TECHNIKON NATAL

AN ANALYSIS OF SOME PROBLEM AREAS FACING FIRST YEAR TYPING TECHNOLOGY STUDENTS AT TECHNIKONS, WITH PARTICULAR REFERENCE TO TECHNIKON MANGOSUTHU, AND SUGGESTIONS FOR THEIR RESOLUTION

MARTINA ALFREDA BOTHA

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by

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I declare that the dissertation represents my own work, both in conception and execution. Conclusions and comments given are my own and not necessarily reflect the views of Technikon Natal.

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"Adult education is the process by which individuals, groups, or institutions try to help men and women improve themselves or their society by increasing their skill and knowledge."
(Tight, 1983: 3)

SUMMARY

Secretaries form a very important component of the labour market in South Africa, therefore appropriate education and training in this field is essential. It is only in the last decade that young black people have entered this career path.

To meet the needs of employers, Technikon Mangosuthu introduced National secretarial courses in 1982. Of the first twenty students who enrolled, only six were successful in completing the course. They were eagerly snapped up by employers who expressed great satisfaction with their work.

It became clear during the course of training the students, that they had numerous problems which hampered their progress. Their English ability was not up to the standard required for this level of study. Students had serious difficulties in adapting to the use of electronic office equipment. Socio-economic problems also contributed to the students' inability to succeed in their studies. The problems seemed insurmountable. It was clear that positive steps needed to be taken to improve the situation.

This dissertation is concerned with the education of secretarial students at Technikon Mangosuthu and investigates the backgrounds of students at six technikons in an attempt to identify problems and their causes with the aim of alleviating these problems and providing the labour market with well trained, efficient secretaries.
Typing Technology is a major subject in the three year National Secretarial Diploma. This subject, in keeping with the development of modern technology, comprises three components: Typing Techniques, Word Processing and Audio Typing. To pass this subject, a high level of proficiency is required.

The students at Technikon Mangosuthu come from a non-technological and socially disadvantaged background and the initial introduction to office technology comes as a cultural shock to them. Lecturers need to assist students in making the transition as quickly and easily as possible by identifying problems and adapting methods of teaching to help students overcome the problems.

From this research study, conclusions are drawn and suggestions are offered to ameliorate the situation.

The preparation of this dissertation, besides considering some general and specific factors that prompted research into the problems experienced by first year Typing Technology students at technikons, involved:

1. The participation of 470 students at six technikons in a survey designed to determine the types of problems experienced by first year Typing Technology students at technikons, and in particular at Technikon Mangosuthu;

2. Visits to the Departments of Secretarial Studies at the participating technikons to view their training facilities, and consultations with lecturers of Typing Technology to gain information regarding their experiences of current problems;

3. A study of literature related to the socio-economic background of disadvantaged students and the effect of this on academic achievement;

4. Experimentation with different methods of presenting keyboard instruction to beginners in typing in an endeavour to single out the most appropriate method for students, particularly at Technikon Mangosuthu;

5. A critical analysis of other courses involving typing instruction open to post-school students to compare curricula with that of the National Diploma courses;

6. An analysis of data collected via questionnaires, observations and interviews to compare this information with the literature study and views of lecturers concerned with the teaching of Typing Technology in an attempt to understand the problems students experience and to offer solutions for these problems.

The research suggested that problems experienced by students, particularly at Technikon Mangosuthu, related to poor socio-economic conditions, poor school background, poor communication in the English language, cultural differences, lack of attendance at pre-school and lack of exposure to electronic equipment at school and in the home environment.

It is hoped that the conclusions made and recommendations arising will assist in improving the quality of education and training for secretarial students following the relevant National Diploma programmes, thus providing the labour market with well-trained and efficient secretaries.

OPSOMMING

Sekretaresses vorm 'n baie belangrike komponent van die arbeidsmark, daarom is toepaslike onderrig en opleiding in dié studierigting noodsaaklik. Swartmense het slegs onlangs tot hierdie beroep toegetree.

Technikon Mangosuthu het in 1982 vir die eerste keer Nasionale Sekretariële onderrigprogramme aangebied, met die doel om te voorsien aan die behoefte vir goedopgeleide en bekwame sekretaresses. Uit die eerste twintig studente wat by Mangosuthu vir dié studierigting ingeskryf het, het slegs ses geslaag. Hulle was opgeraap deur werknemers wat baie tevrede was met hulle werkverrigting.

Tydens die opleiding van sekretariële studente, het dit duidelik geword dat hulle baie probleme ondervind wat vordering benadeel. Hulle Engelse taalvermoë is te swak om die norme van na-skoolse onderrig te bevredig. Die studente ondervind ernstige probleme om aan te pas by die gebruik van elektroniese kantoortoerusting, veral rekenaars en woordverwerkers. Hulle swak sosio-ekonomiese agtergrond lei tot die onvermoë om suksesvol by die sekretariële onderrigprogramme aan te pas.

Dié situasie wek kommer en maak dit noodsaaklikheid om stappe te neem om die probleme te bowe te kom.

Hierdie verhandeling is gemoeid met sekretariële opleiding by Technikon Mangosuthu in die besonder, maar ondersoek die agtergrond van studente by ses technikons in 'n poging om die oorsake van probleme uit te lig en 'n oplossing te vind vir bestaande probleme om, op dié wyse, goedopgeleide en bekwame sekretaresses vir die arbeidsmark voor te berei.

Tiktegnologie is 'n hoofvak in die Nasionale Sekretariële Diplomakursusse. Dié onderrigaanbieding is aangepas om tred te hou met huidige tegnologiese ontwikkeling en bestaan uit drie modules, naamlik: Tiktegniek, Woordverwerking en Oudiotik. Om te kan slaag in Tiktegnologie, moet die sekretariële student 'n hoë vaardigheidspeil handhaaf.

Studente by Technikon Mangosuthu kom uit 'n tegnologiesverarmde agtergrond en ondergaan 'n kulturele skok wanneer hulle vir die eerste keer in aanraking met rekenaars en woordverwerkers kom.

Dit word van dosente verlang om die studente by te staan deur probleme te identifiseer en mee te help dat hulle vinnig oorbrug kan word.

Die verhandeling lei tot sekere gevolgtrekkings en voorstelle word gemaak om die situasie te probeer verbeter.

Probleme wat deur eerste jaar Tiktegnologie studente aan technikons ondervind word, en die behoefte om 'n oplossing vir dié probleme te vind, was 'n groot aansporing tot hierdie navorsingsprojek wat, ondermeer, die volgende insluit:

1. 'n Opname, waaraan 470 eerste jaar sekretariële studente aan ses technikons deelgeneem het, om vas te stel watter probleme deur hulle ondervind word;

2. Besoek aan Sekretariële Departemente by deelnemende technikons om hulle laboratoriumgeriewe te besigtig en om dosente te raadpleeg aangaande probleme wat huidiglik ondervind word;

3. 'n Literatuurstudie verwant aan die sosio-ekonomiese agtergrond van minderbevoorregde studente en die invloed hiervan op akademiese bekwaamhede;

4. Proefneming met verskeie metodes vir die aanbieding van toetsbordonderrig aan beginners om vas te stel watter metode mees geskik is, veral vir studente by Technikon Mangosuthu;

5. 'n Kritiese oorsig van ander kursusse wat tikonderrig op na-skoolse vlak aanbied, om leergange met dié van die Nasionale Diplomakursusse te vergelyk;

6. 'n Ontleding van gegewens uit vraelyste om 'n vergelyking met die literatuurstudie en menings van ander dosente wat tikonderrig aanbied, te tref, sodat probleme geïdentifiseer kan word en oplossings vir die probleme gevind kan word.

Die navorsing wat gedoen is, dui daarop aan dat probleme wat deur studente ondervind word, en veral by Technikon Mangosuthu, verwant is aan swak sosio-ekonomiese toestande, swak skool agtergrond, swak Engelse taalgebruik, kulturele verskille, gebrek aan voor-skoolse bywoning en die gebrek aan blootstelling aan elektroniese toerusting by die skool- en huislike omgewings.

Die verwagting word gekoester dat gevolgtrekkings en aanbevelings wat gemaak word, sal bydra tot die verbetering van onderrig en opleiding vir studente wat ingeskryf is vir die Nasionale Sekretariële Diplomaprogramme, sodat die arbeidsmark van deeglikopgeleide en bekwame sekretaresses voorsien kan word.

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CHAPTER 1

THE AIM AND PURPOSE OF THIS STUDY

1.1 INTRODUCTION

The history of the provision of education in South Africa, as for example finely detailed by Malherbe in his internationally acknowledged two-volume publication (Malherbe, 1925 and 1977) records that there have long been widespread differences in the opportunities of people to become educated. The differences in educational provision, and attempts to compensate for the effects of the differences, were among the topics investigated under the auspices of the Human Sciences Research Council in response to a request by the South African Cabinet in June 1980 and later reported upon (Human Sciences Research Council, 1981: 1).

Related studies (for example that by Dhlomo, 1979), publications (for example by Murphy, 1987) and conference proceedings (for example those of the Natal Teacher Education Association Conference, 1989) have clearly shown that problems in educational provision continue to exist, particularly among the black population. Vos and Brits (1990: 117) cite statistics which suggest that educational backlogs in KwaZulu are among the greatest in the country.

Positive steps have been taken towards improving the situation, for example through the acceptance of an Education Renewal Strategy (Department of National Education: 1992) and a proposed new curriculum model for education in South Africa (Committee of Heads of Education Departments: 1991) which would encourage a more widespread study of technology at the school level.

In the meantime, however, many students (particularly those who are black) experience adjustment and academic problems upon entering tertiary education; this has prompted the development of various programmes of academic support (Tema, 1988).

The aim and purpose of the present study, involving as it has a research project and the preparation of this dissertation, has been to shed light on some of the problem areas experienced by black students of Typing Technology, an area of study which is part of the curriculum followed by prospective executive secretaries. It is the hope of the present researcher that, ultimately, the problems experienced by black students may be alleviated.

The study has also tried to establish some of the problems which student groups present for lecturers, with a view to addressing the objective mentioned in the previous paragraph.

According to Report NATED 02-300 (91/06) of June 1991 (Department of National Education, 1991), technikons have been established -

> " ... to provide tertiary education for middle and high-level personpower in technology. They provide education and training in order to supply the labour market with people possessing particular skills and adequate technological and practical knowledge ... to play a leading role in the working community." (p.21).

The same source notes (p.22) that 165 three-year national diplomas are on offer at technikons (some of which are specifically geared to the training of secretaries) and that the minimum admission requirement is a Standard 10 Certificate.

In an article "Black Women at Work: Progress Despite Problems", by Truida Prekel, published in the South African Journal of Labour Relations, September/December 1982, Volume 6, Numbers 3 & 4, (p.68), it appears that black women in South Africa are gradually moving into secretarial and business positions previously occupied mainly by white women, and although there are still relatively few black secretaries, the numbers are increasing each year. Interviews between the author and potential employers reflect a great demand for properly trained black secretaries.

The purpose of this investigation has been to identify and characterise the types of **educational problems** experienced by secretarial students undergoing their first year of tuition in Typing Technology at specifically Technikon Mangosuthu. Arising from the present investigation, it is hoped that solutions will be found to assist in eliminating the problems and that recommendations may be made to ensure an improvement in the quality of work produced by students.

This study which is grounded in the discipline of **Post School Education,** has been concerned with possible reforms in the educational process, in so far as this applies in Typewriting instruction at a post-school level. The study has involved critical analysis, experimentation and a broad survey of relevant opinion.

1.2 BACKGROUND TO THE STUDY

Experience and preliminary investigations suggest that students who enrol in their first year for the National Secretarial Diploma programmes at Technikon Mangosuthu, find it difficult to adapt to the use of machines, particularly typewriters, word processors, computers and dictaphones.

They are unable to reach the presently required standard in Typing Technology by the end of the first year, beacuse of their problems of adaptation (failure rates from 1990 to 1992 were approximately 35 %).

It seems reasonable to hypothesize that the students concerned find it difficult to adapt because, inter alia of cultural lag; having come from a non-technological background; personal adjustment problems; communication problems and a generally poor educational background. Such problems are typical amongst disadvantaged tertiary-level students in South Africa (Tema, op.cit.).

From the large number of applications received each year at Technikon Mangosuthu, a selection is made according to Senior Certificate results. The minimum requirement is an E aggregate symbol and an E for English Second Language (Higher Grade). In addition to this requirement, applicants are subjected to two tests. The first is a language ability test (Source: Parker, 1972) to check whether the student has a fair comprehension of the English language to enable him/her to cope with second language instruction. The other is a Shorthand aptitude test to assist in selecting students for the Executive Secretaries course which requires a shorthand speed of 110 words per minute by the end of the programme. Of 2 408 applicants in 1991, 48 were selected; of more than 1 000 applicants in 1992, 48 were selected.

Bozzoli (1981: 173-175) states that the present South African situation, demands the output of people with practical skills. Secretarial students need to master the required skills to a high degree of perfection, as a perusal of the official SAPSE syllabuses indicates (National Education, 1993: 168-177).

Secretarial careers demand perfection and excellence, and students must be trained to meet these requirements. It is hoped that the present research will contribute to the improvement of teaching and of results in secretarial diploma courses.

1.3 SUPPOSITIONS AND ASSUMPTIONS

1.3.1 It was assumed, for the purpose of this study, that secretarial students at Technikon Mangosuthu experience problems in attaining the required minimum speed of 35 words per minute and in completing the first year Typing Technology syllabus for the National Secretarial Diploma in the required time, i.e. one year.

1.3.2 It was further assumed that secretarial students at Technikon Mangosuthu experience difficulties in operating typewriters, word processors, computers and audio machines in their first year of training, due to lack of experience in the use of electronic equipment and due to their own non-technological background.

1.4 DELIMITATIONS

The object of this research has been to identify and characterise the types of educational problems experienced by secretarial students whilst receiving instruction in Typing Technology in their first year at Technikon Mangosuthu, to pose solutions to these problems and to make recommendations on curriculum, teaching methods and evaluation.

Because students must necessarily be seen as the product of particular social circumstances, it has been necessary to investigate (to some extent) the likely effects of disadvantaged home backgrounds on post-school performance.

1.5 TOWARDS A DEFINITION OF TERMS

In order to appreciate the proposed research clearly, it is necessary for the reader to grasp the meanings of the following:

1.5.1 National Secretarial Diplomas

The two National Diplomas offered at Technikon Mangosuthu for secretarial students are:

NATIONAL DIPLOMA : SECRETARIAL : EXECUTIVE SECRETARIES (this diploma requires a shorthand speed of 110 words per minute by the end of the course) and

NATIONAL DIPLOMA : SECRETARIAL : OFFICE ADMINISTRATION, (in this course the subject Financial Accounting I is taken instead of Shorthand).

These two courses are also offered by other technikons in the Republic of South Africa.

1.5.2 Typing Technology

Typing Technology is a major (three-year) subject in all the National Secretarial Diploma courses. This subject consists of three modules: Audio Typing, Typing Techniques and Word Processing. The minimum typing speed required at the end of the first year is 35 words per minute. Technological advancement has brought about the use of sophisticated office machines and secretaries are required to use these machines efficiently and with precision. The subject Typing Technology must be distinguished from other courses of instruction in typewriting, e.g. as undertaken by students of Journalism, where the required standard of proficiency is lower.

1.5.3 The total population

The total population in this investigation refers to all the first year students who enrolled in 1992 for the National Secretarial Diploma courses at all the technikons in the Republic of South Africa, Transkei, Ciskei and Bophuthatswana. According to a telephonic survey, the number of students involved here is 1 891.

1.5.4 The greater sample

For the purpose of this research study, the greater sample is defined as the total number of students who completed and returned questionnaires for this investigation. They make up the first year secretarial students who enrolled in 1992 for the National Secretarial Diploma courses at the six technikons (including Technikon Mangosuthu) selected to participate in this investigation and must not be confused with the reference sample. The number of students involved here is 470 and this comprises 25 % of the total population.

1.5.5 Reference sample

The reference sample is defined as the group of first year secretarial students enrolled at Technikon Mangosuthu for the National Secretarial Diploma courses at the beginning of 1992 and constitutes the total population (64) of first year secretarial students at Technikon Mangosuthu.

1.6 LITERATURE REVIEWED

One chapter of the dissertation comprises a review of established literature in the field of typewriting instruction and of post-school secretarial education. Available publications include government and other official reports and documents relating to the educational background of students aspiring to technikon education, particularly among blacks.

The available literature has been used to extract facts and figures for the purpose of making comparisons and to substantiate or exemplify the information obtained in the course of the study.

Sources became available as a result of searches via the libraries of Technikon Natal and Technikon Mangosuthu, and through the writer's study of a range of texts in adult/post-school education before embarking on the project.

1.7. PROBLEMS AND SUB-PROBLEMS RELEVANT TO THIS RESEARCH

1.7.1 The Problem Statement

Students of Typing Technology at Technikon Mangosuthu are not able to cope with the demands of the existing curriculum in national secretarial diploma programmes. The reasons for this situation are hypothesized to be the students' poor school background, their lack of previous exposure to electronic equipment, and the methods of instruction used.

1.7.2 Sub-problems

1.7.2.1 There is no provision for a bridging course for potential secretarial students in order to help them overcome the effects of poor school background.

1.7.2.2 Potential technikon students who are the products of a non-technological home and school environment need exposure to electronic equipment while at school.

1.7.2.3 In that traditional or established methods of tertiary instruction in Typing Technology may not be appropriate for the students under consideration, the use of a variety of teaching methods and their application on different types of machines, seems called for.

Sub-problems 1.7.2.1, 1.7.2.2 and 1.7.2.3 above have been borne in mind while attempting to formulate possible solutions to the problem statement.

1.8 METHODS EMPLOYED IN THE RESEARCH

The researcher used the descriptive method and employed mainly primary data supported by secondary data. A survey was done by means of interviews, questionnaires and comparisons of results from previous years. The information obtained has been used to determine the frequency or the order of importance of the problems identified through the research.

1.8.1 Different teaching methods have been used with the first year secretarial students who enrolled at Technikon Mangosuthu in January 1991 and 1992 to ascertain the best method applicable to the teaching of typing skills.

1.8.2 Comparisons of examination results in 1991 and in preceding years have been made, to establish whether the methods introduced in 1991 lead to any improvement.

1.8.3 Visits to and correspondence with lecturers at other Technikons have assisted in determining the backgrounds from which students of other population groups come, methods of instruction used at other technikons and the measure of success/failure experienced at these technikons. These activities (see also 1.8.5, 1.8.6) constituted the researcher's attempt to establish in broad terms the kinds of problems which students of Typing Technology present to their lecturers.

1.8.4 Students were given structured questionnaires to complete to provide data regarding their backgrounds, and to help identify the problems experienced by them.

1.8.5 Information obtained from interviews and correspondence conducted with lecturers at other Technikons in the Republic of South Africa and Transkei, has assisted in making comparisons between student backgrounds, methods of instruction and problems encountered.

1.8.6 Evaluations of the programmes of study followed by secretarial students have been obtained from lecturers and students at other technikons and from the sample group. These evaluations have also assisted in identifying problem areas, and have enabled the researcher to make recommendations which may hopefully alleviate problems.

The overall findings have been analysed, using computer Software for Applied Statistics (SAS), provided by Decision Supply Services, and have assisted in a clear description of problems experienced by students and the order of frequency of these problems. In this way the researcher has been able to identify the **major** problems encountered by Typing Technology first year secretarial students at Technikon Mangosuthu and has made recommendations to overcome these problems.

1.9 SAMPLING PRINCIPLE USED

The respondents or subjects in the project which has led to this dissertation constitute convenience samples of the relevant populations i.e. of first year secretarial students at technikons and lecturing staff concerned. The entire group (64) of first year secretarial students who enrolled at Technikon Mangosuthu in January 1992 were used as an important basis for the study. The results and achievements of 1991 students had also been recorded and were borne in mind. Four hundred and seventy (470) secretarial students from six (6) technikons, including Technikon Mangosuthu, completed questionnaires and fourteen (14) lecturers responded to another questionnaire.

In addition semi-structured interviews were carried out with fifteen (15) persons in authority at the six technikon departments offering secretarial programmes.

The respondents to the survey questionnaires which constitute an important aspect of the research on which this dissertation is based were by and large first-year students of secretarial studies. The total population concerned by the project was then, the overall aggregate of such students in technikons in South Africa.

As it would obviously have been impossible or unwise to involve the total population in the project, convenience sampling was performed. Three technikons primarily for black students, and three others (but also with black students) were involved.

The reference sample (i.e. students at Technikon Mangosuthu) are all black and the aim was to consider the extent to which other students experienced the kind of problems experienced by the reference sample.

Because of the assistance of fellow academics in other institutions, the response-rate for the questionnaires was high. The overall number of paraticipants was no less than 25 % of the total population. The subject of study did not involve tests of statistical significance and the researcher did no more and no less than use the elements or subjects who were made available via their technikons. In formal terms, the technique used was cluster sampling, with its known disadvantages in terms of accuracy of predicting parameters but its consummate ease in terms of availability and suitability for the project in question.

Cluster sampling is fairly popular in educational research, according to Sax (1979: 192 - 193), and acceptable where the aim is not statistical analysis per se.

Though cluster sampling may be open to "error" more easily than, say, random sampling the choice of how a sample is drawn depends on the aim and type of project involved.

In the present case, the aim was to gather information about the backgrounds and motivations of such students as the researcher could for minimal cost become involved with.

An important aspect of the study was the use (with Technikon Mangosuthu students) of different methods of instruction in Typing Technology in an attempt to determine which method would provide the best results in learning the skills of typewriting. Methods of instruction used and reports of successes gained at other technikons were compared also in an attempt (through the technique of critical comparison) to single out the most suitable method/s of instruction - all with a view to proposing improvements in the success-rate of students in one particular technikon.

This is not a "statistical" study but empirical data devised from questionnaires and observations have been used to support points made. A descriptive survey methodology has been used throughout.

1.10 THE ORGANISATION OF THIS STUDY

This researcher set out to study the nature and extent of problems experienced by first year secretarial diploma students at one particular Technikon. The circumstances of students at other technikons have been constantly borne in mind. The ultimate aim has been to suggest changes which will improve the curriculum and methods of training undergone by the students.

A great deal of attention has been given to the background of students in the reference sample to establish the level of hardship they may have suffered and the influence of their relative disadvantage on their ability to adapt to modern technology and to perform at tertiary level. The information taken from the questionnaires completed by students has been analysed to provide the researcher with relevant information.

The experimentation completed with methods of instruction and selection criteria, has assisted the researcher in finding the best methods of typewriting instruction and selection of students for secretarial courses to ensure that students initially selected for these courses, will have the potential successfully to complete.

The introduction of the use of "Technology" at school level in terms of recent curriculum proposals, has been investigated. A study of "Technology" would give the potential secretarial student the necessary exposure to electronic equipment at an early stage, and enable the student to cope with tertiary education (and in particular, the use of modern business machines).

CHAPTER 2

A REVIEW OF LITERATURE SOURCES RELEVANT TO THE TOPIC OF STUDY

This chapter embraces a review of sources providing information on, inter alia, the educational effects of culturally or socio-economically disadvantaged backgrounds. Education (particularly in terms of the development of skills). is considered in the light of this information, as the chapter concludes with an appraisal of aspects of the South African educational scene.

According to HSRC (1985: 108), Thembela (cited by Smollan (1986: 74-76) and Sethi (1987: 243) educational performance, at any level, may generally be measured in terms of the extent to which a student achieves the aims implicit in (or demonstrates the skills appropriate to) a particular curriculum or course of instruction. A significant problem, in South Africa at the present time, presents itself in terms of vast numbers of educationally and socially disadvantaged post-school students who are unable to adjust to the demands of tertiary-level education. For the most part these students are black and the products of an inadequate or discriminatory school system - not to mention poor socio-economic personal backgrounds.

This chapter sets out to review literature on the influences of certain factors (chiefly environmental) on educational performance, in an attempt to highlight some of the reasons why the students who constitute the writer's main area of focus inevitably experience difficulty or failure at the post-school level.

2.1 GENERAL ENVIRONMENTAL EFFECTS

In order to understand the relationship between social disadvantage and educational performance, account must be taken of the broader context of relationship involving social class, educational performance and opportunity for education. It is also necessary to view the situation vis a vis the level of ordinary schooling, before one can appreciate post-school problems.

In this chapter, related studies carried out by different researchers, at different times, using different techniques will be reviewed. They all tend to report similar results: that there is a strong relationship between socio-economic disadvantage and low academic attainment. Van Scotter, Kraft and Haas (1979: 193-201) provide an excellent summary of the situation in the United States of America.

A considerable body of evidence has been accumulated which suggests that a child's home environment has a direct influence on his level of perception and academic achievement [Bloom (1964), Ferguson 1954, Lesser, Fifer and Clark (1965), Kelsall and Kelsall (1971), Srebalus and Marinelli (1982), Human and Hofmeyr (1985) and Steele (1992)]. It is reasonable to conclued that such influence is likely to continue through and after the period of normal schooling, affecting progress at the post-school level.

Ferguson (1954), and Lesser, Fifer and Clark (1965) are in agreement that different cultural groups are characterised by different patterns of mental abilities and different environments for learning.

According to Human and Hofmeyr (1985: 29) deprivation seriously impedes life chances and the possibility of advancement. The effects of childhood deprivation and an inferior education system will have a long-term effect for many years to come.

Steele (1992) states that there is a combination of factors which undermine school achievement. He lists these factors as:

> " ... societal disadvantage, lack of economic opportunity, poor schools and broken families" (Steele, 1992: 70).

These conditions foster learning orientations ill suited to school achievement, or even 'oppose' mainstream achievement.
Society is preconditioned to see the worst in disadvantaged people. In 1964, Bloom stated that

> "The environment may be regarded as providing a network of forces and factors which surround, engulf and play on the individual" (Bloom, 1964: 3).

According to Kelsall and Kelsall (1971) one feature that is common to all socially disadvantaged children is that their academic performance in school is relatively poor. First of all the performance is poor by comparison with the average and these pupils are often labeled 'retarded', 'backward', 'slow', or 'ungifted'. Another possibility is that a child's performance may fail to match up to the potential he appeared to display at some other earlier stage, usually according to an intelligence test. In this case, the label used is likely to be 'underachieving'.

> "What is holding such children back? The holding back arises from the interaction between the child and his environment ... so that the range of potentially handicapping elements is almost infinite" (Kelsall and Kelsall, 1971: 2 and 4).

The same writers state that in terms of the poor academic achievement of such children, a range of interrelated symptoms is familiar to teachers: their marks as a whole are poor, they perform badly in tests, their span of attention is limited and they have poor study habits.

According to Srebalus and Marinelli (1982) human development as a more or less orderly process of change, is usually viewed as a passage through a series of stages over a period of time. A developmental theory can attempt to describe growth and maturation from birth to death, by positing a series of developmental steps or stages

> " ... usually such theories are epigenetic in nature; that is early stages provide the foundation for later stages and are thus incorporated into them. A weak foundation results in continued inferior development. Thus, if early development is hindered, the prognosis is poor for the entire course of development" (Srebalus and Marinelli, 1982: 17).

2.2 FAMILY CHARACTERISTICS AFFECTING EDUCATIONAL PERFORMANCE

The classic study by Jackson and Marsden (1962) was the precursor of many during the sixties [for example Douglas (1964); Sugarman (1966); Lawton (1968)] which stressed that the family, as the basic social institution, inevitably affects a learner's potential in the educational environment.

According to Bell (1986: 170-171), it seems that one particular variable, the mother's ability to cope, can vitally affect a child's subsequent progress at school and in later life. Even mothers who are potentially competent can be overwhelmed by the problems involved in trying to rear a large number of children with inadequate means, in cramped conditions.

It seems clear that proportionately more disadvantaged children are likely to suffer educationally from the effects of mothers who cannot cope, than are children reared in more privileged circumstances.

Douglas (1964) and Mortimore and Blackstone (1982) found that in families of four or more offspring, educational disadvantage was apparent. Elizabeth Fraser (1973: 53) states that the presence of a large number of siblings is an adverse element in the environment as far as educational attainment is concerned.

Marjoribanks (1979) determined that

> "... higher achievement scores occurred among students in families with fewer children" (Marjoribanks 1979: 57).

Craft (1970) concluded that

> "... when one examines the home background of delinquents or even of children who are backward at school, one cannot help remarking how frequently they are members of large families and recent studies confirm that the numbers coming from such families are indeed disproportionate" (Craft 1970: 77).

It is clear that overcrowding at home contributes to poor performance by children at school. Studies by the Kelsalls confirmed that

> "Seven year old children living in overcrowded homes were retarded, on an average, by nine months in reading ability" (Kelsall and Kelsall 1971: 43).

Overcrowding is often assessed on the basis of bedroom-deficiency in which the number of bedrooms in a dwelling is related to the size, age and sex structure of the family living in it.

According to Ehrlich, Ehrlich and Holdren (1977: 719), it has always been known that health and related hazards associated with overcrowding can adversely affect a child's educational prospects.

Kelsall and Kelsall (idem) note that

> "New findings indicate that overcrowding is detrimental to the actual processes of child development" (Kelsall and Kelsall, 1971: 43)

and cite Eyseneck and Cooksen who found that

> "... children from larger families were more introverted and more neurotic" (Kelsall and Kelsall, 1971: 50).

Marjoribanks (1979) determined that ethnicity has an influence on educational performance and refers to the work of Loehlin, Lindzey and Spuhler (1975), which suggested that genetic differences played at least a part in intellectual-ability test scores.

Cohen and Manion (1983) performed several studies of academic achievement in different ethnic groups in the late '60s and early '70s and found that

> " ... differences in intelligence have a genetic origin" (Cohen and Manion, 1983: 56)

Marjoribanks refers to Ferguson's studies (1954, 1956) which established that the limits of ability that are achieved by individuals are related to 'genetic potential' and also to the learning environment in which a person develops.

Another writer, Lesser (1967), states that

> "people who share a common cultural background will also share, to a certain extent, common patterns of intellectual abilities, thinking styles and interests" (Lesser, 1967: 137).

Lesser conducted a series of studies on relations between ethnicity, social status and patterns of mental ability test scores. Children were tested by an examiner who shared the child's ethnic identity. Extensive efforts were made to achieve standardisation. The results of the study indicated that each ethnic group exhibited its own instinctive pattern of mental ability scores, and that the ability patterns remained invariant across social-status categories.

Lesser (1967) concludes that if different cultural groups are characterised by different patterns of mental abilities, then they are characterised also by different environments for learning. A final test done by Lesser was to determine to what extent the learning environment of the family related to ethnic group differences in mental ability scores. The results suggested strongly that ability scores could be attributed to ethnicity.

However, Gordon (1976) comments

> " ... these studies failed to consider the compensatory role of motivation. Even though an individual's ability to perform may be influenced by environment and ethnicity, his desire to excel may be strong enough to enable him to persevere and master the field requiring the particular skill" (Gordon 1976: 171).

2.3 HOME CONDITIONS AND ATTITUDES OF PARENTS

According to Fraser (1973: 42-43) the social status of a family is usually measured by the income, occupation and education of parents. Samples can be divided into middle and lower social-status groups. Other variables to measure environmental factors also exist, e.g. family composition, the one parent family, ambition, aspiration, ethnic differences, equality of opportunity, access to education, health, security, motivation and lack of interest in educational progress.

In this context, Pierre Bourdieu states

> "Although success at school, directly linked to cultural capital transmitted by the family milieu, plays a part in the choice of options taken up, it seems that the major determinant of study is the family attitude to the school which is itself a function of the objective hopes of success at school which define each social category." (cited by Eggleston, 1974: 35).

Connell and Ashenden (1983) observe

> "The student's education is tied in with the family's situation and experiences in quite a number of ways. ... Educational inequality is associated with social patterns" (Connell and Ashenden, 1983: 25 and 42).

Connell and Ashenden used a sample group of 3 000 state high school Grade 11 pupils in Sydney. Among other questions, the pupils were asked about fathers' jobs which were then divided into two groups representing a higher and lower socio-economic status, according to the occupations and incomes of parents. The students' progress was followed through and achievement at the end of the final school year indicated that 43 % of those who passed were from the higher status group, while only 28 % of those who passed were from the lower status group.

Yet another indicator was based on positions held by fathers. The percentage pass rate of pupils whose fathers were on a professional or managerial level was much higher (52 %) than those whose fathers were in clerical positions (27 %) and the pass rate decreased even further for pupils whose fathers were skilled workers (15 %). The lowest percentage pass rate came from pupils whose fathers were either semi-skilled or unskilled workers (6 %).

Elizabeth Fraser (1973) carried out research on home environment and school on a sample of 400 Aberdeen school children. The aim of her research was to determine to what extent the school progress of a child is related to factors in his home environment and to compare the relationship with that between home environment and intelligence. The environmental factors which were found to contribute most to this difference were cultural and economic.

Among the aspects of home environment studied by Fraser, were: parents' education, parents' reading habits, income, parents' occupation, family size, living space and parents' attitudes to education. For the purpose of her research, these influences were classified into the following headings: Cultural, Material, Motivational and Emotional.

Fraser's findings are of relevance to the present research, which concerns the selection of students for tertiary education. The present writer has studied these same aspects to determine whether or not students in the sample group come from backgrounds which negatively affect learning progress.

Elizabeth Fraser (op cit) states that intelligent behaviour is an acquired characteristic; the efficiency of the learning process will depend on the level of innate potential and the amount and quality of stimulation which the environment provides.

Fraser also established that of two children of equal potential, but with parents of different educational standards, the child with the better-educated parents was likely to reach a higher standard in his schoolwork. (Fraser, 1973: 42 - 43). Fraser concluded that a child who is exposed to the stimulus provided by intelligent parents, and given adequate play facilities and contact with books, words and ideas, obtains more opportunity for learning to occur.

For purposes of Fraser's material and economic classifications, data obtained relate to income of parents and siblings and general living conditions as measured by the number of rooms in the home in relation to the number of persons sharing them.

Ballantine (1983) states that children from disadvantaged backgrounds do not have the access to the necessary support systems to do well in school. Middle-class children adopt a set of values which encourage educational success. Regardless of the measure used - occupation, income, parent education - family socio-economic status is a powerful predictor of school performance.

Coleman and his associates (1966) produced a major report which concluded, inter alia, that schools (whatever facilities or teachers they embraced) did not overcome the disadvantageg caused by non-school factors such as home environment. Jencks (1972) concluded also that the school achievement of children is dependent on one major factor - their families; the increased government expenditure on schools and facilities (occasioned by Coleman's recommendations) had not borne fruit (Jencks, 1972: 86-102)

It is just as likely that student success in post-school education is based not only on individual goals, motivations and abilities, but also on social class, race and locality of residence.

Marjoribanks (1979) identified that another aspect in which a child's educational progress may be adversely affected by having many brothers and sisters is the familiar one of language/cognitive development. There seems no longer to be any doubt that the child in a small family who is forced to communicate more with adults will be more advanced in acquiring linguistic skills and adult ways of thinking than will his large-family counterpart. Greater difficulty is experienced by mothers of large families in providing regular reinforcement in problem-solving behaviour for the individual child.

Marjoribanks has completed much research on this and related topics, mostly in Australia, Canada and England. His research literature clearly indicates that social class inequality has a distinct influence on a child's learning ability. In his research, Marjoribanks refers to a number of other researchers who studied the same topic and concludes that

> "... children's achievements had strong associations with family environment" (Marjoribanks 1979: 54).

The research presented in Marjoribanks's study compares the relationship between academic performance and environmental factors (family environment, social status, economic and cultural factors). Data obtained included inter alia: birthplace, occupation, highest school grades reached by parents and siblings, special interests and hobbies, occupations of parents, amount of reading done in the home and extent of overcrowding.

Craft (1970) emphasises the belief that social environment has a marked influence on a child's learning ability and performance. This social environment is related to parents' occupations and level of education, size of family, conditions in the home, attitudes and values. Craft quotes Marsden (1967)

> "Parents guide their children's education by what they are, what they do consciously, and possibly more important, what they do unconsciously" (Craft 1970: 38).

In 1970 Craft edited a collection of articles entitled Family, Class and Education. Views by some of the contributors are summarised below.

Jean Floud (in Craft, 1970) believes that

> " ... social class causes inequalities of educational opportunities, it influences the educational output of pupils and affects the child's structure of ability" (Craft 1970: 32).

The relationship between the nature of the home and the attainment of a pupil was frequently and sometimes forcibly brought to the attention of the contributors to Craft's text.

They point out that defective home backgrounds are not the sole prerogative of any one social class, nor are the defects limited to those of a material kind, they clearly include the intellectual and the emotional.

Eggleston (1974), points out that the neighbourhood in which a child is raised has a strong influence on the child's learning ability and performance. Housing facilities in an area are similar and the inhabitants of particular areas have much in common in their way of life.

Mays (in Craft, 1970) states that it is true of the working class districts generally that life tends to be focused on two important centres - the home and the neighbourhood. Horizons are apt to be narrow, the sights aimed low, ambition and curiosity limited to the local and the concrete.

