty of dentistry it offers an academic support programme to under prepared first-year

students before entering the mainstream programme which can also benefit the dental therapy students at Medunsa.

In 1995 SU introduced an Extended Degree Programme (EDP), which aims at broadening access and improving the success of under prepared first-year students. This programme offers disadvantaged students an introductory programme before the start of the academic year.

A document of the results of research conducted between 1995 and 2004 (De Klerk, Van Deventer and Van Schalkwk 2006) tracked the progress of former EDP students to find out whether they considered EDP to have been beneficial to them. A second objective of the research was to evaluate the programme from the ex-EDP student's feedback with the view of identifying areas of improvement. The number of students who were tracked down was 902 and the racial distribution was as follows: 68% Coloured, 15% Blacks, 14% Whites and 3% Indians. A group of 30 students were selected from 2000-2004 for the qualitative data relating to the perceptions and experiences of EDP students. Eventually 21 students formed the respondent group. Of the 21 students, 11 were interviewed individually and three focus groups were conducted with the remaining 10 students.

Through qualitative data students voiced the advantages and disadvantages of the EDP. According to the students, EDP helped them to have more time to adjust and deal with their academic load, to participate in social events and to bring them closer to lecturers. It also helped them with study methods, juggling the workload and they did better because they had fewer subjects to deal with. Some students valued the smaller classes; they reported that smaller classes made them more confident and provided a non-threatening environment for asking questions and offering their opinion.

The disadvantages of the EDP as expressed by other respondents was that they had less work than in Matric, thus when they moved to the mainstream studies it was really difficult to deal with the increased workload. This made some of their fellow students to drop out during the first-year of study. Some students commented that the lighter workload of the EDP did not prepare them for the stress of mainstream studies. Other students mentioned the stigmatisation of the EDP from their colleagues who did not undergo EDP programme which followed them into the mainstream studies. De Klerk, Van Deventer and Van Schalkwk (2006:23) believe the above comment shows that EDP students outperform their mainstream peers, thus indicating that EDP is beneficial. The students also raised concern about the level of the foundation physics module, which they consider to be far easy than the actual first-year physics module.

Students also mentioned challenges that face them in the mainstream studies such as finding it difficult to adjust to university life, a change from school where they were spoon-fed to university life where they have to keep up with a huge amount of work and the fast pace set by the lecturer in class.

The questionnaire was sent to 902 students and according to the findings of the research of these 902 students, 60% (539) could have graduated by the end of 2004 (students ranging from 1995-2001) and 363 students could not have graduated by the end of 2004. Of the 539 students that could have graduated by the end of 2004: 74% (397) did not change the degree programme and remained on the original EDP route, 6% (32) changed degree programme but remained on the EDP route and 20% (110) changed degree programme and continued studying in the mainstream route. Of the 539 students who could have graduated by the end of 2004, 30% graduated on the original EDP route, in a different route or in the mainstream. Of these students 64% discontinued their studies while 6% are still undergraduates in the system.

Of the 74% (397) students, 16% (62) come from the faculty of Health Sciences while 26% (104) come from the Science faculty. The two faculties are chosen because they

correspond with the faculties at Medunsa. From the Health Sciences the attrition rate was 39% (24) students, graduation rate 47% (29) students; the retention rate 14% (9) while in the Science faculty the attrition rate was 80% (83) students, graduation rate 16% (17) students and retention rate 4% (4) students. The findings of the study showed the Health Science faculty had higher graduation rate than the attrition rate. It also showed that most students who discontinued with their studies were those with D symbols in Matric that is 43% of the total number of students who discontinued their studies by the end of 2004 followed by 31% of students with a C symbols.

Besides the EDP, Stellenbosch university has a Center for Teaching and Learning which co-ordinates a mentor programme which assist any first-year students especially EDP students to receive academic assistance, social and non-academic support. The results of the study showed that through the intervention of the academic support programme offered by the EDP under prepared first-year students can succeed when entering the mainstream studies.

3.4 CONCLUSION

This chapter dealt with the provision of remedial academic support. Section 3.2 discussed the strategies for remedial academic support with reference to the literature reviewed for the study from the international and national perspectives. The learning strategies focused on cognitive skills which researchers identified as beneficial in enhancing students' academic performances include teaching strategies such as orientation programmes, holistic approach to teaching, peer tutoring, teamwork, Computer Bases Learning, classroom assessment and language of instruction. To be able to interrogate the learning content effectively students need to helped to acquire good thinking, mind and concept mapping skills. Learning strategies focused on non-cognitive skills such as attitude, self-assessment and self-worth were also highlighted as playing an important role in academic success of the students.

Section 3.3 focused on remedial academic support at Medunsa and other South African higher educational institutions. Medunsa has a mentor-mentee programme which started in 2006. This mentors work in collaboration with the Center for Academic Services in assisting first-year students who require remedial academic support.

Tshwane University of Technology and Polokwane campuses though not having the faculty of dentistry have science faculties that have the same composition of student body like Medunsa thus the remedial academic support which are being offered by their foundation programmes can benefit Medunsa dental therapy students as well.

The universities of Pretoria and Stellenbosch offer foundation programmes to their prospective first-year students to enable them to cope with the demands of their mainstream studies. Though university of Witwatersrand does not have a foundation programme it offers extensive academic and social skills programmes which help mainstream students who experience academic and social problems which are detrimental to their academic performances.

All these institutions highlight the value of remedial academic support which is provided to under prepared first-year students who would otherwise not have been admitted and succeeded in mainstream studies. The research design is discussed in the next chapter.

CHAPTER 4

RESEARCH DESIGN

4.1 INTRODUCTION

Chapter 2 was devoted to student support needs in higher education at international and national level with the help of relevant literature. The needs highlighted by the researchers included the poor quality of the high schools which these students attended, limited or non-existent career guidance at those schools, poor command of English as the language of instruction, poor teaching and learning strategies, lack of funding, commuting versus staying in university residences, lack participation in extra-mural activities, lack of motivation, negative attitude towards studies and lack of parental control. In Chapter 3 literature was used to shed some light on strategies that can be employed to address the needs perceived in Chapter 2 to be constraints upon students' performances and achievements. This was done with specific reference to other medical facilities where dental students were trained.

As the core problem encompasses those needs that are perceived to be hindering effective academic learning of first-year students, in the next chapter the empirical study addressed those areas that address the research question that is, whether factors identified in the literature studies contribute to poor academic performances of first-year students.

4.2 RESEARCH PROBLEM

The provision of remedial academic support to first-year dental therapy students at Medunsa is a concept researched from a number of different viewpoints. The literature consulted in Chapter 3 tends to indicate that the needs identified in Chapter

2 can be minimised if the strategies identified by both international and national researchers are considered.

4.3 AIM OF THE RESEARCH

The primary aim of the research is to identify factors that contribute to poor academic performance of students, enrolling at Medunsa for Dental Therapy course, to identify problem areas to be addressed in remedial programmes and to recommend strategies that can be used to minimise the failure rate of these students.

The secondary aim is to do a literature study on both the international and national findings regarding the needs for academic support.

4.4 OBJECTIVES OF THE EMPIRICAL STUDY

The core of this research is to identify the remedial academic support needs of first-year dental therapy students at Medunsa. The objectives of the research can be stated as follows:

- To identify remedial academic support needs in higher education at international and national level so as to address the academic needs of dental therapy students at Medunsa.

- To analyse remedial academic support provision in higher education at international and national level, in order to establish the most appropriate method of providing remedial academic support to dental therapy students at Medunsa.

With these objectives as guidelines, the research design is discussed in the following section.

4.5 RESEARCH DESIGN

According to Burns and Grove (2001:223) a research design is a blueprint for conducting the study that maximises control over factors that could interfere with the validity of the findings. For the purpose of this study mixed methods of collecting data was used. A questionnaire was administered to obtain background information of students and a qualitative approach was employed where interviews with students, educators and staff from CADS were performed.

4.5.1 Setting

The research took place at Medunsa. The interview of students was conducted in the natural setting. According to Burns and Grove (2001:40) natural setting means that the researcher does not manipulate the environment of the study. For the purpose of this study the office of the researcher was used because of the small number of participants, it was also an ideal place to observe the students, as they were confined to a small space. The study involved first-year Dental therapy students, who had failed four out of the six academic tests given. Interviews were also conducted with CADS members, who dealt with the personal, social and academic problems encountered by students, as well as educators involved with first-year students.

4.6 CONSIDERATION OF RELIABILITY AND VALIDITY

4.6.1 Reliability

According to Mouton (1996:110), reliability demands consistency over a period of time. It means that if the same measure and conditions under which data was collected were kept constant, the same data should be received.

Babbie and Mouton (1998:120) state that reliability of the study can be compromised by participants misinterpreting the information given, asking questions to which the respondents have no answers, asking difficult questions and thus confusing the respondents and also by observer's subjectivity.

The researchers have the following suggestions to ensure the reliability of the study:

- Be clear in what is being asked
- Ask questions that respondents are able to answer
- Ask questions that are relevant to the respondent
- Use the test-retest method, by repeating the measurement

To ensure the question of reliability of the study the above mentioned points were borne in mind, the researcher was present when the students answered the questionnaire in order to answer any questions the participants might have a problem with. The selection of the sample and methods of data collection were carefully considered.

4.6.2 Validity

According to Kerlinger as cited by Ramsay (2002:88) validity in the design looks at the question: Are we measuring what we think we are measuring? Mc Milllan and Schumacher as cited by Ramsay (2002:88) refer to validity as a degree to which the research design is adequately described so that the study may be compared to the findings of other studies.

Cohen, Mannion and Morrison as cited by Exner (2003:91) state that although it can be demonstrated that a particular instrument measure what it purported to be measuring, validity takes on numerous guises. A qualitative study may be considered valid if it addresses the richness, scope, depth and honesty of the captured data. The researchers also point out that the extent to which the researcher is able to remain

objective as well as participants involved contributes to the overall validity of the study. Despite this they maintain that it must be borne in mind that a natural bias can still filter through in the respondent's and participant's subjectivity, opinions, perspectives and attitudes.

To ensure validity as pointed out by Exner (2003:91) citing Cohen, Mannion and Morrison (2000) the researcher used tape recording as a data collection instrument for the interviews, used triangulation method and asked peers' opinion when needed.

4.7 POPULATION AND SAMPLING

According to Roscoe (1969) as cited by Mouton (1996:134) population is "a collection of objects, events or individuals having some common characteristics that the researcher is interested in studying".

Selttiz and Cook (1969) also cited by Mouton (1996:134) defines population as "the aggregate of all the cases that conform to same designated set of specifications". Though the research is focused on first-year students at Medunsa, for practical reasons the researcher decided to restrict the investigation to first-year Dental Therapy students only. Sampling is a process of selecting the people who will be participating in the research. According to Mouton (1996:32) the aim of sampling is to produce representative selection of population elements. He further states that the key concept in sampling is representativeness. If the sample from which we will generalise does not represent the population from which it was drawn, then we have no reason to believe that the population has the same properties as those of the sample.

The study was conducted on first-year Dental therapy students, who were under achievers. These students would had failed four out of six tests that were given, thus a purposeful sampling was done. The interview was conducted in the third semester because students would have been at the institution for a considerable amount of time,

thus they were able to make an informed decision about factors, which hindered their academic success.

4.8 METHOD OF DATA COLLECTION

Research method includes a variety of activities. For the purpose of this study various methods such as questionnaires, interviews with CADS staff members and focus group interviews with educators and students were used to collect data.

4.9 DATA COLLECTION

For the purpose of this study the following methods of collecting data were used:

4.9.1 Instruments

Mixed methods of collecting data were employed. A questionnaire was administered to all first-year dental therapy students, in order to obtain their background information, the locality of their high schools as well as the quality of education received at the high schools they attended. The reason for giving questionnaires to achievers as well as under achievers was to determine the quality of schools the achievers attended as well as their home backgrounds. Thus the questionnaires formed the basis of the quantitative research method. The questions were structured in such a way that the participants were asked to select the most appropriate answer on a five-level Likert interval ratio scale rating order. Participants chose from strongly agree, agree, undecided, disagree and strongly disagree.

According to Mervin (1992:59) the advantage of using this type of rating scale is that the data are easily analysed as choices are standardised, participants can answer rapidly and the total numbers are easily averaged for a mean score. The author further states that even though there are advantages to this form of evaluation, there is a need

to combine this questioning with open-ended questions. The data collected with the questionnaire was supplemented with interviews of under achieving students. That constituted the use of qualitative method. The use of the two methods formed the basis for a mixed research design. The data collected through the questionnaire was analysed using a coding table on which a scoring data of 1-5 was used, while data collected from interviews was interpreted qualitatively by means of content analysis.

Observations and semi-structured interviews were used as qualitative research methods in order to determine the interactions among students, as well as their interaction with the learning content. Semi-structured approach was also carried out with educator focus group interview as well as a staff member from the CADS department, who also come into contact with first-year students, thus helping them to cope with the demands on institutions of higher learning.

4.9.2 Observation

According to Thomas (1998:255) observation refers to an investigator directly witnessing the actions of individuals, groups, institutions and environments.

Best and Kahn (1989:174) highlight both the advantages and disadvantages of observation. They state that direct observation as a data gathering strategy plays an important contribution to descriptive research, because certain types of information can best be obtained through direct examination by researcher. On the other hand they believe direct observation is to some degree an intrusion into the dynamics of the situation in that intrusion may be reactive, affecting the behaviour of the persons being observed. They state that individuals do not behave naturally when they know that they are being observed. The researcher is the educator of first-year Dental Therapy students who they are familiar with and who is also familiar with their behaviour patterns, thus was in a position to guard against these concerns. The

recordings of observation were done as soon as possible while the observed details were still fresh in the mind of the researcher.

4.9.3 Interviews

Best and Kahn (1989:201) describe interview as an oral questionnaire. They emphasise that for the interview to be effective, the interviewer has to gain rapport or establish a friendly and secure relationship with the participants. This will enable confidential information to be obtained which participants may not be willing to put in writing. They also state that interviews allow the interviewer to explain more explicitly the purpose of the study and the exact type of information that is needed. It enables the interviewer to clarify questions, which participants might have misinterpreted. Interview allows the interviewer to assess the sincerity and insight of the participants. The truthfulness of the responses can also be determined by seeking the same information in several ways at various stages of the interview.

Thomas (1998:134) who supports this view, states that interview setting (face to face) enables the researcher to clarify questions that participants may find confusing. It also makes it easy for participants to amplify their answers or digress from the central topic in ways that prove useful to the investigator.

Interviews were conducted for students, who failed four out of six tests written. A member of CADS was also interviewed to determine the level of consultancy of under performing students, and the strategies they employed to assist these students.

4.9.4 Focus group

In order to increase the validity, reliability and richness of the study, a focus group interview was conducted on educators to find out the type of problems they encountered when interacting with first-year students, and what in their opinion

contributed to these students, poor performances in higher educational institutions. De Vos as cited by Exner (2003:95) see focus group as a purposive discussion of a specific topic that takes place amongst individuals with similar backgrounds and common interests. In the case of the current study, the common topic was to identify factors that contributed to poor performances of first-year dental therapy students, and remedial strategies that can be employed to address these deficiencies.

According to De Vos as cited by Exner (2003:96) the advantages of using focus group is that it permits considerable probing, which exposes participants' worldviews. By probing the researcher was able to draw out more details from participants, it also facilitates group interaction and enhances data capturing. It is a flexible technique that can explore unanticipated issues. During the discussion the researcher was able to rephrase or clarify questions or statements.