The view of Morton-Williams (in Craft, 1970) is that parents' education and reading habits, and material circumstances of the family are likely to have a strong bearing on a child's reactions to learning. Obviously associated with income level is the type of accommodation that can be afforded. Overcrowded homes are clearly a strain on both parents and children and result in a lowering of the quality of their lives.

In her review of working class family life, Banks (1976), underlines the general conclusions already drawn, that our only hope to understand more about class differences in achievement is by a greater understanding of the general socialisation process.

We need to know how the child acquires the values and skills of his group, his ability and motivation to learn new skills and new values. According to Banks, the family is the earliest and the most important area in which socialisation occurs.

The findings or views cited above, which are typical of the mass of literature on the connection between home environment and attainment at school, confirm the importance of family socialization.

Though the references cited are English in origin (for the simple reason that research in this field in South Africa remains undeveloped at the present stage), it is suggested that they have much of relevance for the South African situation.

Sethi (1987: 232 - 235) indicates that in South Africa, where the majority of the population either follow traditional lifestyles or are in a process of transition to modernization, there is widespread incidence of "disadvantaged" family socialization. The problems of families in townships or squatter settlements are too obvious to mention; even amongst the relatively privileged within black society, economic and social conditions impose handicaps on learners which sorely affect their potential for success at tertiary or post-school educational institutions. The existence of many adjustment or "bridging" courses at such institutions confirms the severity of the problem.

The present researcher used the literature mentioned to acquire guidelines for describing the types of home and social environments from which relatively disadvantaged students might come.

Many of the students in the reference sample come from traditional, rural, tribal settings or from dwellings in township areas where there are quite different cultural influences which have a further impact on their learning ability.

2.4 LEARNERS' EXPERIENCE OF PRE-SCHOOL ATTENDANCE

Fraser (1973) refers to studies of the mental and physical development of children which indicate that learning takes place more rapidly between birth and four years of age than during any other comparable period of time.

> "If a superior environment is to have any effect, it must be provided early in life; enrichment of the environment even at the age of seven, appears to result in little improvement" (Fraser 1973: 2 - 3).

Terblanche and Mostert (1986: 47) point out that deprivation during the formative years leads to a learning deficit which is cumulative. Without a sound educational foundation in this formative period, the child becomes progressively less able to meet increasing demands made on him. He consequently develops feelings and attitudes which inhibit learning. Terblanche and Mostert (1986) also note that

> "The number of nursery schools in black communities is totally inadequate. Learning experiences offered by the existing nursery schools are also inadequate. <u>These inadequacies inhibit the child's eye-hand co-ordination which has an adverse effect on the learning of skills</u>" (Terblanche and Mostert, 1986: 41).

Pre-school care and education services for children from birth to compulsory school-going age, as support systems to the home, are an urgent necessity. Terblanche and Mostert (1986) concluded that children cannot benefit from formal schooling until they have developed specific physical and intellectual skills. These skills, competencies and attitudes develop gradually from the moment of birth as a result of complex interaction between inherent potential, maturation and environmental factors.

While current policy in South Africa is that pre-schooling should not be subsidised, the African National Congress are among those who have called for pre-schooling facilities to be expanded (African National Congress, 1992: 6).

According to Terblanche and Mostert (1986: 47) a very important part of development takes place in the first four years of life.

From the preceding, it seems reasonable to conclude that emphasis should be placed on the physical care and psychomotor development of young children if they are to succeed in school. Activities for promoting eye-hand co-ordination, if included in the early curriculum, could contribute to such development.

Maria Montessori (1988) discovered, as early as 1912 that in early childhood, emphasis should be on developing the child's muscular and nervous systems:

> "It is in childhood that the motor mechanisms are fixed. Through practice a child elaborates and fixes these traits of his personality, following the guidance of an individual, invisible law. During childhood the motor mechanisms are in their sensitive stage and are prompt to obey the secret orders of nature" (Montessori, 1988: 205).

Montessori noted that the development of the senses actually precedes that of the higher intellectual faculties, and that in a child between the ages of three and six such development constitutes his formative period. It is at this early age that the child is ripe for exercises leading towards muscular development and if left too late, the experiences will not be as beneficial.

At this early age children are attracted more by stimuli than by reason, and it seems clear that they should be methodically exposed to stimuli that will develop their senses rationally. Particular attention needs to be paid to this type of development in the formative period of early childhood. Montessori noted further

> "Children are therefore at an age when they are greatly interested in movements and seem to be anxious to learn how they should move about. They are passing through that epoch of their lives when they must become masters of their own actions. Physiologically we may say that their muscles and nerves are passing through a period when they are learning how to work harmoniously together. Successful passage through this period is of utmost importance for an individual's ultimate perfection. A good beginning here is most important for a child's future" (Montessori, 1988: 87 - 88).

Montessori warns that if development is left too late, the situation will be like

> "Asking the little hand, which is now adult in that its motions are already fixed, to turn back on the way of its development and to make a tortured effort at reform. The hand of the child of six or seven has already lost its precious period of sensitivity to movement. This delicate little hand has left behind that blessed period in which its movements were co-ordinated.

It is therefore condemned to make unnatural and painful efforts to acquire new modes of operation" (Montessori, 1988: 205).

Sensorial apparatus was designed by Maria Montessori for muscular activity to prepare the child for later life.

Several pieces of apparatus required the child to use the thumb, index and middle fingers so that they became strengthened and co-ordinated as later these three fingers are the ones that control the instruments for writing.

In an undated document issued by the London Montessori Centre to its students, Maria Montessori is quoted as follows:

> "Sensorial apparatus provides the child with sensori-motor activities which have been systematically planned for the five senses and so permit the child to form new concepts through experience and exercise. The child accomplishes one step at a time, gradually moving on to more complicated tasks" (London Montessori Centre, no date: 36).

The use of the materials for designated purposes provides valuable experiences which make a good contribution to the eventual development of logical thinking. Many of the materials used at pre-school level help develop the child's muscular co-ordination and some prepare the muscles for later specific tasks.

According to Montessori's methods, the child is also taught the appropriate language for the new experience and skill he has acquired, and, therefore, his language development is enhanced. Among the apparatus used are sets of cylinders which vary in size and in height, which need to be placed in a frame with holes big enough to accommodate each of the cylinders. The child needs to handle the cylinders delicately with its fingers and find the right sized hole for each. If he misplaces one of the cylinders, the exercise cannot be completed successfully.

There are also blocks of different sizes which are built into a tower ranging from large to small blocks.

This process is commenced with a very few contrasting stimuli so that the child can later pass on to a large number of similar objects but always with finer and less perceptible differences. These activities assist in developing the fine motor skills which help to prepare a child for any number of skills he or she may encounter later in life.

At the pre-school stage, the child is also taught simple daily activities like fastening buttons, tieing shoe laces, washing and drying hands and other similar daily tasks.

Each of these activities assists in developing the fine motor skills and if carried out repeatedly during the child's pre-school training the activities are likely to contribute to school-readiness.

In her research, Ballantine (1983) found considerable evidence that the early years of childhood are the most critical point in the "poverty cycle".

The following factors were established in her study:

1. Children who have attended pre-school are less likely to be assigned later to special or remedial classes.
2. They are less likely to drop out from school, be retained in lower grades, or held back to repeat a year because of poor performance.
3. Achievement in mathematics is significantly improved by pre-schooling.
4. Children from poor families who attend pre-school, obtain better scores than those who do not attend pre-school.
5. Pre-school children retain more "achievement orientation".

Poverty of environmental stimulation at an early age, results in a stunting of the learning process which is irretrievable and which cannot be compensated by a later enrichment of the environment.

According to Kelsall and Kelsall (1971), poverty often deprives a child of the experience of attending pre-school which provides the visual, tactile and auditory stimulation lacking in his or her home. There is also a sparsity of manipulative objects in the home of such children which adversely affects learning ability. Indiscriminate noise in the environment actually teaches the child to be inattentive and he therefore finds it difficult at school to develop the ability to sustain attention. (Kelsall and Kelsall, 1971: 42).

Stagner and Karwoski (1952: 457) relate an experiment performed by Skeels in 1938 in which orphaned children were divided into two groups. One group received pre-school training and the other continued the established orphanage routine. It was noted that the group attending pre-school seemed to profit remarkably from the experience, whilst children in the non-pre-school-group steadily lost in mental performance.

> "On the whole, it appeared that a year made a difference of about ten IQ points, favouring the pre-school group".

2.5 THE "CULTURE OF POVERTY"

Robinson (1976) indicates that those who are victims of poverty have the least access to education, housing, health and security of employment. Robinson also states

> "The culture of poverty is a subculture, a way of life which develops in the face of material deprivation and which transcends national boundaries" (Robinson, 1976: 29).

Deprivation is seen by Robinson as deriving from

> "... those circumstances which prevent people developing to their potential. When a child is deprived of consistent love and guidance he is deprived of that background most likely to lead to stability and maturity" (Robinson, 1976: 33).

Another view of educational deprivation is that

> "The lower-class child enters the school situation so poorly prepared to produce what the school demands that initial failures are almost inevitable, and the school experience becomes negatively rather than positively reinforced" (Robinson, 1976: 40).

Robinson (1976) shows that different societies and different groups within them define the worth of groups and individuals in different ways. Individuals develop a sense of who they are and appropriate ways to act and behave as a result of interactions with others, among whom parents are paramount. Thus, every individual is born into a social structure determined by the people and environment within that social structure, and absorbs the perspective of those within his social structure. An individual's culture is inevitably affected by material circumstances, and those who do not have access to adequate educational resources will suffer educational underachievement and failure.

Kelsall and Kelsall (1971) describe the effects of material poverty thus:

> "... children who are ill-clothed, ill-fed or tired from lack of sleep could not hope to keep abreast of their fellow pupils in a learning situation" (Kelsall and Kelsall 1971: 40 - 41).

Poverty and poor housing tend to have adverse effects with obvious educational consequences. Mothers driven by poverty to engage in paid work to the detriment of their children, result in child neglect. Serious educational repercussions may ensue.

Kelsall and Kelsall (1971) state further that a child's ability to benefit from what school provides can be affected not only by the size and structure of his family of origin, but also by the family and neighbourhood patterns of living to which he has been exposed. A child's behaviour when he first comes to school is likely to reflect, to an important extent, what he has internalized from his family and neighbourhood setting. If, therefore, there are forms of behaviour and attitudes of mind more commonly found in a slum environment than in other urban settings, and if these conflict with what the school expects, then slum children will be likely to appear deviant from the outset. (Kelsall and Kelsall 1971: 54, 55).

According to Iraj Abedian (cited by Smollan, 1986),

> " ... the high ratio of complete illiteracy, especially among Black pupils is even more detrimental. It is true that a high drop-out rate is not entirely due to parents' poverty. Other factors - inferior and inadequate educational facilities and natural inabilities are also at work. But poverty is by far the dominant factor, for it exerts two kinds of impact; the financial inability of parents to provide proper education, and an environment not conducive to educational advancement" (Smollan 1986: 93).

2.6 LANGUAGE ABILITY AND LEARNING

An important aspect in which a learner's educational progress may be adversely affected is the familiar one of language development. According to Pringle (1971), there seems no longer to be any doubt that the child in a small family who communicates more with adults will be earlier in acquiring linguistic skills and adult ways of thinking than will his large-family counterpart. Greater difficulty is experienced by mothers in large families in providing regular reinforcement in problem-solving behaviour for the individual child. Disadvantaged children and, later, students, are often said to have poorly developed language and to lack basic concepts. The lack of practice, opportunities and encouragement contribute to their apparent unwillingness to use language in a manner appropriate to the educational environment.

Linguistic problems develop as a result of cultural deprivation. Parents and others in the social structure are very often illiterate and are themselves incapable of providing their children with basic language instruction. Language tuition at schools in disadvantaged areas is often provided by unqualified teachers, which compounds the language problem.

> " ..... variations in socio-economic status have frequently been shown to be related to language development. Parental attitudes towards children and patterns of family life are the really signicant factors for language development and these happen to vary also with socio-economic class"
> (Milner, in Pringle, 1971: 53)

Pringle's text also contains a chapter entitled "Language development and reading attainment of deprived Children" by Victoria Bossio, who indicates that after extensive research, her findings support the hypothesis that

> "... deprived children are backward in language development. It seems very likely that this is, at least to some extent, functional and due to adverse environmental factors" (Pringle 1971: 48).

Pringle (1971), also states that backwardness in language skills almost inevitably leads to difficulties with most other aspects of school work.

> "In a deprived child's home, little interest is usually taken in books and in education generally, therefore he is less ready for school than his more fortunate contemporaries. There seems little doubt that deprived children's retardation in language skills and in reading attainment is in large measure due to environmental deprivation" (Pringle 1971: 51 and 55).

According to the findings of Victoria Bossio (op cit)

> "The effect of deprivation tends to be most detrimental to a child's language development. A serious degree of backwardness in comprehension reading was also found" (Bossio in Pringle 1971: 58 - 59).

In the same text, Margaret Tanner, in a chapter entitled: "The effects of early deprivation on speech development" notes that

> "There is a good deal of evidence to show that the various aspects of speech tend to be most seriously affected. A child's language development reflects the level of his intellectual, emotional and social growth" (Tanner in Pringle 1971: 129).

Children who are socially disadvantaged are not adequately exposed to the media; they do not have access to newspapers, educational aids or television.

Insufficient access to information deprives such children of the opportunity to develop language skills. Estelle Fuchs states of deprived children that

> " ... some of them never see a newspaper" (Keddie, 1978: 88).

A child internalizes his thinking and language patterns in his home environment, and as we have already noted, the mother-child interaction plays an all-important part here. The working class mother is likely to transmit to her child a limited set of linguistic skills which are inadequate for classroom purposes.

Kelsall and Kelsall (1971) point out that

> "Illiteracy resulting from inadequate educational provision is becoming more serious as populations increase. In 1950, 700 million adults of fifteen years of age and over in the world were illiterates, this figure has since risen to over 800 million" (Kelsall and Kelsall, 1971: 4).

There is ample evidence of apparent backwardness and retardation in reading and language skills on the part of disadvantaged children of all ages [Pringle (1971); Kelsall and Kelsall (1971 and Keddie (1978)].

Bernstein (1961), puts the issue in an even more basic form when he suggests that the context of the learning in school should be drawn much more from the child's experience in his family and community.

It is clear that otherwise, neither the child nor the parents will be at home in the educational world, and a disastrous division will persist between life in the family and neighbourhood setting and life in school.

Kelsall and Kelsall (1971) emphasise that literacy skills are basic to academic progress, for without some measure of competence in them no child can hope to make much headway. It is agreed that in almost all aspects of language development, children from the groups with which the present research is concerned are seen to function from their very first school days at a level much lower than their fellows of the same chronological age. The handicap of those whose mother tongue is not English is even more obvious.

According to Backer (in Bozzoli 1981: 195-196) tertiary education requires a high level of linguistic ability. Failure to understand or express oneself in English will impede the success of a student in any chosen educational programme at post-school level. The medium of instruction used for all subjects taken by the students who form the reference sample in this study is English. Without the ability to communicate satisfactorily in English, a student is likely to fail the course of his choice.

2.7 SKILLS DEVELOPMENT THROUGH EDUCATION

The objectives of education, according to Bloom (1964), at whatever level, exist in at least three forms: cognitive, affective and psycho-motor. The psycho-motor objectives, largely concerned with skills development, tend sometimes to be under-rated in importance but are in fact extremely necessary.

In the report of the Main Committee of the Human Sciences Research Council Investigation into Education (1981): Provision of Education in the RSA, the following statement was made:

> "Considerable growth in the demand of high-level manpower is predicted for the following decade. Since the contribution that Whites can make would seem already to have been utilised to a large extent, that of the Non-White groups will necessarily have to increase rapidly. There is no doubt that this will make heavy demands on the system of education and training in South Africa" (HSRC, 1981: 23).

Later, the reader is informed that

> " ... the present South African situation demands people with practical skills. ... if it is true that there is disharmony between the school product and what the work situation demands then the development of career orientated education is of absolutely vital importance to a new and more relevant educational dispensation in the RSA" (HSRC, 1981: 138 - 139).

To satisfy the present manpower need, it is surely necessary for the secretarial student to master the relevant skills to a high degree of perfection.

The following citation is taken from proceedings of a conference held on 30-31 March 1981 at the G R Bozzoli Pavilion, University of Witwatersrand, Johannesburg: Technical and Vocational Education in Southern Africa:

> "In the main it is because we have neglected to train our blacks that we find ourselves in this critical situation. It has been said that 'industrialists and technical and vocational educators are life partners and that the majority of industrialists are sleeping partners', and it is the sincere hope of most of us here today that we shall all become active partners" (Bozzoli, 1981: 125).

Bozzoli stated further that

> "The industrial revolution, the science and technology explosion and the phenomenal growth of economic interaction and activity during the past century and a half have created a man-made world and environment in which man must live, maintain and develop. This, more than anything else, has consequently made specialised education at a school by specially trained educators a must for every human being entering the modern world" (Bozzoli, 1981: 173).

Bell (1986) refers to the present era as the "post-industrial society" where emphasis is placed on training for a technological age and for a communication society. The modern man, he says, needs to be trained in the technical skills required for the technological age.

Bozzoli (op cit) points out that we need an effective system of career guidance to awaken teachers, pupils and parents concerning the development of skills that will help to meet the real basic needs of our country. We need a vocationally oriented curriculum which will teach the youth the skills of survival.

In a publication reviewing the educational needs and problems in Ciskei, the Institute of Educational Research of the HSRC (1986) stresses that

> " ... there should be continuity between the subject matter offered in secondary and further education. Subjects taught at secondary schools should provide a good background and basis for further education. There should be a wide choice of subjects that would accommodate the interests of the pupils so that they can follow the same subjects as they further their education" (HSRC, 1986: 58).

According to Wentling (1988: 33-34), keyboard instruction and basic computer literacy should be taught at school level to form good grounding for further education at technikons and universities. Wentling emphasises that by 1995, 95 % of what we want to know will be stored in computers. The way to learn and communicate that knowledge will be by operating a computer. Tasks that were formerly manual operations have now become automated through the use of various kinds of equipment that use a keyboard for data entry and manipulation. As computers are used more widely in business, many business professionals are finding that they must develop basic keyboarding skills so they can use computers efficiently.

> "Keyboarding is defined as the act of placing information into the computer through the use of a typewriter-like keyboard, involving the placement of fingers on designated keys on the middle 'home' row of the keyboard and moving fingers as needed to depress other keys. This method is in contrast to the hunt-and-peck typing" (Wentling, 1988: 33).

Wentling (1988) also found that a large number of university business students were graduating without possessing keyboarding skills. It was felt that more opportunities to acquire these skills should be provided. Wentling also felt that instruction in keyboarding should be taught at elementary and secondary school level. This type of keyboarding instruction should take place in advance of the students' first encounter with computer use. This type of instruction could contribute significantly to the learning of computer skills and ultimately to more productive use of the computer as a tool.

It is reasonable to conjecture that the students who enrolled for secretarial education at Technikon Mangosuthu, who became the reference sample on whom the present project was based, had had no previous keyboarding instruction when they first enrolled.

Kimball and Lane (1992), referring to school education, state that with the rapid expansion of computer usage, primarily microcomputers, educational institutions should require that all students develop keyboarding skills. As students begin using the keyboard, they form lifelong habits where correct techniques are extremely important for efficiency. Being a cumulative skill, keyboarding requires the perfecting of initial techniques upon which further skill can be built. This has important implications for post-school and tertiary education.

Kimball and Lane have pinpointed a new dimension of importance in contemporary education:

> "The educational basics of today are: reading, writing, arithmetic and keyboarding!" (Kimball and Lane, 1992: 76).

Kimball and Lane suggest that keying in information sparks an interest in proper spelling, punctuation, and capitalization and develops organisational and writing skills. Keyboarding skills are important for students to effectively develop one of the fundamental tools of computer literacy and of communication itself. Everyone will soon need to know how to keyboard and how to make proficient and productive use of this skill. At some point all of today's students will use computers in the school, in the home, or recreation, and on the job. Keyboarding proficiency, these writers conclude, will be necessary within almost any occupational area.

According to Kimball and Lane (1992), the primary goal is to develop increased efficiency in keyboarding through learning touch-typing techniques

> "Keyboarding is not an end, but a beginning to using word processing, computer and graphic software programs" (Kimball and Lane, 1992: 71).

Kimball and Lane (op cit) state further that students will use word processing skills for the purpose of written communication with the introduction of proofreading and editing software; computer activities which will facilitate the development of the problem-solving skills of logic and logical thinking.

An informal observation by the present researcher has been that students who come from non-technological backgrounds tend to have problems with attention span, finger dexterity and maturity. These qualities seem essential for good performance in office technology and it is suggested that the lack of them could well account for most of the difficulties experienced by some secretarial students.

As a result of suitable instruction, such students should improve skills in the following areas: listening, following directions, attention to task, fine motor skills, eye-hand co-ordination, self-concept awareness, speed of expression and language arts. These very skills referred to by Kimball and Lane, were found to be lacking among the students with whom this project is concerned and it was the intention of the researcher to analyse performance discrepancies and to identify the nature of the discrepancies. After such identification, possible solutions may be sought.

According to Seymour (1968), human performance depends upon the constant reception of information via the senses, as a result of which the brain initiates movements which are carried out by means of the limbs and body members. The very movement of these in turn gives rise to further sensory impressions which enable the brain to control the movements with increasing precision, and to terminate them when we have finished. Human performance, then, results from two processes, first the receptor processes, i.e. the senses which are concerned with the incoming sensations of for example sight and touch and the effector processes, i.e. those that concern the actual movements made.

According to Stagner and Karwoski (1952), the word kinesthesis is derived from the Greek word meaning "the sense of movement". A summary of the views of these writers now follows:

The receptors are located in the muscles, joints and tendons. The physical stimuli are the stretching of the muscles and tendons, and movements of the joints. These movements send impulses to the somesthetic area in the brain where information seems to be correlated as to the position of our limbs. From here the impulses are shunted to the motor area of the brain, and back to the muscles, tendons and joints to induce further activity.

It is because of the capacity for self-regulation by the muscles that motor habits acquire the high degree of automaticity that they do.

Stagner and Karwoski (1952) state further that few people think of muscle sensitivity as important, that it actually underlies all kinds of skilled activities, such as speech, dancing, typewriting - anything in which a complex series of movements must be run off with split-second timing. While the kinesthetic impulses go up the spinal cord in a tract separate from the skin senses, the two sets of impulses are reunited in the cortex (brain). This is functionally necessary because touch and muscle sense co-operate so closely in guiding the motor adjustments of the body.

Stagner and Karwoski (op cit) also state that the skilled performance of typing is a function of perceptual learning of the keyboard and of mechanical association of visual stimulus with finger response. The extraordinary skills developed by human beings are based upon positive transfer from years of prior learning. Learning in infancy and childhood provides the opportunity for acquisition of a variety of work habits in later life. A person who is learning to type can apply his knowledge of the alphabet and his reading ability to the new skill being learned.

Initially the typist will type each letter seen in the copy he his typing from. Later he will have the ability of

> " ... holding several letters in memory and striking each letter key in order of its memory image" (Stagner and Karwoski, 1952: 339).

This enables the typist to form word and phrase patterns which will speed up his typing.

> "To every task of skill acquisition, man brings his extensive background of useful prior learning" (idem).

Grandjean (1988) describes motor sensory perception in the following way:

> "Every muscle is connected to the brain, the overriding control centre, by nerves of two kinds: motor nerves and sensory nerves. Motor nerves carry impulses from the brain to the skeletal muscles where they bring about contraction and collectively control muscular activity. Sensory nerves conduct impulses from the muscles into the central nervous system, either to the spinal cord or to the brain. Sensory impulses are bearers of 'signals', which will be utilised in the central nervous system in part to direct muscular work and in part to store as information" (Grandjean, 1988: 17 - 18).

The same writer states later that

> "Learning is essentially a matter of imprinting a pattern of the necessary movements upon the medulla of the brain. To begin with, all movements are performed consciously, but as training progresses the conscious element is gradually reduced. New pathways and junctions are built up in the brain, and control of movements is gradually taken over completely by cerebral nerve centres. In simpler terms: acquiring a skill consists mainly of creating reflex arcs which replace conscious control" (Grandjean, 1988: 115).

Grandjean also points out that muscular adaptation involves thickening the muscle fibres, thereby increasing the total power of the muscle. Training for very rapid movement means not only increasing muscle power, but concurrently reducing internal friction by getting rid of some of the non-contractile material, such as connective tissue and fat.

Typing involves not only the control of muscular activity in fingers, hands and arms, but also the sensory input, the integration and interpretation of the entering information and the transfer of impulses to the muscular control centres where the typing movements for words are 'engraved' as complete movement patterns. That part of perception, interpretation and transfer of command can be considered the mental work in typing; it is certainly much more important than the automated process of operating the keys. (Grandjean, op. cit 119).

It is clear that muscles which have not been suitably developed in the earlier stages of childhood, will be more difficult to control and co-ordinate with others. One is reminded of the importance of such early development and experience, as for example provided during pre-school education or even informal experimentation with toys or implements. Such experience is taken for granted within a mainstream environment, but may be sorely lacking among disadvantaged people.

There is a natural tendency to assume that skills acquired on one task will transfer to another. The transferablity of skills is very important, e.g. ability to play a piano or other musical instrument may make the learning of typing techniques much easier.

> "When lecturing/training adults, one inevitably assumes that they will have acquired certain basic skills, and that these will transfer to the situation in which they now find themselves" (Seymour 1968: 40 - 41).

In teaching students at a post-school level who are not technologically orientated (and in that way, disadvantaged) one cannot make such assumptions however.

According to Williams (1986), the learning of skills requires complex coordination of the sensory and motor systems. Persons who have not achieved sufficient sensory-motor integration will experience learning difficulties.

> "Kinesthetic perception and physical learning: the areas of education most clearly associated with kinesthetic perception and learning are those which involve training the body, including not only physical education but such subjects as typing, sewing, music. These are subjects in which students have the opportunity to learn not only specific movement patterns, but also how to use kinesthetic feedback to improve motor skills. Kinesthetic awareness of how the body feels as it moves, how muscles feel when they are tense or relaxed" (Williams, 1986: 156 - 157).

Jacobs (1990) makes the following observation

> "Part of kinesthetic awareness is learning to operate without undue stress. The ability to tense only the muscles needed to perform an action while relaxing those not in use enables individuals to move more effectively. It both reduces fatigue and eliminates blocks to necessary movement; for example in typing, tension in the shoulders prevents the fingers from functioning at peak efficiency. Tension is most often a result of insecurity, a reaction to fear that one is not succeeding. It establishes a vicious cycle: students who feel they cannot type tense whenever they engage in that activity; their tension further exacerbates the problem, makes them less able to perform, and thus produces more anxiety and more tension" (Jacobs, 1990: 159).

It is likely that the tension referred to above, is due to lack of confidence as a result of cultural lag and poor school background and is often experienced by students forming the reference sample. The current technological era has brought about considerable social changes in our society. To build up their economic potential, industrialised countries clearly need to make full use of the rapidly changing technological advancement that is taking place. Alex Thembela (quoted by Smollan, 1986) remarks

> "Since there is no way of avoiding technological advancement, African education must find a way of overcoming the lack in skills training. The question that comes to mind is how quickly and how effectively modern technology can be introduced into African environments and how soon indigenous populations can assimilate this technology in such a way as to have full command of it" (Smollan, 1986: 74).

The 1984 Annual Report of the Department of Education and Training points out that in 1979, only two technical institutes were operating. In 1986 there were 18 technical colleges, 13 technical institutes and two technikons. It will appear that the need for technical training is receiving due attention, but provision still does not meet the country's requirements.

Much emphasis has been placed on the development of skills by the sources cited above. The present technological age demands the proficient use of skills in commerce and industry. Though much has already been done to introduce skills training at schools, educationists of today need to take the lead by adapting education to include the training of skills at all schools so that these skills may be refined and advanced at the level of post-school education.

It would be a tremendous advantage for any student who progresses to technikon or university level to be already equipped with the basic skills of keyboarding and computer literacy.

2.8 SPECIFIC CONSIDERATION OF THE SOUTH AFRICAN SITUATION

This chapter, in reviewing literature concerned with topics relevant to the research project on which this dissertation is based, has in broad terms, made reference to the possible educational effects of a disadvantaged background.

In the South African context, it is necessary to consider specific factors affecting educational needs, policy and practice; this the author now proceeds to do.

According to Sethi (1987) education is inevitably culturally linked and in South Africa the influence of traditional culture on education is very significant.

2.8.1 Traditional culture and education

According to Bell (1986), the concept 'culture' could have various meanings; it is used here in the sociological and anthropological sense to denote a process which describes and shapes specific and distinct customs and ways of life. African cultural traditions are diverse. At local level, social and cultural practices relating to community, family and household, influence the decisions and actions of particular groups.

According to Bell (1986: 135), the family is the pivotal social unit in most black communities in South Africa. It has the responsibility for improving the quality of life of its members by instilling into the youth a sense of loyalty and values which will guide their social and economic conduct when they mature.

Krige (1950) states that many black tribes are still influenced by superstitions and beliefs which affect their daily lives. The 'umthakathi' or wizard is the enemy of society.

He is the man or woman who uses evil powers, which he has learnt to employ by means of magic, for anti-social ends. The most deadly of all evil medicines, are those made up of parts of an individual's own body, such as finger-nails and hair.

For this reason Zulus are very careful that they burn or completely destroy cuttings of finger-nails or hair. This belief leads co-incidentally to hygienic conditions. Children are educated by their mothers to be meticulous about these customs.

If an evil spell is cast upon an individual, he seeks out a bone diviner who will identify the evil-doer, punish him and break the evil spell. It is also strongly believed that the ancestral spirits 'amadlozi' guard over families and in return, they require worship and sacrifice. (Krige, 1950: 227).

Ancestor and burial rituals involve brewing of beer and the killing of a beast (goat or ox) followed by consumption of these items over a three to four day period. These rituals are characterised by a great deal of formal oratory, usually in combination with song, dance and praise poetery. One of the functions of this oratory is to inform and to educate. Through the oratory, ritual knowledge, which includes knowledge of custom or tradition is formulated, promulgated and imparted. A process of informal education takes place. (Sienaert and Bell, 1988: 43).

Mothers and grandmothers educate the children in the tribe by means of folklore which is carried on from generation to generation. There is a moral attached to each tale and through this, children are taught good values and habits. Historical tales are another means of informal education.

This informal method of education prepares the child to take up its place in the tribal society. (Krige, 1950: 345).

Krige states further that education in the sense of initiation into the life of the adult community is a very ancient concept. It is by and large a phenomenon that has long existed in traditional African societies. The African child is brought up by the process of socialization as opposed to the process of individualization. Emphasis seems to have been placed on domestic rather than market-orientated skills; on consumption rather than production. According to Krige, education is viewed as a vital contributor to economic growth as well as to the development of self-reliance. However, most school-leavers and dropouts tend to live in dependent relationship with their parents.

The true aims of education, according to Sienaert and Bell (1988) are said to be:

1. to prepare young people to live well in a society and serve the society concerned;
2. to transmit knowledge, skills, values and attitudes of that society to the younger generation;
3. to produce enlightened participating citizens;
4. to help people to learn things for themselves and become independent;
5. to permit people to understand and think through problems.

(Sienaert and Bell, 1988: 213 - 214)

Sienaert and Bell state further that in the light of such aims, African traditional education was functional: it assisted the youth to fit into the traditional African society, but it did not prepare them for integration into a western model of schooling.

Sienaert and Bell (1988) point out that

> "Oral education taught social customs and fulfilled cultural expectations in the past. However, most of the formal education for Blacks in South Africa has tended to 'deAfricanise' them" (Sienaert and Bell, 1988: 214).

The result is that some African children have lost their identity and become partially Europeanised. Many of today's youth have become unintegrated personalities, torn between African and European values and attitudes.

The same sentiments are shared by Callahan and Clark (1977).

> "The schools are not turning out students who are prepared to take their place in the life of our country. They don't read well, write well or speak well. They don't have a serious attitude towards work; they expect everything to be provided for them. They are too dependent; they are too soft ..." (Callahan and Clark, 1977: 152).

Thembela (in Kendall 1986) presented a paper at a seminar on 'Education and the diversity of cultures' and stated that the historical development of school education for Blacks in South Africa created a situation of cultural and social conflict. This conflict made it difficult for education to proceed smoothly.

Thembela stressed further that the South African socio-political arrangement placed Blacks at the bottom of the social structure. This situation created tremendous obstacles for Blacks which made it difficult for them to do well at school.

According to Thembela the conditions which exist in Black schools in South Africa make effective transmission of knowledge, proper development of skills and the acquisition of understanding and insight by pupils, difficult to attain.

Thembela states further that a general characteristic shared by many third world countries is the inheritance of a western model of schooling. This has meant schooling in formal institutions typified by values and practices derived from the west, often with no direct relevance to the pupils' home backgrounds. According to Thembela the western orientated curriculum places high status on knowledge, abstractness, individualism and punctuality and order of a type whose relevance is not obvious in the daily lives of Blacks. They have the added disadvantage that they find it difficult to communicate adequately in English.

According to Human and Hofmeyr (1985), problems in communicating comfortably in the work setting can restrict the ability to behave assertively. An inadequate command of a language provides a barrier to the forceful expression of a person's views and ideas and may undermine his self-confidence in a situation in which he is required to be assertive.

Human and Hofmeyr state

> "Some Blacks are observed to have difficulty interpreting colloquial talk which makes it difficult for them to feel comfortable, or particpate more fully, in social or informal situations in the work environment" (Human and Hofmeyr, 1985: 66).

Eric Charoux (in Smollan, 1986) notes that

> " ... Blacks lack inherently the entrepreneurial skills and attitudes such as problem-solving abilities, profit motivation and competitiveness as well as certain traits like ambition, drive, initiative and assertiveness which are essential to success.

> They hold instead those attitudes and values which emphasise communalistic and affiliative behaviour. Consequently Blacks are likely to experience serious difficulties in organisational socialisation"
> (Smollan, 1986: 179).

2.8.2 The effects of urbanisation

According to Epstein (1983) the process of urbanisation involves the redistribution of population as people move from rural to urban areas. It refers to participation in social relations in town and the changes in behavioural patterns which such participation involves. It is concerned with the influence of town on country and the implications of urban growth for social change.

Musgrove (1966) states that urban children are generally superior to rural children.

According to Stuart Jones (cited by Smollan 1986: 5) at the time of Union in 1910, the overwhelming majority of the Black population was rural, although even at that early date, urban Blacks numbered over half a million. Urbanisation began to increase in the 1920s as South Africa embarked upon her road to industrialisation. Many Blacks were forced out of the rural areas by poverty to seek jobs in the modern sectors of the economy - in the words of Professor Nattrass

> "It is the inability of Black agriculture to provide for its population that is a major force behind the migrant labour system" (cited by Smollan, 1986: 12).

Bell (1986: 172) states that most of the African people of most of the areas of Southern Africa have been integrated into the capitalist world economy through labour migration rather than the direct production of commodities.

According to Jones (cited by Smollan 1986: 18), in 1970, migrant labour formed 27 per cent of the total Black work-force and constituted 40 per cent of the Black work-force in White areas. The migrant labour system was the way in which a very large proportion of the Black people were brought into contact with the modern economy and exposed to the more dynamic views of urban society. With rapidly increasing salaries in recent years, a premium has been put on educational qualifications and the acquisition of marketable skills. This necessitated an adjustment in the education system which led to vital changes in the 1970s.

Black incomes have increased as the following table indicates.

Table 2.1

Trends in Black Earnings (1977 - 1982)

	Rands per annum						Average Annual % increase
	1977	1978	1979	1980	1981	1982	1977-1982
Mining	1 204	1 415	1 662	2 068	2 544	3 029	17,4
Manufacturing	1 707	1 943	2 248	2 688	3 249	3 898	15,4
Construction	1 490	1 581	1 760	2 132	2 470	2 969	11,6
S A Transport	1 418	1 594	1 940	2 431	2 954	3 432	16,2
Central Govt	1 775	1 954	2 128	2 444	2 842	3 452	12,4

(Source: Smollan, 1986: 18)

2.8.3 Educational provision

According to Thembela (cited by Sethi, 1987: 35) problems of overcrowding, lack of facilities, poor teaching and learning, higher drop-out and failure rates are symptoms of a situation in which Black schools are currently functioning at a very low level of productivity. Traditionally Black society places great importance upon the primacy of the male authority figure. A child is expected to obey his superiors without question. According to this norm, what the elders and people in authority say must be accepted without question. In a school situation, this tends to suppress creativity, initiative and originality. Teachers who do not understand the need to encourage these qualities will insist that pupils must do as they are told. In classroom practice this is translated into rote learning and teacher-centred instruction.