4.10 PRE-TEST OF TOOLS

According to Thomas (1998:172) the purpose of a pilot study is to discover weaknesses in the questions and in the method of administration. Once the questionnaire, which addresses factors related to the previous high schooling of the students, was constructed, it was administered to first-year Diagnostic Radiography students, at Medunsa. (Diagnostic Radiography students were chosen because they have similar radiographic learning areas like dental therapy students. They both make use of radiographs to diagnose patients' diseases). It was executed in the same manner as was planned for the main investigation. The purpose of the pilot study in this research was to test for the layout, language usage, possible ambiguity, clear instruction, and acceptability of the statements and the length of the questionnaire. Comments and criticism were invited from colleagues and the participants. The questionnaire was refined according to the comments received.

4.11 ETHICAL CONSIDERATION

Permission was requested from the institution, heads of departments concerned and the students to undertake the study at Medunsa. Participants were informed about the purpose of the study, they were asked to sign a consent form. Burns and Grove (2001:206) describe a consent form as a prospective subject's agreement to participate in a study as a subject which is reached after assimilation of essential information. The authors further state that the subjects to the degree of their ability should have the opportunity to choose whether or not to participate in the research. According to the (Nuremberg code 1949) as cited by Burns and Grove (2001:206) participants should have sufficient knowledge and comprehension of the elements of the subject matter involved in order to enable them to make and understanding and enlightened decision. According to the authors an informed consent implies not only the imparting of information by the researcher but also the understanding of the information by the subjects. The participants in the study were informed that they could discontinue with the study at any time. They were assured of anonymity and that their responses would only be used for the purpose of this study. Thomas (1998:134) state that participants will in most cases be more candid in their replies if they are confident that their identity will not be revealed in a published report of a research.

4.12 DATA ANALYSIS AND INTERPRETATION

According to Mouton (1998:161) the term "analysis" refers to the resolution of a complex whole into its parts. Ary, Jacobs and Razavieh (2002:156) on the other hand, describes data analysis as a process whereby researchers systematically search and arrange the data in order to increase their understanding of the data and to enable them to present what they have learned from others.

The aim of the data analysis in this study was to provide answers to questions raised in chapter one, to determine whether there was any agreement to the study, findings, questionnaires and interviews.

The triangulation data analysis method was used to complement the mixed research methodology used to collect data namely: literature study, questionnaires and focus groups interviews. According to Fiske as cited by Burns and Grove (2001:239) triangulation is a combine use of two or three theories, methods, data, sources, investigation or analysis in the study of the same phenomenon to increase the overall validity of studies. This view is supported by Mouton (1996:156) who attest that multiple sources of data collection in a research project increases the reliability of the observation because various methods complement each other, thus their respective shortcomings can be balanced out.

According to Creswell (2002:571) a triangulation analysis technique can be done in two ways; the first is to provide discussion about the themes emerging from the data and how they support or refute one another. The second way is to combine the qualitative and quantitative data to arrive at a new theme for further testing or exploration. For the purpose of this study the first proposition used was the literature study and the then an empirical research followed to identify the possible constraints and to determine whether the constraints are applicable to first-year dental therapy students, at Medunsa through questionnaires validated by semi-structured interviews and focus group.

Interpretation refers to the stage in the research process where the researcher tries to bring it together by relating to various individual findings to the existing theory. In this study the researcher used the findings of the literature studies, strategies that are being applied in other institutions, responses from the questionnaire and the interviews to determine the strategies that can be used to assist first-yea

4.13 CONCLUSION

In this chapter the research design to be used was highlighted. In the next chapter the empirical study will be conducted.

CHAPTER 5

DATA ANALYSIS AND DISCUSSION OF RESULTS

5.1 INTRODUCTION

In Chapter 4 the research design was discussed in detail. In this chapter the empirical investigation is discussed. A structured questionnaire was given to 16 students, the achievers as well as non-achievers. The data gathered from the questionnaire as well as the transcription of the focus group discussion of both educators and under-achievers, individual interview of one educator and the observational notes during students' focus group interview was processed with the aim to answer the research question "What are the remedial academic support needs of first-year dental therapy students at Medunsa?" This chapter reflects on the steps in the research process, which includes the analysis of the data. Finally the processed results are discussed.

5.2 THE STEPS IN THE RESEARCH PROCESS

The following section deals with the sampling of subjects for the research, the time and duration of the process as well as the role of the researcher as facilitator. Data are analysed and the reduction and organisation of data are also discussed and linked to Section 4.6 in the previous chapter which summarised the steps in the research process.

5.2.1 Sampling: Selection of participants

Participants included educators as well as first-year students; educators were from Allied Health departments at Medunsa. Four of these educators have a full involvement with first-year students (they give lectures and supervise the clinical

work of these students) while two are partially involved with the students (they only supervise the clinical work of the students). The rationale for selecting them is explained in Section 5.2.1.1 below. Sixteen students participated in the filling of a questionnaire while five out of the sixteen participated in focus group interviews. All participants upon being briefed about the research showed interest in participating in the project.

5.2.1.1 Educators' focus group interview

In Section 4.6.1.3, I planned to interview three members from CADS, but at the actual time of the interview there was staff shortage in that department. One member resigned, another was on an official trip only one member was available for the interview thus the researcher incorporated the member to form part of the educators' focus group interview.

I deviated from the original plan of conducting a focus group interview with educators dealing with first-year dental therapy students only (see Section 4.6.1.4), as I realised that a more comprehensive picture of the types of problems that educators encounter when dealing with first-year students, would emerge if educators who deal with first-year students from various departments participated. Hence the educators from CADS, Physiotherapy and Radiography took part. In total five educators took part in the focus group interviews. Three of the educators have 100% involvement with first-year students while two of them encounter the first-year students mainly in the clinical sessions. They were selected because they had 100% involvement with first-year students in the past and because of their experience they would be able to give more input concerning evolvement of students.

An educator from the department of Dentistry did not form part of the focus group interview. She was interviewed individually because she informed the researcher the day before the scheduled interview that she had received a letter to take part in the interview for the promotional job that she had applied for. There was a clash of the date and time thus an individual interview was scheduled for a later date. The participants took part voluntarily and they were enthusiastic in taking part in the research process. Table 5.1 and 5.2 give a summary of participants that took part in the educator focus group and individual interviews respectively.

Participant	Gender	Department	Teaching experience in years at Medunsa	Teaching qualification	100% involvement with the target group	Partial involvement with the target group
RR1	Female	Radiography	20	Yes	No	Yes
RR2	Male	Radiography	10	Yes	No	Yes
RR3	Female	Radiography	10	Yes	Yes	No
RP	Female	Physiotherapy	5	No	Yes	No
RC	Female	CADS	3	No	Yes	No

Table 5.1 Summary of educators' focus group interview

Letters of alphabets were used to identify the participants according to their various departments, for example RR1 represents the respondent number 1 from Radiography department, RP represents the respondent from Physiotherapy department and RC represents the respondent from the Center for Academic Department (CADS). The teaching experience of educators ranges from 3 to 20 years. Only educators from the department of Radiography had teaching qualifications.

Participant	Gender	Department	Teaching experience in years	Teaching qualification	100% involvement with first-year students	Partial involvement with first-year students
RD	Female	Dentistry	4	No	Yes	No

Table 5.2 Summary of individual interview participant

RD in the table above represents the respondent from the department of Dental therapy. The educator has no teaching qualification but has 4 years teaching experience at Medunsa.

5.2.1.2 Students taking part in the completing of the questionnaire

First-year students participated in the completing of the structured questionnaire. This included achievers as well as non-achievers. The reason for including achievers in the study is stated in Section 4.6.1.1.

A week preceding the completing of the questionnaire, the students were informally briefed about the research and its purpose. They were informed that volunteers were required for the purpose of this study and that should they volunteer they were free to discontinue at any time. On the day scheduled for completing the questionnaire all sixteen students (100%) showed interest and participated in the study and met with the criteria set out in Section 4.6.1.1. Table 5.3 gives a summary of participants who took part in the filling of structured questionnaire.

Gender	Male	Female
	6	10
Age	Range: 18-23	Range: 18- 23
Year of study at Medunsa	1,1,1,1,1,1	1,1,2,1,1,1,1,2,2,1
Province of origin	Limpopo x 2 Gauteng Kwa-Zulu Natal Free State Mpumalanga	Limpopo x 4 Gauteng Kwa-Zulu Natal North West x 3 Mpumalanga
School attended: U = Urban T = Township/sub urban R = Rural	 U = 2 T = 2 R = 2	 U = 1 T = 5 R = 4

Table 5.3 Summary of participants for the questionnaire

Sixteen students took part in completing the questionnaire six males and ten females. Of the total number six students came from the Limpopo province, two from Gauteng, Kwa-Zulu Natal and Mpumalanga respectively, three from the North West and one from the Free State provinces. Two, seven and six students attended the urban, township and rural high schools respectively.

5.2.1.3 Focus group interview for students

Six participants were selected from the group of sixteen based on having failed four out of the six tests written (4 tests and 2 assignments). This meets the criteria set out in Section 4.6.1.2. Five subjects participated in the focus group interview. The sixth subject failed to arrive on time and only arrived an hour later due to transport problem (he does not reside on the campus). The group consisted of three females and two males who after an informal discussion about the purpose of the study showed enthusiasm in participating in the research process. Table 5.4 gives a summary of participants who took part in the students' focus group interview.

Participant	Gender	Province	School attended
S1	Male	Limpopo	Rural
S2	Female	Limpopo	Rural
S3	Female	Limpopo	Rural
S4	Male	Mpumalanga	Rural
S5	Female	Limpopo	Rural

Table 5.4 Summary of students' focus group interview

The participants in the students' focus group interview comprised of three females and one male. All participants came from the Limpopo province and they all attended rural high schools. The letter S was used to represents the student and the numerical numbers represented the sequence of students in answering the questions.

5.2.2 The work process: time and duration

The educator focus group interview took place on the 31/08/2006 and it lasted for 1 hour 50 minutes while the individual educator interview took place on the 13/09/2006 and it lasted for 1 hour 20 minutes. The students completed the questionnaire on 18/09/2006 and the process lasted for 30-45 minutes while the focus group interview schedule was done on the 21/09/2006 and it lasted for 2 hours. The reason for conducting the interview with students at this stage is given in Section 4.5.

5.2.3 Data collection process

Raw data were collected during both educator and students' focus group interviews. Students' focus group discussion helped in expanding and clarifying most aspects contained in the students' questionnaire. The observational notes taken during students' focus group interview helped to clarify aspects not clearly audible during the interview process, as some of the students were a bit nervous in the beginning. Data collected is discussed in the next section.

5.2.4 Analysis of data

The study employed both quantitative and qualitative methods as data gathering tools. The students' raw data were gathered with the use of questionnaires, audio recordings, as well as observations of the focus group during the interview process. Individual plus focus group interviews formed part of gathering data for the educators. Analysis of the data was a process of gaining order, structure and meaning of the raw data. The first step was to transcribe the raw data.

5.2.4.1 Transcription

Immediately after the interviews the recordings were typed to put them into a readable format for analysis. Two audiotape recorders were used for the educators' focus group interview in order to be able to record the conversation over the length of the table. This strategy proved to be helpful during the transcribing because if one audiotape was not clear the researcher listened to the other as the participants' tone of voice varied. Notes were also taken. I listened to the recordings and as the transcriber machine used had varying speed levels, it enabled me to slow down the recording in order to hear unclear recordings. Most of the recordings were transcribed according to the way the discussion took place. This helped me to quote participants verbatim when the content was analysed. Where participants repeated themselves, I listened to the general idea and transcribed it as such. For the individual interviews, I used one tape recorder and the same transcriber machine. The participant also supplied her notes to the researcher as a source of referral if the audiotape was not clear enough as the researcher provided the interview questions to the respondent prior to the interview.

One audiotape recorder was used during the students' focus group interview and the researcher involved one of the educators (with students' permission) to observe and take notes during the process. These notes helped during the transcription to fill in the discussion where the audiotape was inaudible as one participant in particular had a soft voice.

5.2.4.2 Coding

Data from the questionnaire and interviews are organised by coding the responses to facilitate the process of analysing them (McMillan & Schumacher 1997:508). The experiences and thoughts of the participants are quoted; these quotes give rich qualitative data and are presented in italics throughout the report. The quotations and descriptions were linked to various respondents by means of letters of the alphabet from the department they come from and numbers were added to the alphabet if more than one respondent come from the same department, for example RP represents the respondent from the Physiotherapy department and RR1 represents respondent number 1 from the Radiography department. Students' responses were linked to the various respondents by the letter S followed by a numerical number for example S1 indicates a response from student number 1, S2 a response from student number 2 and so on. According to Kvale (1996:192), coding of data involves reducing long statements into simple categories. According to the above author, the purpose of categories is to reduce the amount of information into a few tables and figures to facilitate handling. For the purpose of this study, similar responses were grouped together.

5.2.4.3 Content analysis

Raw data are processed by identifying themes, categories and subcategories. In this study this was done with the analysis of the questionnaire and the transcription of individual and both focus group interviews. According to Creswell (1998:153) content analysis alone does not provide answers. The researcher must interpret and explain the information in order to construct meaning. From these interpretations it might be possible to answer the research question. The next section deals with the discussion of the results of the analysed data.

5.3 DISCUSSION OF RESULTS

The interpretation of the raw data is done by analysing the questionnaire and from the transcription of the individual as well as the focus group interviews.

5.3.1 Student questionnaire

As indicated in Section 5.2.1.2, sixteen respondents completed the questionnaire. The researcher assured the respondents of anonymity and informed them that the information supplied would only be used for the purpose of this study. The respondents completed the questionnaire in the presence of the researcher and the researcher informed them that they were free to ask if they experienced any problem with any question or were unsure of the meaning of the questions. Some respondents had a problem in understanding questions 9.4 and 9.5. They were informed to underline the phrase most suitable to them but during analysis of the results the researcher realised that some students underlined one answer and ticked the other so the response presented a problem when being analysed. Analysis of the questionnaire was as follows:

Categories	Subcategories	
THEME 1: Gender		
Male = 6	Female = 10	
THEME 2:Demographic data		
2.1 Province of origin	Gauteng	12.5%
	Limpopo	37.5%
	North West	18.75%
	Mpumalanga	12.5%
	Kwa-Zulu Natal	12.5%
	Free State	6.5%

THEME 3: Educational data				
3.1 Year matriculated	2003		6.25%	
	2004		25%	
	2005		68.75%	
3.2 Relevant subjects passed in Matric	Grades		HG	SG
	Mathematics		25%	75%
	Physical Science		81.25%	18.75%
	English		100%	0%
	Mathematics	Symbol	HG	SG
		A	0%	43.75%
		B	0%	25%
		C	0%	6.25%
		D	18.75%	0%
		E	6.25%	0%
	Physical Science	A	0%	0%
		B	0%	6.25%
		C	18.75%	6.25%
		D	25%	6.25%
		E	37.5%	0%
		A	0%	0%

	English	B	18.75%	0%
		C	31.25%	0%
		D	25%	0%
		E	18.75%	0%
	1 respondent gave no answer			6.25%
3.3 Data on high school facility	Laboratory		Yes	No
			56.25%	37.5%
	1 respondent gave no answer		6.25%	
	Library		37.5%	56.25%
	1 respondent gave no detail		6.25%	
3.4 State of equipment in high school	SA = strongly agree; A = Agree; D = disagree; SD = strongly disagree; UD = undecided			
	Well equipped both facilities (6 schools)	SA	A	D	SD	UD
		16.7%	83.3%	0%	0%	0%
	Laboratory only (3 schools)	SA	A	D	SD	UD
		0%	66.7%	0%	33.3 %	0%
	1 respondent gave no answer Both facilities not available in 6 schools					

THEME 4: Socio-economic status of family			
4.1 Education of parents	Schooling	Father	Mother
	Tertiary	43.75%	37.5%
	Grade 10 – 12	37.5%	50%
	Grade 7 – 9	0%	6.25%
	Grade 5 – 6	6.25%	0%
	Grade 0	6.25%	0%
	1 respondent gave no answer		6.25%
4.2 Occupation of parents	Father: welder, labourer, carpenter, taxi driver, security inspector, law enforcement officer, importer/exporter, process controller, pensioner, porter, cleaner, crane operator 2 gave no details; 1 has no father Mother: financial manager, clerk, chef, car seats cutter, pensioner, housewife, pensioner, house keeper, tailor 3x teachers 3x unemployed 1 has no mother, 1 respondent gave no detail		
4.3 Income of parents per month in rands	> 5000		31.25%
	3000 – 5000		12.50%
	1500 – 2500		18.75%
	500 – 750		6.25%
	None		6.25%
	4 respondent gave no answer		25%

THEME 5: Teaching/ learning strategies at high school		
5.1 Were you coping with English as medium of instruction	Yes = 100%	
5.2 Were you allowed using	Sepedi	12.5%

other languages during school hours?	Setswana	25%
	Xitsonga	25%
	Zulu	12.5%
	Sesotho	6.25%
	Afrikaans	6.25%
	Any	6.25%
	1 respondent gave no answer	6.25%
5.3aWere you given assignments, which involved research.	Yes	No
	75%	25%
5.3b If yes, were you able to use the information accordingly?	91.7%	8.3%
5.4 Was the assignment only presented to the teacher for marking?	Yes	No
	58.3%	41.7%
5.5 Were the assignments presented to the class for further input?	Yes	No
	58.3%	41.7%
5.6 Did you ever achieve any leadership position?	Yes	No
	68.75%	25%
	1 respondent gave no answer	6.25%
5.7 Did you ever work in small groups	Yes = 100%	
5.8 Does teamwork play an important role in the classroom situation?	Yes = 100%	

THEME 6: Career guidance		
6.1a Were you exp osed to career guidance?	Yes	100%

6.1b If yes, how were you exposed to career guidance	As a subject in high school		12.5%
	University open day		31.25%
	Visitation by career guidance counsellors		37.5%
	Related manual reading		18.75%
6.2 At what grade were you exposed to career guidance?	Grades	9	18.75%
		10	25%
		11	31.25%
		12	18.75%
	1 respondent gave no answer		6.25%
6.3 Was career guidance helpful at that study grade?	Yes		No
	75%		18.75%
	1 respondent gave no answer		6.25%
6.4 If the answer is no, at what grade do you think students should be exposed to career guidance?	Grades	8	66.7%
		9	33.3%
6.5 Were you able to differentiate between Dental Therapy and Dentistry	Yes		No
	37.5%		62.5%

THEME 7: Funding					
7.1a Are you receiving any funding from any other source except your parents?	Yes		No		
	62.5%		37.5%		
7.1b If the answer in no does lack of funding affect your studies?	SA	A	D	SD	UD
	33.3%	16.7%	16.7%	0%	33.3%

7.2 Do you work part-time to pay for your fees?	Yes	No	
	6.25%	81.25%	
	2 respondents gave no answer		12.5%
7.3 Do you have to work part-time to help out with your finances?	Yes	No	
	12.5%	81.25%	
	1 respondent gave no answer		6.25%
7.4 Do you think scholarship/ bursaries can help motivate students to study more and improve their academic performances?	Yes = 100%		

THEME 8: Academic matters					
8.1 Are you the first member to study at university?	Yes		No		
	43.75%		56.25%		
8.2 Do you receive educational support from other members of the family?	SA	A	D	SD	UD
	43.75%	37.5%	12.5%	6.25%	0%
8.3 Are other members of the family able to help you with your studies and assignments?	SA	A	D	SD	UD
	0%	18.75%	50%	25%	6.25%
8.4 Did you participate in orientation programme?	Yes		No		
	68.75%		31.25%		
8.5 If the answer is yes, did orientation programme help in familiarising you with campus life?	Yes		No		
	81.8%		18.2%		
8.6 Do you think peer	Yes		No		

tutoring/mentoring can benefit first-year students in helping them to academically and socially adjust to campus life?	68.75%		31.25%		
8.7 Do you stay at the university residence?	Yes		No		
	75%		25%		
8.8 If the answer is yes, is staying at the residence an advantage to your studies?	SA	A	D	SD	UD
	50%	50%	0%	0%	0%
8.9 Do you participate in extra-mural activities at the university?	Yes		No		
	33.3%		66.7%		
8.10 Does your participation help you to adjust better to University campus life?	SA	A	D	SD	UD
	25%	75%	0%	0%	0%
8.11 Does your independence at the university negatively affect your studies?	SA	A	D	SD	UD
	12.5%	6.25%	25%	37.5%	12.5%
	1 respondent gave no answer				6.25%

THEME 9: Teaching/learning strategies					
9.1 Does lack of command of English as a medium of instruction negatively affects your studies?	SA	A	D	SD	UD
	12.5%	25%	31.25%	31.25%	0%
9.2 Do you think lack of command of English can negatively influences reading skills which is an important tool for effective studying?	SA	A	D	SA	UD
	25%	50%	18.75%	0%	6.25%
9.3 Can you effectively understand the learning	SA	A	D	SA	UD
	12.5%	75%	6.25%	0%	0%

content and the teaching instructions that you receive?	1 respondent gave no answer					6.25%
9.4 Do you prefer to study on your own or attend a lecture?	a. Own study:	SA	A	D	SD	UD
		0%	18.75%	0%	0%	0%
	b. Attend lecture:	12.5%	18.75%	0%	0%	12.5%
	Spoilt answers from 6 respondents					37.5%
9.5 When you study do you cram or do you study with understanding?	a. Cram	SA	A	D	SD	UD
		6.25%	18.75 %	0%	0%	0%
	b. Study with understanding	12.5%	25%	0%	0%	0%
	Spoilt answers from 6 respondents					37.5%
9.6 In your opinion is thinking skills such as problem solving and decision-making beneficial in helping you to apply the theoretical knowledge to practical situation?	SA	A	D	SD		UD
	31.25%	37.5%	12.5%	0%		6.25%
	Spoilt answers from 2 respondents					12.5%
9.7 Can you effectively link the theoretical knowledge with the clinical practice?	SA	A	D	SD		UD
	18.75%	68.75%	0%0%	0%		0%
	Spoilt answers from 2 respondents					12.5%
9.8 Are you familiar with mind-mapping/concept-mapping technique?	Yes			No		
	50%			50%		
9.9 Do you employ mind-	SA	A	D	SD		UD

mapping/concept-mapping technique during your studies?	0%	50%	37.5%	0%	12.5%
9.10 Are you familiar with Computer Based Learning (CBL)?	Yes			No	
	87.5%			12.5%	
9.11 If the answer is yes, do you consider this strategy effective for teaching/learning environment?	SA	A	D	SD	UD
	21.4%	78.6%	0%	0%	0%
9.12 In your opinion do regular classroom assessments influence effective teaching/learning?	SA	A	D	SA	UD
	25%	43.75%	18.75%	0%	12.5%
9.13 Does signing record attendance register have a bearing on academic achievements of students?	SA	A	D	SD	UD
	18.75%	50%	12.5%	12.5%	6.25%

THEME 10: Behavioural attributes					
10.1 Do you think motivation and positive attitude towards studies contribute to academic achievements?	SA	A	D	SD	UD
	68.75%	31.25%	0%	0%	0%
10.2 Does self-worthiness enhances academic performances?	SA	A	D	SD	UD
	25%	68.75%	0%	0%	6.25%
10.3 Can you effectively self assess and self monitor your studies to be able to timeously ask for assistance when you experience problems?	SA	A	D	SD	UD
	56.25%	37.5%	0%	0%	6.25%

10.4 In your opinion do odd patterns of sleep have negative effects on students' academic performances?	SA	A	D	SD	UD
	18.75%	56.25%	12.5%	0%	6.25%
	1 respondent gave no answer				6.25%

Table 5.5 Summary of identified themes, categories and subcategories with examples

In the table above the identified themes, categories ands subcategories with examples from raw data can be seen. In some questions there was a participant that did not respond but it was not the same participant all the time.

THEME 1 (Gender): Participant composition consisted of 10 females and 6 males

THEME 2 (Demographic data): The majority of students for this study came from Limpopo province 37.5% (n = 6) and 43.75% (n = 7) attended suburban/township schools.

THEME 3 (Educational data) indicated that 25% (n=4) and 81.25% (n = 13) of students did Mathematics and Physical Science in higher grades respectively. The majority 18.75% (n = 3) obtained symbol D and 37.5% (n = 6) symbol E in Mathematics and Physical Science respectively. Only 56.25% (n = 9) of schools had a laboratory and another 37.5% (n = 6) had a library. Six schools had both facilities and three schools had none. This indicated the standard of education of the two subjects in the previously disadvantaged high schools (schools that lack resources that facilitate successful teaching and learning).

THEME 4 (Socio-economic status of family): A total of 43.75% (n = 7) of fathers and 37.5% (n = 6) of mothers had tertiary education respectively with 41.6% (n = 5) of families having a combined salary >5000 rands (four respondents did not indicate salary of parents). This could be the reason students find it difficult to obtain educational loans from financial institutions. Parents may be unable to stand as surety due to lack of healthy financial status.

THEME 5 (Teaching/ learning strategies at high school): Of the respondents 100% (n = 16) indicated that they coped well with English as a medium of instruction. This included some of the participants who commented in the focus group interview that they are struggling with English a tertiary level due to the fact that all the subjects were taught in mother tongue in high school. See section 5.3.2 (THEME 4 S3, S4). Of the respondents 75% (n = 12) did assignments, which involved research and 91.7% (n = 11) of these respondents said they were able to use the information accordingly. A number of respondents 58.3% (n = 7) indicated that the teacher was the only person who marked the assignments but the students were involved in further discussion of the assignments in class. From the information above the researcher would expect students to be able to research the assignments given at institutions of higher learning but they are still faced with a lot of challenges for their work to be up to standard.

THEME 6 (Career guidance): of the respondents 100% (n = 16) indicated that they were exposed to career guidance but only 12.5% (n = 2) had career guidance as a learning area at school. The majority of students 37.5 (n = 6) new about career guidance through visitation by career guidance counsellors, 31.25% (n = 5) through universities open day and 18.75% (n = 3) by reading related manual. The majority of students 31.25% (n = 5) were exposed to career guidance in grade 11 while 18.75% (n = 3) were exposed to career guidance in grades 9 and 12. Of the respondents 18.75% (n = 3) thought career guidance will be helpful if presented to students in grade 8. Of the respondents only 37.5% (n = 6) could differentiate between dental therapy and dentistry while 62.5% (n = 10) could not.

THEME 7 (Funding): of the respondents 62.5% (n = 10) received funding. This number was high due to the learnership programme given to students from the Limpopo province in the middle of the year. See the quotation in section 5.3.2 THEME 2 S1. Only 6.25% (n = 1) student had to work part-time to help with finances. All of the respondents indicated that scholarship could help to motivate students to study more and improve their academic performances.

THEME 8 (Academic matters): Of the respondents 43.75% (n = 7) were the first member to study at university while 56.25% (n = 9) had members who had received tertiary education. Of the respondents only 18.75% (n = 3) agreed to receiving help with their studies from family members, 50% (n =8) disagreed, 25% (n = 4) strongly disagreed with 6.25% (n = 1) undecided. This is despite 80.25% of family members (fathers and mothers) having tertiary education. The majority or respondents 68.75% (n = 11) participated in orientation programme and 81.8% (n = 9) of these participants said the programme helped to familiarise them with campus life. Of the respondents 68.75% (n = 11) indicated that peer mentoring could help first-year students to adjust academically and socially at the university and of the 75% (n = 12) of the respondents who stay at the university residence 50% (n = 6) indicated that staying at the university residence is advantageous to their studies. Only 33.3% (n = 4) of the respondents who resided at the campus participated in extra-mural activities and only 25% (n = 1) strongly agree and 75% (n = 3) agree that extra-mural activities help them to adjust better to the campus life. The majority of students 37.5% (n = 6) strongly disagree that their new found independence at the university affect their studies negatively and only 12.5% (n = 2) strongly agree.

THEME 9 (Teaching/learning strategies at educational institution of higher learning): Equal number of respondents 50% (n = 6) disagree and strongly disagree that lack of command of English negatively affect their studies with only 12.5% (n = 2) strongly agreeing to that. The majority of respondents 75% (n = 12) agree that they could effectively understand the learning content with only 6.25% (n = 1) disagreeing.

The following two questions were bit ambiguous and despite the researcher clarifying them during the filling of the questionnaire some respondent did not answer them properly resulting in 37.5% (n = 6) of spoilt answers. Ten respondents (62.5%) answered the question properly, of those respondents 18.75% (n = 3) prefer own study while 43.75% (n = 7) prefer attending a lecture. Concerning method of study, ten respondents (62.5%) answered the questions properly with 6.25% (n = 1) and 18.75% (n = 3) strongly agreeing and agreeing to cramming respectively (To cram in this context refers to rote learning). Of (To cram in this context refers to rote learning). the respondents 12.5% (n = 2) strongly agree and another 12.5% (n = 2) agree to studying with understanding. Six respondents (37.5%) had spoilt answers. Of the respondents

31.25% (n = 5) and 37.5% (n = 6) strongly agree and agree respectively that thinking skills are beneficial to academic performances and 18.75% (n = 3) and 68.75% (n = 11) of respondents strongly agree and agree respectively to can effectively link theory to practice. Equal number of respondents 50% (n = 8) indicated that they are familiar with mind mapping technique while another 50% (n = 8) said no and of 50% that said yes only 50% (n = 4) employ this technique during study. The majority of respondents 87.75% (n = 14) are familiar with CBL while 12.5% (n = 2) said no and of the respondents who said yes 18.75% (n = 3) and 68.75% (n = 11) strongly agree and agree respectively that this strategy was effective. The majority of respondents 43.75% (n = 7) agree and 18.75% (n = 3) disagree that classroom assessments could influence effective teaching/learning. Of the respondents 18.75% (n =3) and 50% (n = 8) strongly agree and agree respectively that signing of attendance register had a bearing on academic achievements of students while equal number 12.5% (n = 2) disagree and strongly disagree and 6.25% (n = 1) was undecided.

THEME 10 (Behavioural attributes): The majority of respondents 68.75% (n = 11) and 31.25% (n = 5) strongly agree and agree respectively that motivation and positive attitude contributed to academic achievement, while 25% (n = 4) strongly agree and 68.75% (n = 11) agree that self-worthiness enhanced academic performances. Of the respondents 56.35% (n = 9) and 37.5% (n = 6) strongly agree and agree respectively that they could self assess and self monitor their studies and ask help when the need arises. The majority of respondents 56.35% (n = 9) agree and 12.5% (n = 2) disagree that sleep patterns could negatively influence academic performances.

The majority of above responses agree with responses from focus group interviews and aspects found in the literature review. See Tables 5.6 and 5.7.

5.3.2 Students' focus group interview

The interview took place on the 21/09/2006 in the departmental boardroom. The interview lasted for 2 hours. The interview did not start at 9h00 as scheduled because two participants did not arrive on time due to public transport problems because they

live at home. The interview began at 9h30 minus a male student who arrived 1hour later citing transport problems as the reason for his delay.