According to Kendall (1986) the social factor of the disorganisation of many Black families is bound to have a deleterious effect on the child's school life. Some children actually leave their homes and squat in shacks near the school. A decent place of study is not known to them, and they learn through the medium of their mother tongue for the first four years and thereafter switch to English as a medium of instruction. Pupils from rural areas seldom hear or use English outside the classroom. These circumstances give rise to obvious problems.

Since educational disability is found among socially and economically disadvantaged groups in all societies, it may be concluded that there is a systematic relationship between social conditions and educational competence.

The culturally disadvantaged child is retarded in cognitive skills by the time he enters school. Many Black children come from squalid slums which exist on the periphery of large cities. These urban slums with their overcrowded apartments offer a limited range of stimuli to the child. The scarcity of objects to manipulate and lack of diversity at home, in addition to the absence of individualised training, give the child few opportunities to manipulate and organise the visual properties of his environment and thus learn to discriminate perceptually the nuances of a basis for later reading readiness. The home background of many Black pupils does not enable a child to get ready for schooling. (Summarised from Kendall, 1986: 37 - 43).

A great majority of Black teachers are inadequately qualified. At the secondary school level, some teachers have only a year or two more training than their students. The De Lange Report (HSRC 1981) made the alarming revelation that

> " ... the percentage of black teachers underqualified on the criterion of standard ten plus a professional certificate was 85 %. Only 23 out of 100 school principals were appropriately qualified" (Gounden and Mkhize, 1991: 18).

The following figures supplied by Smollan (1986) confirm the previous alarming revelation

In KwaZulu, 1983 - out of 16 604 teachers in the primary schools, only 5 had a university degree and 13 625 did not even possess a Standard 10 certificate. Out of 5 437 teachers in the secondary schools, only 826 had a university degree and 704 did not possess a standard 10 certificate.

Out of a total teaching force of 22 041 in KwaZulu Department of Education during 1983, 20 613 had academic qualifications of not more than standard 10. Added to this, the teacher pupil ratio was very high.

Thembela (in Smollan, 1986) points out the resultant problems:

> "How does one teach to a group of 70 pupils and through the medium of a foreign tongue, a subject that one has hardly mastered oneself, under drab and dreary conditions with no aids at all? The use of rote learning and excessive recourse to corporal punishment by some teachers may be mechanisms adopted for survival in an extremely difficult situation" (Smollan, 1986: 75).

The net effect is that schools are not producing properly developed and educated individuals who can hold their own ground anywhere in the worlds of science, art, literature, commerce, industry and technology.

According to Thembela (as quoted by Smollan, 1986) a survey done amongst 300 African adults in Natal/KwaZulu, revealed that 75 % blamed the high failure rate at school on African teachers, 40 % blamed the system of education, 20 % blamed Black poverty. (Percentages sum to more than 100 % because more than one answer could be given.)

According to NATED 02-300 (June 1991: 47), the pupil teacher ratios in 1989 in South Africa were as follows:

White 1:17,6 Indian 1:21,6 Coloured 1:23,5 African 1:36

Black school leavers are likely to be left with severe disadvantages in the competition for jobs and occupational advancement.

Thembela (quoted by Smollan, 1986: 76) states that black pupils are usually taught English by school teachers who themselves have a poor command of everyday English. These are obvious consequences of the prevailing system. Less obvious consequences flow from some of the very established pedagogic traditions in Black schooling which tend to emphasise authoritarian teaching (as reported by Mehl, 1989: 150).

It is reasonable to suggest that these factors present serious problems when students enter post-school institutions.

2.10 CONCLUSION

Successful formal education at any level, builds on adequate socialisation experiences and the influences of early cultural backgrounds (Sugarman, 1966). The reference group in the present research consisted of students who came from a non-technological background.

A lack of contact with modern technology is likely to hamper the student's adaptation to the use of modern office equipment, and therefore also the level of proficiency attained during the initial stages of study in a secretarial programme.

CHAPTER 3

THE TEACHING OF TYPING TECHNOLOGY AT POST-SCHOOL LEVEL IN SOUTH AFRICA

Against the background of cultural and educational challenges identified in the previous chapter, and within the context of the aim and scope of this dissertation (described in Chapter 1) it is now necessary to examine and report upon certain aspects of instruction in Typing Technology, the discipline which forms the focus of the author's research.

This chapter considers certain problems facing persons who teach typing techniques, then proceeds to a review of experimentation carried out by the author. Comments are also made on some courses of instruction in typewriting available to post-school students in South Africa.

3.1 PROBLEMS FACING THOSE WHO TEACH TYPING TECHNOLOGY

According to Russon and Wanous (1973) sound keyboard instruction can only be carried out by instructors who themselves have been properly trained to teach this skill to others. In training others, curriculum, methodology and time allocation is of utmost importance. To assess progress, evaluation techniques are important and suitable equipment and materials need to be used.

In providing proper keyboard instruction, students need to be aided in learning to locate the keys on the keyboard without looking at their hands. This method of typing is referred to as "touch typing" and incorporates the use of all ten fingers. The use of the touch method of typing leads to the attainment of high speeds. In contrast

> " ... the earlier techniques of using two, four or six fingers is referred to as the "hunt-and-peck" method where the learner visually searches for the required key and when found, strikes it using any of the three stronger fingers of either hand" (McNicol, 1964: 31).

There are several methods to approach the initial keyboard instruction. Individual typing teachers and lecturers prefer different methods of introducing the keys to students.

3.1.1 Home row method (Figure 3.1 on the next page)

The home row approach introduces the keys to learners in horizontal rows, starting with the middle row of keys first and progressing much later to the upper row of keys and finally to the bottom row. This method of instruction requires the use of all the fingers in the first lesson.

Students begin with adjacent movements only, using the ten keys which are introduced in the first lesson. These keys are operated by all the fingers and prove to be too many for beginners to cope with right at the start of keyboard learning. In addition, there is only one vowel among these keys, which makes it difficult to form meaningful words and sentences to stimulate the beginner's interest in the work he is typing.

A S D F G F ; L K J H J (these keys are struck alternately commencing with the fourth finger of each hand, using the fingering indicated in Figure 3.1. After memorising the positions of these eight keys, beginners learn to type simple words composed from these letters, e.g.

sad dad add fad lad ask

Where possible, the interest of the student is stimulated by presenting him with meaningful sentences formed from these words. e.g.

a sad lad adds all a dad asks

As can be seen, a limited number of words and sentences may be formed, using these letters. This tends to result in boredom and is not very stimulating for the student.

The following respresentative illustration shows the layout of the keys on a standard "QWERTY" keyboard. An explanation of the different methods of keyboard instruction, accompanies this and the following illustrations.

(Source: Eksteen and Allen, 1982: 5)

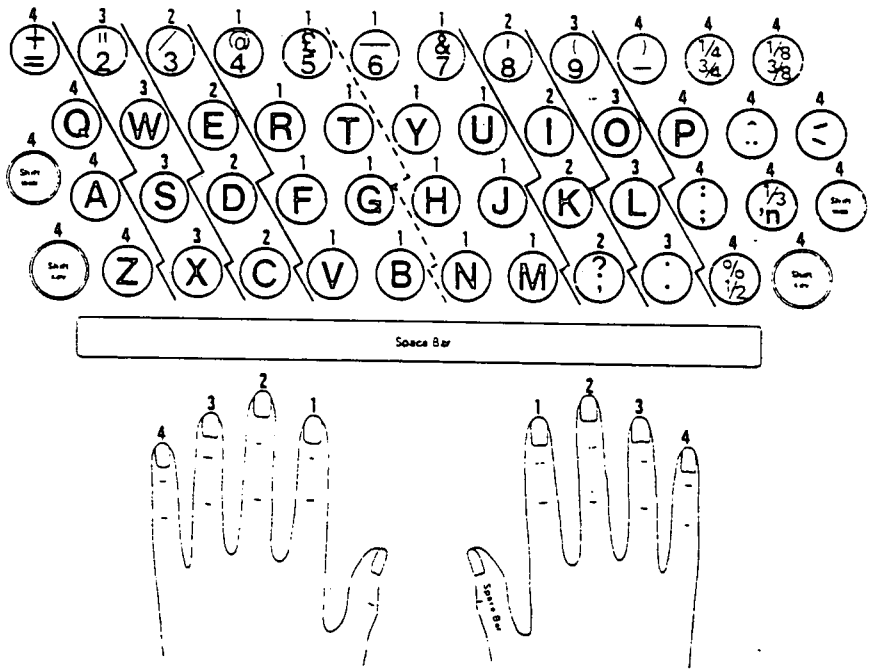

Figure 3.1

ILLUSTRATION SHOWING THE LAYOUT OF KEYS ON A STANDARD TYPEWRITER KEYBOARD FOR USE WITH THE "HOME ROW" APPROACH

Fingers are placed on the keys as follows: The fourth finger of the left hand is placed on **A**, the third finger on **S**, the second finger on **D** and the first finger on **F**. The fourth finger of the right hand is placed on the semi-colon (;), the third finger on **L**, the second finger on **K** and the first finger on **J**. These keys are referred to as the "home keys" or guide keys and the middle row is referred to as the "home row" or guide row as this is where the fingers "live". After striking any key on the top or bottom rows, fingers always return to their home keys.

(Source: Eksteen and Allen, 1982: 5)

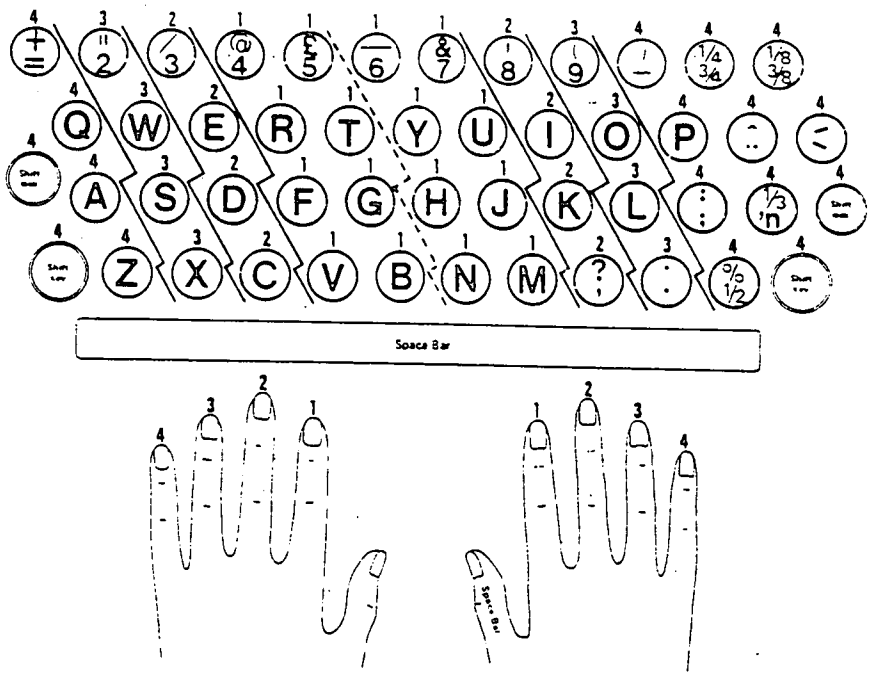

Figure 3.2

ILLUSTRATION SHOWING THE LAYOUT OF KEYS ON A STANDARD TYPEWRITER KEYBOARD FOR USE WITH THE "FIRST-FINGER-FIRST" APPROACH

3.1.2 The first-finger-first method (Figure 3.2)

The first-finger-first approach introduces the typewriter keys in a vertical pattern, starting with the first fingers (index fingers) of both hands, which rest on the home keys **J** and **F**. Each finger then moves upward to locate the keys directly above each and then to the bottom row, locating the keys directly below the home keys. Each index finger manipulates six alphabetical keys compared to the three keys operated by each of the other fingers. The index fingers are the strongest fingers and beginners seem to have the most control over these fingers. Whilst using the first fingers, the other fingers remain in their positions above the home keys.

The first keys learnt are **J F U R M V Y T H G N B**

From these letters, the following words may be formed:

fur rum mum hum gum mug fun gun bun but buy try fry hunt numb thumb hungry tummy buggy bunny funny hurry murmur

When students are familiar with the positions of these twelve keys, they progress to type the following sentences.

buy my fur; try my gun; try my mug; try my funny buggy; hunt my hungry bunny; try my gun but buy my fur, etc.

If a beginner starts off by using these fingers, the result is greater ease of movement and success of operation which provides the learner with positive motivation and the student gains more confidence using this approach.

According to Russon and Wanous, (1973), the first-finger-first method was first presented in 1902 and had a long lasting effect on typing instruction. This effect can still be seen in keyboard presentation today.

(Source: Eksteen and Allen, 1982: 5)

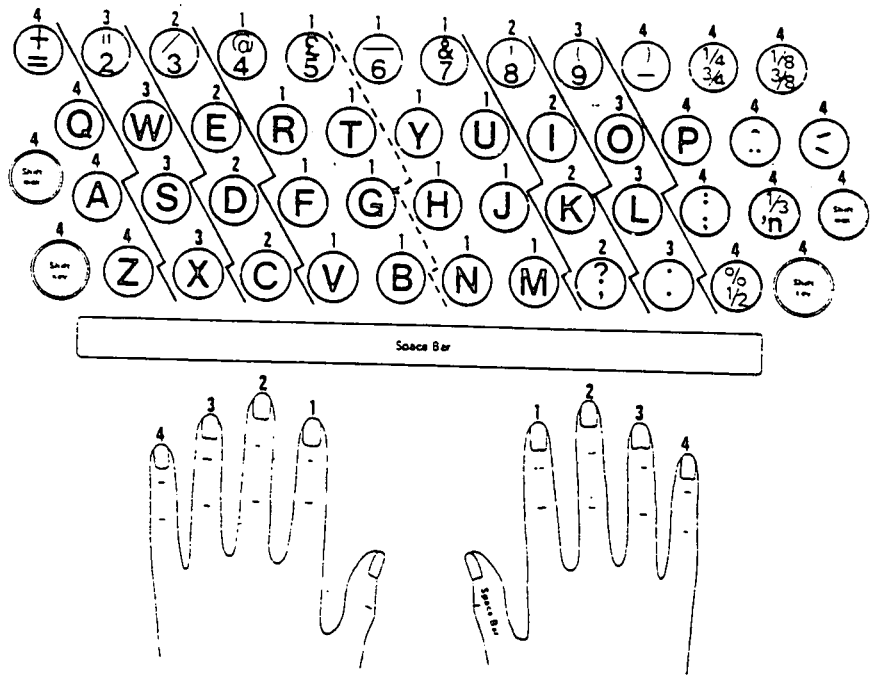

Figure 3.3

ILLUSTRATION SHOWING THE LAYOUT OF KEYS ON A STANDARD TYPEWRITER KEYBOARD FOR USE WITH THE "SKIP-AROUND" PROCEDURE

3.1.3 The skip-around method

This procedure involves learning the middle row of keys first. Thereafter new keys on the top and bottom rows are introduced at random; some left- and some right-hand strokes are presented together; some easy and some difficult reaches are presented together; some first- and second-finger keys are combined with some third- and fourth-finger keys; and some upward reaches combined with some downward reaches.

The vowels are generally learnt first, therefore, after learning the home keys, progress is made to **E** then to **O** and **U**. Following these keys, the letters of the alphabet most commonly used in the English language are then introduced, e.g. **S R P T M C** etc. These keys are selected at random.

3.2 DEVELOPMENT OF TYPING SKILLS AND TECHNIQUES

Each day's instruction begins with warming-up drills. New material for the day is introduced with adequate time given for practice. Keyboarding practice should consist of real words, phrases and continuous prose.

The "teacher" stresses the correct sitting position; curving of fingers; limited movement of arms and hands; quick, sharp keystroking and the application of continuous rhythmic movements whilst typing.

The muscles of the hands and fingers need to be properly developed to ensure that the typist is capable of using the correct techniques for the manipulation of the keys on the typewriter. In the opinion of the author, correct techniques are likely to induce better speed and greater accuracy and also reduce fatigue and listlessness which are deterrents in the learning process.

According to Gades, (1967), the development of correct techniques, which are basic to the development of speed and accuracy, need to be stressed emphatically by teachers; and teachers must become aware of and skilled in conducting finger drills specifically designed to develop such basic techniques as sharp, rhythmic stroking and skilful operation of typewriters.

There are a number of awkward reaches and stroking combinations on the keyboard which learners need to master. These activities are difficult to carry out if the hand and finger muscles are not properly developed and if the learner does not have good eye-hand co-ordination. A great deal of dexterity is required in performing these reaches. The learner needs to do physical finger exercises to assist him/her in developing improved and controlled movements of the fingers.

A beginner who has already developed these muscles, will be able to carry out these finger reaches with great ease. However, a learner who has not been exposed to activities involving the development of finger and hand muscles, will experience difficulty in stretching fingers to locate keys and to strike them in the correct manner.

Williams (1986) explains

> "Eye-hand co-ordination also needs to be properly developed for a beginner to master keyboard learning effectively. The ability to play a musical instrument or some form of sport, enables quicker movements and easier keyboard learning. The mastery of one or more skills transfers to the learning of a new skill" (Williams, 1986: 156 - 157).

According to Kingsley (1957)

> "The best method of acquiring a motor skill usually involves such things as bodily adjustment, posture and the best way of "grasping" the instrument. The earlier a skill is obtained, the more valuable it is, provided it is maintained by regular practice. The earlier a skill can be acquired, the greater an asset it becomes" (Kingsley, 1957: 141).

According to Lessenberry, Crawford, Erickson, Beaumont and Robinson (1972)

> "To achieve finger-action stroking, the students should keep the fingers deeply curved so they can move from one row to the next without moving the entire hand or without changing the alignment of the hand with the keyboard. The fingers should be curved, not the wrists. Arched wrists are hard to control and result in poor performance" (Lessenberry, Crawford, Erickson, Beaumont and Robinson, 1972: 29).

Arising from a survey carried out by Kimball and Lane (1992), the following observation was made

> " ... 51 % of respondents teach keyboarding solely on computers. Typewriters are still used by 28 % and 21 % use both computers and typewriters for keyboard instruction" (Kimball and Lane, 1992: 73).

Typewriting is a perceptual-motor skill. This involves seeing and then doing. According to Russon and Wanous (op cit), highly skilled performance is accomplished in less time, with less energy, with greater accuracy, with higher consistency or with more flexibility. Before a typing student can apply his skill to the solving of typing problems, he must first reach a reasonable level of basic typing skill. Though it is difficult to determine this level, we may say that a student is not skilled if he is uncertain of key location, unsure about which finger goes on which key or has poor keystroking techniques.

3.3 INFLUENCE OF A DISADVANTAGED BACKGROUND ON KEYBOARD LEARNING

According to the psychologist Kingsley (1957)

> "Individuals with higher intelligence generally learn new motor skills with greater ease and speed than individuals with lower intelligence" (Kingsley, 1957: 326).

Russon and Wanous (1973) state further that failure depresses the action potential: Cases of psychic paralysis are frequently encountered in typing classes. The student becomes so fearful of failing that he does nothing and can only sit with his hands frozen on the keyboard. Failure slows learning: as has been stated, skilled typing involves quick responses to stimuli. With repeated failure, the typing student hesitates, slows down, and fails to develop the quick stroking action that is required for skilful typing.

Students forming the reference sample often experience failure particularly whilst learning the initial location of letters on the keyboard.

In the opinion of the author, this failure hampers further progress and accounts for many of the problems experienced by the students. There is a general tendency to become despondent and to lose confidence.

The failure could be attributed to the very factors mentioned by Kimball and Lane (1992) and referred to in Chapter 2 paragraph 2.8 of this research, namely: attention span, hand size, finger dexterity, maturity, following directions, fine motor skills, eye-hand co-ordination, self-concept awareness, speed of expression and competence in the language arts.

According to Russon and Wanous (1973), disadvantaged students are probably more likely to experience difficulties. Problems in learning keyboarding could be due to a combination of factors. The disadvantaged student will display a combination of the following factors:

* Difficulty with written, verbal and mathematical symbols. Home and community likely contribute to this.
* Difficulty reading, writing and doing arithmetic due to lack of books, magazines, newspapers in homes.
* Difficulty expressing with proper words what he knows and thinks, especially a second language.
* Does not know and appreciate standards, values, morals.
* Lack of adequate space and reading material is often a hindrance to learning

* Appears uninterested, bored and silent caused by repeated failure in other areas.

* Lacks self-esteem, has negative outlook, is convinced he cannot learn.

* Poor attendance record due to health, inadequate nutrition, language barrier, parental neglect, lack of interest.

* Family instability, high mobility of residence, economic, social and psychological oppression of minority groups.

* Short span of attention.

* Inability to understand another culture.

> "Culture of poverty is quite different from culture of middle class (language, customs, values and attitudes)" (Russon and Wanous, 1973: 185).

Many of these factors have been identified by other researchers already referred to in Chapter 2: Ferguson (1954), Bloom (1964), Lesser, Fifer and Clark (1965), Kelsall and Kelsall (1971), Srebalus and Marinelli (1982), Human and Hofmeyr (1985) and Steele (1992). These identifiers may relate to subjects other than typing, however, they also assist in analysing the causes for poor progress among typing students, especially students in the reference sample. Some of the questionnaires completed by students from participating technikons, disclosed **many** of the characteristics mentioned above.

A citation from Srebalus and Marinelli (1982) quoted in Chapter 2 of this dissertation, is also relevant here.

> " ... if early development is hindered, the prognosis is poor for the entire course of development" (Srebalus and Marinelli, 1982: 17).

3.4 EXPERIMENTATION PERFORMED BY THE PRESENT WRITER

3.4.1 Initial experimentation

Students chosen for initial experimentation were those who enrolled at Technikon Mangosuthu in January 1991 for the:

National Diploma: Secretarial - Executive Secretaries

National Diploma: Secretarial - Office Administration

courses. They were subjected to a selection procedure. Assessment took place as follows:

The applicants' senior certificate symbols were evaluated according to a point system. For Higher Grade subjects, points were awarded as follows: A - 10; B - 8; C - 6; D - 4; E - 2. For Standard Grade subjects, points were awarded as follows: A - 5; B - 4; C - 3; D - 2; E - 1. In each case the language symbol value was doubled. In addition, prospective students were subjected to a language ability test in the form of an English comprehension exercise. Thereafter a shorthand ability test was completed by applicants.

All these tests were evaluated. The 48 students with the highest overall scores were selected. For the Executive Secretaries course, the 24 students with the highest overall scores and with corresponding high scores in the shorthand ability test were selected, the remaining 24 students were placed into the Office Administration group.

Of the 48 students selected, only 42 students finally enrolled and reported for lectures. The two classes thus consisted of 21 students each.

Bearing in mind the methods of keyboard instruction mentioned earlier in this chapter, the researcher set forth to determine which method was best suited to the selected groups.

The two most popular methods were used, viz. The home row method and the first-finger first approach.

The first-finger-first method was chosen for the Executive Secretaries group and the **home row** method for the **Office Administration** group.

With the home row method, students learn the keys of the middle row first. In other words they use four fingers of each hand to operate ten keys in a horizontal pattern. Finger co-ordination proved to be a problem with the group selected for the home row method of instruction.

Particularly the little and ring fingers posed problems. Students tended to press down several keys simultaneously because of lack of finger muscle control and eye-hand co-ordination. It took them quite some time to develop smooth, co-ordinated movements and better finger control. Finger gymnastic exercises were done on a regular basis to overcome these problems and only when the students had full control of their finger movements, did they progress to the upper and lower levels of keys.

The home row keys consist of the letters:

A S D F G H J K L ;

Examples of words are:

sad dad add fad lad ask

It was also difficult to present students with meaningful exercises as only a limited number of words may be formed out of these letters and there is only one vowel amongst them.

Students found the ten letters introduced at the beginning stages of learning were too many to assimilate.

It is not possible to form proper sentences from these. The only meaningful combination is:

a sad lad adds all a dad asks

Students did not have to concentrate on using more than one finger initially and this tended to speed up the learning and key locating process. Once the students had full control over the use of this finger, they proceeded to the middle finger and learnt the keys in the same way as above. Gradually all fingers were incorporated, but only after students achieved full muscle control of each preceding finger.

Electric typewriters were used in both cases and the first assessment was carried out, using the very first exercise performed by each group on a first attempt basis.

3.4.2 Results of initial experimentation - 1991

The following is a comparison of the results of the tests completed by the two groups:

Table 3.1

Results of initial experimentation - 1991

	Executive Secretaries (First-finger-first)	**Office Administration** (Home Row)
Average mark achieved	65 %	12 %
Total number of errors made by all students in the group	60	250
Average error per student	3	12
Number of accuracy errors	46	198
Percentage accuracy errors	78	79
Number of display errors	14	52
Percentage of display errors	22	21

The figures and percentages above are given for each group only and do not represent the combined groups.

This resulted in boredom and disinterest on the part of the students, who looked forward to typing more interesting sentences.

The Executive Secretaries group were instructed according to the first-finger-first method. Key location with the index fingers did not tend to provide any real problems.
They are the fingers most generally used in any daily activities e.g. eating, fastening buttons, tying shoe laces, combing hair and writing.

They did not have the same problems experienced by the Office Administration group who tended to press down all the keys simultaneously.

Their progress was quicker and this assisted students in gaining confidence and developing interest in their work. Horizontal, upper and lower reaches are experienced in the initial stages of learning the keyboard.

This method implies that the first 12 keys learnt are manipulated by the two index fingers. The keys are for the letters:

J F U R M V Y T H G N B.

Quite a number of interesting words may be formed from these letters,

e.g. fur, rum, mum, hum, gum, mug, fun, gun, bun, but, buy, try, fry, ruff, muff, very, numb, hunt, thumb, hungry, tummy, buggy, bunny, funny, hurry, murmur, etc.

After learning these keys, students were even able to type little sentences e.g. buy my fur; try my gun; try my mug; try my funny buggy, hunt my hungry bunny, try my gun but buy my fur etc.

Table 3.2

Types of errors made by students in each group:

	Executive Secretaries	Office Administration
Display errors:		
Left and Righthand margins	4 (29 %)	12 (23 %)
Top and Bottom margins	3 (18 %)	5 (09 %)
Carrier return errors	7 (53 %)	35 (68 %)
Total	14 (100 %)	52 (100 %)
Accuracy errors		
Manipulation of space bar	15 (32 %)	55 (28 %)
Transposition of letters	9 (19 %)	40 (21 %)
Repetition of letters	7 (15 %)	18 (09 %)
Repetition of words	4 (09 %)	24 (12 %)
Additional letters inserted	4 (09 %)	18 (09 %)
Letters omitted	3 (06 %)	26 (13 %)
Incorrect letter typed	4 (10 %)	17 (08 %)
Total	46 (100 %)	198 (100 %)
Of all these errors:		
Lack of concentration was	34 (57 %)	145 (58 %)
Poor manpulation	26 (43 %)	105 (42 %)
Total	60 (100 %)	250 (100 %)

The figures and percentages indicated above are for each group only and do not represent the combined groups.

The total number of errors made by both groups combined was 310

The **Executive secretaries** made **19 %** of the total number of errors.

The **Office administration group** made **81 %** of the total number of errors.

There was a marked difference between the scores of the two groups. The group taught according to the first-finger-first method had the best performance. It should also be noted that when selection took place, these students achieved higher scores than the Office Administration group.

The following table presents further statistics of interest regarding the initial experimentation done.

Table 3.3

Number and percentage of each type of error made:

	Executive Secretaries	Office Admin.	Total
Accuracy errors	46	198	244
Percentage	19 %	81 %	
Display errors	14	52	66
Percentage	21 %	79 %	
Lack of concentration	34	145	179
Percentage	19 %	81 %	
Poor manipulation	26	105	131
Percentage	20 %	80 %)	
Manipulation of space bar	15	55	70
Percentage	27 %	79 %	
Transposition of letters	9	38	47
Percentage	19 %	81 %	
Repetition of letters	7	16	23
Percentage	30 %	70 %	
Repetition of words	4	22	26
Percentage	15 %	85 %	
Additional letters inserted	4	16	20
Percentage	20 %	80 %)	
Letters omitted	3	24	27
Percentage	11 %	89 %	
Incorrect letter typed	4	15	19
Percentage	21 %	79 %	

After three months of keyboarding, the two groups were given their first speed tests to type. Only 16 students in the Office Administration group were present, so the researcher arbitrarily also took 16 speed tests from the Executive Secretaries group.

Table 3.4

Results of experimentation done with speed tests: (Speeds are indicated as wpm which means words per minute)

	Executive secretaries	Office Administration
Average mark was out of 20	10	06
Percentage	50 %	30 %
Number of students who achieved the following speeds:		
30 wpm	1	0
25 wpm	5	1
20 wpm	5	6
15 wpm	3	4
10 wpm	2	5
Number of students who achieved a speed of 20 wpm or higher (the approximate required speed at this level)	11	7

The resultant success of the first-finger-first method inspired the researcher to keep to this method in 1992 when the next stage of the experiment took place, i.e. using this method of instruction for three equal sized groups; one group using electric typewriters, one group using dedicated word processors and the last group using computers with word processing software.

3.4.3 Final experimentation

In January 1992, 64 first year students enrolled for the National Secretarial Diplomas. Of these, 23 were accepted into the National Diploma: Secretarial: Executive Secretaries, full time course; 21 were accepted into the National Diploma: Secretarial: Office Administration, full time course and 20 into the part time course.

Student selection was done in the same way as in 1991 except for the part time course, where some students who could not be admitted to the full time courses, were given the opportunity to enrol for part time courses. Preference was given to applicants who were employed on a full time basis. Entry requirements were relaxed to a certain degree for these applicants. A number of them had F aggregate symbols for Std 10, but had attained additional qualifications at technical colleges after they had passed Std 10.

The Executive Secretaries group commenced their typing instruction on computers, using Word Perfect 5.1 software. The Office Administration (full time) group commenced their instruction on electric typewriters and the part time group on dedicated word processors.

For the purpose of this experiment, each of these groups was given keyboard instruction according to the first-finger-first method, this being the method singled out as being the most appropriate, after the experimentation carried out in 1991.

The same exercise used in the initial experimentation in 1991 for the group taught according to the first-finger-first method was used again for this experiment.

Assessment was done on the first formal exercise given to the three groups, on a first attempt basis. Marks were awarded out of ten, deducting one mark per error.

After three months keyboard instruction, students were tested on a timed speed passage. Marks for speed tests are allocated out of 20, according to a fixed schedule, working on a 98 % accuracy level.

The results of these experimental tests are given in Table 3.5 and 3.6, pages 81 and 82.

Table 3.5 Results of first formal test incorporating computers, dedicated word processors and typewriters

FIRST TEST Marks obtained	Executive Secretaries full time (Computers using WP 5.1) (22 submitted)	Office Administration full time (Typewriters) (19 submitted)	Office Administration part time (Dedicated word processors) (19 submitted)
Out of 10			
10	4 = 40	2 = 20	7 = 70
9	2 = 18	3 = 27	6 = 54
8	4 = 32	3 = 24	2 = 16
7	0 = 00	0 = 00	1 = 07
6	5 = 30	2 = 12	1 = 06
5	3 = 15	3 = 15	1 = 05
4	3 = 12	2 = 08	0 = 00
3	0 = 00	2 = 06	0 = 00
2	0 = 00	0 = 00	1 = 02
1	0 = 00	1 = 01	0 = 00
0	1 = 00	1 = 00	0 = 00
Total	22 147	19 113	19 160
Average:	6,68	5,94	8,42

Total number of errors made				Total
Accuracy	38 (35%)	49 (45%)	22 (20%)	109
Display	3 (27%)	8 (73%)	0 (00%)	11
Manipulation	19 (28%)	39 (56%)	11 (16%)	69
Total	60 (32%)	96 (51%)	33 (17%)	189

Table 3.6 Results of second test based on a timed speed passage

SECOND TEST - SPEED	Executive secretaries (FT) (Computers with WP 5.1) (19 submitted)			Office Administration (FT) (Typewriters) (19 submitted)			(Office Administration (PT) (Dedicated word processors) (19 submitted)		
	Speed	errors	marks (20)	Speed	errors	marks (20)	Speed	errors	marks (20)
	30	3	15	25	6	08	35	2	17
	25	2	16	25	10	00	35	4	14
	25	4	12	20	3	12	35	6	11
	20	1	17	20	3	12	30	2	17
	20	2	15	20	5	07	30	3	15
	20	4	10	20	7	02	30	6	10
	20	4	10	20	8	00	30	6	10
	20	5	07	20	8	00	25	1	18
	20	8	00	20	10	00	25	1	18
	20	10	00	20	12	00	25	4	12
	15	2	13	20	12	00	25	6	08
	15	3	10	20	14	00	20	2	15
	15	3	10	20	16	00	20	4	10
	15	4	07	20	20	00	20	5	07
	15	6	00	15	2	13	20	7	02
	15	6	00	15	4	07	20	10	00
	15	10	00	10	2	14	20	10	00
	15	10	00	10	4	08	15	8	00
	10	4	00	10	5	05	15	15	00
	Speed	errors	marks/20	Speed	errors	marks/20	Speed	errors	marks/20
Averages attained	18,42	4,78	07,47	17,10	5,5	04,5	25	5,3	08,7

From the results given in Table 3.5 and 3.6, it is clear that better results were achieved on the dedicated word processors, followed by the computers, using Word Perfect 5.1 software. Those working on typewriters showed poorer results generally.

With the speed tests, it was clear that the students working on dedicated word processors were the best overall, attaining the highest speed, lowest number of errors and highest marks out of 20.

3.4.4 Reports of other experimentation

Frederickson (1988) conducted a study at school level to compare the differences between two groups of students. One group had computers at home that the students could and did use, and the other group did not have computers at home.

The specific purpose of the study was to analyze the relationship between a student's touch typing skill and the availablity of a computer keyboard at home. At school keyboarding was taught on electronic typewriters.

Eighty four students were enrolled in five secondary beginning typewriting classes. Of this total, 39 had computers at home and 46 did not, 37 were males and 47 were females. Of the 39 students who had computers at home, 22 were boys and 17 were girls. Fifty six percent of those who had microcomputers at home were boys. Data was collected on typing speeds twice - at the end of the eighth and eighteenth week of five typewriting classes.

After the eighth week, no differences in speed or errors were found between those who did and did not have computers at home. However, after eighteen weeks, the students who had computers at home, recorded a speed of 10 words per minute faster than the students who did not have computers at home. Judging from this, it seemed that students who had computers at home, achieved greater keyboarding speed.

The difference between the two groups might be anticipated because families who have computers at home might be more affluent or might be more interested in keyboarding and do a better job of motivating their children.

3.5 CRITICAL ANALYSIS OF SELECTED COURSES INVOLVING TYPING INSTRUCTION

Numerous secretarial-type courses are offered by a variety of institutions. Courses offered by some of these are discussed below. A comparison between these courses and the existing National Diploma: Secretarial, offered by Technikons in South Africa, indicates that the National Secretarial Diploma is much more elaborate than any course offered by the other institutions catering for post-school students.

3.5.1 National Secretarial Courses (The minimum pre-requisite for entrance into a national course is a Senior Certificate).

3.5.1.1 National Secretarial Certificate - 1982 - 1986

When the secretarial programme was first offered at Technikon Mangosuthu in 1982, The course studied by secretarial students was the NATIONAL SECRETARIAL CERTIFICATE course. This certificate provided two options: Students who passed Shorthand I (80/90/100 words per minute) attained the NATIONAL SECRETARIAL CERTIFICATE (Private Secretary) and those who took Financial Accounting I instead of Shorthand, attained the NATIONAL SECRETARIAL CERTIFICATE. The minimum time for completion of this course was **one year.**

Students at Technikon Mangosuthu who had language problems and who found working on typewriters and other office equipment foreign to them, did the course in a period of eighteen months.

The course offered the following **seven** subjects:

Communication in English A, Kommunikasie in Afrikaans B, Typing I (minimum typing speed 35 words per minute), Office Administration I, Speech and Deportment, Audio Typing and a choice between Shorthand I and Financial Accounting I.

This was clearly a very elementary secretarial course but nevertheless, students who qualified were readily accepted in the work situation and were able to hold down junior secretarial positions rather well.

This course was phased out at the end of 1986 with the introduction of the new three year NATIONAL DIPLOMA: SECRETARIAL

3.5.1.2 National Diploma: Secretarial

From the early 1980s, the concept of 'executive secretary' gained popularity as managers perceived the need for well-trained assistants who could perform advanced office functions and who could in fact become extensions of themselves.

Such ideas are reflected in, for example, the proceedings of a seminar of the Executive Secretaries Club Of South Africa (1983: Chairman, Mr N MacKay) attended by the author.

Perceptions of the changed role of the secretary inevitably affected the re-design of secretarial training curricula.

The NATIONAL DIPLOMA: SECRETARIAL was introduced in 1987 after much deliberation between Technikon academics and the private sector. This diploma gave the prospective secretarial student a wide choice of careers: Office Administration Secretaries, Executive Secretaries, Legal Secretaries, Medical Secretaries, Tourism Secretaries and Computer Secretaries.