The researcher welcomed and thanked the participants for their presence and participation. Although the researcher and the participants were familiar to one another the researcher wanted to make them feel at ease and formally introduced them (which generated a hearty laughter), the researcher involved one educator to take notes during the interview, and these notes assisted the researcher to attribute meaning to the responses. The educator was also introduced to the students and the reason for her presence explained. The researcher asked the participants if they were comfortable with the presence on the educator and they all responded in the affirmative.

The researcher informed the participants that they should feel free to communicate their feeling and thoughts as there was no wrong answer and that their contributions would only be used for the purpose of the study. The researcher also assured them of confidentiality and anonymity and that their names would not appear on the research document.

The questions asked during the interview were similar to those asked during students' questionnaire schedule. The underachievers (n=5) were given the opportunity to expand on the questions, which were covered in the questionnaire. The researcher asked probing questions during the interview schedule as a way of exploring the themes further. Initially some participants were shy to answer questions but the researcher skillfully drew them out and as the interview progressed they were giving answers freely except one participant and the researcher will coax the participant by directing the questions at her. Data from the interviews were organised by grouping similar responses to facilitate the process of analysing (McMillan & Schumacher 97:508).

As mentioned in Section 5.2.4.2 students' quotations were represented by the alphabetical letter S followed by a numerical number. The experiences and thoughts of respondents were quoted and were presented in italics throughout the report.

THEME 1: Career guidance

- Availability of career guidance at high schools

The aim of the question is establish how students chose their career paths without career guidance at schools or if available being exposed to it in later grades where choice of subjects was already made. Four of the participants had no career guidance and one had career guidance at school even though it started in grade 11. The participants commented as follows:

S1: There is no career guidance, I just asked around from those who know or are doing the course, so I just decided next year I'm doing the course. No we know before, as from grade 10 everybody tells you that you must do maths and science and you will get great opportunity in the future.

S5: In our school we did not have career guidance but our teacher who was teaching us Afrikaans used to tell us that if you want to go to the university and do health sciences you had to do maths and science.

From the responses it is clear that even if high schools did not have career guidance it is a well known fact that students have to do mathematics and science in higher grades in order to assure their places at the universities.

THEME 2: Funding

- Relationship of scholarship/ bursaries and students' academic performances

Most students started without bursaries but towards the end of the year those from the Limpopo Province were given learnership programme that were supposed to pay for their fees. The participants commented as follows towards scholarships:

S1: It can motivate if it pays for everything fees and books.

S4: If you know that you're getting money and it is not from my parents I know I have to study hard and if I pass well, then the bursary pays again then we study harder.

From these statements it can be understood that students regard scholarships as a means of motivating them to study harder.

THEME 3: Academic matters

- Orientation programmes

The question wanted to determine if students regard orientation programmes as beneficial towards academic and social adjustments. The participants responded as follows:

S5: I did not like it. It was not useful.

Presenter: How do you think they should be structured for you to think they are useful?

S3: I think they can call people to motivate us and tell us how to manage time at tertiary, because they always tell us about life at tertiary but something academic.

The responses indicate that though students go through orientation programmes they seemed to benefit less from them. Even those who recognised their value did not take them seriously as one participant commented: S4: *One Prof was there telling us about how to study but I think the thing is in February we do not take things seriously.*

- University residence

The question found that the majority of students 60% (n=3) believe that staying at the university residence was helping them to achieve academically. The participants respondent as follows:

S1: I stay at the residence and I think it is beneficial than outside campus. If you are staying outside the campus there is a problem of transport. You go home late and there is a higher risk of accidents. Two participants raised the concern that staying

outside the campus hinders one from being in control of ones studies. The participants commented as follows:

S4: The other thing is if you are not at the residence you are not in control.

S2: If you stay at home, you won't study because there is housework and it is really difficult to participate in-group discussion at the university.

- The effect of extra-mural activities on academic performances

All the participants who resided on the campus took part in extra-mural activities and they agreed it was a way of relaxing and socialising. They commented as follows:

S2: Yes I do, I do go the gym then play volleyball so it is nice way to relax, socialise and meet people.

S5: If you are there you meet people and it helps you not to think too much of home.

- The impact of independence on academic performances

The question wanted to establish the impact of independent from parents on students' academic performances. Some participants responded:

S3: I struggle because I was staying with my brother and he used to motivate me.

S2: When I was at home there was no time to watch TV. So here I just study nobody is forcing me to study.

From the responses it can be understood that students find it difficult to balance the newfound independence with academic work. They still miss the guidance of family members.

THEME 4: Teaching/learning strategies

- The effects of English as a medium of instruction on academic success

The aim of the question was to establish how students perceive the impact the language of instruction on their academic performances. The participants responded as follows:

S4: I think it is a problem; at our school we were taught in Tsonga even in class we studied English in Tsonga, everything in Tsonga. So when you come here you are forced to speak in English. So I think English is important because here you do not understand.

S3: If I find something that I do not understand I go to students who went to private schools. They used to help us and explain some of the things but now I'm used to English.

Two participants in the research project were of the opinion that they did not receive sound foundation of English as a medium of instruction from high schools. It is also clear that they appreciate the need to be in command of the language of instruction for them to succeed academically.

- Preferred method of study

The question wanted to determine whether students study with understanding compared to rote-learning/cramming (in this context) which was encouraged in high schools. One of the participants commented as follows:

S2: I cram. It is the easy way. Sometimes you find that you do not understand so I cram.

S5: When you study you understand two chapters only the rest I don't know. You remember the last thing you talked about the first thing no.

The responses above highlight the need to empower students with various skills such as time management, study skills and to study with understanding and being able to integrate the learning content.

- The impact of classroom assessments towards effective teaching/learning

The question wanted to establish if students regard classroom assessments as benefiting their studies. One participant commented:

S1: I think so but tests should be about everything not only about one chapter.

- The impact of signing the record attendance registers on students' lecture attendance

The question wanted to establish whether keeping students' class attendance register encouraged them not to skip classes. Participants expressed different views, they commented as follows:

S3: It helps and I think it motivates us a lot. So if all the subjects have registers then the pass rate will improve.

S5: I think in high school when you did not attend they will call your parents. Your parents will want to know why you did not go to school, but here I do not think it is that much important because no action is taken.

From these statements it can be understood that students see the value of classroom attendance as well as record attendance register as long as other departments come on board.

THEME 5: Behavioural attributes

- The effects of motivation and positive attitude towards academic achievement

The question revealed that students regarded motivation and positive attitude as beneficial to their studies and appreciated the effort made by some departments to motivate them. One participant made the following comments:

S3: In our department they motivate us each and every group but compared to other departments the classes are big and it is not easy to motivate. In our department the groups are small so they know each and every one of us.

Students attributed lack of motivation from other departments as a result of huge number of students in a class, which render individualism impossible. So educators were unable to pick up students in need of academic support timeously.

- The importance of self-assessment and self-monitoring towards academic achievement

The question wanted to establish whether the students were aware of their shortcomings and were able to seek help timeously. Some participant commented as follows:

S3: Our lecturers are always ready to help us, I think the problem is that I studied late and I mix things and I didn't consult because I did not finish studying the work. Some participants gave the following comment for not consulting lecturers:

S1: There is no problem but I think if I go they will ask me, what do think about this and that. It is stress so you just keep quiet and go and study again.

S5: You feel embarrassed they will ask you this question again, unlike high school where they will help you.

It is clear from the statements above that students were able to assess themselves but because they lacked time management skills they did not give themselves enough time to study to enable them to consult their lecturers. The fears of lecturers asking them questions about things they did not understand during those consultations served as a deterrent as well.

- The effect of odd patterns of sleep on students' academic performances

The question wanted to establish whether students regard regular sleeping patterns beneficial to their studies. The participants said the following in this regard:

S2: I think studying during the day is nice. At night people are making noise and are watching Generation, they play loud music so you can't even concentrate so you just sleep.

S5: If you are not used to cross night it's difficult. At home if there is a funeral we have to cross night, I sleep the whole day the following day and I prefer to study at night.

From the comments above it can be understood that odd patterns of sleep have negative effects on some students' academic performances.

5.3.3 Educators' focus group interview (with examples from raw data)

The interview took place on the 31/08/06 at 9h00 in the departmental tearoom. It presented a friendly atmosphere and because the participants are all employed at the institution they arrived before the scheduled time. The presenter offered them tea and informal discussion took place with no specific topic but as a way of filling up the time. The interview session took place on time as scheduled. This was helped by the fact that all participants are lecturers at Medunsa and they did not have to make a special trip for the interview. The interview lasted 1 hour 45 minutes.

When the interview started despite the fact that the participants knew one another and are also known to the presenter, the researcher introduced them formally. The presenter welcomed and thanked the participants for their presence and their willingness to participate in the study. The presenter informed the participants that there are some aspects which need to be clarified which should have been included in the invitation letter namely that:

- Participants were assured of confidentiality and anonymity meaning that their inputs will only be used for the purpose of this study and that their names will not appear on the research document.
- The interview will be conducted in English to ensure that all members follow the discussion thus enabling easier participation.
- The discussion will be recorded using audio tape recorders. Two audiotapes were used for this purpose to cover the length of the table. This helped in achieving high reliability and avoided personal bias of the presenter.
- You might be amased why your presence was requested when the focus of the study is dental therapy students. The reason is the majority of Medunsa students come from previously disadvantaged high schools and poor backgrounds like dental therapy students, thus your experiences with your students will greatly benefit the study.
- Questions will follow the sequence that accompanied the invitation letter and participation of all members will be helpful in achieving the goals of the study so feel free to present your perspectives as there are no wrong answers.
- If the presenter experiences problems during the transcription she will come back to you for clarification of inaudible parts and amendments where applicable.

During the discussion of the focus group interview the researcher slotted in similar responses from one educator who had an individual interview so as to give a comprehensive picture of their experiences. As indicated in Section 5.2.4.2 the

participants' responses are given letters of the alphabet according to the department they come from, where more than one participant come from the same department numerical numbers are added to the alphabet. Five educators took part in the focus group interview and one educator had a face-to-face individual interview.

THEME 1: Educators opinion regarding selection procedures and students' prior knowledge of the field of study

The question aimed at establishing the experiences of educators regarding the caliber of students they admit in their departments as far as selection procedures of students and their knowledge of the subject of study are concerned. One participant blamed lack of being futuristic of students as contributing to the problem. The participant said: RR2: *I think what learners do is that they live on a day-to-day basis. They do not go in anything they have researched; they just match whatever is available to the result they got after Matric.* Other participants blamed family members and bursary holders as contributing to the problem because in most cases parents want to live their dreams and aspiration through their children. They want their children to achieve what they failed to achieve by forcing them into careers they do not want. Two participants commented:

RR1: I think it poses a problem when family members or society want a learner to study a particular thing and a learner decide that he does not want to do it. There is also a certain pressure from the bursary holders. So students will come because they got a bursary for a specific course while in the meanwhile they are not interested in doing that course. One participant believed that things are becoming better now unlike during their school days because of open days offered by various institutions of higher learning which empower students to a wide range of careers. The participant said:

RD: Tertiary institutions have open days now to help students at secondary schools to make informed decisions, regarding their career choices. As a result they come prepared. One participant gave credit to electronic media, like television, for serving as career guidance tool even if prospective students were exposed mainly to the glamour of the profession and did not research the profession further. The participant commented: *RP: Most students come knowing that they want to do sports medicine because they have seen Physiotherapists on television when you ask them if they have gone to see physiotherapists in action 99% say they have not seen them.*

From the comments above it can be understood that most of students do not research they career they want to embark upon post Matric. Lack of career guidance at school, pressure from family members and society to do the profession they do not like as well as directives from bursary holders to do certain courses add to their already confused minds.

THEME 2: Educators' opinion regarding state of preparedness of students coming from previously disadvantaged secondary schools

The aim of the question was to establish the opinion of educators regarding the effectiveness of education from previously disadvantaged secondary schools in preparing students for studies at institutions of higher learning. Participants raised various concerns which they attributed to the poor preparedness of these students. One participant thought that the problem emanates from the type of learning the students were exposed to at these schools plus the lack of facilities like the library. The participant commented:

RR2: What I think most of our students are also experiencing is a very big difference between the types of learning that they were exposed to and what they need to do when they get here. One participant cited poor knowledge of the use of electronic media as well as library usage as contributing factors. The participant commented:

RD: They can't use the Internet even the library especially at first year level. They don't know how to use transparencies so that they can present it on a projector at least.

There is lack of career guidance at schools and even in schools that have career guidance both the educators and students do not take it seriously. Participants commented as follows:

RR3: Parents might have prepared for the child to get to tertiary institution but because of lack of career guidance or lack of knowledge the child wastes all the resources.

RC: I like to go back to career guidance of schools. I think when it was introduced it was introduced late and unlike other subjects like English, Biology and so forth, so when it was introduced it was not taken seriously because the other subjects are exam subjects.

The responses above indicate that students from previously disadvantage secondary schools need remedial strategies at institutions of higher learning to enable them to cope with the demands of the academic life.

THEME 3: The impact of language proficiency of students (English) on their studies

- Proficiency in English

The aim of the question was to establish how the lack of language proficiency had on students' academic performances. The participants responded as follows:

RR3: I find that most of the learners that come in especially first-year learners do not understand English, explain concepts or even writing of assignments.

RP: They may have questions but they cannot vocalise their questions because they are language challenged and that poses a lot of problems because a child will get into a class and out of the class without understanding the core concepts.

RC: As a counsellor, I also find that when students come to us, some of them find it difficult to express themselves in English; you really do not get exactly what the student want or need because of lack of expressing themselves.

RD: To alleviate the problem of English at Medunsa, it is offered at first-year for all the students. So I think having English in first-year helps them a lot.

The responses indicated that with the exception of one participant the majority of participants commented on the lack of students' proficiency in English, which negatively affects their studies. A member from CADS department also struggled to assist them with their problems because they could not express themselves well in English.

- Bridging the language barrier

The aim of the question was to determine strategies that educators employed to deal with students' communication problems. The participants' responded as follows:

RR1: I give my students a lot more to read, they have got to read and come and present. I also encourage them to listen to the radio.

RP: What I usually do is I make them present; I target the ones who do not speak in class.

Although English is offered to all first-year students the study found that with the exception of one participant who believes that the English programme offered at the institution is working other participants still experience problems with students command of English and have adapted their teaching strategies to accommodate that. Students are encouraged to read, listen to the radio and mainly present in class.

THEME 4: The impact the structure of the lecture halls have on small discussion groups as recommended by SAQA

Most of the lecture halls have fixed study desks and chairs which hinder group work. Thus the question aimed at establishing the strategies educators used to conduct

discussion classes with the present structures of the majority of the lecture halls. Two participants commented:

RR1: In fact I actually want to state that it is very difficult because our classrooms do not allow us to have very little clusters. The classrooms are not suitable and I do not know how we are going to overcome that, we can still cope with our little classrooms, if we have 200 students like the medical students then it is really not convenient.

RD: There are loose chairs, students sit around in groups we have several x-ray viewers and a group of students will sit around one x-ray viewer and so on and they are able to discuss.

It is the researcher's view that due to the structure of these lecture halls most of the educators get frustrated and abandon group work with the exception of departments that have seminar rooms or fewer students in a class.

THEME 5: Teaching/learning strategies

- Holistic approach to teaching

The question aimed at finding out the educators' opinion regarding holistic approach to teaching with the view of establishing whether they employed the strategy during their lectures. This is a new approach that students are reluctant to embrace as one educator commented:

RR2: Holistic approach to teaching is actually in line with the requirements of Education because we try to develop the learners to be independent thinkers and question things. Unfortunately it is still a new thing and students are used to sitting in class to listen to someone talking to them. They are quite reluctant to come out and participate Other participants commented as follows:

RR3: The other thing is that the social aspect must also be included. So there should be some extra-mural activities to sort of balance or be a form of a distressing method put in a learning situation.

RD: I firmly believe in that, I don't think you can just concentrate on purely academic, you can't teach a child academic only. They must be active in sport, social events, activities and debates for their personal development and growth.

From the comments above it is clear that educators regard holistic approach to teaching as important. The researcher is of the opinion that the biggest challenge facing educators is to ensure that students are empowered to enable them to integrate all the knowledge at their disposal and apply it to the relevant situations as well as making them aware of the benefits of extra-mural activities.

- Receptiveness of students to various teaching strategies

The question aimed at establishing the preparedness and acceptance of students to embark on other teaching strategies except the rote-learning they were accustomed to at high schools. The question had to be clarified so that other participants who have no teaching qualification can understand what is required because they are not familiar with terms used in Education. Some participants responded as follows:

RR1: I would perhaps put a problem statement on the board and say right we are going to interrogate this, so that you actually bring them into a more lively discussion.

RR3: The other strategy that I usually use is to inform students of what we will be handling in the next theme the following day and they come prepared. In this way they do more of the talking and I only come in to add or correct, this ensures more of their participation.

RR2: Which means they have already opened up in their first-year.

RR3: That is probably because they are already in their second-year but in first-year it is really a struggle to get them to take part or to be actively involved in their learning.

RD: At first-year it is very difficult because it is really something completely new to them.

From the comments above it can be understood that the reluctance to change is mainly experienced in first-year where the influence of spoon-feeding is still hard to overcome. From second-year upwards things start easing up.

- Other constraints hindering students' success

This questioned aimed at determining other factors that participants regard as hindrances to students' success. Some participants responded:

RR1: I find in particular that students come with family problems, challenging problems; peer group pressure, illnesses, cultural influences and odd sleeping patterns. These are also constraints to their success besides the study skills.

RR2: I think one other thing that seems like a problem especially in the first-year is that they get to a new environment, they meet new people and they become friends and they sort of lose their own identity.

RP: The other thing that I pick up is motivation, lack of motivation in the first-year; because they are still in first-year they cannot see beyond first-year. So I was thinking that maybe we should somehow ensure that first-year students sit in a graduation because we all know that is motivation.

RC: These are some of the problems that they come to us with. Family problems, maybe the parents are separating, someone close has died and the divorce of parents. Some do not have funds in their meal cards and they want to study but it is very difficult to study on an empty stomach.

The study has indicated that besides academic problems students have a lot to deal with. It is easy to identify students who are troubled if the classes are small because the small number affords the educator the chance to know the student better, to be able to detect if something is amiss this is near impossible in classes with very big number of students.

THEME 6: The opinion of educators regarding educators with high school qualifications teaching adult students at higher educational institutions

The question aimed at establishing whether educators with high school qualifications are able to teach adult students and understand their problems. The question had to be clarified because other participants had a problem in understanding it. Some participants commented as follows:

RR1: I feel educators should have proper qualifications because an adult learner is in a position where they can actually challenge. Sometimes they have a lot more prior knowledge than we have.

RD: It will be a problem because you need to have a thorough knowledge of your field. Students can come with challenging. I believe you need to have a tertiary level of education whether it is a diploma or a degree.

One participant thinks it will be a better idea taking into consideration that the majority of educators at Medunsa do not have teaching qualifications. The participant commented

RR3: If we take an example of our institution you find that most of the lecturing staff is academics without teaching qualifications. They do not have teaching theories and application of teaching models. So if we can be able to intergrade high school teachers with specific qualifications within, it can improve or change the way the students can understand content.

The responses above indicate that even though one participant is in favour of educators with high school qualification teaching at institutions of higher learning they can only do so if they have specific qualification. This addresses the concern raised by the other two participants that a thorough knowledge of study is needed for educators to can benefit the students. The researcher is of the opinion that it requires an educator with institution of higher education qualification to understand the problems associated with an adult student.

THEME 7: The way educators deal with the impact of adjustment problems of first-year students

The question aimed at establishing the strategies educators and the staff member from CADS use in dealing with adjustment problems of first-year students. Some of the participants responded as follows:

RP: I liaise with CADS, I identify students who have problems and lecturers identify students with problems as well and inform me. If I find that the problem is beyond me then I involve the HOD and together we can refer the student to CADS.

RD: Sometimes I just divert the lecture; we talk about general things I ask them what is their experience in other subjects, tests, at the residence, with friends then they open u

RC: What we would do for instance is that at the beginning of the year we would have a workshop for first-year students on study skills. There is a big gap as far as studying is concerned between high school and tertiary education and then perhaps you would find that it will be easier for them to come to us at a later stage than only coming to us when there are problems.

This seems to indicate that though there are tough challenges faced by educators they are aware of the plight of students and have strategies in place to deal with these

problems as they arise. The educators acknowledge the uniqueness of each student which makes it difficult to can apply the solution of one problem to the other.

THEME 8: Assistance of students to obtain a clearer identity or developing a better sense of who they are

The question was specifically addressed to a participant from CADS to found out the approaches they use to help such students. The participant responded:

RC: We usually invite students and when they are with us we would ask them to tell us about their life stories it is an open session. They would say anything that is an achievement or something that disturbed or has happened to them. Sometimes we borrow models from career counselling or career guidance and we make them contextual because we know that most of the models are from abroad so we make them in such a way that they are able to accommodate the students. They help students to have self-knowledge, to know exactly who they are.

We also perhaps triangulate that by asking peers about the student, and if there are parents involved or some family members we also try and get some information from them and, integrate all these information to come to a central point.

The study has established that there are strategies in place from CADS to assist students in knowing who they are.

THEME 9: Assistance of students who experience academic difficulties, which hinder their academic performances

The aim of the question was to determine the strategies that CADS employ in the remedial academic support of students. The participant responded:

RC: We make use of mentors, because mentors would be trained on basic counselling skills. They would also know how to address some of the social issues and where they see that there are difficulties is then that they can refer those issues to us and we can then assist. Most the mentors address issues that are academic because we do not have the subject knowledge we make use of them to address at least that aspect, or perhaps we would also look for someone in the department to make them aware of the student's problems and we would like them to make a follow up. After a month or so we would assess and see if there is any progress on the performance of the student, so we work hand in glove with the department.

It is clear from the comments above that educators are receptive to students' problems and are readily available to can tackle the challenges. CADS has remedial strategies in place to help students in need. The use of mentors can be beneficial to both mentors and mentees as it helps to keep mentors abreast with subject matter in order to assist mentees with their queries. Mentees relate better with their peers and mentors are also readily available for consultation because the majority of students reside at the university residences.

5.4 RELATIONSHIP BETWEEN LITERATURE AND EMPIRICAL RESEARCH

In Chapters 2 and 3 the concepts of student support needs and strategies for remedial academic support were discussed respectively. Some of the identified themes, categories and sub categories from the student focus groups interview can be linked.

Aspects from raw data	Aspects from the literature study
Theme 1: Career guidance S1: *There is no career guidance.*	Learners need to make career choices based on adequate knowledge of learners themselves. Nolte, Heyns and Venter (1997:174), (Section 2.5.4.1).
Theme 2: Learnership programme S1: *It's only now that we have learnership programme. It can motivate if it pays for everything fees and books*.	Learners who receive scholarship tend to remain in higher education institutions and achieve higher grades than the average. Towns (1997) as cited by Lau (2003:2), (Section 2.3.9).
Theme 3: Academic matters Orientation programme S5: *I did not like it. It was not useful.* S3: *I think they can call people to motivate us and tell us how to manage time at tertiary.* University residence S1: *I stay at the residence and I think it is beneficial than outside campus.* S4: *The other thing is if you are not at the residence you are not in control, let's say you want to study till a certain time you have transport to consider.* Extra-mural activities S2: *I go the gym then play volleyball so it is nice way to relax, socialise and meet people.*	The only effect that freshmen seminar has, is the retention of low achievers rather than the underachievers. (Simmons 1995:8-14), (Section 2.3.4.). Fidler and Moore (1996:7-16) are of the opinion that both freshmen seminar and living on campus reduced fresh men dropout rates significantly. (Section 2.2.1.1). They need extra curricular activities like arts, music, drama, theatre to enhance their academic performance. (Wood 1998:94), (Section 2.4.7.1).

Aspects from raw data	Aspects from the literature study
Theme 4: Teaching/ learning strategies Command of English S4: *I think it is a problem; at our school we were taught in Tsonga even in class we studied English in Tsonga, everything in Tsonga. So when you come here you are forced to speak in English.* Study method S2: *I cram. It is the easy way. Sometimes you find that you do not understand so I cram.* Classroom assessments S1*: I think so but tests should be about everything not only about one chapter.* Attendance register S3: *If all the subjects have registers then the pass rate will improve.*	Although English is the medium of instruction at these schools, educators often resort to vernacular in order to clarify points that are not clear to learners. (Thebehali: 1991:19), (Section 2.4.2.1). Learners need good study strategies, in order to be analytic and know how to read study materials. Thompson and Gerer (2002:398-402), (section 2.3.5). Classroom assessment document what students know and can do, but it also influences learning as well. McMillan (2001:1), (Section 3.2.1.2). Voluntarily class absence contributes to poor academic performance by learners. Trice, Holland and Gagne (2000:179-182), (section 2.3.8.1).

Aspects from raw data	Aspects from the literature study
Theme 5: Behavioural attributes Motivation S5: *If you have the motivation you will know what you want in life. So if you don't know what you want you won't achieve it.*	Learners need to be motivated because motivation is a prerequisite for students learning. Svinicki, Hagen and Meyer (1996) cited by Lau (2003:6), (Section 2.2.2.2).
Self-assessment S3: *Our lecturers are always ready to help us, I think the problem is that I studied late and I mix things and I didn't consult because I did not finish studying the work.*	Zimmerman, Greenberg and Weinstein, (1994) as cited by Chye et al (1997:4) emphasise the importance of self-regulated learning. (Section 3.2.1.4).
Odd patterns of sleep S5: *It does because when you have to study you are tired, because your mind is used to sleeping this time and waking up this time.*	Academic difficulties are related to sleep habits. Brown and Buboltz (2002:411-16), (Section 2.2.2.4).

Table 5.6 Summary of links between literature and themes/categories/subcategories from the students' focus group interview

From the table above the students' focus group was successful in linking their responses with aspects from the literature study

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Facets of remedial strategies addressed in educators' focus group	**link with**	**Aspects found in the literature**
Students' prior knowledge: *In most cases they do not go in anything they have researched, they just match whatever is available to the result they got after Matric and they just need to be channeled into doing whatever comes their way. They never thought about it before and they do not know what is entailed in it.*	↔	Postma (1995:47) is of the opinion that prior knowledge is a valid predictor of academic achievement. (Section 2.4.5.2).
State of preparedness of students: *Our students are also experiencing a very big difference between the types of learning that they were exposed to and what they need to do when they get here.* .	↔	Even with the best selection procedures, learners admitted to higher education institutions from disadvantaged high schools are not well prepared for higher education studies. (Wood 1998:92), (Section 2.4.5.1).
Proficiency in English: *I find that most of the learners that come in especially first year learners do not understand English, explain concepts or even writing of assignments.*	↔	Learners need acceptable command of the English language (medium of instruction) to enhance their academic performance Huysamen (1999:135), (section 2.4.2.1).
Structural adjustments of lecture halls: *It is very difficult because*		Structures need to be adjusted to meet with the demands of large

Facets of remedial strategies addressed in educators' focus group	**link with**	**Aspects found in the literature**
our classrooms do not allow us to have very little clusters. *I do not know how we are going to overcome that, we can still cope with our little classrooms, if we have 200 students like the medical students then it is really not convenient.*	↔	classes of learners. Structural adjustments should be put in place to bring about transformation in higher educational institutions, noting the fact that large classes would be a common phenomenon in the future. Simelane (1997:52), (section 2.4.7.4).
Holistic approach to teaching: *I don't think you can just concentrate on purely academic, you can't teach a child academic only. They must be active in sport, social events, activities and debates for their personal development and growth.*	↔	The teaching should be aimed at developing the student in all spheres of life: academically, personally, psychologically and socially. Thus, the student is equipped to be able to deal with any eventuality during and post academic life. Educators should be aware of different learning styles of students (Sayer et al 2002:644). (Section 3.2.1.2).
Teaching strategies: *I would perhaps put a problem statement on the board and say right we are going to interrogate this, so that you actually bring them into a more lively discussion rather than the original plan where I might have to put up an*	↔	Bronson and Kaufman (1993:245) advocate a programme using multidimensional approaches addressing the instructional needs and providing the structure and support required by first-year students to promote

Facets of remedial strategies addressed in educators' focus group	**link with**	**Aspects found in the literature**
overheard projection or PowerPoint presentation.		their success in college. (Section 3.2.1.2).
High school educators teaching adult learners: *Educators should have proper qualifications because I feel that adult learner is in a position where they can actually challenge. Sometimes they have a lot more prior knowledge than we have. As educators you find for instance you might find a learner who comes from BSc and they enter our programmes, so they are in a better position to challenge your knowledge.*	↔	Badenhorst (1994:47), on the other hand emphasises the importance of properly trained ortho-andragogues. Ortho-andragogues need to understand and use an adult centered perspective. Pedagogic assistance cannot be 'stretched' to include pedagogic assistance to adults. (Section 2.4.7.3)
Adjustment problems: *If I cannot assist I would ask if them if they would rather discuss with a family member, a friend or a Student Representative Council (SRC) member, or they might want to discuss it with somebody affiliated with their religion or refer them to CADS for instance.*	↔	The main factor influencing withdrawal rates is the degree to which learners can adjust to the new academic and social demands of the university environment. Rickinson and Rutherford (1996:13-25), (Section 2.2.1.1).
Students' self-assessment: *We borrow models from career*		Zimmerman, Greenberg and Weinstein, (1994) cited by Chye

Facets of remedial strategies addressed in educators' focus group	link with	Aspects found in the literature
counselling or career guidance. They help students to have self-knowledge, to know exactly who they are.	↔	et al (1997:4) emphasise the importance of self-regulated learning. Students will only be able to regulate their learning if they are able to self-assess what they are capable of doing within the allocated time. (Section 3.2.1.4).

Table 5.7 Core aspects from the literature linked with focus group discussion

Educators involved in the focus group interviews managed to address aspects raised by the literature study thus linking the identified themes/ categories/subcategories with the literature study.

5.5 CONCLUSION

In this chapter the empirical investigation was discussed. The results obtained from the processing of the raw data were summarised. Different themes and categories were identified in all phases of the process and helped in the investigation of remedial strategies for first-year dental therapy students.

In Chapter 6 summaries, conclusion as well as the limitations and recommendations regarding the research project is made.

CHAPTER 6

SUMMARY, FINDINGS AND CONCLUSION OF THE RESEARCH

6.1 INTRODUCTION

This study focused on the provision of remedial academic support to first-year dental therapy students at Medunsa. As highlighted in Chapter 1 the majority of these students come from poor communities and previously disadvantaged high schools. Thus, generalisation cannot be made regarding their academic shortcomings to include other first-year dental therapy students from other institutions of higher learning. However, the study gives an insight into the support needs of these specific students and the various strategies that can be employed to enhance their academic performance.