Technikon Mangosuthu opted for:

NATIONAL DIPLOMA: SECRETARIAL (OFFICE ADMINISTRATION) and

NATIONAL DIPLOMA: SECRETARIAL (EXECUTIVE SECRETARIES)

Instead of the seven subjects offered in the Secretarial Certificate course, students now had to pass 14 instructional offerings to attain the Secretarial Diploma.

The diploma courses offered by Technikon Mangosuthu included the following subjects:

NATIONAL DIPLOMA: SECRETARIAL OFFICE ADMINISTRATION

First year

Communication in English A
Kommunikasie in Afrikaans B
Office Administration I
Typing Technology I
Personnel Management I

Second year

Office Administration II
Typing Technology II
Economics I
Mercantile Law I
Financial Accounting I

Third year

Office Administration III
Typing Technology III
Computer Operating
Personnel Management II

NATIONAL DIPLOMA: SECRETARIAL EXECUTIVE SECRETARIES

First year

Communication in English A
Kommunikasie in Afrikaans B
Office Administration I
Typing Technology I
Personnel Management I
Shorthand I

Second year

Office Administration II
Typing Technology II
Economics I
Mercantile Law I
Shorthand II

Third year

Office Administration III
Typing Technology III
Computer Operating

The two major subjects include various modules, e.g.

Office Administration I: Business Knowledge, Secretarial Activities and Financial Record Keeping

Office Administration II: Business Knowledge, Secretarial Duties and The Office

Typing Technology I, II and III each have the following modules: (Audio Typing, Typing Techniques and Word Processing)

The first students who qualified at the end of 1989 were snapped up by employers into excellent positions. Feedback from employers and students was very positive. It was felt that the course provided excellent training. Employers were happy with the performance of the students and the students felt confident that they were well prepared to cope with any tasks they might be required to perform.

The only area in which employers felt that more attention should be given was Speech and Deportment, which, though it was offered in the earlier National Certificate course, was not included in the National Diploma curriculum.

The researcher was in contact with students who had attained the National Certificate course and these students very clearly indicated that the single subject that probably increased their self-confidence most was indeed Speech and Deportment. It gave them the ability to communicate effectively and with self-confidence, especially whilst dealing with: people at all levels including top management, members of staff and clients; and in making telephone calls.

3.5.2 IAC Executive Secretarial Diploma

Before the introduction of the new National Secretarial Diploma in 1987, students at Technikon Mangosuthu who had passed the National Secretarial Certificate, could aspire for a higher qualification via the Institute for Administration and Commerce Executive Secretarial Diploma. This diploma was a three year course and students received credits for subjects taken in the National Secretarial Certificate Course. They had to pass eleven subjects to attain the diploma.

The course included the following subjects:

Communication in English A

Practical Afrikaans

Typing I, and II (Speeds: 35 wpm and 45 wpm)

Personnel Management I and II

Business Economics I

Mercantile Law I

Shorthand I and II (Speed: 80/90/100 wpm and 110/120 wpm)

Law and procedure of meetings

The National Diploma: Secretarial introduced in 1987, was a much richer course than the IAC Executive Secretarial Diploma. With subjects such as Audio Typing, Word Processing and Computer Operating, the former was better geared for the tremendous advancement in office technology than the latter.

3.5.3 Other Secretarial Courses offered

3.5.3.1 The Durban Business College, a private institution, offers the following courses: (Source: 1992 advertising brochure provided by this business college)

1. A twelve month Executive Secretarial and Public Relations Course with the following seven subjects:

   Computer Literacy, Advertising, Corporate Image, Promotions, House Journals, Sponsorship, Budgeting.

2. A twelve month combined Executive Secretarial, Public Relations and Modelling course which contains the following thirteen subjects:

   All subjects offered above PLUS

   Modelling Techniques, Deportment Posture and make-up, Ramp Personality and Projection, Skin and Hair Care, Fashion Co-ordination, Beauty Advice.

3. An eighteen month Executive Secretarial, Marketing and PR course with the following 11 subjects:

   All subjects in the first course PLUS

   Principles of Marketing, Consumer Behaviour, Marketing Communication, Retailing and Merchandising.

4. A twelve month Executive Secretarial Course with the following eight subjects:

   Shorthand, Typewriting, Word Processing, Computer Literacy, Secretarial Know-How, Law, Enrichment Courses and Practicals, Job Relations.

5. An eighteen month Legal or Medical Secretarial Course offering the following nine subjects:

   All subjects offered in the Fourth Course PLUS six months specialist Legal and Medical training.

6. A six to nine month part-time course (overseas examinations) in Computer Literacy with Typing and Language Skills including the following 6 subjects:

   Keyboarding, Data Processing (Elementary and Intermediate), Word Processing (Elementary and Master class level), Spreadsheet Processing, Understanding Computers (Elementary), Basic Business Information Processing.

7. A three year course for students with a Std 7/8 SG with the following eight subjects:

   Elementary typing, Intermediate Typing, Commercial English English Std 7/8 level, Enrichment courses, Afrikaans for Std 7/8 level, Introduction to Shorthand theory, Computer Literacy, Typing, Shorthand Speed.

None of the courses offered compares in depth with the existing National Diploma: Secretarial. The fourth course offered by the college, comes closest and only offers eight subjects over a twelve month period. The superiority of the existing National Secretarial Diploma is clearly suggested.

3.5.3.2 The Sight and Sound Business College offers various courses ranging from one month to one year: (Source: 1992 advertising brochure)

1. Typing for beginners (one month): Keyboard skills, Typing speed improvement, Typing Techniques, Word Processing.

2. Secretarial Certificate Course (one month): Beginners Keyboard Skills, Introduction to Computers, Typing Speed Improvement, Word Processing.

3. Secretarial Diploma - four months (though this institution uses the word diploma, it must be noted that a diploma generally refers to a three year post-school qualfication): Dictaphone typing, Typing Techniques (Beginners), English (Advanced), Job Interview Techniques, The Memory Typewriter, Typing Speed Improvement, Lotus 1, 2, 3, Facts about Fax, Beginners Keyboard Skills, DBase IV, Introduction to Computers, Visiting Speakers, MS-Dos, Shorthand, Word Processing, Secretarial Office Techniques.

Although there are sixteen subjects in this course, all the computer related subjects (Lotus 1 2 3, DBase IV, Introduction to Computers, MS-Dos) are components of one subject: Computer Operating, offered in the National Secretarial Diploma. Typing Techniques, Memory Typewriter, Typing Speed Improvement, Beginners Keyboard Skills and Word Processing are but a few items in the Typing Technology I syllabus.

Job Interviewing Techniques, Visiting speakers and Secretarial Office Techniques also form a small part of the subject Office Administration in the National Secretarial Diploma course.)

4. Secretarial Diploma - 6 months: This course includes all subjects in the previous course plus Bookkeeping, "Job Shock", Getting to know your city, Dressing for success, Public Relations, Reception/Telephonist skills, Telex and Teletex.

   Each subject above, except Telex and Teletex, is included as a mere chapter in the National Secretarial Diploma course.

5. Executive Personal Assistants Diploma (one year): All subjects in the previous course plus Integrated Software, Typing Techniques (Advanced), and Student work experience. Integrated software is included in the National Diploma Computer Operating curriculum, Advanced Typing Techniques would probably be part of Typing Technology I in the National Secretarial Diploma and the students doing the National Diploma do a four week experiential training session in their final year.

This particular institution also offers a number of "Mini" secretarial courses that are not comparable to the existing National Secretarial Diploma and will therefore not be discussed here.

The purpose of including this report on types of courses involving typing instruction open to post-school students, is to illustrate a particular problem - namely, the idea in many people's minds that secretarial studies can (or should) be completed within a few months. Because of such belief, private "quickfix" courses often enjoy high enrolments. It is suggested, however, that a programme as demanding as the three-year National Diploma offered at technikons should be recognised more widely for its academic and career-orientation potential. Others tend to devalue the importance of typing technology.

CHAPTER 4

REPORT ON A RESEARCH PROJECT: THE PROBLEMS OF FIRST YEAR STUDENTS OF TYPING TECHNOLOGY

This chapter comprises a report on the findings of a project carried out by the author. The project involved questionnaires and analyses thereof, interviews and participant observation.

Where figures providing graphic illustrations of findings are referred to (Figures 4.1 to 4.27), these figures appear sequentially at the end of Chapter 4 (pages

4.1 PLANNING OF A QUESTIONNAIRE

Fourteen technikons exist in South Africa. A telephonic survey by the author concluded that there was a total population of 1 891 first year secretarial students in all the technikons in 1992. It was decided to select a convenience sample of approximately 25 % of this total population. Students from six technikons in four regions namely the Transvaal, Cape Province, Transkei and Natal participated in the research. The total number of first year secretarial students at the six technikons was 537, i.e. 28 % of the entire population.

Of the 537 questionnaires sent out, 470 were completed and returned. These are referred to as the greater sample and constitute 25 % of the total secretarial student population. Students from Technikon Mangosuthu are referred to as the reference sample, since the title of this dissertation refers specifically to Technikon Mangosuthu.

The researcher relied on the assumption that a full response would be received from all the technikons participating in the research project (See 1.5.4, p.7). It was further decided to investigate three technikons specifically for black students, and three technikons with a combination of English, Afrikaans and a number of black students.

The technikons participating in this investigation are:

Name of technikon	Area where situated
Technikon Mangosuthu (reference sample)	Natal (Umlazi - Durban area)
Technikon Natal	Natal (Durban)
Technikon Northern Transvaal	Transvaal (Soshanguve - near Pretoria)
Port Elizabeth Technikon	Cape Province (P.E.)
Unitra Technikon	Transkei (Butterworth)
Technikon Witwatersrand	Transvaal (Johannesburg)

Personal observations, revealed that first year students at Technikon Mangosuthu found it difficult to meet the requirements of the existing typing technology syllabus contained in the national secretarial diploma programmes. Working on the assumption that other students from disadvantaged backgrounds had the same problem, it was decided to investigate the reasons for this problem. The researcher hypothesized these reasons to be: the students' poor school background; their socio-economic situation; their lack of exposure to electronic or technological equipment, and the methods of instruction used.

Questionnaires were designed to determine the school and socio-economic background of students participating in the research project and their exposure, or lack thereof, to electronic equipment and also the type of problems experienced by them.

An initial set of questionnaires for the purpose of pre-testing was sent to the six technikons selected to participate in the research project, on the assumption that all these questionnaires would be returned. A very good response was received to the first questionnaires sent out in January 1992. Of the 537 questionnaires mailed, 368 (68 %) were returned.

Upon attempting to quantify these responses, it was found that the questions were not suitable for data capture on the available statistics software programme - SAS. The pretesting of the questionnaires proved to be a valuable exercise as it assisted in identifying the problem areas in the questionnaire.

According to Nel, Rädel and Loubser, 1988:

> "The pretest is the most inexpensive insurance the researcher can buy to assure the success of the questionnaire and the research project" (Nel, Rädel and Loubser, 1988: 247).

The questionnaire was refined and sent out in June 1992 and again a good response was received. Of the 537 questionnaires sent out, 470 (88 %) were returned. (Figure 4.1 page 135)

4.2 MEASUREMENT OF RESPONSES

4.2.1 Criteria measured

The questionnaire was designed to collect data pertaining to school background, socio-economic factors, exposure to electronic equipment and problems experienced with typing technology.

It was found that not all students responded to each of the questions. For example: according to each of the language groups, the aggregate symbols obtained by students totalled as follows: A - 2; B - 9; C - 71; D - 139; E - 101; EE - 102; F - 28. Total 452, so 18 did not respond to this question. (Please refer to paragraph 7.4 in Appendix C.)

However, if we refer to paragraph 15.2 of Appendix C, where the aggregate symbols are compared with the father's level of education, it will be noted that the totals for each of the aggregate symbols are: A - 2; B - 10; C - 69; D - 138; E - 95; EE - 93; F - 25. Total 432, in this case, 38 students did not respond to Question 15 in Appendix A.

This indicates that not all the students who responded to the questions tabled in paragraph 7.4 of Appendix C also responded to the questions summarised in paragraph 15.2 of Appendix C. Similar situations occur with a number of the other questions as well. The differences are small and are not of such a nature that they will influence the total outcome.

4.3 DATA COLLECTED FROM RESPONSES TO QUESTIONNAIRES

Of the 537 questionnaires sent out, 470 were returned (88 %). It may be assumed that the responses to the questions contained in the questionnaires are reliable because most questions required personal information which was at the disposal of each student and information was collected under the supervision of a lecturer in each respective technikon.

4.3.1 Table 4.1 (Figure 4.1, page 135)

Percentage of responses received from participating technikons

Technikon	**No. sent**	**No returned**	**%**
Mangosuthu	64	63	98
Natal	60	56	93
Northern Transvaal	80	55	69
Port Elizabeth	160	159	99
Unitra - Transkei	52	46	88
Witwatersrand	121	91	75
Total	537	470	

4.3.2 Table 4.2 (Figure 4.2, page 136)

Average ages of respondents

Technikon	**Av. age**	**Technikon**	**Av. age**
Technikon Mangosuthu	- 24	Technikon Natal	- 18
Technikon Northern Transvaal	- 21	PE Technikon	- 19
Unitra Technikon	- 21	Witwatersrand	- 18

The technikons accommodating black students indicated higher average ages than did the other technikons. It could be assumed that white children enter school at an earlier age than black children and that black children may repeat one or two standards in their school career. The assumption is that these students encounter difficulties in the learning process at school level.

4.3.3 Table 4.3 (Figure 4.3, page 137)

Language groups participating in the research project

Language	**Number of respondents**	**Language**	**Number of respondents**
Zulu	78	Tswana	22
Xhosa	81	South Sotho (S.S.)	14
Afrikaans	103	North Sotho (N.S.)	31
English	117	Venda	8
French	2	*Eng/Afr (E/A)	11
Greek	3		

*A number of students indicated that they were bilingual in their homes, (English and Afrikaans). Of all the respondents, 234 (49,78 %) were black students and 236 (50,42 %) were white students. The figures indicate a very even division of these two groups, thus achieving the objective set out in the first paragraph of this chapter.

4.3.4 Choice of career

The majority of the students participating in the research, indicated that they had chosen a secretarial career because they liked the office environment. There was also a strong indication that they received career guidance indicating that this career would be a suitable choice for them. Many indicated that they selected the career because they liked working with people. Most of the students in the various groups indicated that the decision to follow a secretarial career was their own.

Few suggested that it was due to their parents' or teachers' influence. (Appendix C, paragraph 1.2 and 2.1). It may be assumed that students have a reasonable level of independence and make their own decisions.

4.3.5 Table 4.4 (Figure 4.4, page 138)

Locality of last school attended by each respondent

Locality of school	**Percentage who obtained matriculation exemption**
City	54
Town	29
Rural area	17

Out of the 452 students who responded to this question, 45 % attended schools in cities; 31 % attended schools in towns and 24 % attended schools in rural areas.

4.3.6 Table 4.5 (Figure 4.5, page 139)

Matriculation exemptions, related to language groups

Language group	**Number of exemptions**	**Total in group**
Zulu	24	78
Xhosa	16	81
Afrikaans	48	103
English	54	117
French	2	2
Greek	1	3
Tswana	7	22
South Sotho	3	14
North Sotho	4	31
Venda	2	8
English/Afrikaans	7	11

The total number of persons who obtained exemptions was 168. Of these, 56 (33 %) were black students and 112 (67 %) were white students.

These percentages indicate greater under-achievement among black students and it may be assumed that this is due to poor school background and socio-economic conditions.

The reliability and validity of the information above is endorsed by what was said by Ferguson (1954), Bloom (1964), Kelsall (1971), Human and Hofmeyr (1985) and Steele (1992):

that different cultural groups have different patterns of mental abilities; social disadvantage and an inferior education system seriously impedes the possibility of educational advancement; lack of economic opportunity and poor schools foster learning orientations ill suited to school achievement; a common feature among socially disadvantaged children is that their academic performance in school is relatively poor; and that environmental factors are responsible for underachievement among deprived children as interaction takes place between a child and its environment.

4.3.7 Poor socio-economic conditions

A great deal of data obtained from the questionnaires reveal that poor school background and socio-economic conditions have a direct effect on the performance of students.

The following information was extracted from questionnaires:

Table 4.6 (Figure 4.6 page 140)

Std 10 aggregate symbols related to language groups.

Language group	**A & B**	**C**	**D**	**E**	**EE & F**
Zulu	1	4	6	25	42
Xhosa	1	2	13	25	38
Afrikaans	7	37	44	6	4
English	2	26	64	14	2
French	0	1	1	0	0
Greek	0	1	2	0	0
Tswana	0	0	3	10	9
S. Sotho	0	0	1	3	10
N. Sotho	0	0	0	11	19
Venda	0	0	2	2	4
Eng/Afr	0	0	3	4	3
Total	11	71	139	100	131

A & B = 70 % - 100 % C = 60 % - 69 % D = 50 % -9 % ;

E = 40 % - 49 % and EE & F = 33 % - 39 % .

The lower aggregates were achieved by black students. This suggests poor school background and socio-economic conditions.

Table 4.7 (Figure 4.7, page 141)

Std 10 aggregate symbols and technikons from which students come

Technikon	**A**	**B**	**C**	**D**	**E**	**EE**	**F**	**Total**
Mangosuthu	0	0	2	5	20	28	8	63
Natal	0	3	12	30	6	1	1	53
N. Tvl	0	1	3	10	8	13	12	47
P.E.	1	6	41	70	28	8	1	155
Transkei	0	0	0	4	11	23	7	45
Witwatersrand	1	1	12	20	28	29	0	91
Total	2	11	70	139	101	102	29	454

From the information in Table 4.7 and the graphic illustration in Figure 4.7, it is clear that the technikons attended entirely by black students have lower aggregate symbols. This confirms the findings illustrated in Figure 4.6.

Table 4.8 (Figure 4.8, page 142)

Number of students at each Technikon who typed in Std 10

Technikon	**Typing in Std 10**	**No typing in Std 10**	**TOTAL**
Mangosuthu	2	60	62
Natal	33	23	56
N. Transvaal	8	83	91
P.E.	89	70	159
Transkei	2	43	46
Witwatersrand	32	20	54

Mangosuthu, Northern Transvaal and Transkei have very few students who studied typing in Std 10. This probably ties up with the school background which indicates that few black students have facilities at their schools to learn this subject.

Table 4.9 (Figure 4.9, page 143)

Std 10 aggregate symbols related to attendance at a pre-school

Pre-school	**A**	**B**	**C**	**D**	**E**	**EE**	**F**	**Total**
Yes	1	6	46	81	35	23	9	201
No	1	4	25	58	65	77	19	249
Total	2	10	70	139	100	100	28	450

With reference to paragraphs 7.3 and 9.2 of Appendix C, and the information set out in Table 4.9 above, and illustrated in Figure 4.9 it is clear that children who attended a pre-school generally had better Std 10 results than those who did not attend a pre-school.

The following figures may be compared with those in Table 4.9

Preschool attendance according to language groups

Pre-school	**Zu**	**Xh**	**Afr**	**Eng**	**Fr**	**Grk**	**Tsw**	**S.S.**	**N.S.**	**V**	**E/A**	**Tot**
Yes	18	18	65	76	2	2	9	6	12	2	3	213
No	59	61	37	41	0	1	13	8	19	6	7	252

Summary of responses

Yes	63 (14 %) black students	148 (32 %) white students
No	166 (36 %) black students	86 (18 %) white students

It is often only those who are able to afford it, who send their children to a pre-school. Hence it may be assumed that not many black parents have the means to send their children to a pre-school.

In addition, according to Cooper and Hamilton (1992: 199), there are only 159 pre-schools for blacks. This accounts for poorer school achievement.

Fraser (1973) indicates that the physical and mental development of a child takes place more rapidly between birth and four years than during any other time. Ballantine (1983) states that the learning process of children who did not attend a pre-school is stunted and that this cannot be compensated by later enrichment. Terblanche and Mostert (1986), refer to the inadequate number of black nursery schools in South Africa; this inadequacy inhibits the child's eye-hand co-ordination which has an adverse effect on the learning of skills.

A further reference to the data collected, indicates that a greater percentage of students exposed to reading achieved higher Std 10 aggregate symbols.

Table 4.10 (Figure 4.10, page 144)

Number of English books read by students related to each of the language groups

Lang. groups	**Number of books read: 12+**	**10–12**	**8–10**	**6–8**	**4–6**	**2–4**	**1–2**	**0**	**Total**
Zulu	3	7	6	14	17	8	21	2	78
Xhosa	11	51	2	21	16	12	1	2	80
Afrik	10	7	8	3	30	19	25	1	103
English	31	11	15	14	13	18	14	2	118
French	0	0	0	2	0	0	0	0	2
Greek	0	0	0	2	1	0	0	0	3
Tswana	4	1	4	3	4	5	1	0	22
S.Sotho	4	2	3	3	1	0	1	0	14
N.Sotho	5	2	3	7	5	3	4	1	30
Venda	1	3	1	1	2	0	0	0	8
Eng/Afr	0	2	0	3	3	1	0	0	9
Total	69	40	52	73	92	66	67	8	467

Table 4.11 (Figure 4.11, page 145)

Number of English books read by students, related to their Std 10 aggregate symbols

Sym-bols	Number of books read: 12+	10–12	8–10	6–8	4–6	2–4	1–2	0	Total
A	0	0	0	0	1	1	0	0	2
B	2	2	1	1	1	1	2	0	10
C	9	7	4	8	18	11	11	3	71
D	26	11	15	11	29	25	21	1	139
E	16	7	13	19	15	12	16	1	99
EE	11	10	16	20	20	12	12	1	102
F	1	2	2	10	5	3	3	2	28
Total	65	39	51	69	89	65	65	8	451

It is clear that those students with books at their disposal are better advantaged than those without.

The information reflected above is a further indication that black students who lack reading material have an added disadvantage which in turn has a negative influence on school performance. According to Pringle (1971), deprived children are backward in language development. Keddie (1978) indicates that disadvantaged children do not have access to newspapers, educational aids or television and this deprives the child of the opportunity to develop language skills. Human and Hofmeyr (1985) state that black children in South Africa have an inadequate command of the English language and this provides a barrier to forceful expression of a person's views and ideas and undermines self-confidence. Human and Hofmeyr also indicate that poor English ability leads to lack of understanding lecture material and instructions given by lecturers.

In the researcher's 24 years' experience in teaching black students, it is very clear that they are reluctant to answer questions asked in class and they seldom ask questions. The general English ability is poor when it comes to oral or written work.

Table 4.12 (Figure 4.12, page 146)

Qualification levels of the fathers of respondents (according to language groups) and the aggregate Std 10 symbols achieved by students

Qual.	**Zu**	**Xh**	**Afr**	**Eng**	**Fr**	**Gr**	**Tsw**	**S.S.**	**N.S.**	**Ven**	**E/A**	**Total**
Prim	18	12	0	3	0	0	4	0	3	0	2	42
6/7	11	24	5	7	0	0	2	3	9	3	3	67
8/9	16	11	16	18	0	1	4	3	5	0	2	76
10	12	12	38	21	0	1	6	1	1	1	0	93
Cert.	5	2	9	3	0	0	1	1	1	0	1	23
Dip.	7	4	15	24	0	1	0	4	5	2	1	63
Degree	1	4	13	20	1	0	2	0	3	1	0	45
Other	4	3	6	19	1	0	0	0	2	1	0	36
Total	74	72	102	115	2	3	19	12	29	8	9	445

From the preceding table and Figure 4.12 it would appear that the better the father's qualification is, the higher the Std 10 aggregate symbol of the student is likely to be. (See p.22, last paragraph, Fraser, 1973: 42 - 43).

A summary of the information given in Table 4.12 is represented in the Table 4.13 and is graphically illustrated in Figure 4.13.

Table 4.13 (Figure 4.13, page 147)

Summary of qualifications of fathers/male guardians of respondents

Qualification	Number and % of white respondents	Number and % of black respondents
Primary education	5 (1 %)	37 (8 %)
Std 6 and 7	15 (3 %)	52 (12 %)
Std 8 and 9	37 (8 %)	39 (9 %)
Std 10	60 (15 %)	33 (7 %)
Post school certificate	13 (3 %)	10 (2 %)
Post school diploma	41 (9 %)	22 (5 %)
University degree	34 (8 %)	11 (3 %)
Other qualifications	26 (6 %)	10 (2 %)

Of the 42 fathers who have only primary school education, 37 (88 %) are black. Of the 167 who have post matric qualifications, 53 (32 %) are black. The father's qualification being an indicator of the occupation held and therefore the income received, has a direct influence on the prosperity of the family and therefore of the respondent.

Table 4.14 (Figure 4.14, page 148)

Comparison of Fathers' education with the Std 10 aggregate symbols of respondents

Father's education	RESULTS OF CHILDREN: A	B	C	D	E	EE	F	Total
Primary educ.	0	0	2	8	12	14	6	42
Std 6/7	0	0	5	10	14	31	6	66
Std 8/9	0	4	12	21	22	13	5	77
Std 10	0	4	18	32	19	12	5	90
Post school:								
Certificate	0	1	6	6	6	3	0	22
Diploma	1	0	10	28	14	8	1	62
Univ. Degree	0	1	10	18	6	7	1	43
Other	1	0	6	15	2	5	1	30
Total	2	10	69	138	95	93	25	432

The preceding figures are another strong indicator that the black students are at a far greater disadvantage than the white respondents. From the preceding table and Figure 4.14, it is apparent that the better the father's qualification is, the higher the Std 10 aggregate symbol of the student is likely to be.

Similar results are to be seen in the following table, with reference to the mother's qualification.

Table 4.15 (Figure 4.15, page 149)

Comparison of Mothers' qualifications with the Std 10 aggregate symbols of respondents.

Mother's education	**RESULTS OF CHILDREN (RESPONDENTS)**							
	A	**B**	**C**	**D**	**E**	**EE**	**F**	**Total**
Primary education	0	1	1	6	12	16	4	40
Std 6/7	0	0	2	6	19	25	10	62
Std 8/9	0	2	13	37	22	15	2	91
Std 10	0	4	24	28	17	8	3	84
Post school:								
Certificate	0	2	5	9	7	5	1	29
Diploma	0	1	15	30	11	20	2	79
University Degree	1	0	2	8	5	5	1	22
Other	1	0	6	11	3	5	4	30
Total	2	10	68	135	96	99	27	437

Table 4.16 (Figure 4.16, page 150)

Occupation of father/male guardian

Occupation	Number of respondents	Percentage
Professional	53	13
Managerial	106	26
Clerical	44	11
Skilled worker	88	22
Semi-skillend and] unskilled worker]	64	16
Unemployed	53	13

The table above merely gives details regarding the occupations of the fathers or male guardians of respondents.

The following two tables relate to the occupations of fathers and their influence on the performance of the respondents.

Table 4.17 (Figure 4.17, page 151)

Occupation of father/male guardian related to Std 10 aggregate symbols of respondents

Occupation	A	B	C	D	E	EE	F	TOTAL
Professional	1	0	12	17	9	13	1	53
Managerial	1	4	22	51	20	6	2	106
Clerical	0	1	11	10	11	10	1	44
Skilled worker	0	3	18	33	19	8	7	88
Semi-skilled	0	0	0	2	11	9	1	23
Unskilled	0	0	0	8	9	19	5	41
Unemployed	0	0	3	9	12	23	6	53
Total	2	8	66	130	91	88	23	408

According to Fraser (1973) research carried out on the influence of fathers' occupations on children's educational ability revealed that the Std 10 pass rate of pupils whose fathers were in a professional or managerial level was much higher (52 %) than those whose fathers were in clerical positions (27 %) and the pass rate decreased even further for pupils whose fathers were skilled workers (15 %). The lowest percentage pass rate came from pupils whose fathers were either semi-skilled or unskilled workers (6 %). Similar research carried out by Connel & Ashenden, (1983), revealed that out of 3 000 high school pupils in Sydney, 43 % who achieved matriculation passes, came from the higher status group and 28 % came from the lower status group.

Information obtained in the current survey reveals very similar percentages. Referring to paragraph 19.2 in Appendix C, it appears that out of 408 who responded to this question, the two who attained A aggregate symbols had fathers on the professional and managerial levels.

Of the eight students who attained B symbols, five (63 %) had parents with managerial and clerial positions. Of the sixty six who attained C symbols, 34 (52 %) had fathers with professional and managerial positions. Progressively lower symbols were attained by children whose fathers were skilled, semi-skilled or unskilled workers.

It appears that the more prosperous the family, the better the school performance of the child. In comparison, the academic performance of the more disadvantaged student is much weaker.

This information reinforces the results reflected in Table 4.17 and Figure 4.17 and confirms deductions made in previous paragraphs.

Table 4.18 (Figure 4.18, page 152)

Occupation of father/male guardian related to language

Father's occup.	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S.	N.S.	Ven	E/A	Total
Prof.	1	10	11	17	2	0	2	3	8	1	1	56
Man.	4	3	36	57	0	2	3	1	2	2	2	112
Clerical	7	5	15	8	0	0	3	1	4	1	1	45
Skilled worker	16	8	7	24	0	1	4	2	5	1	3	91
Semi-Sk worker	9	2	2	0	0	0	3	1	6	0	0	23
Unskil. worker	15	14	1	0	0	0	4	1	4	1	1	41
Unempl.	10	27	3	6	0	0	2	2	1	1	1	53
Total	62	69	95	112	2	3	21	11	30	7	9	421

Of the 200 black people who responded, 103 (52 %) are semi-skilled, unskilled or unemployed; 61 (31 %) are in professional, managerial or clerical positions.

Of the 221 white people who responded, 14 (6,3% are semi-skilled, unskilled or unemployed; 152 (69 %) are in professional, managerial or clerical positions.

Table 4.19 (Figure 4.19, page 153)

Occupation of mother/female guardian

Occupation	**Number of respondents**	**Percentage**
Professional	90	21
Managerial	36	8
Clerical	85	19
Skilled worker	40	9
Semi-skilled and unskilled worker	68	15
Unemployed	117	27

The preceding table gives an indication of the professions held by the mothers/female guardians of respondents.

Table 4.20 (Figure 4.20, page 154)

Occupation of mother/female guardian related to Std 10 aggregate symbols of respondents

Mother's Occupation	**A**	**B**	**C**	**D**	**E**	**EE**	**F**	**Total**
Professional	2	0	15	19	20	32	2	92
Managerial	0	1	3	24	5	1	2	36
Clerical	0	3	32	40	7	2	1	85
Skilled worker	0	2	4	11	12	8	3	40
Semi-skilled	0	0	2	7	7	8	3	27
Unskilled	0	0	1	7	14	17	2	41
Unemployed	0	2	13	26	33	30	13	117
Total	2	8	70	134	98	98	26	436

The preceding table provides information very similar to Table 4.17 and therefore the same deductions may be made regarding the mother's occupation and the performance of the respondent.

The schedule below gives an indication of the magazines and periodicals to which students have access in their homes.

Table 4.21 (Figure 4.21, page 155)

Reading material available in the homes of respondents

Magazines and periodicals	**Yes**	**%**	**No**
Readers' Digest	12	2,7	431
Financial Mail	49	11,0	394
Time Magazine	46	10,4	397
Panorama	81	18,3	362
Fair Lady	84	19,0	359
Loving	96	22,0	347
Reading Books	44	10,0	399
Encyclopaedia	22	05,0	421
Other books	9	2,3	434

Overcrowding, or size of family also has a marked influence on a student's performance. The following schedule indicates the size of the families of respondents.

Table 4.22 (Figure 4.22, page 156)

Number of children in each of the families of respondents

Number of Children in the family	**No. of responses**
1 child	16
2 children	90
3 children	129
4 children	74
5 children	42
6 children	40
7 children	22
8 children	23
9 children	9
10 children	3
12 children	1
14 children	2

The majority of families seem to have three children. The next highest frequency is two children and thereafter four children. Two families are recorded to have 14 children.

Table 4.23 (Figure 4.23, page 157)

Number of children in the family related to Std 10 aggregate symbols of students

Number of children in the family	**A**	**B**	**C**	**D**	**E**	**EE**	**F**	**Total**
1 child	0	0	5	6	1	4	0	16
2 children	0	5	23	50	6	5	1	90
3 children	0	2	30	43	31	19	4	129
4 children	1	3	7	22	17	19	5	74
5 children	1	0	4	5	16	12	4	42
6 children	0	0	2	3	12	18	5	40
7 children	0	0	0	1	9	10	2	22
8 children	0	0	0	5	5	9	4	23
9 children	0	0	0	3	2	2	2	9
10 children	0	0	0	0	1	2	0	3
12 children	0	0	0	0	1	0	0	1
14 children	0	0	0	0	0	1	1	2
Total	2	10	71	138	101	101	28	451

It is clear that the students' final aggregates become lower as the number of children in the family increases. The questionnaires from which the figures above are taken, indicate that the larger families are found among the black respondents. (Appendix C, paragraph 23.5). From this we may deduce that once again such students find themselves disadvantaged and this accounts for the poorer academic performance. According to Craft (1970), backward children frequently come from larger families. Kelsall and Kelsall (1971) indicate that large families and poverty always tend to go together, and that overcrowding is detrimental to the actual processes of child development.

According to Marjoribanks, (1979) higher scores generally occurr among students in families with fewer children.

If we look at parents' occupations in relation to size of family (Paragraph 23.2 and 23.4 in Appendix C), it appears that the higher qualified parents tend to have fewer children which means that the wealth of the family is shared among a few and the children are therefore at a greater advantage. Parents who are skilled, semi-skilled or unskilled workers tend to have larger families. The limited financial means are therefore stretched to feed many mouths, let alone provide for suitable schooling. It is also evident that several unemployed fathers and mothers have larger families and this will indeed indicate serious deprivation.

Paragraph 19.3 in Appendix C indicates that the largest concentration of unemployed parents are among the black population groups. Eggleston (1974), indicates that success is directly linked to cultural capital transmitted by the family milieu and that this is a major determinant of the family attitude to the school.

A further indication of disadvantage may be seen in Paragraph 38 of Appendix C.

There are 55 respondents who have four people in the home sharing a bedroom and 122 respondents where five or more people share a bedroom. This factor indicates serious overcrowding and deprivation. The heaviest concentration is once again amongst the black groups.

Of the 84 respondents who indicated that there were children in the family who could not attend school (Paragraph 28 in Appendix C) 69 (82%) were among the black people. Of these 69 students, 57 indicated that this was due to financial reasons while six indicated mental disability as the reason. Please refer to Paragraph 29 in Appendix C.

All the preceding information relates to poor socio-economic conditions and the detrimental influence of these conditions on academic performance.

4.3.8 Poor school background

Paragraph 9.1 in Appendix C indicates that 250 (53 %) of the respondents did not attend a pre-school, whilst paragraph 9.2 indicates that more children who did attend pre-school, had higher aggregate symbols in Std 10 than those who did not attend a pre-school. This is an indication that even at a very early age, schooling has a marked influence on academic performance later in a child's life.

Paragraphs 15.2 and 17.2 in Appendix C and Figure 4.14 and 4.15 relate to the qualifications of fathers and mothers compared with the Std 10 aggregate symbols attained by their children, the respondents. It is apparent that the better the parents' school background, the better the children's academic performance.

Paragraphs 30, 31, 32 and 33 in Appendix C, relate to the importance of schooling in a family.

Of the 444 respondents to Question 30 of the questionnaire, 49 indicated that there were children in the family who did not attend primary school. Of these 49 responses, 41 (84 %) were from black people.

Responses to question 31 of the questionnaire, indicated that 65 respondents had siblings who did not attend a high school. Of these 65, 60 (92 %) were black people. In question 32 of the questionnaire, respondents were required to list the number of siblings who attended post school colleges or universities.

A total of 239 responded to this question. Of these, 116 (49 %) black students indicated that they had brothers and/or sisters who attended a post-school educational institution. However, it is not clear whether they were successful in obtaining a qualification or not. Responses to question 33 of the questionnaire indicate that a total of 116 respondents do have brothers and/or sisters who have post school diplomas or degrees. Of this total, 42 (36 %) are blacks.

In Paragrah 45 of Appendix C, respondents listed the number of typewriters, televisions, video recorders and computers in their schools. Of the 212 black respondents -

59 (28 %) indicated that they had none of these items;

73 (34 %) indicated that they had one of the items;

33 (16 %) indicated that they had two of these items;

32 (15 %) indicated that they had three of these items and

15 (07 %) indicated that they had all these items.

Of the 212 black students who responded to question 45 of the questionnaire, 25 (12 %) indicated that they had computers, for the use of the pupils, at their schools. Paragraphs 45 and 46 in Appendix C contain these details.

In the last decade, technology has advanced considerably and most schools now use the electronic equipment listed above, in their teaching programmes.

Schools with a limited number or none of these items clearly indicate a serious level of disadvantage.