This chapter includes a summary of the findings from the literature review, the empirical investigations, interpretation, recommendations and limitations of the study.

6.2 SUMMARY OF THE STUDY, FINDINGS AND CONCLUSIONS

The purpose of the study was to find ways of providing remedial academic support to first-year dental therapy students at Medunsa. The problem was addressed by a literature review in order to provide a theoretical background to the research and; secondly an empirical inquiry was done to investigate the experiences of a selected group of students and educators at Medunsa.

6.2.1 Summary, findings and conclusions of the literature survey

In Chapters 2 and 3 researchers highlighted various academic support needs and remedial academic support needs respectively which should be addressed to enhance students' academic performance. These include:

6.2.1.1 Prior knowledge

For students to succeed in their field of study they need to know what it entails; thus, they should be encouraged to do some research before they embark on any career pathway (Postma 1995:47). This should eliminate time wasted in changing academic fields of study due to lack of prior knowledge of the chosen field of study. This highlights the need for career guidance at previously disadvantaged high schools (Sedumedi 2002:170). Career guidance enables students to make career choices based on adequate self-knowledge (Nolte, Heyns & Venter 1997:174).

6.2.1.2 Orientation programmes

Students should be encouraged to take part in orientation programmes because those who undergo these programmes have a higher retention and graduation rate as opposed to those who did not take part (Starke, Harth & Sirianni 2001:137-145). These programmes assist students' knowledge of the university in terms of support services available and help students to adjust to the campus's social environment (Schwitzer 1991: 484-89; Du Plessis 1996:1).

6.2.1.3 Scholarship programmes and funding

No effective learning can take place if students are worried about a lack of funds to cover their tuition, books, residence and meals. Thus, bursaries should be made available to deserving students to enable them to concentrate in their studies (Towns cited by Lau 2003:2; Sedumedi 2002:174; Thebehali 1991:4).

6.2.1.4 Teaching strategies

These strategies involve strategies for institutions of higher learning as well as educators to enhance the academic performances of first-year students.

- Academic adjustment

For first-year students to be successful at institutions of higher learning, all the stakeholders should undergo academic adjustment (Beukes 1997:47; Nolte, Heyns & Venter 1997:168; Musehane 2001:23).

- Holistic approach to teaching

Sucessful education should aim at the holistic development of the students which addresses the academic, psychological and social aspects in order to prepare and enable them to deal with the challenges they encounter when entering the place of work (Wood 1998:94; Sayer, De Saintonge, Evans and Wood 2002:644; Lau 2003:6; Donald, Lazarus & Lolwane 2002:67).

- Command of the language of instruction

In order for students to understand and engage effectively with the learning content they need an acceptable command of English as a medium of instruction. This enables them to understand questions and express themselves adequately (Huysamen 1999:135; Classen 1992:13).

- Peer tutoring/ mentoring

Peer tutoring should be encouraged by educators as it benefits both the mentors and the mentees. First-year students are able to interact more freely with their peers than with educators and mentees help the mentors to learn as well (House & Woht 1991:135-142; Benware & Deci cited by Lau 2003:6; Race 1998:55; Elliot 1985:1-7).

- Adult centered perspective

For adult students to benefit from higher learning, they should be taught by suitably qualified educators with knowledge of the field of study. (Badenhorst 1994:47).

- Media usage

To accommodate various learning styles of the students, educators need to provide effective tools to engage students' attention which are useful in enriching and complementing classroom teaching and learning (Wise & Groom cited by Lau 2003:4; Francisco, Nicoll & Trautmann 1998:210-213).

- Record attendance register/frequent classroom tests

Regular classroom attendance increases students' performances. Thus, educators should keep record attendance registers to encourage students to attend classes (Shimoff & Catania 2002:192-95; McMillan 2001:1; Race 1998:56). Frequent classroom tests encourage the students to keep abreast with the learning content and enhance students' academic achievements (Leeming 2002:210-212).

6.2.1.5 Learning strategies

First-year students need to be equipped with effective learning strategies to study with understanding and to abandon the rote-learning method often used in high schools (Van Aardt & Van Wyk 1996:173). The following learning strategies can help the students to deal effectively with the learning content:

- Reading skills

Most of academic work involves reading and reading skills affect the way students understand the study manual. Thus students' reading skills should be developed to ensure their academic success (Thebehali 1991:6; Leighton 1992:9).

- Self-assessment/self-monitoring

Academic performance is enhanced by students who are able to self-assess themselves because it is the key to establishing a process of lifelong learning. Thus, the value of education is to develop students who are capable of reflecting critically on their own

performances (Peckham & Sutherland 2002:75-76; Zimmerman, Greenberg &Weinstein cited by Chye, Walker and Smith 1997:4).

- Attitude/motivation

Positive attitude plays an important part in enhancing students' academic success. Students should thus be motivated to develop a positive attitude towards their studies (Smit 1992:23; Sage & William 1990:16-322; Chye et al 1997:11; Exner 2003:73; Race 1998:48).

- Critical thinking

To be able to engage effectively with the learning content, educators should help the students to develop critical thinking skills (Mc Peck cited by Thebehali 1991:79).

- Group centered strategy

Students benefit from interacting with peers in that they realise that their fellow students experience some of the difficulties that they perceive to be unique. In this way they are spared the extra anxieties and worries accompanying first-year students (Graig cited by Thebehali 1991:33).

- Sleep habits

Students should be advised to adhere to regular sleeping habits because odd patterns of sleep can negatively influence their academic performances (Brown & Buboltz 2002:411-16).

It is clear from the literature reviewed that dental therapy students have the same academic support needs as those identified by the literature regarding the academic needs of first-year students. Thus, if the above strategies are implemented in the dental therapy programme, they could enhance academic performances.

6.2.2 Summary, findings and conclusions of the empirical investigation

As already indicated the results of the empirical study encompass a students' questionnaire and educators' and students' focus group discussions.

6.2.2.1 Students' questionnaire

The analysis and interpretation of data from the questionnaire revealed the following findings:

- Previously disadvantaged high schools

The majority of first-year dental therapy students come from township schools where the majority of schools lack properly equipped laboratories and libraries. As a result although students chose mathematics and physical science in Grade 12, their pass mark was mediocre. Most students (81%) did physical science, higher grade but of these only 19% obtained the symbol C; 25% and 37.5% obtained symbols D and E respectively. The majority of the students (75%) did mathematics, standard grade. The results highlighted

the level of mathematics and physical science in the majority of previously disadvantaged high schools.

- Family status

Few families have a combined income of more than R5 000 per month. It thus becomes difficult for parents to serve as surety if students have to seek loans from financial institutions. Although most parents have tertiary education, students claimed that few parents helped them with their studies.

- Medium of instruction

All the students in the questionnaire claimed to cope well with English as a medium of instruction (see Theme 6); however, 50% agreed that their lack of command of English negatively affects their studies (see Theme 9). The performance of the students during the year belied their claims of coping well with the language of instruction. This could suggest inaccurate self-assessment by the students.

- Teaching strategies

Orientation programmes help in familiarising students with campus life and peer mentors can assist first-year students in adjusting both academically and socially to university life. Students' academic performances are also enhanced by frequent classroom assessments and signing of the attendance register.

- Behavioural attributes

Motivation and positive attitude contribute to effective studying. Self-assessment and self-monitoring help one to ask timeously for help where necessary. Students should be

made aware that irregular patterns of sleep can negatively influence their academic performance.

The results of the empirical study succeeded in identifying the academic remedial support needs of dental therapy students and the remedial academic support that could be employed to help them to deal with the learning content effectively.

6.2.2.2 Students' focus group interview

Similar questions as those in the questionnaire were given to the students' focus group so that they could elaborate on their responses.

- Previously disadvantaged high schools

There is no career guidance in most of the previously disadvantaged high schools; if present it is mainly in Grades 11 or 12. Thus, it is introduced late when students have already made their subject choices in Grade 10. Students also struggle with English because they were accustomed to the teachers in high schools translating the teaching content into the vernacular if they did not understand the language of instruction. This finding contrasts with the responses from the students' questionnaire where 100% of respondents claimed to cope well with the language of instruction. Again this suggests that students responded according to what they perceived to be ideal rather than what was practice.

- Teaching strategies

Orientation programmes focus mainly on life at tertiary institutions. They should put more emphasis on time management and study skills. Students claimed that classroom assessments are beneficial if they test all the work at all times not only a section of the

work. Attendance registers could motivate students to attend lectures if all the departments undertook the practice and punitive measures were taken towards the students who default.

- Learning strategies

Most students preferred method of studying is cramming (rote-learning) especially when they do not understand the learning content.

- University residence

Staying at university residences is beneficial to students' studies, as they have no concerns about transport and household chores. They also benefit from extra-mural activities, which help them to relax and socialise. Some students claimed that they also struggled to marry their newfound independence to their studies and they miss parental guidance.

- Behavioural attributes

Students claimed that motivation plays an important part towards academic achievement. They also found that lack of self-assessment and self-monitoring contributed to students' reluctance in consulting lecturers when they experience academic difficulties. Some students claimed that irregular patterns of sleep affect their academic performances.

- Scholarship and funding

Scholarships and financial assistance motivate students to study hard without financial worries

The findings of the students' focus group interview revealed that the study succeeded in identifying the academic remedial support needs of first-year dental therapy students.

6.2.2.3 Educators' focus group interview

The responses of an individual interview with one educator are incorporated with those of other educators in order to obtain a comprehensive picture.

- Career choice

Most students do not research the career they want to follow. They choose what is available and pressure from family members also contributes to students' following careers they have not personally chosen. However, open days at institutions of higher learning play a part in minimising the lack of career guidance at most of the previously disadvantaged high schools.

- Teaching/learning strategies

Lack of English proficiency among first-year students especially from previously disadvantaged high schools affects their academic performance. First-year students are also not wholly receptive to various teaching strategies like group discussion, individual presentation and simulations. They prefer the lecturer to do all the talking. Other contributory factors include adjustment problems, peer group pressure, loss of identity, lack of motivation, cultural differences, illnesses, funds and irregular sleeping patterns. Educators with high school qualifications are not suitably qualified to teach at institutions of higher learning due to their lack of knowledge of the field of study. Thus, students need to be developed holistically as a way of preparing them for the workplace or life after higher education.

- Structural adjustment

The seats and desks in most lecture halls at Medunsa are fixed and not movable. Thus, it is difficult to conduct small discussion groups as recommended by SAQA.

Center for Academic Development (CADS)

Educators were aware that students with adjustment problems should be referred to CADS if they were unable to help them. Members of the staff from CADS assisted the students but if the problems were related to academic matters, they engaged the help of mentors who are acquainted with the learning areas or approached a lecturer from the concerned department. In order to help students, members of the staff from CADS employ the use of models from career counselling and contextualise them to help students gain self-knowledge.

The findings of the educators' focus group interview agreed with the findings of the literature reviewed. These findings succeeded in identifying the remedial academic support needs in higher education as well as those of first-year dental therapy students. The findings also succeeded in providing remedial academic support, which could improve the academic performances of first-year dental therapy students.

6.3 FINDINGS RELATED TO RESEARCH QUESTIONS

In this study, the researcher set out to answer the main and secondary research questions that were asked in Chapter 1.

6.3.1 The main research question

The main research question was: What are the remedial academic supports needs of first-year dental therapy students at Medunsa?

In Chapter 2, Section 2.5 the remedial academic support needs of first-year dental therapy students were outlined. The literature reviewed, as well as the empirical investigation, confirmed that:

- Career guidance

A lack of career guidance at previously disadvantaged high schools contributes to the entry of students into institutions of higher learning without researching the career they want to embark upon.

- Parental support

Most of first-year dental therapy students enjoy support from their parents. Although some parents have tertiary education, very few help their children with their academic work.

- Funding

Funding plays an important part in education. Students who have financial worries are unable to engage effectively with the learning content.

- University residences

Students living in university residence have a higher retention rate than those who do not. They are able to engage in social events, which assist in familiarising them with campus life.

- Teaching strategies

Educators should employ various teaching strategies such as the problem-based approach and mind and concept mapping techniques in order to accommodate different learning styles of the student

- Learning strategies

Students should be empowered to acquire proficiency in the language of instruction, to self-assess and self-monitor themselves, to develop critical thinking skills as well as having a positive attitude and motivation. These learning strategies enable them to effectively deal with the learning content.

6.3.2 The first secondary question

The first secondary question was aimed at establishing the remedial academic support needs in higher education are.

Chapter 2, Sections 2.2, 2.3 and 2.4 highlighted the available remedial academic support in higher education from the South African and an international perspective. Beside the remedial academic support needs addressed in Section 2.3, the literature reviewed and the educator and student focus group interviews outlined the following: prior knowledge of the field of study; holistic approach to teaching; orientation/bridging programmes; reading strategies; class attendance; frequent class tests; peer tutoring/mentors and sleep habits as remedial academic support needs in higher education.

6.3.3 The second secondary question

The second secondary question was aimed at establishing how effective the provision of remedial academic support for first-year dental therapy students is.

Chapter 3, Section 3.3 outlined various academic strategies such as foundation programmes which equip students in English, mathematics, physics, life skills, computer literacy, career services, sexual harassment programmes and peer counsellor programmes that can be implemented to assist first-year students to deal with the demands of institutions of higher learning. Medunsa has programmes such as a compulsory English programme for all first-year students. This programme aims at addressing the academic language and reading skills of the students. The orientation programmes are aimed at assisting students adjust to the demands of higher educational institutions. CADS offers academic, social and psychological support services to the students.

6.3.4 The results of the empirical study

The results of the empirical study highlighted the following:

Although orientation programmes were presented to all first-year students, the students complained that they did not benefit much from them because they addressed mainly the social aspects of the university and not the academic pitfalls.

To address the deficiency in language proficiency of first-year students, the English department offers courses in academic language and reading skills. The majority of the educators in the focus group interview expressed concern regarding the problems students encountered when interacting with the academic learning content due to lack of language proficiency. That happened despite efforts made by the English department.

CADS offer academic, social and psychological support services to all students and first-year students in particular. The educators identified the students in need of the CADS services and these students were referred to the centre.

Mentorship programmes were offered to all first-year students. There were teething problems encountered during the year such as lack of commitment on the part of the

mentees. That was due to a lack of clarity regarding the responsibilities of both parties. Mentees preferred mentors of their choice and not those allocated. As a result some mentors were overloaded while others had few mentees.

6.4 INTERPRETATION

Data collected from the literature reviewed and the empirical studies is interpreted in this section. An attempt is made to determine whether the data gathered from the students' questionnaire and the educators' and students' focus groups interviews reflect theories highlighted in the literature consulted on remedial academic support of first-year students at institutions of higher learning.

The primary and secondary aims of this study were presented in Chapter 1. The results of the empirical study as well as the literature study are used to determine whether the research questions have been answered.

6.4.1 Primary aim

To identify the remedial academic support needs of first-year dental therapy students at Medunsa.

6.4.1.1 Career guidance

The literature reviewed and the empirical investigation revealed that students need to make informed decisions when choosing their careers (see Section 2.5.4.1). The results of the questionnaire indicated that only 12.5% of previously disadvantaged high schools offer career guidance as a subject. In schools where it was offered it was introduced in Grade 11 and 12 as students' focus group interview revealed, although subject choices

took place in Grade 10. Students chose mathematics and science not according to their ability or interest, but because these subjects offer more employment opportunities.