Students who recorded that they had no computers at their schools were:

Zulu	58	(74 %)	Afrikaans	11	(11 %)
Xhosa	73	(90 %)	English	16	(14 %)
Tswana	11	(50 %)	E/A	6	(55 %)
S. Sotho	8	(57 %)	French	0	
N. Sotho	22	(71 %)	Greek	0	
Venda	6	(75 %)			

(Percentages according to total number of respondents in each language group.)

The high percentages of students among the black population groups who do not have access to basic electronic equipment (computers), reinforce the assumption that students from these language groups come from disadvantaged school backgrounds.

4.3.9 Exposure to electronic equipment

A great deal of the information related in the preceding paragraph also serves to confirm the lack of exposure to electronic equipment at schools and in homes by the black respondents in this survey.

In addition, 154 of these students indicate, in Paragraph 42 of Appendix C, that they have never played electronic games. This constitutes 66 % of the total number of black respondents. Of the responses received from black students, 102 (44 %) indicate that they have never operated an automatic teller machine whilst 57 (24 %) indicate that they have seldom operated an automatic teller.

This information also serves to reinforce the hypothesis (see 1.7.1, p.8) that black students have limited exposure to electronic equipment.

Paragraph 47 of Appendix C indicates that 35 % of black students have not even been exposed to the most elementary of electronic office equipment, the typewriter, at their previous schools. A further 57 % have not been exposed to the use of televisions at their schools (see Paragraph 48 of Appendix C), and 79 % have not been exposed to computers (see Paragraph 49 of Appendix C).

All this data supports the researcher's assumption that black students are not suitably exposed to electronic equipment at school level and will therefore experience difficulties in their first year secretarial course, where the major components of their curriculum, namely: typing techniques, word processing, audio typing and computer operating rely on the efficient use of sophisticated electronic office equipment.

4.3.10 Problems experienced by first year secretarial students at technikons

The following list of problems experienced by students records the responses given to Question 52 of the questionnaire (Appendix A). Students could respond to as many of the problems as they wished. (Table 4.24, containing problems experienced by students in Typing, is the key to be used for interpretation of Figure 4.24, 4.25, 4.26 and 4.27.)

Table 4.24 (Figure 4.24, page 158)

Different types of problems experienced by students in Typing

Number	Type of problem	Yes	%	No
1	Getting used to machines	283	**60**	187
2	Understanding instructions	251	53	219
3	Keeping eyes off keyboard	211	45	259
4	Keeping eyes on copy you type from	172	37	298
5	Remembering word processing functions	303	**65**	167
6	Finger stretches on keyboard	237	50	233
7	Applying theory in practice	84	18	386
8	Submitting assignments punctually	130	28	340
9	Boredom	78	17	392
10	Accuracy in typing	295	**63**	175
11	Speed in typing	261	56	209
12	Concentration	191	41	279

The most serious problems appear to be: remembering word processing functions and getting used to machines. Both these problems indicate lack of exposure to computers at school level. The next most serious problems are accuracy in typing, speed in typing and understanding instructions. These three problems are related to language ability.

The information contained in the following table is represented in three graphs, Figures 4.25, 4.26 and 4.27 (pages 159 to 161). The table of figures below each graph represents percentages of students - within each language group - who experience the problems set out and numbered according to Table 4.24 above. (See page 158.)

Table 4.25 (Figures 4.25, 4.26 and 4.27 on pages 159, 160 & 161)

Different types of problems experienced by students related to language groups

Problem	Zu 78	Xh 81	Afr 103	Eng 117	Fr 2	Grk 3	Tsw 22	S.S. 14	N.S. 31	Ven 8	E/A 11	%	Tot 470
1	71	80	15	34	1	1	21	14	29	7	10	60	283
2	68	80	7	12	1	3	20	14	29	8	9	53	251
3	62	55	8	27	1	1	8	11	23	6	9	45	211
4	51	43	12	23	1	0	12	6	14	4	6	37	172
5	70	80	32	37	2	1	21	14	30	7	9	65	303
6	62	75	6	17	1	0	19	13	29	5	10	50	237
7	23	13	13	25	0	1	3	3	1	1	1	18	84
8	26	26	7	22	1	1	13	10	13	4	7	28	130
9	13	7	15	34	0	0	3	2	3	0	1	17	78
10	68	76	28	46	1	2	20	12	26	8	8	63	295
11	73	71	17	26	0	2	20	12	24	7	9	56	261
12	43	38	21	24	2	1	15	11	25	4	7	41	191

From the preceding table and the corresponding graphs, it is apparent that once again, black students experience many problems with Typing Technology.

This can be attributed to factors previously determined and confirmed by results of this survey and in a wide selection of sources viz. poor socio-economic background, poor school background and lack of exposure to electronic equipment.

Table 4.26

Summary of information contained in Table 4.25

Problems	Number of black students experiencing each of the problems	%	Number of white students experiencing each of the problems	%
Adapting to machines	222	78	61	22
Understanding instructions	219	87	32	13
Keeping eyes off the keyboard	162	77	49	23
Keeping eyes on the copy you type from	130	76	42	24
Remembering word processing functions	222	73	81	27
Finger stretches on keyboard	203	86	34	14
Applying theory in practice	44	53	40	47
Submitting assignments punctually	92	71	38	29
Boredom	28	36	50	64
Accuracy in typing	210	71	85	29
Speed in typing	207	79	54	21
Concentration	136	71	55	29

The high percentages of black students who experience the problems listed above, are a clear indication that these students have serious difficulties adjusting to the use of electronic office equipment.

The lowest percentage recorded is 36 % for boredom as compared with 64 % for white students. The use of electronic equipment for blacks is still a very new experience and this probably accounts for their lack of boredom at this stage.

The highest percentage is 87 % who indicate that they have difficulties understanding instructions. This is probably because they receive tuition in a second language and also because of the poor school background they come from, particularly poor English language instruction. A student's accuracy, depends on his/her ability to read accurately from the copy, whilst speed depends on finger dexterity and ability to read fast and accurately.

Another high percentage is 86 % who have problems with finger stretches. The reason for this may be sought in the lack of pre-school attendance where the majority of activities are aimed at developing the fine motor skills. Few students are exposed to keyboard instruction at high school, and this is an additional reason why they experience problems in adapting to the use of typewriter keyboards in the first year of their secretarial training at technikons.

Additional interesting information is recorded in Paragraph 52.3 of Appendix C, which indicates the problems experienced related to the locality of the previous school attended. Fewer problems are experienced by students who come from schools in the cities.

Paragraph 52.4 of Appendix C relates to the students' English ability and the problems experienced.

It is interesting to note that, of the 251 students who had problems understanding instructions, 24 % studied English first language at school while 75 % studied English second language. It is also reflected in the same table, that the students' language ability has an effect on their ability to submit assignments punctually. 30 % of students suffering from this difficulty studied English first language whilst 70 % did English second language.

More information related to problems experienced by students is contained in Paragraph 52.5 of Appendix C which relates to the Std 10 aggregate symbols obtained by students. A greater concentration of problems is found amongst the students with the poorer symbols.

Paragraph 52.6 relates to whether or not students studied typing at school. If we compare the percentages contained in this schedule, it is very clear that students who studied typing, have many fewer problems than those who did not.

In Paragraph 52.7 of Appendix C a comparison is made between pre-school attendance and problems experienced by students. It is interesting to note that of the 237 students who experienced problems with finger stretches, 32 % had attended a pre-school, whilst 68 % had not.

Paragraphs 52.8.1 and 53.8.2 in Appendix C, reflect a comparison between the number of books read by students and their ability to understand instructions and also the number of books read and the students ability to submit assignments punctually.

The last column in each of these tables, indicates that the highest percentages of students experiencing problems, are concentrated in the areas where fewer books per annum are read. The same applies to accuracy in typing and ability to concentrate (please refer to Paragraphs 52.8.3 and 52.8.4 in Appendix C).

If we compare the qualifications and occupations of parents and the problems experienced by respondents, it is also clear that the higher the qualification of the parents, or the better their occupations, the fewer the problems experienced by respondents (please compare Paragraphs 52.9, 52.10, 52.11 and 52.12 of Appendix C).

Paragraph 52.14 in Appendix C, indicates a tendency that children from larger families experience more problems.

More interesting information contained in Paragraph 52.15 of Appendix C indicates that fewer students who play musical instruments have problems with finger stretches than students who do not play musical instruments. Fewer students who have played electronic games have problems with finger stretches than those who have never played electronic games. Students who operate automatic teller machines often, have less trouble with finger stretches than those who seldom or never operate these machines.

4.3.11 Summary of responses

A great deal of the literature reviewed in Chapter 2, supports the results of the survey conducted by the present researcher. It is clear in the survey that students at Technikon Mangosuthu, and black students at other technikons, have problems in adjusting to the first year secretarial curriculum particularly with the use of electronic office equipment.

The number of problems experienced by them emphasises this reality.

Furthermore, students from disadvantaged backgrounds, have greater learning problems and hence show poorer academic performance. It is also clear that students from a poor socio-economic environment, have greater problems adusting to tertiary education and the use of electronic equipment.

Students with limited or no exposure to electronic equipment, either at their homes or previous schools, experience far more problems learning to operate office machines, particulary typewriter and computer keyboards.

Students who never attended a pre-school have more problems with finger stretches and speed in typewriting.

Poor English language ability also places restraint on a student's progress, particularly with understanding instructions, submitting assignments punctually and even accuracy in typing.

Students who do not have exposure to reading matter display a tendency of experiencing these same problems.

Students who form the reference sample and black students at other technikons are clearly at a disadvantage when they enter the sphere of post-school education. This disadvantage has a marked influence on their academic achievement and practical ability. It is against these odds that the lecturer in Typing Technology needs to find ways to help the aspirant secretaries of tomorrow achieve their goals within the time limit set for the course of study.

4.4 VISITS TO PARTICIPATING TECHNIKONS AND INTERVIEWS WITH LECTURERS IN THE SECRETARIAL SCHOOLS AT THESE TECHNIKONS

Interesting discussions were held with key lecturers in the secretarial schools at the participating technikons. The information summarised below was obtained through semi-structured interviews.

It is important to note that the views expressed by lecturers, particularly in respect of why certain students fail, are no more (and no less) than untested opinions. The reason for including them in this report is to reflect the climate of opinion which the researcher discerned.

4.4.1 Selection criteria

A range of selection criteria is carried out by each technikon, for example:

A Std 10 pass. (The lecturers interviewed indicated that this pre-requisite was not sufficient and that from 1993, they would only consider applicants with a D aggregate and a C for English. Applicants would also be given aptitude tests and would be selected according to the results of these tests.)

A Std 10 pass, with a point system used for the symbol attained for English and the three next best symbols attained by the candidate.

A Std 10 pass with an E aggregate and E for English Higher Grade or D for English Standard Grade.

A Std 10 pass with an E aggregate and a D for English. Students are then subjected to a language, spelling and aptitude test and their school results are subjected to the Swedish point system. These scores are added together and the best applicants are interviewed and if found suitable, are selected for the various secretarial programmes.

Technikon Northern Transvaal indicated the availability of a qualified psychologist on campus who conducts standardised aptitude tests with all the applicants. These tests are submitted to the HSRC for marking and the best students according to these results are selected.

The initial pre-requisite is that each candidate should have a Std 10 pass with a C in English if wishing to study Shorthand, and a D in English if wishing to enrol for the National Diploma: Secretarial : Office Administration.

All interviewees admitted that their criteria needed further refinement as students who find difficulties with the programmes still slipped into the system. However, the interviewees were not quite sure how to eliminate this problem.

4.4.2 Table 4.27

The percentage of students who did not complete a partricular year of study

The percentage of students who "dropped out" of (i.e. did not complete) secretarial programmes, varied as follows:

(Source of information: interviews with lecturers)

Technikon	**First years**	**Second years**	**Third years**
	%	%	%
A	20	10	0
B	40	20	0
C	20	10	0
D	4	4	2
E	1	1	0
F	10	1	0

The majority of interviewees found that the droup-out rate diminished with each year. Students who managed to reach the third year level, were generally able to cope with their studies and passed at the end of the year.

4.4.3 Reasons why students discontinued their studies

Some lecturers admitted that, through bad selection criteria, students who were unable to cope with the demands of the secretarial programmes had been admitted. After a period of six months or in some cases at the end of the first year, students failed and were not re-admitted the following year.

A number of technikons indicated that, particularly with black students, the students' language abilities were such that they could not cope and were forced to discontinue in the middle of the first year or at the end of the year.

The majority of lecturers mentioned poor school background, particularly amongst the black students, as the reason why students could not carry on with their studies.

Many also mentioned financial difficulties as one of the major reasons why students, particularly black students, were forced to discontinue their studies.

A few lecturers mentioned personal problems, wrong career choice and transport difficulties among the lesser difficulties encountered, that led to the discontinuation of studies by students.

4.4.4 Ability of black students to cope with secretarial programmes

Technikon Mangosuthu, Technikon Northern Transvaal and Unitra Technikon had only black students, whilst Technikon Natal, Technikon Witwatersrand and Port Elizabeth Technikon had white students with about 10 to 20 per cent black students.

The majority blamed the poor school background and socio-economic conditions of these students for the problems experienced by them.

Most lecturers indicated that it was common among black students to "fear" electronic equipment. This was apparent with the initial introduction to computers.

All agreed that language was a very serious problem. This led to difficulty in understanding instructions.

Self-confidence was also mentioned as being among the major problems experienced among black students. This lack of self-confidence hampered the process of touch-typing as students tended to look at their keyboards whilst typing instead of keeping their eyes on the copy they type from.

The majority indicated that black students, in particular, had serious problems with finger stretches on the keyboard, brought about by poor development of the small muscles of the hand leading to lack of finger dexterity. This was a handicap with manipulation of keys and hampered the development of typing speed. Another serious problem was eye-hand co-ordination.

Many of the black students had problems with time management and were incapable of meeting deadlines for submission of exercises and assignments and also found it difficult to complete tests and examinations in the required time.

Some lecturers found that nervousness accounted for a large number of the problems experienced by students.

Many found that the step from school to tertiary education was too great for the students to cope with and that a bridging course for such students would help in alleviating the problems.

4.4.5 Measures to overcome these problems

All lecturers mentioned that it was necessary to assist students with difficulties to overcome their problems. Among the measures used in their endeavour to assist students, were the following:

use of a language laboratory or remedial English instruction

constant typing drills

hand and finger exercises (finger gymnastics)

relaxation exercises

It was also felt that the following measures could be considered for future implementation:

exposure to electronic equipment at school level

introductory courses in commercial subjects, English and keyboarding

lengthening of the existing secretarial courses from 3 to 3½ years.

4.4.6 Practical application

The majority of the technikons sent their students to businesses for exposure to the real work situation.

Reports by companies accommodating these students indicated that, particularly with black students, they had problems taking messages correctly, and also with other language related situations e.g. letter writing, understanding instructions, communicating with staff and clients.

Positive aspects were: good human relations, office personality, personal appearance and grooming.

4.4.7 Methods of keyboard instruction used by lecturers and the reasons why

Technikon Northern Transvaal and Unitra Technikon believed in using the home row method as they felt that it was most important for students to learn the positions of the home keys first.

Technikon Mangosuthu and Technikon Natal preferred the first-finger-first approach. It was felt that by using the strongest fingers first, the student soon gained confidence and retained interest in the work he/she was doing. With daily finger gymnastics, it was felt that once the student progressed to the weaker fingers, he/she would have better control and the muscles of these fingers would have been appropriately exercised to ensure easier use of the fingers.

Technikon Witwatersrand used a combination of the two methods, starting with the home row method and advancing to the first-finger-first method.

Port Elizabeth Technikon made use of a special computer software programme called "Typing Tutor". This is a self-instruction programme which allows each student to progress at his/her own pace. It leaves the lecturer free to move around among the students and assist with posture and other important techniques. The programme only allows the student to progress further once he/she has mastered each previous step.

4.4.8 Facilities offered at each technikon

The individuality of each technikon was apparent upon paying visits to the typing laboratories.

Two technikons, Witwatersrand and Northern Transvaal, had typewriters as well as computers using word processing software packages. They were gradually moving towards phasing out the typewriters and using computers exclusively.

Three technikons, Mangosuthu, Natal and Port Elizabeth had already phased out their typewriters and were using dedicated word processors and computers with word processing software.

One technikon, Unitra, probably the youngest among the six, was using only computers with word processing software.

The most popular software programmes used were: Multimate and Word Perfect 5.1. Most technikons trained students on two different programmes, but were considering bringing in more programmes specifically for spread sheets and desktop publishing.

4.4.9 Testing and evaluation of work

Technikon Witwatersrand and Port Elizabeth Technikon used continuous evaluation together with a final examination at the end of each year.

The other technikons made use of continuous evaluation to some degree together with several tests during each year and a final examination.

Mark sheets from the six technikons showed that the weaker results and lower speeds were mostly attained by black students.

4.4.10 Additional suggestions offered

Most of the technikons felt that it was important for technikons to take the initiative regarding secretarial training and to incorporate modern office technology in the training programmes and to move away from manual machines.

The majority felt that it was essential that courses in keyboarding be offered at school level particularly in Std 9 and 10.

A number of lecturers felt that the introduction of academic support courses for students who come from poor school backgrounds, would assist in alleviating problems experienced at present. This course could include English language instruction, keyboarding and one or two other commercial subjects.

A few felt that it was necessary to lengthen the existing period of study from three years to three and a half years to assist students to cope with the course requirements.

Very valuable information and suggestions were obtained from the lecturers interviewed. It was clear that lecturers were committed to finding solutions to the mutual problems experienced. The positive proposals contributed by these academics could be implemented for the benefit of future secretarial students and lecturers.

Figures 4.1 to 4.27 appear on the following pages and provide graphic illustrations of some aspects of the responses to questionnaires. These figures have been included to present a visual impression of information provided by respondents.