6.4.1.2 Academic support from parents

The literature reviewed revealed that the majority of first-year students from previously disadvantaged high schools are mainly first generation university students (see Section 2.5.3.1). It implies that they are the first members of their family to study at institutions of higher learning. Thus, most parents were unable to assist their children with their academic work. However, the results of the students' questionnaire revealed that 44% and 38% of fathers and mothers respectively had tertiary education. Although students claim to receive educational support from members of the family, only 18.75 agree to receiving help with their studies. This could suggest poor communication between students and their parents, or parents assuming that students at that level could work independently.

6.4.1.3 Scholarship and funding

According to the literature, students with less financial worries are motivated to improve their academic performance (see Section 2.3.9). Only 6.25% (n=1) from the students' questionnaire disagree that lack of funding could impact negatively on one's studies. The student could possibly be from a well-to-do family. The results of the students' focus group interview also revealed that the learnership programme afforded the students from the Limpopo province enabled them to concentrate more on their studies without financial worries. Considering that only 31% of families have a combined income of more than R 5 000 per month, it appeared that most families would be unable to finance their children's education.

6.4.1.4 University residence

The literature revealed that staying at university residences enhances students' academic performance; especially those from poor backgrounds with no room to study at home (see Section 2.5.3.3). From the students' questionnaire 50% did not consider staying outside the campus could be disadvantageous to their studies although all reside on campus. Possibly students made this response as they had not experienced the difficulties of staying at home firsthand (see Section 5.3.2 Theme 3). The results of the students' focus group interview indicated that the majority benefited from staying at university residence. Here they did not have to do household chores or care for younger members of the family.

6.4.1.5 Teaching/learning strategies

The literature reviewed revealed that student's command of English has a bearing on their academic achievement (see Section 2.4.2.1). Responses from the students' questionnaire indicated that the majority of students did not think they lacked a command of the language of instruction, which impacted negatively on their studies. The performance of most students during the year belied that. Again this could suggest that they confused reality with what they perceived as ideal. The majority of students (under achievers) in the focus group interview attributed their failure to interact effectively with the learning content to a lack of command of English. The educators also attributed students' failure to a lack of proficiency in the language of instruction. They claimed that students would rather keep quiet in class even if they did not understand because they feared their peers would laugh at them if they were not articulate. It is suggested that a lack of proficiency in the medium of instruction could have interfered with the processing of information resulting in misinterpretation of the learning content. That would impact on the

comprehension of other teaching and learning strategies such as problem-based approach, concept/mind-mapping techniques and self-assessment.

6.4.1.6 Behavioural attributes

The literature revealed that a lack of positive attitude contributes to academic failure (see Section 2.4.2.3). The majority of students' responses from the questionnaire as well as from the students' focus group agreed that positive attitude and motivation contributed to academic success. Although students understood the power of positive attitude and motivation towards their studies, they lacked the initiative. They failed to participate voluntarily in classroom discussions which could suggest lack of self-assessment and self-monitoring or lack of interest in the course.

6.4.2 Secondary aims

Two secondary aims were outlined in section 1.5. The study established whether these aims have been met.

6.4.2.1 The first secondary aim

The first secondary aim was to establish the remedial academic support needs in higher education.

In Chapter 2 the remedial academic support needs in higher education were identified. This section aims at establishing whether the literature reviewed and the results of the empirical study reflected the theories in the literature.

- Prior knowledge of the field of study

The literature reviewed revealed that prior knowledge of the field of study is a valid predictor of academic achievement (see Section 2.4.5.2). The results of the educators' focus group interview revealed the need for career guidance in previously disadvantaged high school. That would enable the students to embark on their choice of profession based on the full knowledge of what the profession entails and their capabilities.

- Holistic approach to teaching

Both the literature reviewed (see Section 2.4.5.1) and the educators' focus group interview revealed that education should focus on the holistic development of students. The demand for high quality and versatile professionals increases the challenge for institutions of higher learning to ensure that graduates are prepared to cope with the demands of the workplace.

- Orientation programmes

The literature reviewed revealed the importance of orientation programmes. During the orientation programmes students are taught study and coping skills; familiarisation with campus facilities and life skills (see Section 2.3.4). The results of the students' questionnaire revealed that the majority of the students claimed to have benefited from the orientation programmes. That was in contrast to the results of the students' focus group interview that revealed that students claimed to have not benefited from the programmes. They claimed that the orientation programmes addressed mainly the social rather than the academic aspect. This would suggest that students in the focus group interview responded with what they regarded as appropriate and not with what they had experienced. It further highlighted the challenges faced by the orientation organising committee in ensuring that all students benefited from these programmes.

- Class attendance register

The majority of respondents in the students' questionnaire agreed that signing of the class register influences academic success. The findings correspond to findings stated in the literature reviewed (see Section 2.3.2). The results of the students' focus group revealed, however, that the majority of students disagreed that class attendance increased overall academic performances. They claimed that it would be beneficial if all other departments adopted the strategy. This would suggest that students were unable to discern whether their academic performances improved in learning areas where class attendance was enforced as opposed to where it was not.

- Peer tutoring/mentoring

The results of the literature revealed that both prepared and under prepared students benefited from peer tutoring (see Section 2.3.5.4). The findings correspond with the results of both the responses from the students' questionnaire and the students' focus group interview. This would suggest that the institutions of higher learning would inevitably have to play an active role in developing mentors to acquire the necessary skills. It would also require hard work and commitment from the mentors to continue serving as appropriate role models.

- Sleep patterns

The literature reviewed revealed that odd patterns of sleep are detrimental to academic performance of students (see Section 2.2.2.4). The majority of students from the students' questionnaire claimed that odd patterns of sleep negatively affect their studies. However,

some students from the focus group interview claimed that their studies were not affected by keeping irregular sleep patterns. Since the majority of students were affected by odd patterns of sleep, it would suggest the need to incorporate a sleep education programme into orientation programmes.

6.4.2.2 The second secondary aim

The second secondary aim established how effective the provision of remedial academic support for first-year dental therapy students is.

Chapter 3 Section 3.3 outlined various academic strategies such as orientation programmes, teaching strategies like holistic approach to teaching, peer tutoring, group centered strategies, team work, computer based learning, language of instruction and classroom-assessment that can be implemented to enhance academic performances of students. Medunsa has programmes in place such as: compulsory English for all first-year students, mentor-mentee and academic, social and psychological support services offered by CADS to assist first-year students including first-year dental therapy students to cope with the demands of higher education.

The results of the empirical study highlighted the following:

- Orientation programmes

Though orientation programmes were presented to all first-year students, some students complained that they did not benefit much from them. They found that the programmes addressed mainly the social aspects of the university and few of the academic pitfalls. It is suggested that orientation programmes should be reformulated to address students'

needs. This would ensure that all students benefit from them since this happens to be the first point of entry to the institution.

- Center for Academic Development (CADS)

CADS could be made more student-friendly by providing brochures at the beginning of the year and by placing posters at strategic places that outline the support services they offer. This would enable the students to seek for help timeously. The services were not well advertised, thus few students knew about them. Those who were referred to the centre were stigmatised by other students. That led to reluctance by the students to access the services offered by the centre.

- Mentoring programme

Mentoring programme should be revisited. The updated mentoring programme should develop workable and realistic strategies that are more effective.

- English programmes

The researcher is of the opinion that educators should work in collaboration with the English department and communicate their concerns so that together they could develop strategies to address the question of a lack of language proficiency of first-year students.

- Scholarship programmes

The researcher suggested in Chapter 5 that it would benefit students a great deal if provinces could embark on scholarship programmes for students from their provinces.

This was done by the Limpopo province and it eased the financial burden of the students and allowed them more time to concentrate on their studies.

6.5 RECOMMENDATIONS

Recommendations are based on Medunsa policies.

6.5.1 Policy at Medunsa

Medunsa has various policies that govern the intake and progress of first-year students. These include:

6.5.1 1 Educators' training

CADS provides induction courses for all newly employed educators. This course runs for a period of four to five days. Thereafter, educators are expected to put what they had learnt into practice. There are no follow-ups to check if educators are coping. The majority of educators at Medunsa have no educator training qualifications. Therefore, they are not familiar with Outcome Based Education, which is the recommendation of SAQA. It is suggested that the programme should run for a period of four weeks to give new educators enough time to assimilate the information. It would also help them to put what they have learnt into practice in their respective departments. They would also be able to consult facilitators where they experience problems. This would benefit the students because teaching strategies would accommodate the holistic nature of students.

6.5.1.2 Orientation programmes

Prospective first-year students at Medunsa have to write a Standardised Assessment Test for Admission and Placement (SATAP). The students are assessed in English, science,

mathematics and numeracy. All first-year students are also expected to attend orientation programmes, which run for two days only. It is suggested that the orientation programme should run for a period of two weeks so that it gives students a reasonable time to assimilate the information considering the transition from high school to university. The results of the SATAP tests as well as the results of the students' orientation programme questionnaire should be used to ascertain whether these programmes are effective. Currently the SATAP test results were not considered for placement of the students.

6.5.1.3 Mentor-mentee programme

All first-year students are assigned senior students as mentors to assist them to cope with the demands of the academic life. CADS ensures that each department chooses one of the educators to serve as a coordinator between CADS and the mentors. The departments in turn choose students to serve as mentors based on their capabilities and willingness. The programme still experiences problems because in many departments the ratio of mentor-mentee is 1:10. This creates a problem for mentors because they need to concentrate on their studies as well. Some mentees prefer another mentor to the one they are allocated to, this also increases the ratio of mentor-mentee. The other problem is that mentees do not come prepared to consultations. The encounter is therefore not fruitful and wastes time.
For the mentor-mentee programme to be fruitful it should allow for a mentor-mentee ratio of 1:5. This would enable the mentor to concentrate on their studies as well. There should be a contract drawn up between the mentor and mentee about the time for the contact session and the topic to be addressed. The mentee should undertake to come prepared for the session. The coordinator should ensure that the contents of the contract are adhered to and both parties should sign the document.

6.5.2 Parental involvement

Parents should be involved and take an active part in their children's education. It is suggested that Medunsa adopts a healthier communication channels with parents concerning their children's financial status. This would lesson financial worries that most students shoulder alone and they could concentrate on their studies. Presently students sign contracts with Medunsa in good faith and the institution hopes that students communicate with their parents about their finances. However, the system is not working as most students fail to do so. This results in disruptions at the beginning of each year. The institution should assess financial needs of the students based on the information provided. It should then advise the parents of concerned students about the financial aid options available at the institution.

6.5.3 Foundation programme

According to the reports from other educational institutions consulted, such as Tshwane University of Technology; University of Pretoria; Stellenbosch University and Polokwane campus of the University of Limpopo, their foundation programmes had positive results for the first-year students from disadvantaged institutions who could not be admitted into mainstream studies. It is suggested that Medunsa use feedback from SATAP tests as well as the results of the students' orientation programme questionnaire to structure a foundation programme suitable to Medunsa based on students' academic needs.

6.6 MAIN CONCLUSIONS OF THE RESEARCH

Both the literature review and the empirical studies highlighted various teaching and learning strategies as factors contributing to academic success of first-year students such as properly run foundation and orientation programmes; awarding of scholarship to students; holistic approach to teaching and learning; empowering the students to be conversant with English as the language of instruction; residing at university residences which enable them to participate in extra-mural activities thus helping to facilitate social integration into campus life; classroom attendance registers and frequent classroom tests which lead to more studying and have a bearing on academic achievement; motivation; self-assessment; reading skills and sound sleeping habits. If these strategies were implemented at Medunsa, they would enhance the academic performances of first-year dental therapy students.

6.6.1 Contribution of the study

The study contributed to the understanding or the identification of academic remedial support needs of first-year dental therapy students. The study pointed out that the problems encountered by first-year dental therapy students were not confined to them only but were also experienced by other first-year students from some allied Health departments (see Section 5.3.3).

The study also contributed to the solution of the problem by highlighting the shortcomings of the orientation programmes offered to first-year students, such as CADS' inability to advertise their support services so that it reaches all the students.

6.6.2 Limitations of the study

The study focused on first-year dental therapy students at Medunsa and as such it cannot be generalised to encompass all first-year students who are in need of remedial academic support at Medunsa (due to a small sample of participants in the empirical study).

6.6.3 Matters requiring further research

Recommendations for further research are based on the ever-changing quality of the first-year student population at Medunsa campus. Medunsa is currently admitting students from diverse backgrounds and schools both from within the country as well as from Southern African Developing Countries (SADC). These may have different academic support needs from students from previously disadvantaged high schools. Thus, they may require different remedial academic support strategies.

A further study should be undertaken on the effectiveness of the orientation programmes at Medunsa. Feedback from the students' questionnaires that they completed at the end of the orientation programme could serve as a basis.

Moreover, a study should be undertaken regarding reasons why students regard being referred to CADS as a stigma.

6.7 FINAL COMMENT

The study revealed that schooling in previously disadvantaged high school did not prepare first-year dental therapy students at Medunsa adequately to deal effectively with

the learning content. Thus, the improvement of the quality of education at the educators' training institutions is imperative in order to benefit all first-year students.

The primary aim of the study established that the remedial academic support needs of first-year students especially first-year dental therapy students is due to significant transition from high school to higher educational institutions. The students have to deal with the academic, social and psychological adjustments which if not addressed can impact negatively on their academic performances. Section 6.4.2.1 highlighted the need for prior knowledge of the field of study, holistic approach to teaching, orientation programmes, class attendance register, peer tutoring and awareness of sleep patterns that if institutions could implement can benefit first-year students.

The second secondary aim aimed at establishing the effectiveness of the provision of remedial academic support of first-year dental therapy students. If the recommendations outlined in Section 6.5 such as educators' training, mentor-mentee programme, parental involvement and foundation programme could be implemented, they could assist the academic performances of first-year dental therapy students.

Finally, the researcher is of the opinion that the findings and recommendations of this study make a meaningful contribution to raising the awareness of the plight of first-year especially first-year dental therapy students at institutions of higher learning.

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ADDENDUM A

CORRESPONDENCES

Covering letter to Heads of Departments

Department of Radiography
P.O. Box 159
Medunsa
28/8/2006

Dear sir/madam

Re: Focus group interviews

I am an M Ed student at the University of South Africa, researching the topic: The provision of academic remedial support to first-year dental therapy students. I hereby request the participation of a member/s of your staff in the focus group interviews to be conducted on Thursday 31-08-2006 at 9h00 at the Allied Health Science Building, in the Department of Radiography, room S309.

His/her/their presence and participation will be highly appreciated.

Thanking you in anticipation.

Yours sincerely
Puleng Mokgokong

Covering letter to participants in the educators' focus group interview

Department of Radiography
P.O. Box 159
Medunsa
18/09/2006

Re: Educators' focus group interview

Dear Educator

I am an M Ed student at the University of South Africa, researching the topic: The provision of academic remedial support to first-year dental therapy students. I hereby request your participation in the focus group interviews to be conducted on Thursday 21-09-2006 at 8h15 at the Allied Health Science Building, in the Department of Radiography, room S304.

Your presence and participation will be highly appreciated, and the responses received will only be used for the purpose of this study. In addition, participation is voluntary and that you are free to discontinue at any stage.

Attached please find the interview schedule.

Please indicate you willingness to participate by attaching your signature here below.

Thanking you in anticipation.

Yours sincerely
Puleng Mokgokong

Extension: 4091

Covering letter to participants in the students' focus group interview

Department of Radiography
P.O. Box 159
Medunsa
18/09/2006

Re: Focus group interview for students.

Dear Student

I am currently engaged in a study to find out the academic support needs of dental therapy students as well as remedial academic strategies that could be implemented to assist students to achieve academically. I hereby request your participation in the focus group interview to be conducted on Thursday 21-09-2006 at 8h15 at the Allied Health Science Building, in the Department of Radiography, room S304.

Your presence and participation will be highly appreciated, and the responses received will only be used for the purpose of this study. In addition, participation is voluntary and that you are free to discontinue at any stage.

Attached please find the interview schedule.

Please indicate you willingness to participate by attaching your signature here below.

Thanking you in anticipation.

Yours sincerely
Puleng Mokgokong

Extension: 4091

Covering letter to students participating in the completion of the questionnaire

Department of Radiography
P.O. Box 159
Medunsa
18/09/2006

Dear Student

I am currently engaged in a study to find out the academic support needs of dental therapy students as well as remedial academic support strategies that could be implemented to assist students to achieve academically.

It would be highly appreciated if you could take a few minutes of your time and complete this questionnaire. Your co-operation and participation is greatly appreciated. The responses received will only be used for the purpose of this study. In addition, participation is voluntary and that you are free to discontinue at any stage.

Please indicate you willingness to participate by attaching your signature here below.

Thanking you in anticipation.

Yours sincerely
Puleng Mokgokong

Extension: 4091

ADDENDUM B

STUDENTS' QUESTIONNAIRE

DO NOT WRITE YOUR NAME. ALL INFORMATION WILL BE TREATED WITH CONFIDENTIALITY. YOU ARE REQUESTED TO COMPLETE ALL THE QUESTIONS WITH HONESTY.

MARK WITH AN (X) IN THE APPROPRIATE BLOCK

1. Personal data

Gender of respondent

Male	
Female	

2. Demographic Data

2.1 Province of origin

Gauteng	
Limpopo	
North West	
Mpumalanga	
Kwa-Zulu Natal	
Free State	
Northern Cape	
Eastern Cape	

Western Cape	

2.2 Locality of school attended

Urban	1
Sub Urban (township)	2
Rural	3

3 Educational Data

3.1 Year matriculated

2000	2001	2002	2003	2004	Specify

3.2 Subjects completed in grade 12

Subject	Specify	Higher Grade	Standard Grade	Symbol
Mathematics				
Physical Science				
Biology				
English				

Vernacular				

3.3 Data on high school facility

Facility	Yes	No
Laboratory	1	2
Library	1	2

3.4 State of the equipment

	Strongly agree	Agree	Disagree	Strongly disagree	Undecided
Well equipped	1	2	3	4	5

4 Socio Economic Status of Family

4.1 Education of Parents

Father

No schooling	
Grades	
0-4	
5-6	
7-9	
10-12	

Tertiary education	
Other specify	

Mother

No schooling	
Grades	
0-4	
5-6	
7-9	
10-12	
Tertiary education	
Other specify	

4.2 Occupation of parents

Father	
Mother	

4.3 Income of parents per month

None	

R250-500	
R500-750	
R750-1 000	
R1 500-2 500	

5 Teaching/ learning strategies at high school

5.1 Were you coping with English as a medium of instruction?

Yes	1	No	2

5.2 Were you allowed to use any other language during school hours? If yes, state the language.

5.3 Were you given assignments, which involved research (finding information by yourself)?

Yes	1	No	2

If yes, were you able to find and use the information accordingly?

Yes	1	No	2

5.4 Was the assignment only presented to the teacher for marking?

Yes	1	No	2

5.5 Was the assignment presented to the class for further input and discussion?

Yes	1	No	2

5.6 Did you ever assume any leadership role?

Yes	1	No	2

5.7 Did you ever work in small groups?

Yes	1	No	2

5.8 Does teamwork play an important role in a teaching/ learning environment?

Yes	1	No	2

6 Career guidance

6 1 Were you ever exposed to any career guidance?

Yes	1	No	2

If yes, how were you exposed to career guidance?

As a subject in high school	University open day	Visitation by career guidance counselors	Visitation to health care institutions	Related manual reading

1	2	3	4	5

6.2 At what grade were you exposed to career guidance?

8	9	10	11	12

6.3 Was the career guidance helpful at that study grade?

Yes	1	No	2

6.4 If the answer is no, at what grade do you think learners should be exposed to career guidance.

7	8	9	10	11	12

6.5 Were you able to differentiate between Dental Therapy and Dentistry?

Yes	1	No	2

7 Funding

7.1 Are you receiving any funding from any other source except your parents?

Yes	1	No	2

If the answer is no, does lack of funding affect your studies?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

7.2 Do you have to work part-time to pay for your fees?

Yes	1	No	2

7.3 Do you have to work part-time to help out with your finances?

Yes	1	No	2

7.4 Do you think scholarship/bursaries can help motivate students to study harder and improve their academic performances?

Yes	1	No	2

8 Academic matters

8.1 Are you the first member of the family to study at university?

Yes	1	No	2

8.2 Do you receive educational support from other members of the family?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

8.3 Are other members of the family able to help you with your studies and assignments?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

8.4 Did you participate in an orientation programme?

Yes	1	No	2

8.5 If the answer is yes, did orientation programme help in familiarising you with campus life?

Yes	1	No	2

8.6 Do you think peer tutoring/mentoring can benefit first-year students in helping their academic and social adjustment to campus life?

Yes	1	No	2

8.7 Do you stay at a university residence?

Yes	1	No	2

8.8 If the answer is yes, is staying at university residence an advantage to your studies?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

8.9 Do you participate in any extra- mural activities at the university?

Yes	1	No	2

8.10 Does your participation help you to adjust better to university campus life?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

8.11 Does your independence at the university negatively affect your studies?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

9 Teaching/ learning strategies

9.1 Does lack of proficiency in English as a medium of instruction negatively affect your studies?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

9.2 Do you think a lack of English proficiency negatively influences reading skills which is an important tool for effective studying?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

9.3 Do you fully understand the learning content and the teaching instructions that you receive?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

9.4 Do you prefer to study on your own or to attend a lecture?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

9.5 When you study do you cram or do you study with understanding?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

9.6. In your opinion are thinking skills such as problem solving and decision making beneficial in helping to apply the theoretical knowledge to the practical situation?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

9.7 Can you effectively link the theoretical knowledge with the clinical practice?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

9.8 Are you familiar with mind-mapping/concept mapping techniques?

Yes	1	No	2

9.9 Do you employ mind-mapping/concept mapping techniques during your studies?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

9.10 Are you familiar with Computer Based Learning (CBL)?

Yes	1	No	2

9.11 If the answer is yes, do you consider this strategy effective for teaching/learning environment?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

9.12 In your opinion do regular classroom assessments influence effective teaching/learning?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

9.13 Does signing the attendance register have a bearing on academic achievements of students?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

Behavioural attributes

10 Do you think motivation and positive attitudes towards studies contribute to academic achievement?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

10.1 Does self-worthiness enhance academic performance?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

10.2 Can you effectively self-assess and self-monitor your studies to be able to timeously ask for assistance when you experience problems?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

10.3 In your opinion do irregular patterns of sleep have a negative effect on students' academic performance?

Strongly agree	Agree	Disagree	Strongly disagree	Undecided

11 Comments

If you have any comments or suggestions regarding the above questionnaire, kindly jot them down in the space provided.

……
……
……
……

Thank you for your valuable contribution to this important research.

ADDENDUM C

INTERVIEW SCHEDULES

Interview questions for the educators' focus group

The following questions will be directed to academic and CADS staff member. The questions cover broad aspects of problems encountered by students, which hinder their effective learning.

Prompting questions will be asked during interview session where the need arises.

1 As an educator, what is your opinion regarding selection procedures and students' prior knowledge of the field of study?

2a From your experience as an educator, what is your opinion regarding the state of preparedness of students coming from previously disadvantaged secondary schools?

2b Which aspects of students' preparation do you find lacking?

3a What do you feel about students' proficiency in English, and how does lack of language proficiency affect their studies?

3b If you experience communication barriers, how do you deal with them to help students learn?

4 One of the recommendations of South African Qualification Authority (SAQA) is for the implementation of outcome-based education. This approach recommends the use of small discussion groups. How can you achieve this outcome with the present structure of the lecture halls?

5a What is your opinion regarding a holistic approach to teaching?

5b Do you find students receptive to various teaching strategies during lectures?

5c What other factors do you feel are constraints towards success in their studies?

6 Higher education institutions deal with adult students. What is your opinion regarding educators with secondary school educator qualifications teaching adult learners?

7 How do you deal with the first-year students who are experiencing adjustments problems?

The following questions will be directed to CADS staff member:

8 How do you deal with the first-year students who are experiencing adjustments problems?

9 How do you assist students to form a clearer identity or develop a better sense of who they are?

10 How do you assist students who experience academic difficulties, which hinder their academic performances?

Interview questions for the students' focus group

Focus group questionnaire for students

1. Career guidance

What is your opinion regarding career guidance at school?

2 Funding

2.1 Are you receiving any funding from any other source beside your parents?

2.2 Do you think scholarship/bursaries can help motivate students to study more and improve their academic performances?

3 Academic matters

3.1 Did you participate in an orientation programme and what did you think about it?

3.2 Do you stay at a university residence and what are your thoughts and feelings regarding staying there?

3.3 Do you participate in any extra- mural activities at the university?

3.4 What do you do in your free time?

3.5 Does your independence at the university negatively affect your studies?

4 Teaching/ learning strategies

4.1 Do you think a lack of English proficiency can negatively influence academic success?

4.2 What is your preferred study method?

4.3 In your opinion do regular classroom assessments influence effective teaching/learning?

4.4 Does signing a record attendance register have a bearing on academic achievements of students?

5 Behavioural attributes

5.1 Do you think motivation and positive attitudes towards studies contribute to academic achievement?

5.2 Can you effectively self-assess and self-monitor your studies to be able to timeously ask for assistance when you experience problems?

5 3 In your opinion, do irregular patterns of sleep have a negative effect on students' academic performance?

ADDENDUM D

THE RATIONALE FOR INCLUSION OF SPECIFIC ITEMS IN THE QUESTIONNAIRE AND INTERVIEW SCHEDULES

QUESTIONNAIRE ADMINISTERED TO STUDENTS

The rational for the inclusion of specific items in the questionnaire is explained below. Tables 4.1 and 4.2 outline the questionnaire and the interview schedule and their significance.

Table 4.1: Questionnaire for students

Interview question	Reason for asking	How evidence is to be used
1. To specify their gender	To determine the composition of the respondents.	To establish which gender needs more academic and social support in the institution.
2. Demographic data	To determine from which province as well as the location of the schools the respondents come from.	To identify from which province or school students need more remedial academic support
3. Educational data	To determine: • whether students had continuity of school post Matric, the grade and symbol obtained for Mathematics, Science and English, • the availability of facilities such as the library and laboratories and the state of the equipment in those	To determine: • the students who need more remedial academic support that is whether a break from academic life post Matric has an influence on how students adjust to educational institutions of higher learning. • whether the availability and the

	facilities.	state of equipment in the laboratories and libraries in high school contribute to the need of remedial support for students coming from those schools.
4.Socio economic status of the family	To determine the level of education of the parents as well as their financial status.	To establish whether students can be assisted with their academic work at home and receive financial support to enable them to concentrate fully in their studies
5.Teaching/ learning strategies at high school	To establish: • if students coped with English as a medium of instruction and whether they were encouraged to converse in English outside the classroom. • whether students were encouraged to engage in research, class discussion and to assume leadership role.	To identify areas in need of development with regard to teaching/ learning strategies in high school.

6.Career guidance	To establish: • if students ever received any career guidance at high school, and whether it was beneficial at that grade. • if students can differentiate between Dental Therapy and Dentistry.	To determine: • at which grade will career guidance be more helpful to students. • the need to develop a more comprehensive career guidance to enable students to make clearer decisions about their careers.
7. Funding	To identify: • students who have bursaries. students who need to work part-time to help with their financial needs.	To determine whether lack of financial support contribute to more students requiring psychological, social and remedial academic support.
8. Academic matters	To determine: • whether the students are the first member of the family to study at the university. • if students reside in the university residence. • if students partake in	To establish: • whether students can rely on other members of the family to help with academic work if the student is at home and need assistance with academic work. • whether students

	extra-mural activities at the university. • if being independent at the university affect his/her studies negatively.	who commute instead of staying in university residence need more academic remedial support. • whether lack of participation in extra-mural activities isolate students and result in them seeking remedial academic support. • whether students are able to deal positively with lack of parental guidance or this contribute to the need of more psychological, social and academic remedial support.
9. Teaching/ learning strategies	To determine: • whether lack of English proficiency as a medium of instruction at institution of higher learning negatively affect the students' studies.	To determine: • strategies that need to be developed to help students to cope with English as a medium of instruction.

	• whether students study with understanding or rote-learning. • whether they can effectively link the theoretical knowledge with the clinical practice • whether they are familiar with mind-map technique and they are able to incorporate this technique in their studies. whether students can effectively self-assess and self-monitor their studies to enable them to timeously ask for assistance when encountering problems.	• the preferred learning style of students and to determine which students need more remedial academic support. • whether lack of effective linkage between theory and practice contribute to more need for academic remedial support. • whether more effective use of teaching/ learning strategies needs to be developed to help students cope with their academic work. • specific evaluation criteria which need to be developed for effective use by the students.

Table: 4.2 Educators' focus group interview schedule

Questions 6-8 are specifically addressed to CADS staff member

Interview question	Reason for asking	How evidence is to be used
1a As an educator, what is your opinion regarding selection procedures and students' prior knowledge of the field of study? 1b. From your experience as an educator, what is your opinion regarding the state of preparedness of students coming from previously disadvantaged secondary schools? 1c.Which aspects of students' preparation do you find lacking?	To determine how educators regard the role of selection procedures in students' success at higher education institution. To determine: • their opinions regarding the effectiveness of education from previously disadvantaged secondary schools. To determine their opinion regarding preparation of students from previously disadvantaged secondary schools.	To assess if selection procedures employed at institutions of higher learning have an effect in students' academic success. To identify: • ways of improving education from previously disadvantaged secondary schools. Strategies for helping students from these schools to cope with the academic demands of institutions of higher learning.
2a. How do you feel about students' proficiency in English, and how does lack of language proficiency affects their studies?	To determine: • if the respondents regard lack of a command of English as a medium of instruction by students a major contributing factor	To determine: • whether they acknowledge the impact of English as a medium of instruction in the teaching/ learning environment.

	which negatively affects their studies.	
2b If you experience communication barrier, how do you deal with it?	2b to determine strategies that educators employ to deal with students' communication problems.	the support educators need to deal with the language barrier.
3. In your opinion how do students respond to different teaching strategies?	To determine which various teaching strategies do they employ in their teaching practice.	To establish the need for developing different teaching strategies to accommodate learning styles of all students.
4. What other factors do you feel are constraints towards success in their studies	To establish further what respondents consider as factors that can hinder students' academic success.	To find ways of improving development in the teaching practice.
5. How do you deal with first year students who are experiencing adjustments problems?	To determine strategies that educators use to deal with students experiencing adjustments problems.	To establish if educators utilizes the services of CADS in helping in need of help.
6 How do you deal with first year students who are experiencing adjustments problems?	To determine the strategies that CADS staff uses if students experience adjustments problems.	To establish if strategies used by CADS are effective.
7. How do you assist students in obtaining a clearer identity or developing a better sense of who they are?	To determine the psychological approaches that CADS department offers to support students.	To establish the psychological support needs of students.
8. How do you assist students who experience	To determine the role of CADS in the remedial	To determine ways of further improving the

academic difficulties, which hinder their academic performances?	academic support of students.	CADS department.