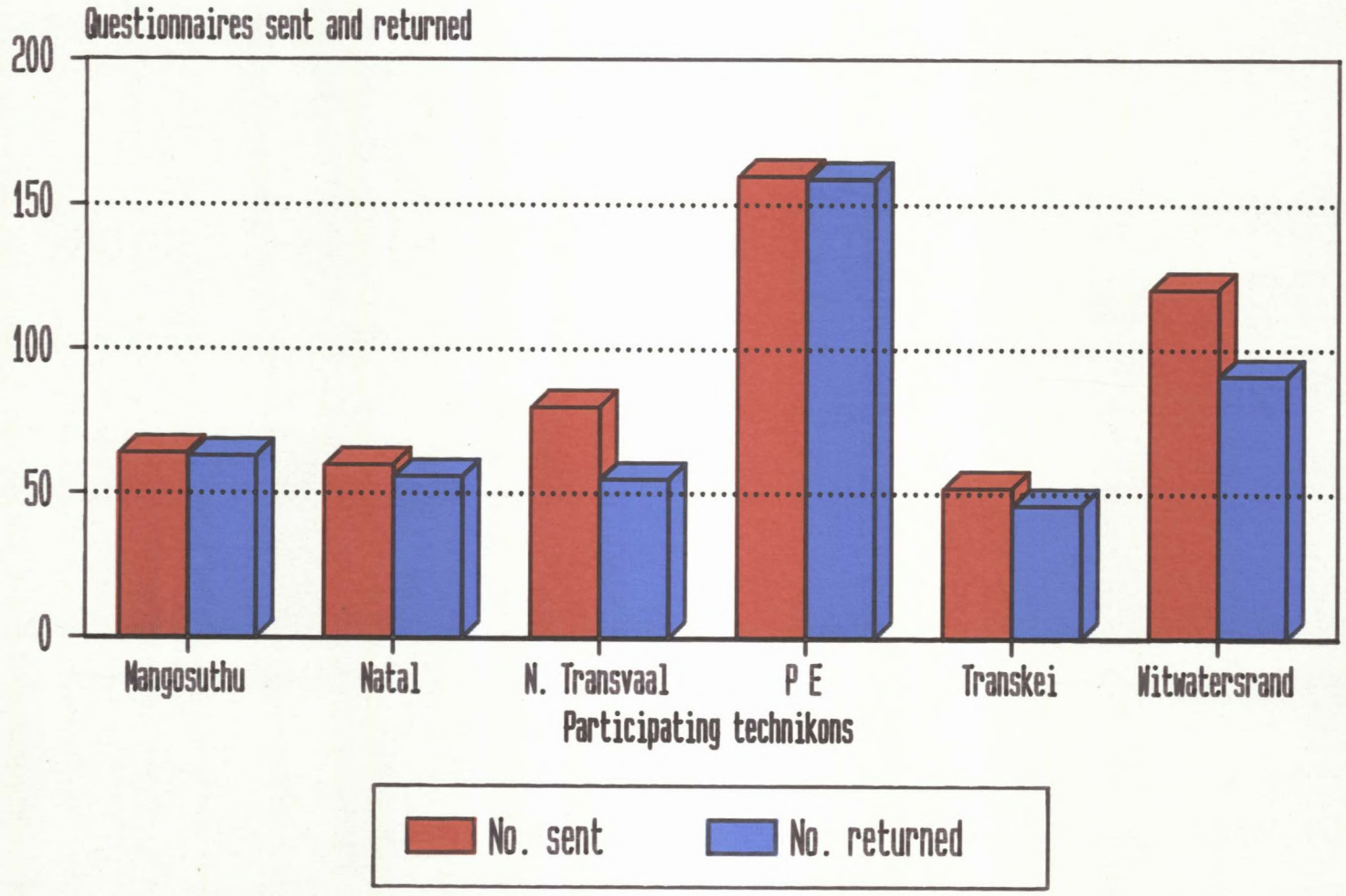

Figure 4.1
NUMBER OF QUESTIONNAIRES COMPLETED BY
STUDENTS AT SIX PARTICIPATING TECHNIKONS

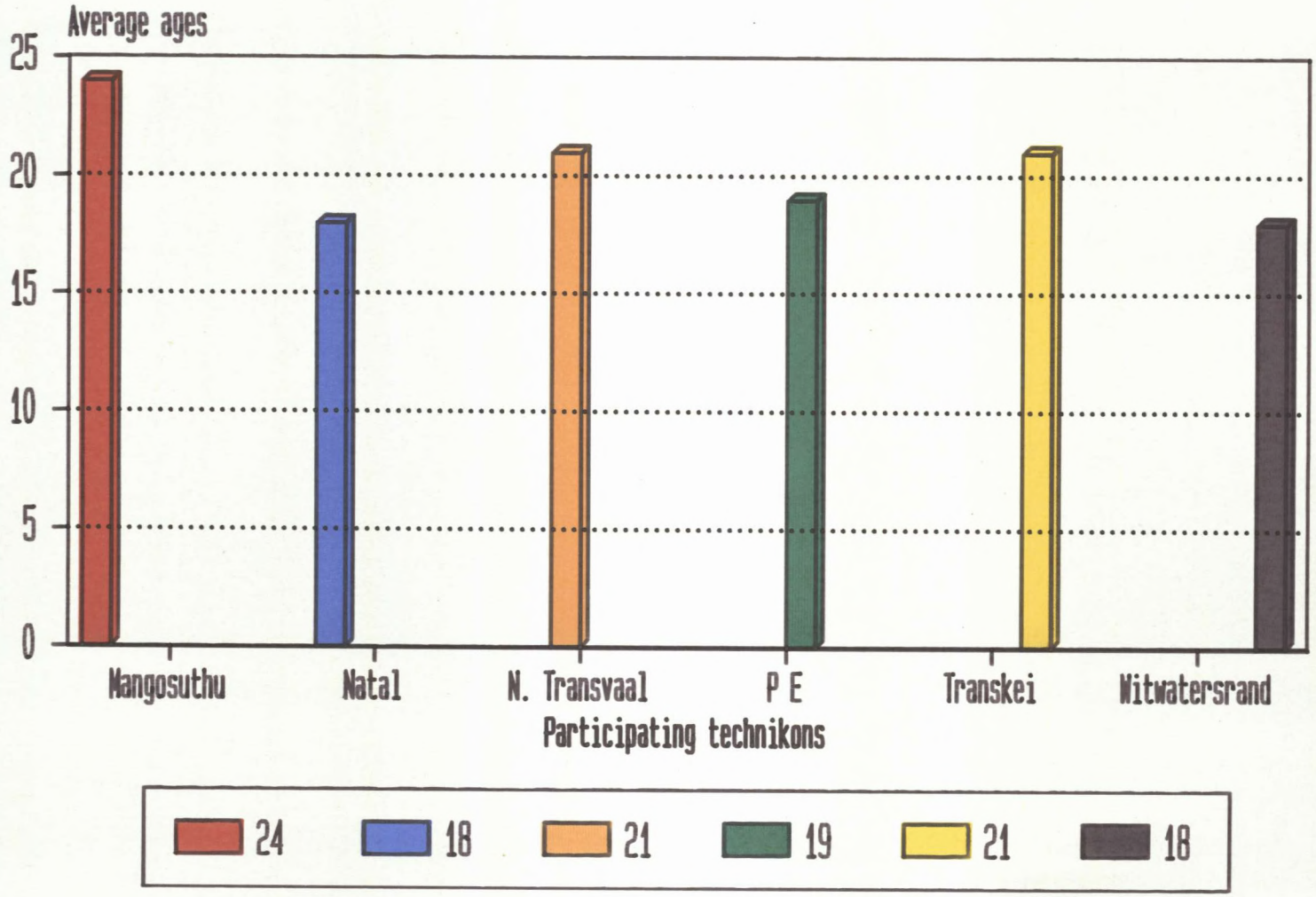

Figure 4.2
AVERAGE AGES OF STUDENTS AT SIX
PARTICIPATING TECHNIKONS

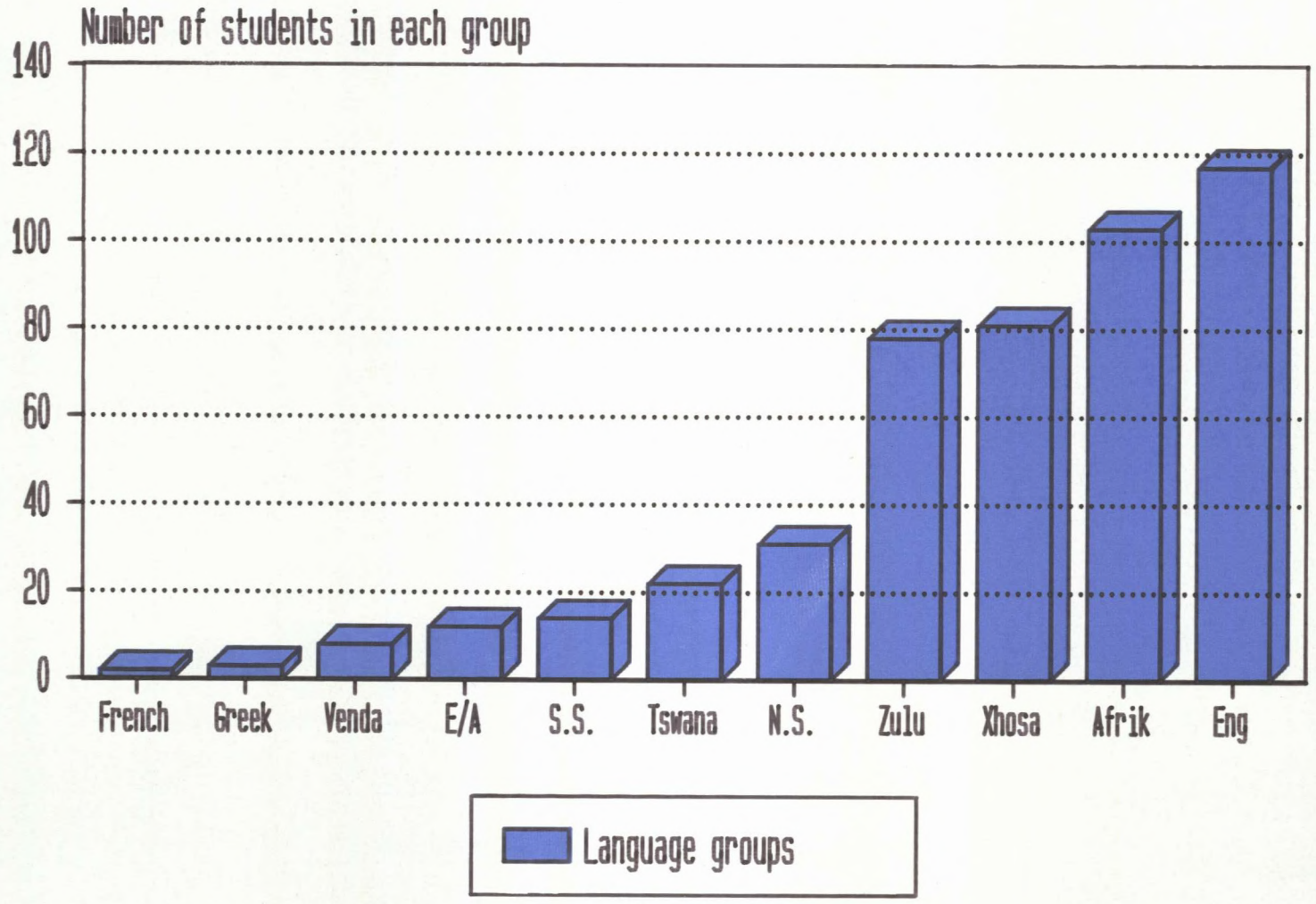

Figure 4.3
LANGUAGE GROUPS REPRESENTED BY
STUDENTS FROM PARTICIPATING TECHNIKONS

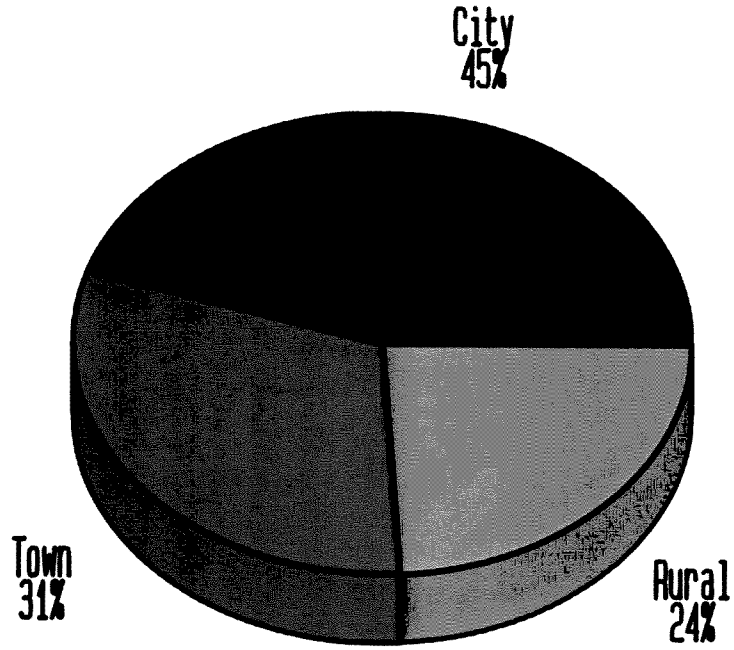

Figure 4.4
LOCALITY OF LAST SCHOOLS ATTENDED BY
STUDENTS AT PARTICIPATING TECHNIKONS

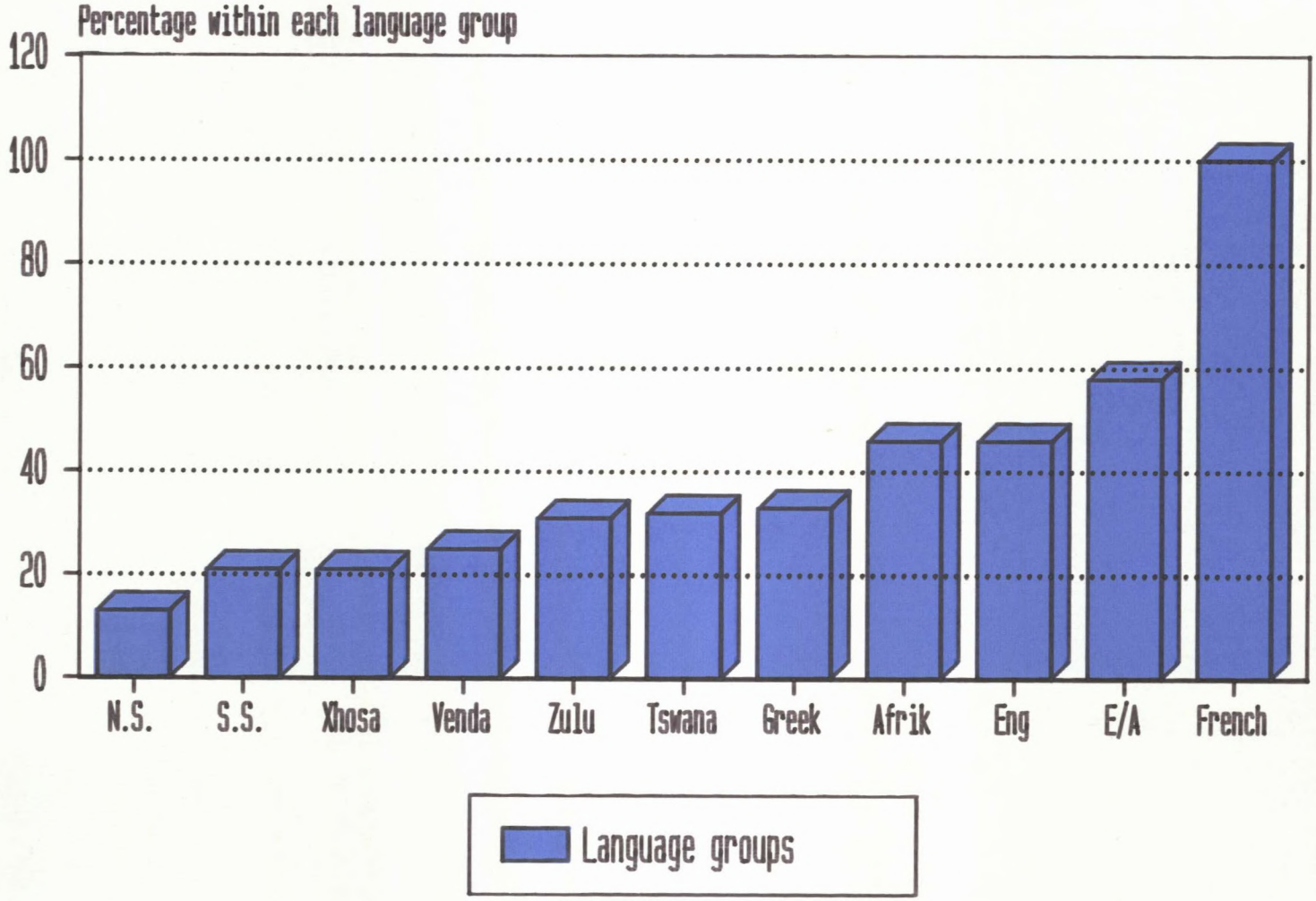

Figure 4.5
MATRICULATION EXEMPTIONS OBTAINED BY STUDENTS, RELATED TO LANGUAGE GROUPS

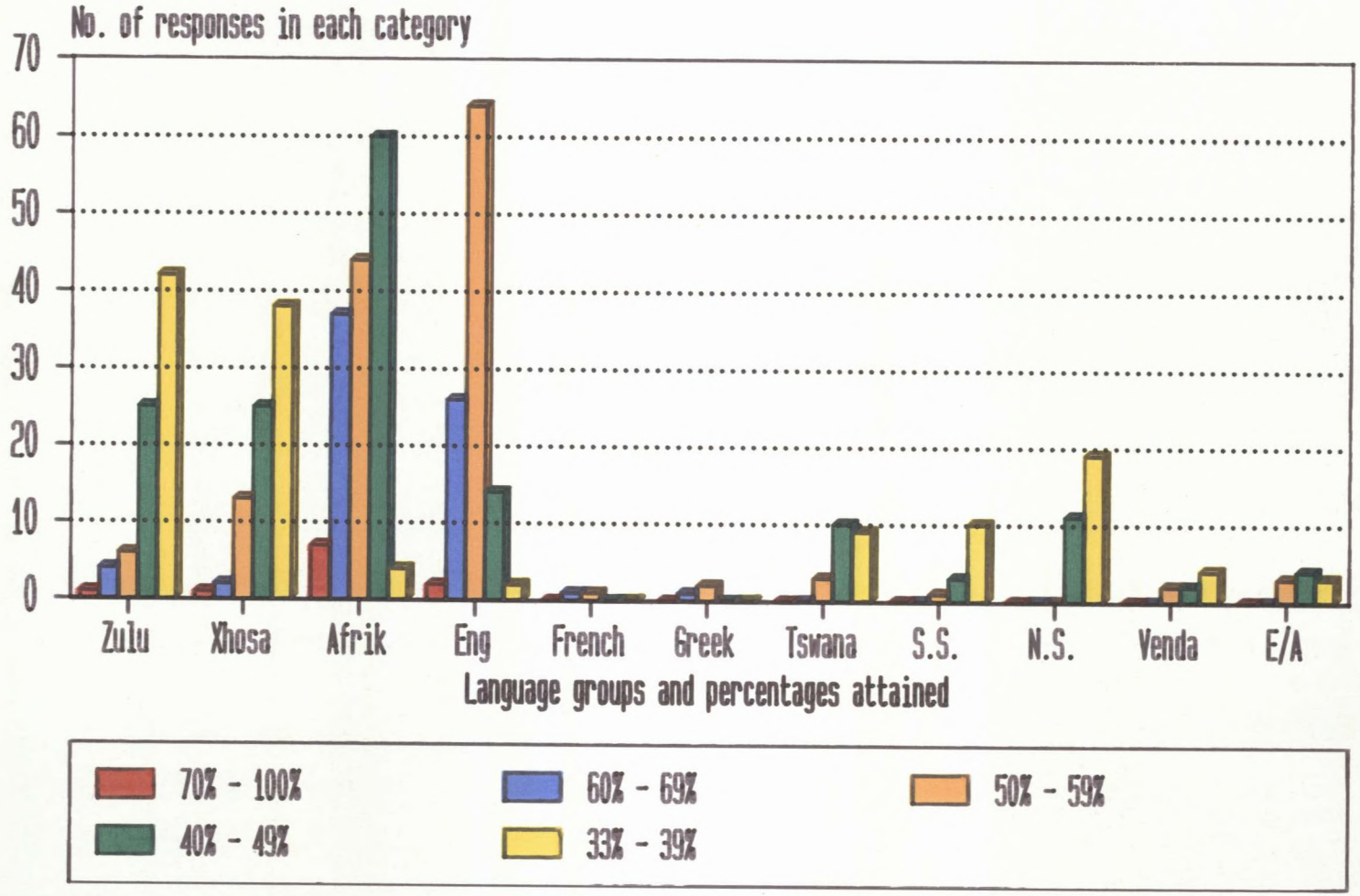

Figure 4.6
STD 10 AGGREGATE PERCENTAGES ATTAINED
BY STUDENTS WITHIN EACH LANGUAGE GROUP

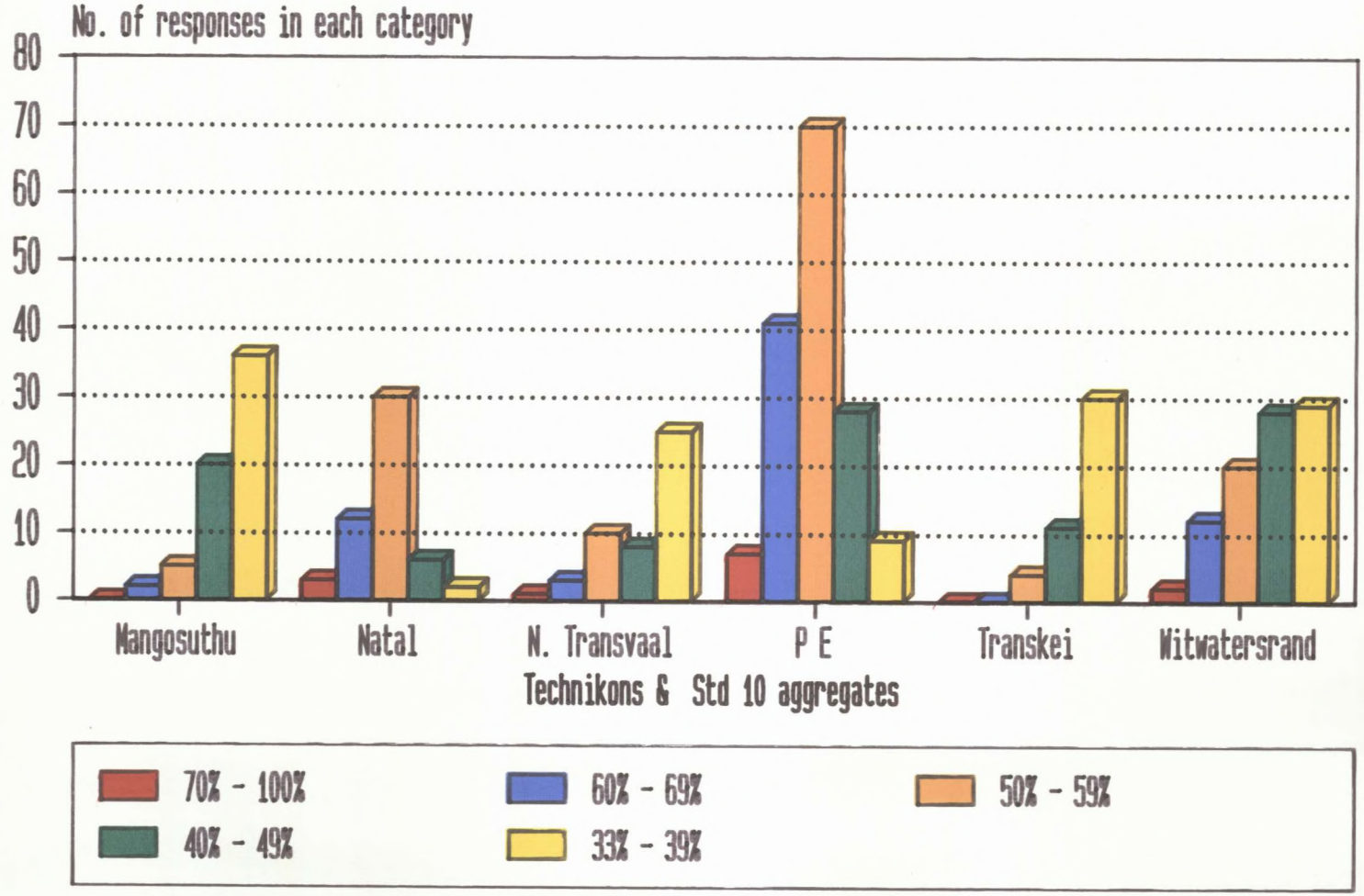

Figure 4.7
PERCENTAGES ACHIEVED IN STD 10 BY
STUDENTS AT EACH PARTICIPATING TECHNIKON

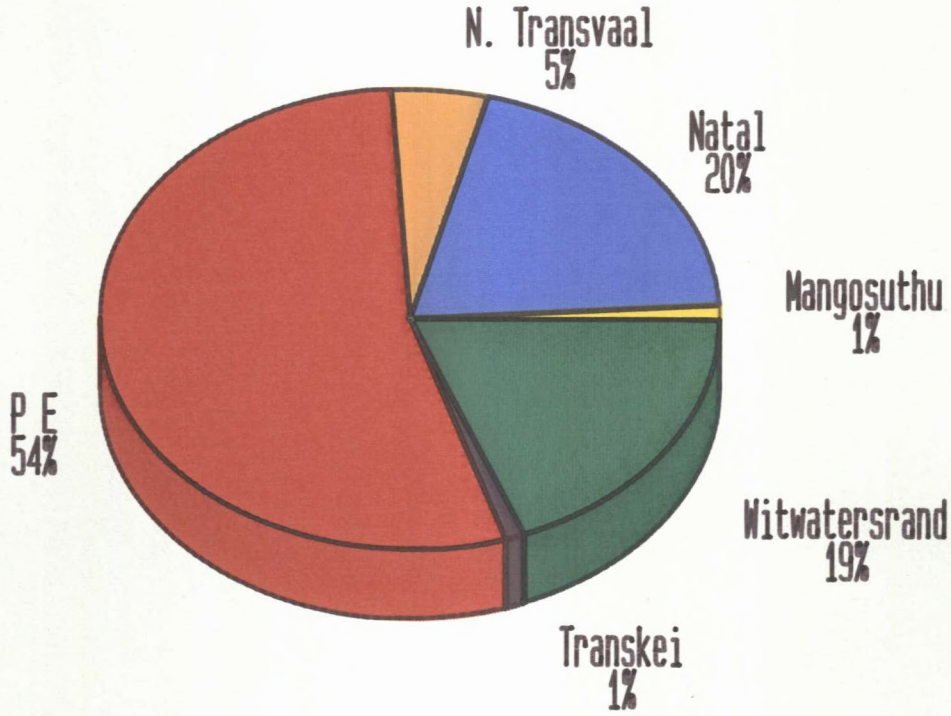

Figure 4.8
PERCENTAGE OF TOTAL NUMBER OF
RESPONDENTS WHO STUDIED TYPING IN STD 10

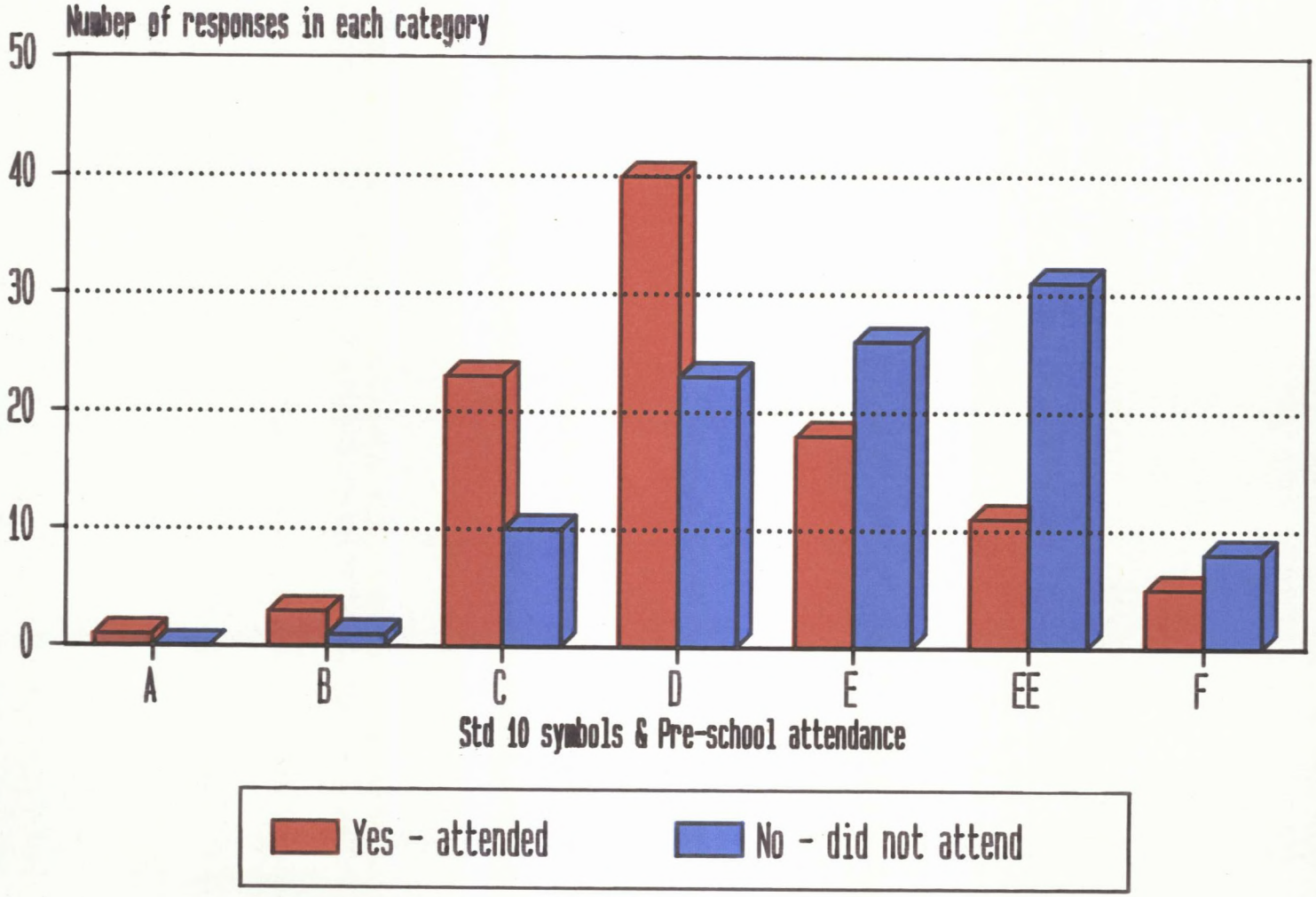

Figure 4.9
THE INFLUENCE OF ATTENDANCE AT A
PRE-SCHOOL ON STD 10 AGGREGATE SYMBOLS

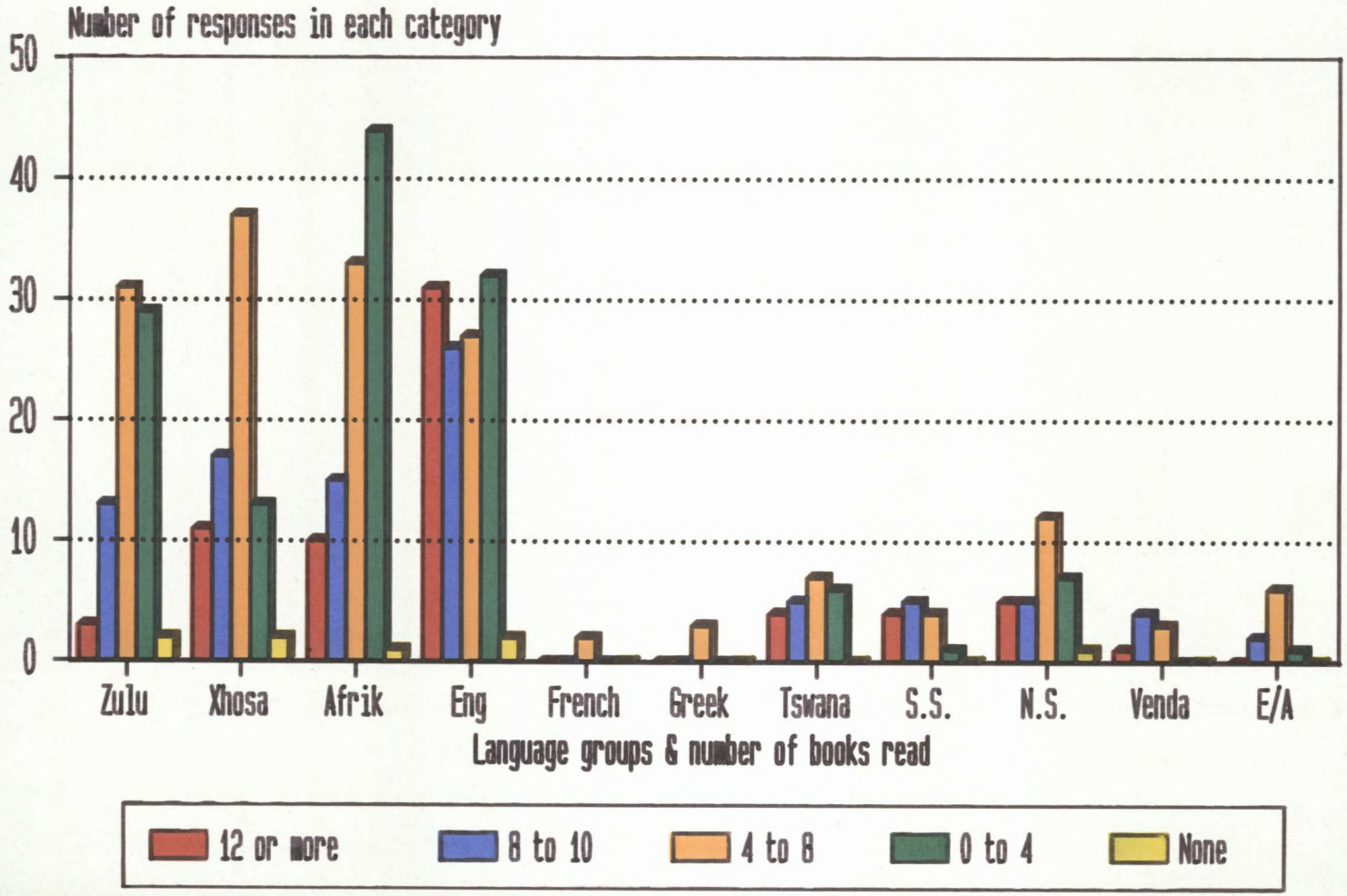

Figure 4.10
NUMBER OF ENGLISH BOOKS READ BY STUDENTS
RELATED TO EACH OF THE LANGUAGE GROUPS

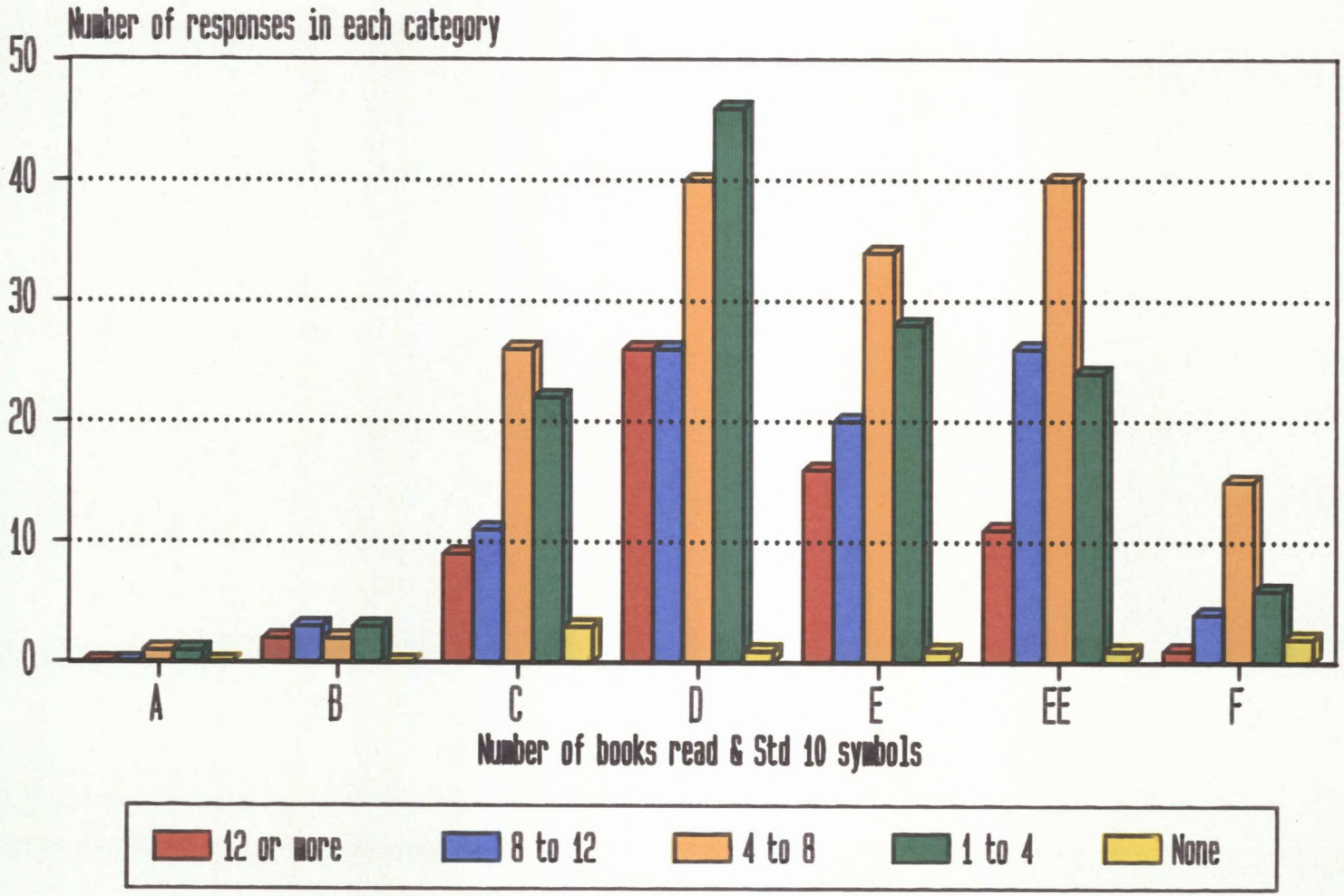

Figure 4.11
NUMBER OF ENGLISH BOOKS READ BY STUDENTS
RELATED TO STD 10 AGGREGATE SYMBOLS

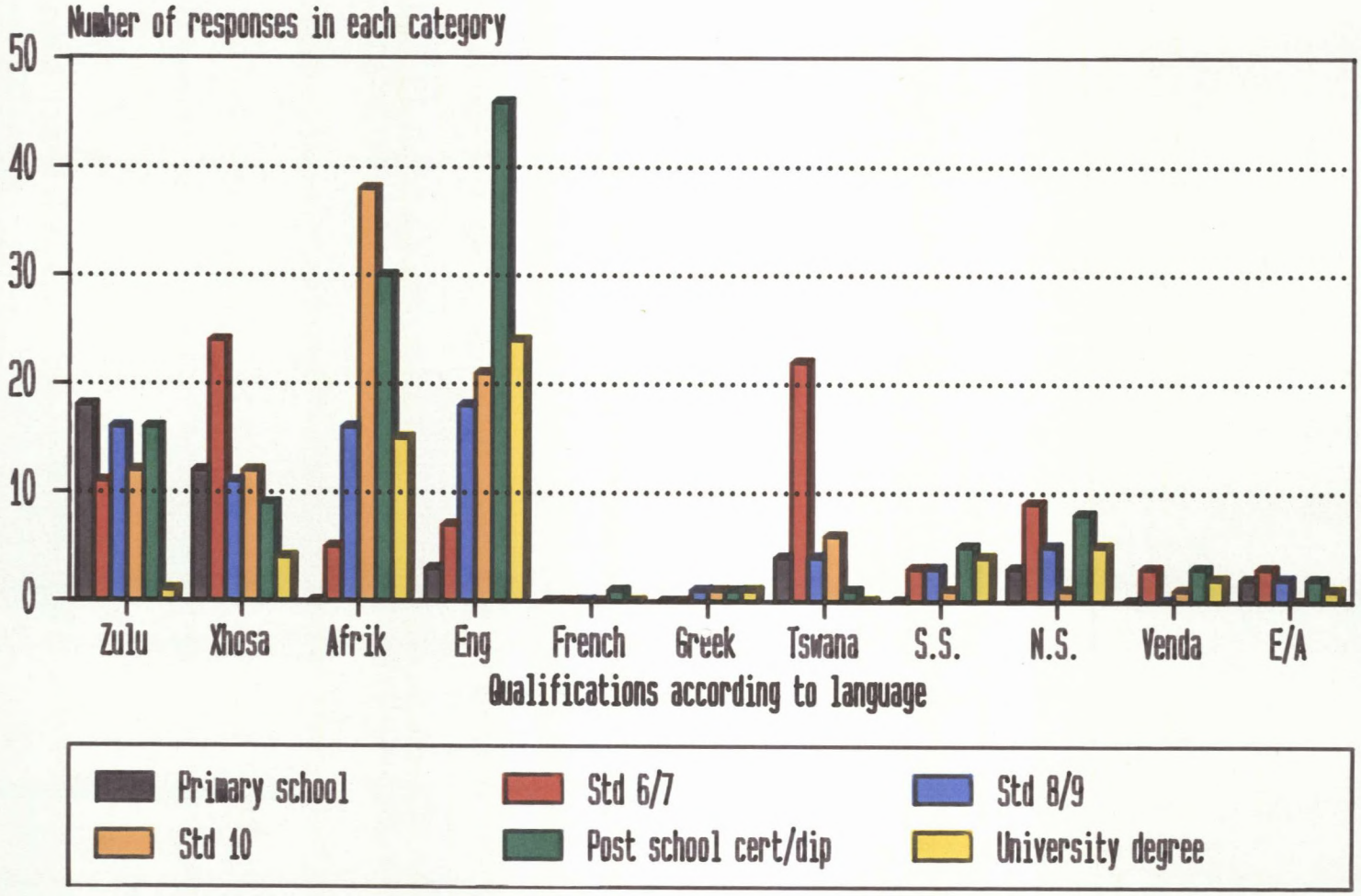

Figure 4.12
QUALIFICATIONS OF FATHER/MALE GUARDIAN
RELATED TO DIFFERENT LANGUAGE GROUPS

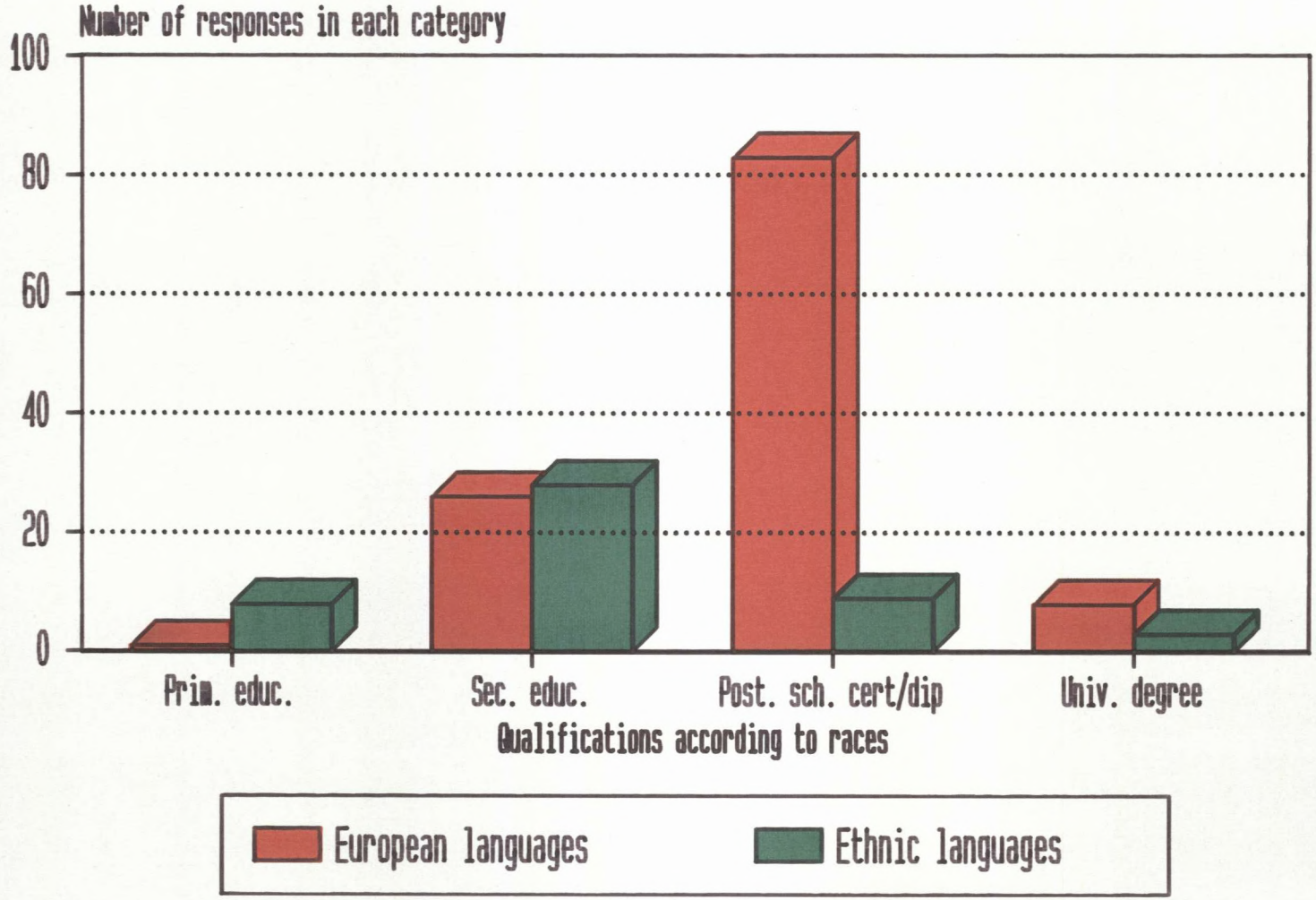

Figure 4.13
SUMMARY OF FATHERS' QUALIFICATIONS
ACCORDING TO RACES

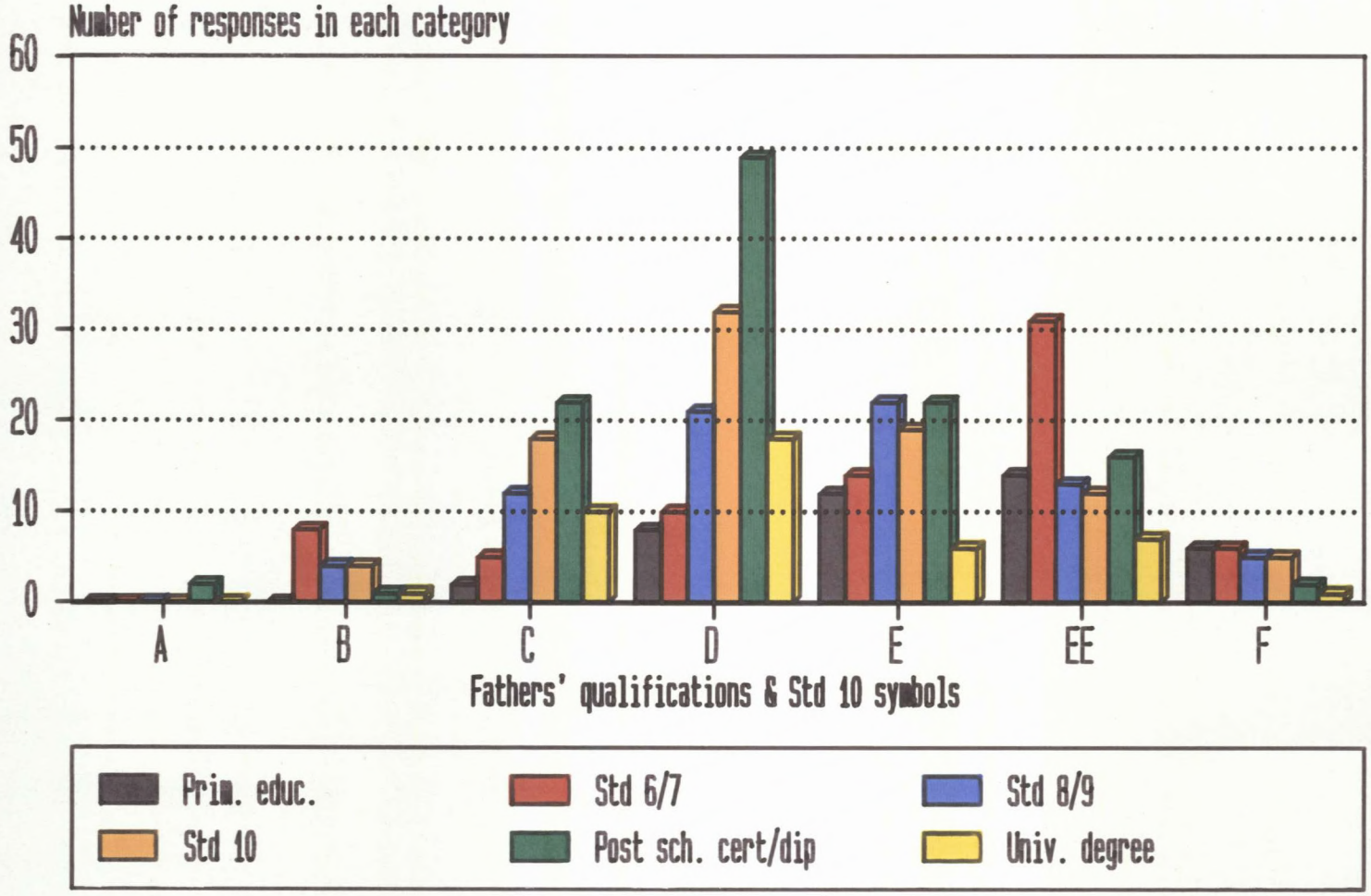

Figure 4.14
INFLUENCE OF FATHERS' EDUCATION ON THE
STD 10 AGGREGATE SYMBOLS OF RESPONDENTS

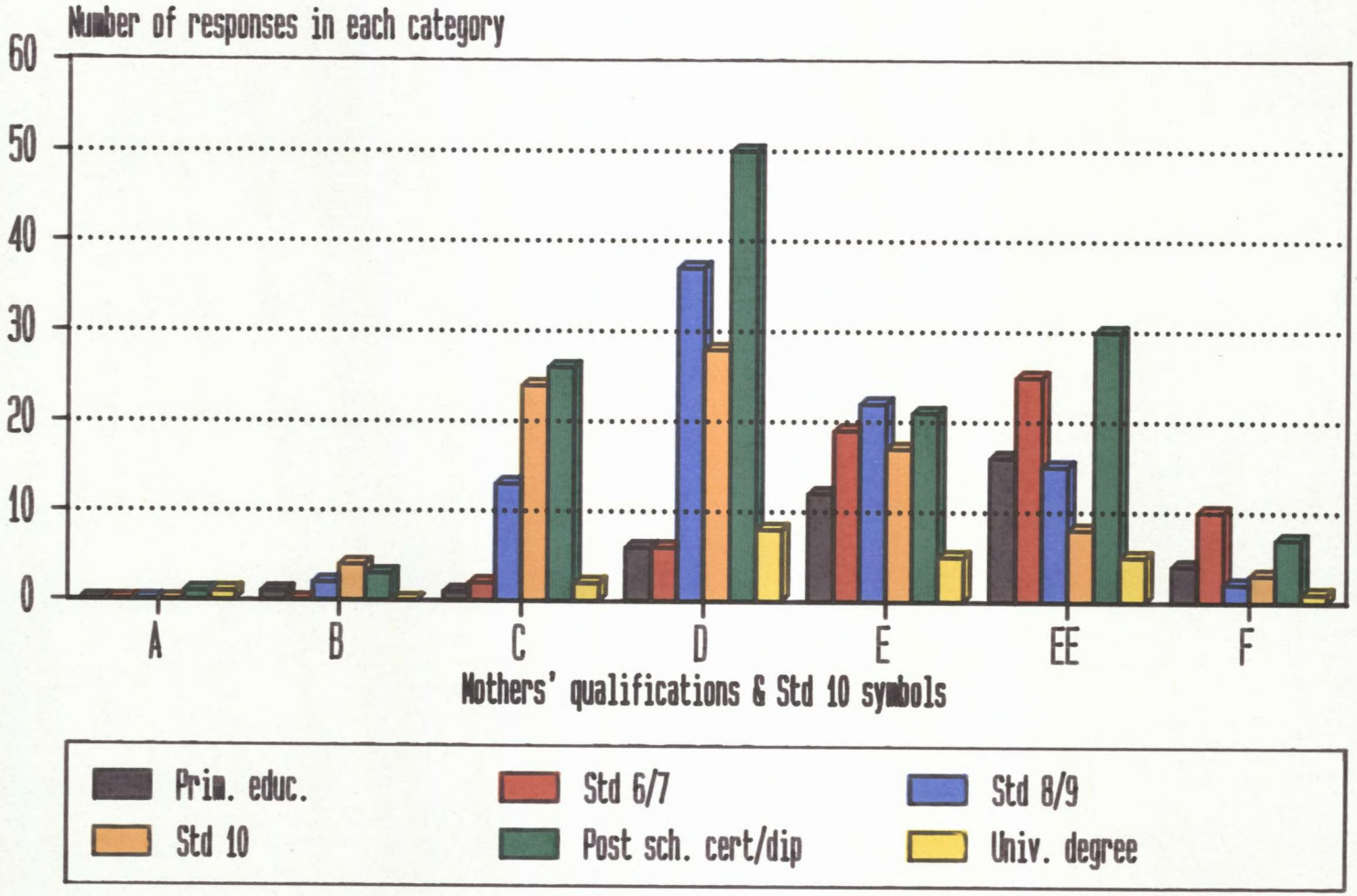

Figure 4.15
INFLUENCE OF MOTHERS' QUALIFICATIONS ON
THE STD 10 AGGREGATE SYMBOLS OF STUDENTS

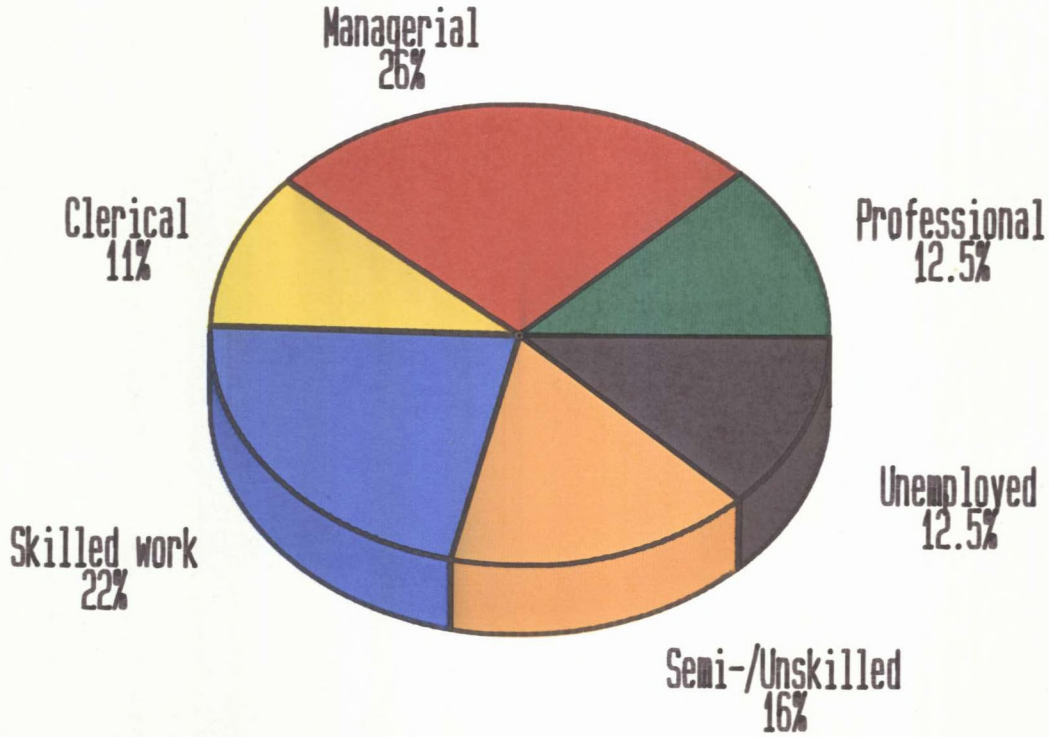

Figure 4.16
OCCUPATIONS OF FATHER/MALE GUARDIAN
OF RESPONDENTS AS % OF GREATER SAMPLE

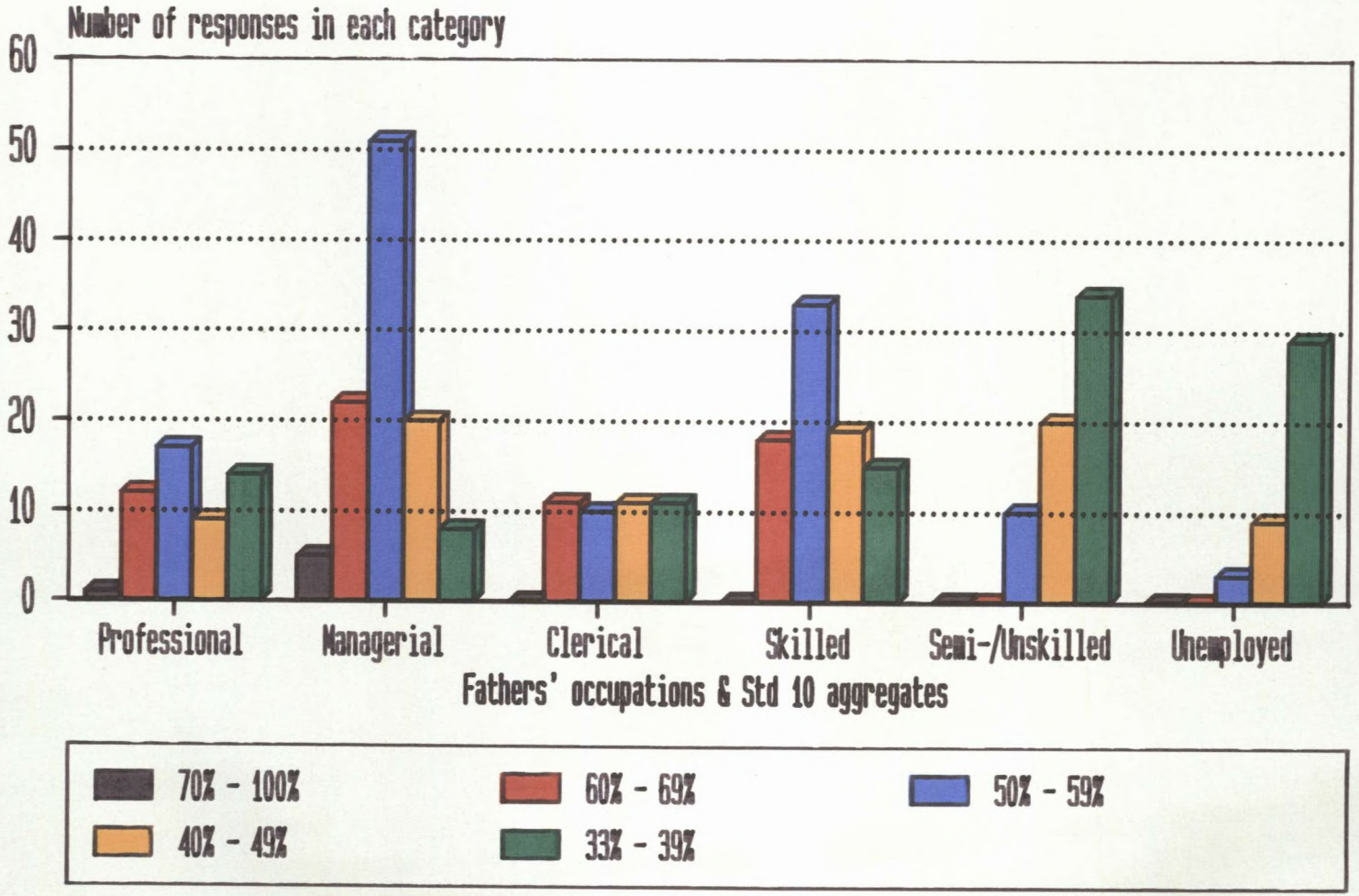

Figure 4.17
OCCUPATION OF FATHER/MALE GUARDIAN
RELATED TO STD 10 RESULTS OF RESPONDENTS

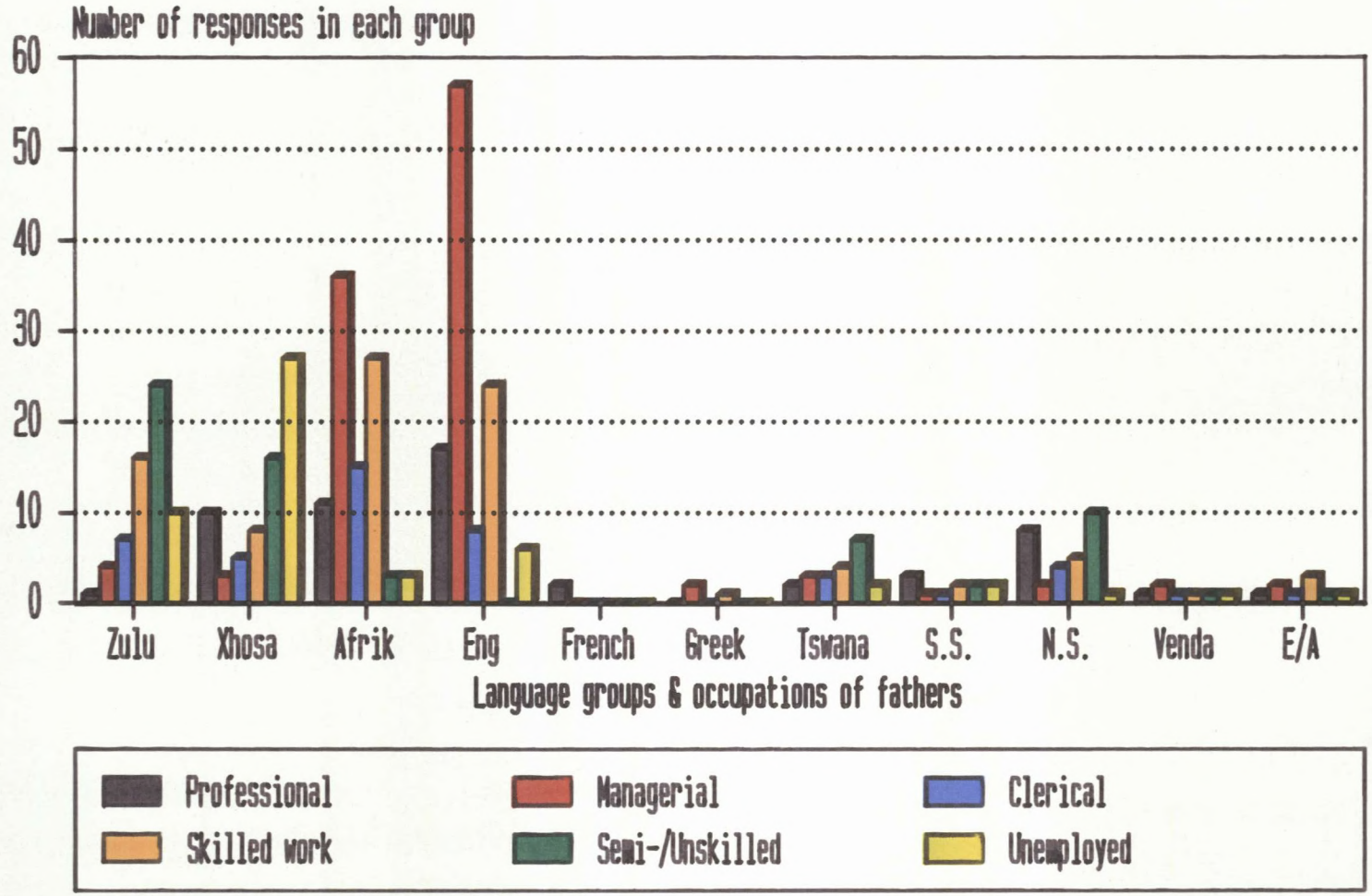

Figure 4.18
FATHERS' OCCUPATIONS RELATED TO THE
DIFFERENT LANGUAGE GROUPS

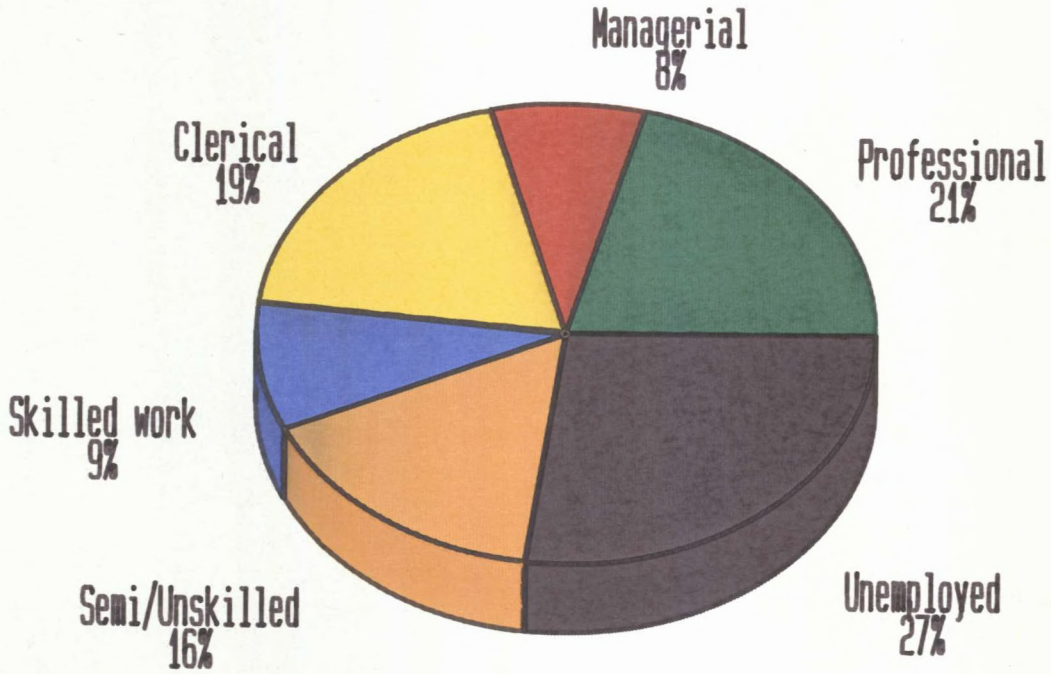

Figure 4.19
OCCUPATIONS OF MOTHERS/FEMALE GUARDIANS
OF RESPONDENTS AS A % OF GREATER SAMPLE

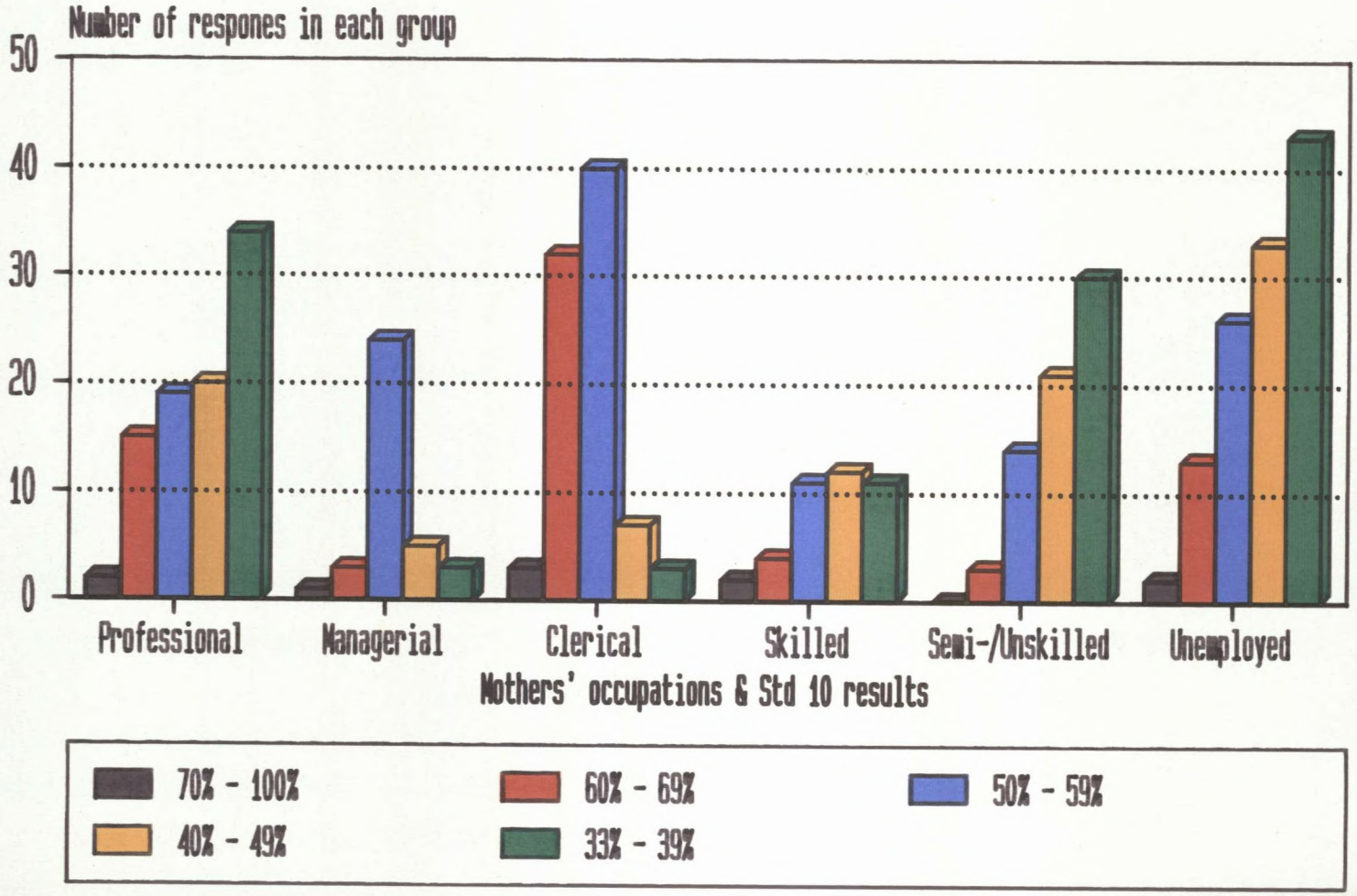

Figure 4.20
OCCUPATIONS OF MOTHERS RELATED TO THE
STD 10 AGGREGATES OF RESPONDENTS

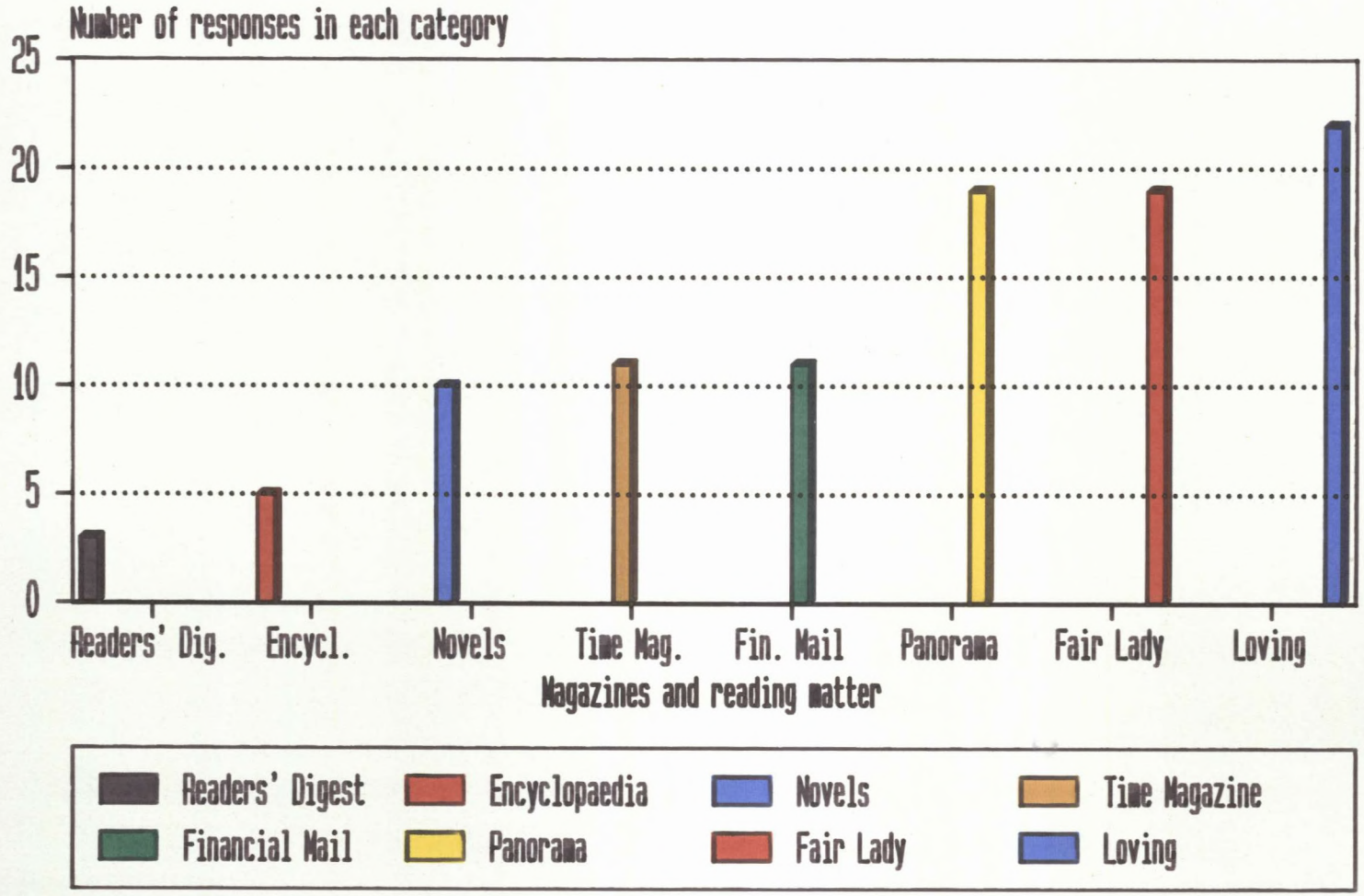

Figure 4.21
AVAILABILITY OF READING MATERIAL
IN THE HOME

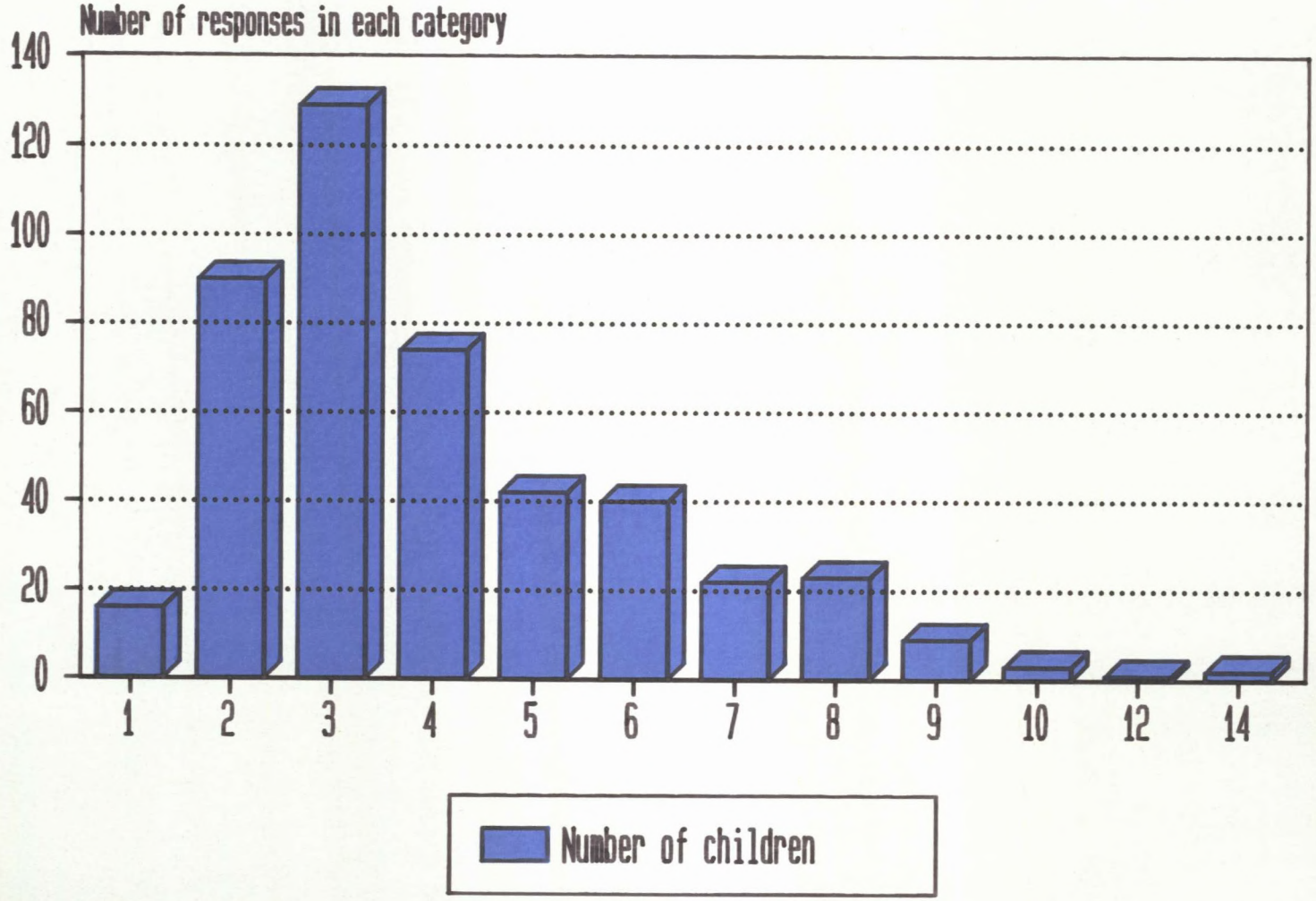

Figure 4.22
NUMBER OF CHILDREN IN EACH OF THE FAMILIES OF RESPONDENTS

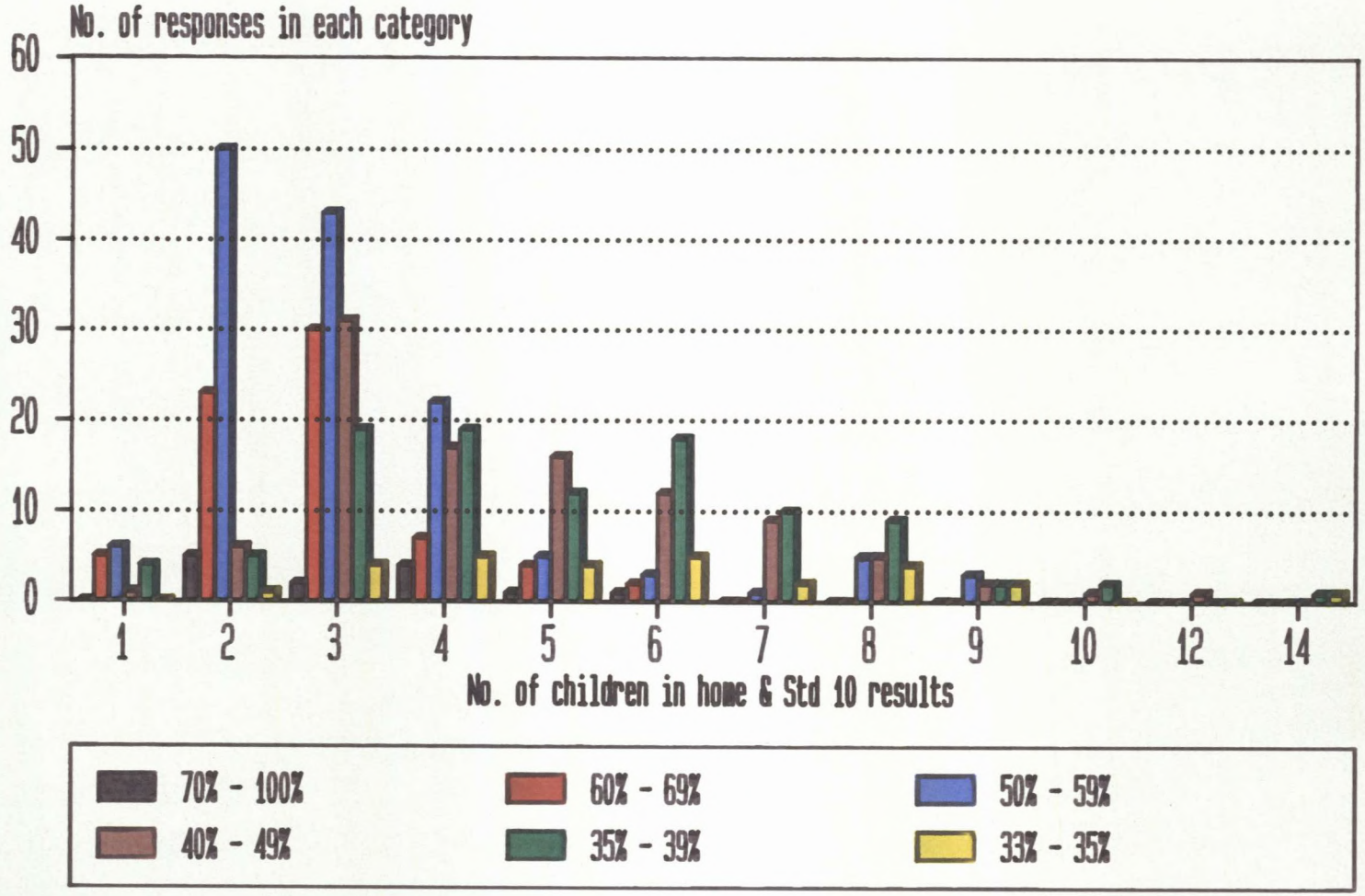

Figure 4.23
NUMBER OF CHILDREN IN THE FAMILY
RELATED TO STD 10 AGGREGATES OF STUDENTS

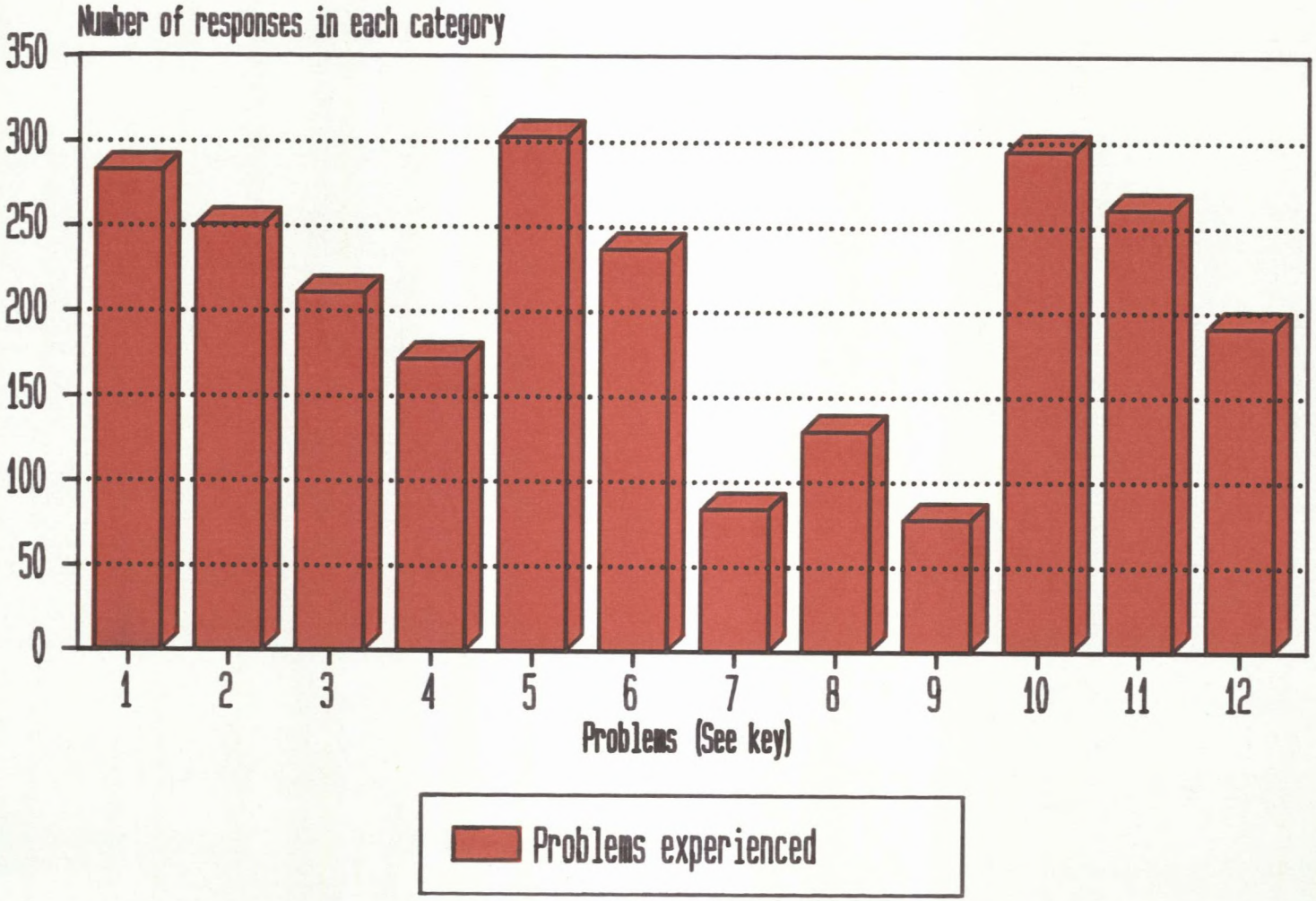

Figure 4.24
DIFFERENT TYPES OF PROBLEMS EXPERIENCED
BY STUDENTS IN TYPING

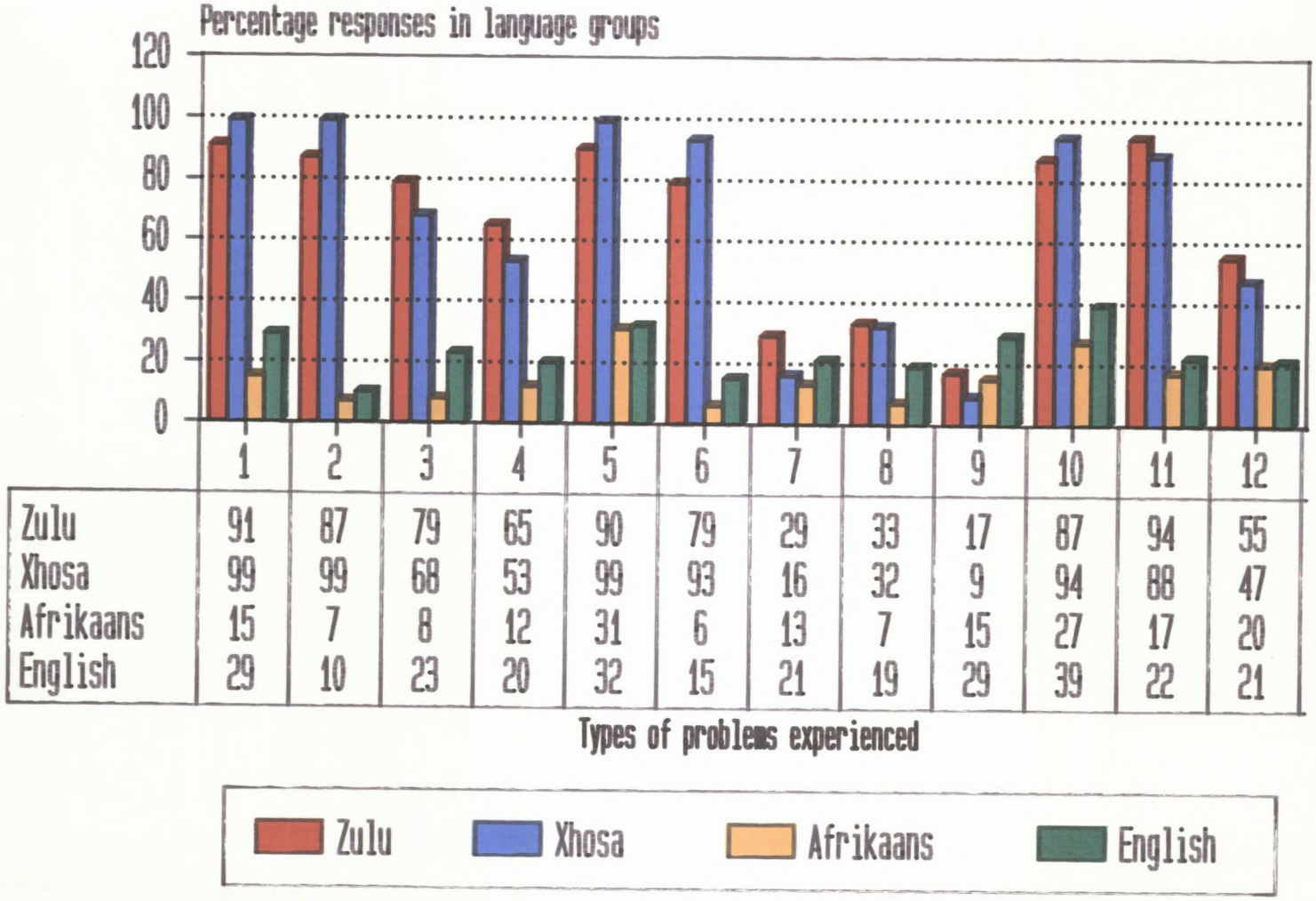

Figure 4.25
PROBLEMS EXPERIENCED IN TYPING BY STUDENTS IN LANGUAGE GROUPS

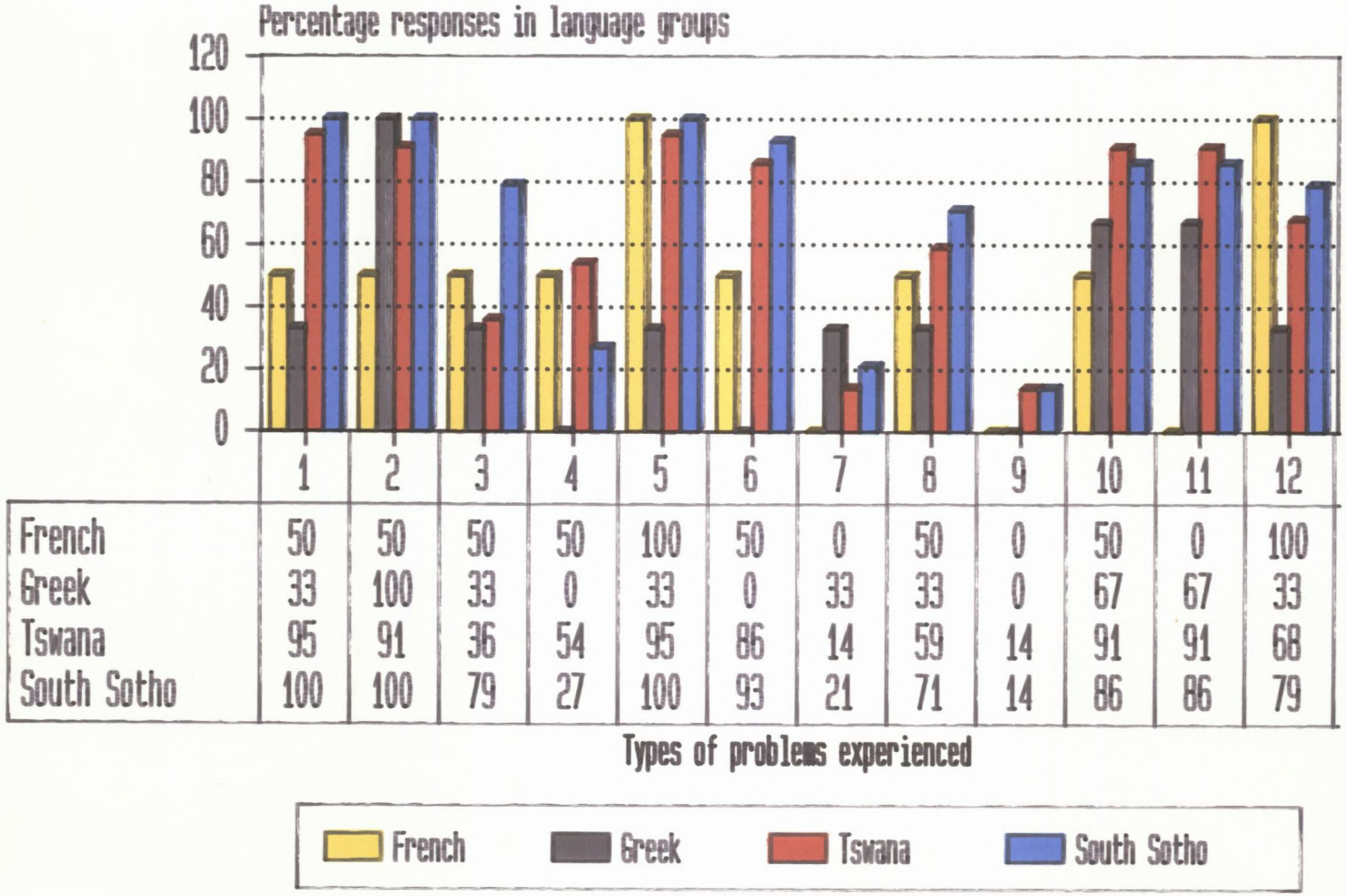

Figure 4.26
PROBLEMS EXPERIENCED IN TYPING BY
STUDENTS IN LANGUAGE GROUPS

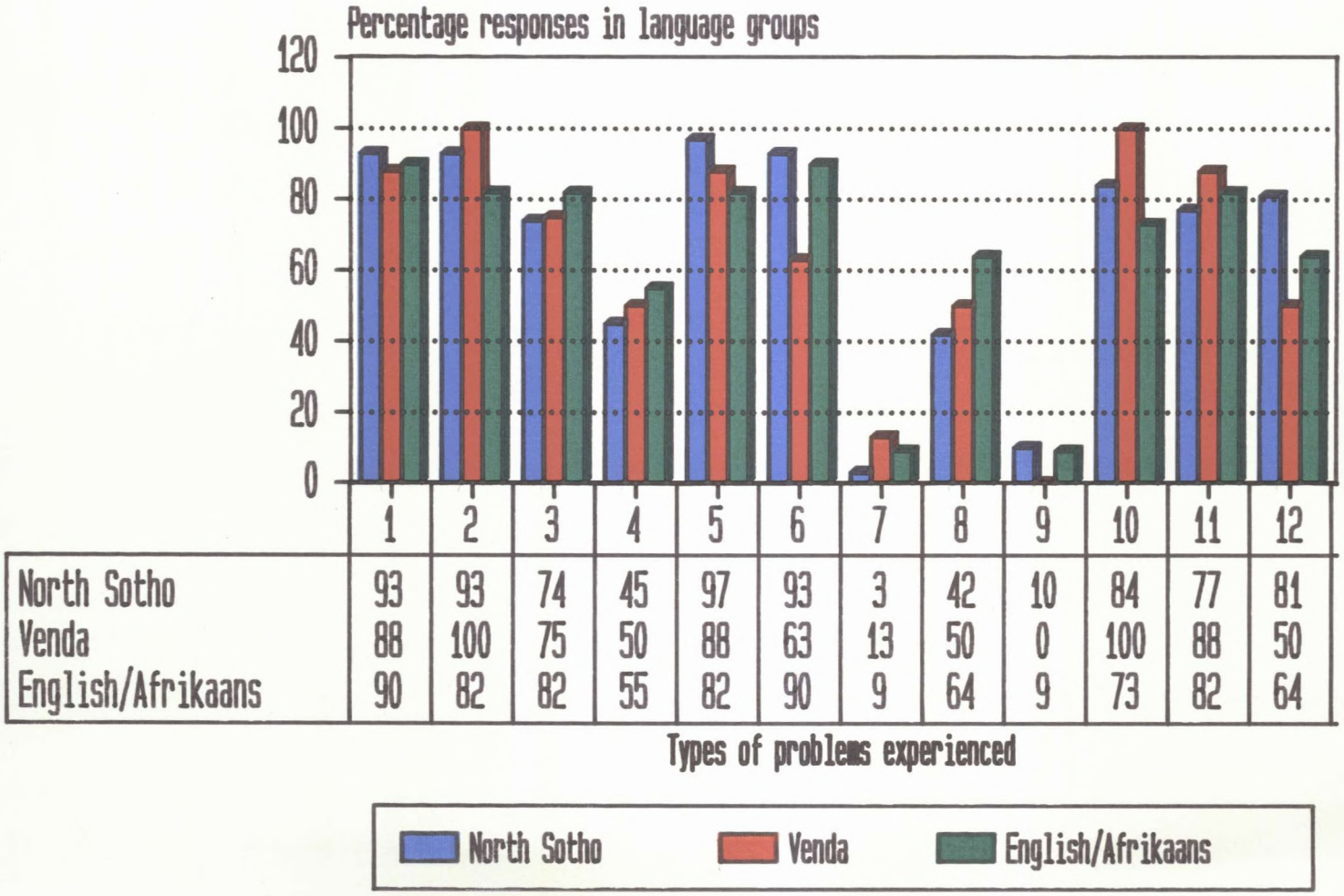

Figure 4.27
PROBLEMS EXPERIENCED IN TYPING BY STUDENTS IN LANGUAGE GROUPS

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

At the outset, it must be pointed out that this research project did not necessarily develop exactly along the lines originally envisaged. It would have been interesting, for example, to probe more deeply into factors such as the design of suitable bridging courses, or the school experience (in terms of exposure to electronic equipment) of potential technikon students, or into alternative modes of assessment. These factors were referred to as constituting sub-problems (see 1.7.2, p.8) but as the project developed it became clear that the researcher's attention had to be concentrated on the students' own problems and the implications of these for teaching. Therefore, the actual coverage in the project may appear to be a reduction of that originally envisaged.

The questionnaire used, as the major instrument of data-gathering, had to be redesigned so as to allow for more productive analysis, and the fact that the respondents had to complete two questionnaires within a fairly short period of time may have influenced the results. However, the second questionnaire was seen as a more refined instrument (see p.95).

Procedural design and any flaws therein inevitably affect the findings of a research project, and any researcher must accept responsibility for whatever shortcomings emerge.

It is with understanding of this that the present researcher now proceeds to draw conclusions and make recommendations.

5.1 THE MOTIVATION THAT LED TO THIS RESEARCH

The planning of this research project was inspired by the serious problems experienced over the years by groups of first year secretarial students at Technikon Mangosuthu since the commencement of the National Secretarial programmes in 1982 at that technikon, and the determination of the researcher to find solutions for these problems.

The initial goal of the investigation was to determine whether the students at Technikon Mangosuthu and the other participating technikons have difficulty in coping with the existing first year syllabus in Typing Technology for the National Secretarial Diploma programmes.

If this were indeed the case, it was intended to establish the types of problems experienced and their causes.

5.2 LITERATURE STUDY

In Chapter 2 of this dissertation, supporting literature disclosed that poor socio-economic conditions relating to environment, family income, level of education and occupation of parents, size of family, overcrowding, availability of reading matter, cultural background and the lack of attendance at a pre-school were all factors which had a marked influence on the educational performance of a child or young adult.

It is important to note that a disadvantaged start leads to incremental problems later, meaning that post-school students who are the products of non-technological or otherwise disadvantaged homes are faced with particular problems.

If the tables and figures, drawn up from data collected from questionnaires, are studied carefully, it will be found that they confirm what published authorities have said about the important factors affecting educational development.

It is also clear that the students making up the reference sample, and students from other technikons, coming from a similar milieu, have the serious disadvantage of a poor school background. Many of these children are unable to attend a pre-school either because of a serious lack of finance or because such schools are not available.

It is at the level of pre-school that critical intellectual and sensory development takes place and it is evident in reviewed literature that a child deprived of this experience suffers cumulative hardship during the rest of his schooling. Any advanced education he may wish to pursue is highly likely to be affected.

It is emphasised, in particular, that pre-schooling is essential for the development of fine motor skills. From observations it is clear that children coming from a disadvantaged background have serious problems adapting to the major subject in the National Secretarial Diplomas, Typing Technology, as they do not have the required finger dexterity to cope with keyboard instruction. Much time and effort is required for applying remedial and physical exercises to assist students in overcoming this severe weakness. In this way, precious time is lost during which the student could have continued with the demanding curriculum.

The loss of time and lack of fine motor skills prevents such students from successfully completing the first year syllabus of Typing Technology and from gaining the required minimum typing speed of 35 words per minute to pass the subject at the end of the first year.

Much has also been written about the poor educational facilities for black people in South Africa and the poor level of education of the teachers serving their primary and secondary schools. English language instruction at these schools is generally poor and provides the school child with a totally inadequate foundation for further study.

5.3 STUDY OF DATA COLLECTED

Information contained in the questionnaires completed by students and interviews conducted with lecturers at the participating technikons reveals that numerous problems were experienced. Most of these problems related to poor socio-economic conditions, poor school background, poor communication in the English language, cultural differences, lack of attendance at a pre-school and lack of exposure to electronic equipment at school and in the home environment.

This has led to poor understanding of instructions given in class, poor communication on the part of the student, misunderstanding between students and lecturers, difficulty in compiling and submitting assignments punctually, difficulty in attaining a good accuracy level in typing, poor finger dexterity which influenced the attainment of a satisfactory typing speed, and difficulty in adapting to the use of electronic office equipment, in particular to word processors and computers.

Data from questionnaires also reveals the serious lack of modern equipment in the schools attended by the reference sample, particularly typewriters and computers. Very little instruction in keyboarding is offered at school level which means that students who enrol for courses at post-school educational institutions are ill equipped for advanced education particularly in the secretarial field.

5.4 ESTABLISHING SUITABLE METHODS OF INSTRUCTION

Experiments conducted, indicated that the reference sample coped much better with the "first-finger-first" method of keyboard instruction than with the "home-row" method. However, the Port Elizabeth technikon use the "Typing Tutor" software programme with great success and this needs further investigation.

The reference sample has not yet been exposed to this "self-teach" programme and perhaps experimentation with the use of this programme is indicated.

5.5 RECOMMENDATIONS TO ASSIST IN OVERCOMING THE PROBLEMS IDENTIFIED

This research project has not necessarily revealed any new information, but certain points have been conclusively demonstrated. It has been established that the reference sample, in particular, has numerous problems which hamper its progress in Typing Technology at post-school level. Many of these problems stem from poor cultural and socio-economic backgrounds which have a strong influence on the educational ability of students forming the reference sample. A poor school background and lack of exposure to technology at school level, especially office technology, have no doubt added to the difficulties encountered by students.

It is required that positive steps should be taken to overcome the problems highlighted in the research and hopefully to ameliorate the situation in the future.

Many years of teaching students from disadvantaged backgrounds have provided the researcher with a deep awareness of the critical situation that exists. Past endeavours to assist students in overcoming problems have led to small measures of success. However, the enormity of the circumstances calls for more than one individual's attempt to overcome the dilemma.

The following recommendations could be seriously considered by teachers, persons who design courses, educational institutions and policy makers:

5.5.1 The Educational system: curriculum, teaching methods and evaluation

5.5.1.1 Better provision of pre-school facilities, school-readiness programmes and compensatory education for black communities are needed, to assist in the essential development of fine motor skills in the formative years. At present, according to the South African Institute of Race Relations (1992: 199) there are only 159 pre-schools for a vast population of black pre-school children.

5.5.1.2 It is necessary that there be upgrading of the education system for black people, particularly teacher education and especially the training of teachers of typing, keyboarding, computer operating and commercial subjects. (Much has already been done in this regard and with the new political dispensation, more positive changes may well be implemented in the near future.)

5.5.1.3 The provision of typing instruction, keyboarding and computer skills at school level to prepare the pupil for entry into post-school education is called for.

According to the South African Institute of Race Relations (1992: 189), 1,3 % of the total Standard 10 complement of black students in the RSA and TBVC states studied typing in 1991. This situation arises because there are not enough black teachers qualified to teach typing and there are insufficient schools with the necessary equipment for typing instruction.

5.5.1.4 It is necessary to ensure exposure of students to electronic media at school level. Greater use of overhead projectors, slide-tape programmes, television and video programmes as a part of the daily instructional programme seems vital. However, since most black schools are not electrified and lack funds for equipment this recommendation cannot easily be implemented.

5.5.1.5 Academic support programmes for disadvantaged secretarial students at technikons, need to be implemented. These should include development of keyboarding skills, improvement of typing speed, English language communication, (concentrating on oral work and language laboratory work), and basic commercial concepts. Academic support involving the development of such knowledge could well prepare students more effectively for secretarial programmes.

5.5.1.6 The trial use of the "Typing Tutor" instructional software programme for keyboard instruction at the first year secretarial level at technikons is recommended.

5.5.1.7 Constant exposure of beginners in typing to physical finger and wrist exercises and finger drills on the keyboard, is necessary to assist in improving finger dexterity and typing speed.

5.5.1.8 It is recommended that more regular exposure of students to the work environment should take place. This implies the incorporation of experiential training in the formal curriculum for secretarial programmes.

5.5.1.9 More directed career-education opportunities seem called for, both at the school level (perhaps through guidance centres if insufficient school counsellors are available) and at technikons. It seems that students may not be fully aware of the demands to be made of them within a secretarial career.

5.5.1.10 It is recommended that consideration be given to applying the existing National Secretarial Diploma syllabi over a period of 3½ years instead of 3 years. It is felt that the existing secretarial programme is most satisfactory and well received by employers. Any restructuring to suit the students' level of ability, would impoverish secretarial training. For this reason the implementation of an academic support programme or lengthening of the study period would be preferred. (See also 5.5.1.4).

5.5.1.11 A modular system of assessment could be considered, so that final success is not determined by one examination but by the accretion of a number of component successes.

5.5.2 Community programmes

5.5.2.1 Improved library facilities in black communities, with sufficient English reading material to assist students in overcoming language problems are greatly needed. The ability to read fast and accurately is a distinct advantage for the typing student.

5.5.2.2 It is necessary to promote exposure of blacks and whites to each others' cultures by means of short courses, cultural museums etc., to promote a better understanding between different cultural groups and hence a better understanding between students and lecturers.

5.5.3 Post-school instruction

It seems very necessary that lecturers involved with the post-school education of persons from disadvantaged backgrounds should be made particularly aware of the problems such students have. Such lecturers may require enrichment programmes themselves in order to ensure that the transition to post-school education is successful.

It also seems necessary that greater resources to departments of Typing Technology should be allocated. Students such as those in the reference sample may well benefit from extra hours of supervised practice: this implies the need for more staff, equipment and time.

5.6 FUTURE CONSIDERATIONS

According to the Committee of Technikon Principals (1986: 2), tertiary education, and in particular technikon education is aimed, not only at the promotion of knowledge, but also the advancement of skills training with the main emphasis on providing vocationally oriented training programmes.

According to Prekel in Smollan (1986: 40) there is a serious shortage of skilled people in this country and the HSRC (1981: 138-139) indicates the present demand for people with practical skills.

Further emphasis is placed on the training of skills by Bozzoli (1981: 173) when he refers to the provision of suitably trained people to meet the demands of the anticipated science and technology explosion.

The rapid development of technology coupled with the continual renewal of knowledge demands constant interaction between vocational training and manpower needs. For this reason technikons should co-operate closely with the business, industry and public sectors of the country.

Close contact with employers has revealed that there is a great demand for properly trained secretaries with the necessary technological and language skills.

Any obstacles in the path of the trainee secretary should be identified at an early stage and steps should immediately be taken to assist the student in overcoming these obstacles.

It is the role of the educator in this field to ensure that a high level of training is maintained to satisfy the requirements of the labour market and to ensure that the student is well prepared to follow a secretarial career with a minimum of additional training and with the confidence that she will be able to perform the secretarial duties entrusted to her with a high degree of skill.

The project upon which this dissertation is based has been of fairly limited scope. It seems that there are several areas where future research could explore in much more detail the substance of the topic within the overall context of Business or Commercial Studies at post-school level. A regional or national research project of broad scope, led by qualified persons and supported by the private sector (which stands to gain from improved post-school secretarial education) is called for.

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As a teacher with almost 30 years' experience in teaching typing, I am interested to know what encourages you to study typing.

I hope that your answers to the questions below will assist me in finding easier approaches to learning typing. For this research to succeed, it is important that the questions be answered honestly and if you're not quite sure, or you don't know the answer to a question, just leave your answer blank. All the information given by you will be treated with strict confidence.

Thank you for your co-operation.

QUESTIONNAIRE FOR SURVEY
(Each possible answer is given a number. Place the number/s you have selected in the blank block provided at the end of the line. It is quite possible that you may choose more than one answer for some questions. In such cases, please indicate all your choices.)

NAME OF SCHOOL & TOWN WHERE YOU OBTAINED YOUR SENIOR CERTIFICATE/MATRIC

.....

AGE ..... PROVINCE WHERE YOU ARE STUDYING .....

HOME LANGUAGE:

Zulu	Xhosa	Afrikaans	English	Other (Specify)	
1	2	3	4	5	.....

1. WHAT MOTIVATED YOU TO TAKE UP TYPING? Not more than 2 choices

Your own choice	1	
Your parents' wish	2	
Your school teacher suggested this	3	
You like to work with people	4	
You like the office environment	5	
Choice according to career guidance/counselling	6	
You do not really know why	7	
Other (Specify .....)	8	

2. WHAT CAREER WOULD YOU LIKE TO PURSUE?

Professional career: (doctor, accountant, teacher, lawyer, nurse, etc.)	1	
Business orientated career: (administrator, secretary, clerk etc.)	2	
Industrial career: (engineer, technician etc.)	3	
Domestic: (Sewing, knitting, cooking)	4	

3. WAS THE LAST SCHOOL YOU ATTENDED

In a city (eg. Johannesburg, Pretoria, Durban)	1	
In a town (eg. Empangeni, Ladysmith, Rustenburg)	2	
In a rural area (eg. farm)	3	

4. DID YOU OBTAIN A MATRICULATION EXEMPTION?

Yes	1	
No	2	

5. IN YOUR LAST YEAR AT SCHOOL, DID YOU STUDY ENGLISH

First language	1	
Second language	2	

6. FOR ENGLISH, DID YOU OBTAIN

A higher grade pass	1
A standard grade pass	2

7. WHAT WAS YOUR STD 10 AGGREGATE?

A	1
B	2
C	3
D	4
E	5
EE	6
F	7

8. DID YOU DO TYPING IN STD 10?

Yes	1
No	2

9. DID YOU ATTEND A PRE-SCHOOL?
(i.e. before Class 1/Sub A)

Yes	1
No	2

10. HOW MANY ENGLISH BOOKS DO YOU READ IN A YEAR?

More than 12	1
Between 10 and 12	2
Between 8 and 10	3
Between 6 and 8	4
Between 4 and 6	5
Between 2 and 4	6
Between 1 and 2	7
None	8

11. WHERE DO YOU LIVE?

In a city (eg. Johannesburg, Pretoria, Durban)	1
In a town (eg. Empangeni, Ladysmith, Rustenburg)	2
In a rural area (eg. farm)	3

12. DO YOU LIVE WITH YOUR

Parent/s	1
Guardian/s	2

13. ARE BOTH YOUR PARENTS/GUARDIANS STILL ALIVE?

Yes	1
No	2

14. DID YOUR FATHER/MALE GUARDIAN ATTEND SCHOOL?

Yes	1
No	2

15. WHICH QUALIFICATION DOES/DID HE HAVE?

Primary school only	1
ST 6/7	2
ST 8/9	3
ST 10	4
CERTIFICATE (Post school)	5
DIPLOMA (Post school)	6
UNIVERSITY DEGREE (Specify).....	7
OTHER (Specify).....	8

16. DID YOUR MOTHER/FEMALE GUARDIAN ATTEND SCHOOL?

Yes	1
No	2

17. WHICH QUALIFICATION DOES/DID SHE HAVE?

Primary school only	1
ST 6/7	2
ST 8/9	3
ST 10	4
CERTIFICATE (Post school)	5
DIPLOMA (Post school)	6
UNIVERSITY DEGREE (Specify)	7
OTHER (Specify)	8

18. GIVE AN INDICATION OF YOUR PARENTS' OR GUARDIANS' ABILITY IN USING **ENGLISH.** 1 = very limited; 2 = able to communicate; 3 = very good. (Circle the appropriate answer)

	SPEAK	READ	WRITE
15.1 FATHER	1 2 3	1 2 3	1 2 3
15.2 MOTHER	1 2 3	1 2 3	1 2 3

19. OCCUPATION OF FATHER/MALE GUARDIAN

Professional (doctor, lawyer, teacher)	1
Managerial (director, manager etc.)	2
Clerical (office work)	3
Skilled worker (trained for specific job eg. builder)	4
Semi-skilled worker (partially trained)	5
Unskilled worker (labourer, domestic help etc.)	6
Unemployed	7

20. OCCUPATION OF MOTHER/FEMALE GUARDIAN

Professional (doctor, lawyer, teacher, nurse)	1
Managerial (director, manager etc.)	2
Clerical (office work)	3
Skilled worker (trained for specific job)	4
Semi-skilled worker (partially trained)	5
Unskilled worker	6
Unemployed	7

21. WHICH OF THE FOLLOWING DO YOU HAVE IN YOUR HOME?

	YES	NO
Reader's Digest	1	2
Financial Mail	1	2
Time Magazine	1	2
Panorama	1	2
Fair Lady	1	2
Loving	1	2
Reading books	1	2
Encyclopaedia	1	2
Other (Specify)	1	2

22. WHICH OF THE FOLLOWING DICTIONARIES DO YOU HAVE IN YOUR HOME?

	YES	NO
English Dictionary	1	2
Afrikaans Dictionary	1	2
Thesaurus Dictionary	1	2
Zulu Dictionary	1	2
Xhosa Dictionary	1	2
Other (Specify)	1	2

23. HOW MANY CHILDREN ARE IN YOUR FAMILY?
(Including yourself) ☐

24. HOW MANY BROTHERS DO YOU HAVE? ☐

25. WHAT ARE THEIR AGES? (If there are more than one in a single age group, please indicate this next to the outer block where you have written in your answer.)

Birth to 2 years	1	☐	[ ]
3 years to 5 years	2	☐	[ ]
6 years to 8 years	3	☐	[ ]
9 years to 11 years	4	☐	[ ]
12 years to 14 years	5	☐	[ ]
15 years to 17 years	6	☐	[ ]
18 years to 20 years	7	☐	[ ]
21 years and older	8	☐	[ ]

26. HOW MANY SISTERS DO YOU HAVE? ☐

27. WHAT ARE THEIR AGES? (If there are more than one in a single age group, please indicate this next to the the outer block where you have written in your answer)

Birth to 2 years	1	☐	[ ]
3 years to 5 years	2	☐	[ ]
6 years to 8 years	3	☐	[ ]
9 years to 11 years	4	☐	[ ]
12 years to 14 years	5	☐	[ ]
15 years to 17 years	6	☐	[ ]
18 years to 20 years	7	☐	[ ]
21 years or older	8	☐	[ ]

28. WERE ANY OF YOUR BROTHERS AND SISTERS UNABLE TO ATTEND SCHOOL?

Yes	1	
No	2	☐

29. WHY WERE THEY UNABLE TO ATTEND SCHOOL?

Financial reasons	1	
Live too far away from schools	2	
Mental disability	3	
Physical disability	4	☐

30. DID ALL THE CHILDREN IN YOUR FAMILY OF SCHOOL GOING AGE ATTEND PRIMARY SCHOOL?

Yes	1	
No	2	☐

31. DID ALL THE CHILDREN IN YOUR FAMILY OF THE APPROPRIATE AGE ATTENDED HIGH SCHOOL?

Yes	1	
No	2	☐

32. DO/HAVE ANY OF YOUR BROTHERS AND SISTERS ATTEND/ED:

COLLEGE	1	
TECHNIKON	2	
UNIVERSITY	3	☐

33. HAVE ANY OF YOUR BROTHERS OR SISTERS OBTAINED A DIPLOMA OR UNIVERSITY DEGREE?

Yes	1	
No	2	☐

34. ARE ANY OF YOUR BROTHERS AND SISTERS EMPLOYED?

Yes	1
No	2

35. HOW MANY ARE EMPLOYED?

One	1
Two	2
Three	3
More than three (Specify ....)	4

36. WHAT ARE THE OCCUPATIONS OF THOSE EMPLOYED.

Professional	1
Managerial	2
Clerical	3
Skilled	4
Semi-skilled	5
Unskilled	6

37. DO YOU HAVE ANY OF THE FOLLOWING IN YOUR HOME?

	YES	NO
LIVINGROOM	1	2
DININGROOM	1	2
STUDY AREA	1	2
KITCHEN	1	2
BATHROOM	1	2
ELECTRICITY	1	2

38. HOW MANY BEDROOMS IN YOUR HOME?

One	1
Two	2
Three	3
Four	4
More than four	5

39. HOW MANY PEOPLE LIVE IN YOUR HOME?

Four or less	1
Five to Six	2
Seven to Eight	3
Eight to Nine	4
Ten or more	5

40. DO YOU HAVE ANY OF THE FOLLOWING IN YOUR HOME?

	YES	NO
TELEPHONE	1	2
RADIO	1	2
TAPE RECORDER/PLAYER	1	2
TELEVISION	1	2
VIDEO RECORDER	1	2
MICROWAVE OVEN	1	2
MUSICAL INSTRUMENT/S (Specify e.g. piano)	1	2

41. DO YOU PLAY A MUSICAL INSTRUMENT?

Yes	1
No	2

(If yes, mention which) .....

42. DO YOU PLAY/HAVE YOU PLAYED TV OR ELECTRONIC GAMES?

Yes	1
No	2

43. DO YOU HAVE A BANKING ACCOUNT (e.g. Savings a/c)

Yes	1	
No	2	

44. HAVE YOU OPERATED AN AUTOMATIC TELLER?

Never	1	
Seldom	2	
Often	3	

45. WHICH OF THE FOLLOWING ITEMS DID YOU HAVE AT THE LAST SCHOOL YOU ATTENDED

TYPEWRITERS	1	
TELEVISION	2	
VIDEO RECORDERS	3	
COMPUTERS	4	

46. APPROXIMATELY HOW MANY COMPUTERS WERE THERE AT THAT SCHOOL?

One to three	1	
Four to six	2	
Seven to ten	3	
More than 10	4	

47. WHO WERE PERMITTED TO USE THE TYPEWRITERS?

STAFF ONLY	1	
PUPILS ONLY	2	
BOTH	3	

48. WHO COULD USE THE TELEVISION?

	YES	NO	
PRINCIPAL	1	2	
TEACHERS	1	2	
PUPILS	1	2	

49. WHO HAD USE OF COMPUTERS?

	YES	NO	
PRINCIPAL	1	2	
TEACHERS	1	2	
PUPILS	1	2	

50. WHAT SPORT DID/DO YOU PLAY?

Tennis	1	
Netball	2	
Basketball	3	
Hockey	4	
Table tennis	5	
Squash	6	
Other (Specify .....)	7	

51. DO YOU DO ANY OF THE FOLLOWING:

COOK	1	
CROCHET	2	
KNIT	3	
EMBROIDER	4	
SEW	5	
WOODWORKING	6	
OR ANY OTHER HOBBY? (Specify .....)	7	

52. WHAT PROBLEMS DO YOU EXPERIENCE WITH YOUR COURSE?

GETTING USED TO MACHINES (eg computers, word processors, audio machines etc)	1	
UNDERSTANDING INSTRUCTIONS	2	
KEEPING YOUR EYES OFF THE KEYBOARD	3	
KEEPING YOUR EYES ON THE COPY YOU TYPE FROM	4	
REMEMBERING WORD PROCESSING FUNCTIONS	5	
FINGER STRETCHES ON THE KEYBOARD	6	
APPLYING THE THEORY YOU HAVE LEARNT, IN PRACTICE	7	
SUBMITTING ASSIGNMENTS OR EXERCISES PUNCTUALLY	8	
BOREDOM	9	
ACCURACY IN TYPING	10	
SPEED IN TYPING	11	
CONCENTRATION	12	

Dear Lecturer

Please assist me in my research to determine problems experienced by students in adapting to the use of machines in their first year of secretarial training, by answering the following questions:

(Please circle your choice or fill in your answer on the dotted line)

Key for compiling questionnaire:

4 - Strongly agree; 3 - Agree; 2 - Tend to disagree; 1 - Strongly disagree

Touch typing is the only suitable way of typing.	4	3	2	1

The best method of keyboard instruction is:

the mental and conscious memorising of the keyboard	4	3	2	1
the home row approach	4	3	2	1
the first-finger-first approach	4	3	2	1
the skip-around method	4	3	2	1

Indicate to what extent you agree that:

Accuracy should be developed before speed	4	3	2	1
Speed should be developed first	4	3	2	1
Finger gymnastics improve finger movement on keyboard	4	3	2	1
Beginners find finger exercises difficult to perform	4	3	2	1
Students need practice out of lesson times	4	3	2	1
Additional practice improves typing ability	4	3	2	1
Students who play musical instruments are better at typing than others	4	3	2	1
Students who sew, knit, crochet, cook, do woodworking are better at typing than others	4	3	2	1

In your experience as a typing teacher/lecturer:

Do your pupils/students have any difficulty with finger stretches? YES NO
If the answer is YES, please list the areas of difficulty ranging from most difficult to least difficult.

1	.....	6	.....
2	.....	7	.....
3	.....	8	.....
4	.....	9	.....
5	.....	10	.....

What are the major problems you have experienced with keyboard instruction to beginners?

.....

.....

.....

.....

.....

.....

.....

Indicate any difficulties your students may have experienced in adapting to technology.

.....

.....

.....

Indicate any home or attitude problems experienced by students.

.....

.....

.....

Any other obeservations or comments you would like to add:

.....

.....

.....

.....

.....

.....

.....

Thank you for your kind co-operation.

M A Botha
TECHNIKON MANGOSUTHU

SUMMARY OF INFORMATION CONTAINED IN QUESTIONNAIRES

RESPONSES TO QUESTIONNAIRES SENT TO STUDENTS

(Number of questionnaires sent out = 537)
(Number of completed questionnaires returned = 470)
(Percentage returned = 88 %)

Total number of first year students at all technikons in South Africa = 1891.
Percentage of questionnaires returned over total number of first year secretarial students in South Africa = 25 %

PARTICIPATING TECHNIKONS

Responses from six technikons:	Number of questionnaires sent	Number of questionnaires returned	% response
Technikon Mangosuthu	64	63	98
Technikon Natal	60	56	93
Technikon Northern Transvaal	80	55	70
Port Elizabeth Technikon	160	159	99
Unitra Technikon - Transkei	52	46	88
Technikon Witwatersrand	121	91	75
Total	537	470	87,5 %

AGE

Average ages of students:	
1. Technikon Mangosuthu	= 24
2. Technikon Natal	= 18
3. Technikon Northern Transvaal	= 21
4. Port Elizabeth Technikon	= 19
5. Unitra Technikon (Transkei)	= 21
6. Technikon Witwatersrand	= 18
MEAN = 20	

LANGUAGE

Language groups:	Number	Percentage of total
1 = Zulu	78	16,7
2 = Xhosa	81	17,1
3 = Afrikaans	103	22,0
4 = English	117	25,0
5 = French	2	0,4
6 = Greek	3	0,6
7 = Tswana	22	4,7
8 = South Sotho	14	3,0
9 = North Sotho	31	6,6
10 = Venda	8	1,7
11 = Eng/Afr	11	2,4
Total white languages:	236	= 50,5 %
Total ethnic languages:	234	= 49,5 %

1.1 QUESTION 1: What motivated you to take up typing? (2 choices)

		Number	Percentage
1	= Own choice	45	12,0
2	= Parents' wish	7	1,5
3	= Teacher's suggestion	10	2,2
4	= Like to work with people	77	17,0
5	= Like office environment	157	35,0
6	= Career guidance	86	19,0
7	= Do not know why	31	7,0

Totals up to more than 100 % as each student had 2 choices

1.2 What motivated you to take up typing, compared with each language group:

	Own choice	Parents' wish	Teacher's suggest.	Like to work with people	Like office environ-ment	Career guidance	Do not know
Zulu	46	7	8	18	40	4	4(127)
Xhosa	31	2	3	23	46	18	6(129)
Afr	68	4	1	29	23	37	3(165)
Eng	56	6	0	29	31	27	12(161)
Fr	2	0	0	2	0	0	0 (4)
Grk	1	0	0	1	0	0	1 (3)
Tsw	7	1	0	3	8	1	2 (21)
S.S.	6	1	0	3	6	1	2 (19)
N.S.	9	0	0	6	17	3	1 (36)
Ven	4	0	0	0	4	0	1 (9)
E/A	1	0	0	4	4	1	1 (11)
Total	231	21	12	89	179	92	33

(See language groups above for abbreviation of languages.)

Students were allowed two choices each. Comparative percentages are not possible here as some may have given one choice and others two choices. However, responses to this questionnaire from different language groups were as follows:

Zulu = 78 (127 responses);
Xhosa = 81 (129 responses);
Afrikaans = 103 (165 responses);
English = 117 (161 responses);
French = 2 (4 responses);
Greek = 3 (3 responses);
Tswana = 22 (21 responses);
South Sotho = 14 (19 responses);
North Sotho = 31 (36 responses);
Venda = 8 (9 responses); English & Afrikaans = 11 (11 responses).

2.1 QUESTION 2: What career would you like to pursue?

Career			Number	Percentage
1	=	Professional (doctor, teacher, accountant, lawyer)	96	22,0
2	=	Business orientated (Admin, secretary, clerk)	334	75,0
3	=	Industrial (engineer, technician)	6	1,0
4	=	Domestic (sewing, knitting, cooking)	9	2,0

2.2 What career would you like to pursue compared with language groups:

Language group	Profess.	Business	Industrial	Domestic	Total
Zulu	20	55	2	1	78
Xhosa	14	63	3	1	81
Afrik	20	78	0	5	103
Eng	29	84	0	2	115
French	1	1	-	-	2
Greek	0	2	-	-	2
Tswana	6	14	1	-	21
S.Sotho	4	10	-	-	14
N.Sotho	4	26	-	-	30
Venda	1	7	-	-	8
E/A	3	8	-	-	11
Total	102	348	6	9	465

2.3 What career would you like to pursue compared with senior certificate aggregates:

Career	A	B	C	D	E	EE	F	Total
Professional	1	3	18	33	25	17	5	102
Business	1	7	51	98	68	83	23	331
Industrial	0	0	1	1	4	0	0	6
Domestic	0	0	0	5	3	1	0	9
Total	2	10	70	137	100	101	28	448

3. QUESTION 3: Was the last school you attended in the City/Town/Rural area?

Area	Number	Percentage
City	203	45
Town	139	31
Rural area	110	24

4.1 QUESTION 4: Did you obtain a matriculation exemption or senior certificate related to last school attended:

	City		Town		Rural area		Total	
	No.	%	No.	%	No.	%	No.	%
Matric exemption	91	54	48	29	29	17	168	36
Senior Certificate	118	40	95	32	82	28	295	64
Total	209	45	143	31	111	24	463	100

Seven did not respond to this question.

4.2 Matriculation exemption related to language groups:

Language groups	Yes	%	No	%	Total
Zulu	24	31	54	69	78
Xhosa	16	20	64	79	80
Afrikaans	48	46	55	53	103
English	54	46	63	54	117
French	2	100	0	00	2
Greek	1	33	2	67	3
Tswana	7	32	15	68	22
South Sotho	3	21	11	78	14
North Sotho	4	13	26	87	30
Venda	2	25	6	75	8
E/A	7	58	4	42	11

Of the 234 black people, 56 (24 %) obtained matriculation exemptions and 176 (76 %) did not obtain matriculation exemptions.

Of the 236 white people, 111 (48 %) obtained matriculation exemptions and 120 (52 %) did not obtain matriculation exemptions.

5. QUESTION 5: In your last school, did you study English First language or English second language?

Area	First language	Second Language	Total
City	88	121	209
Town	46	97	143
Rural area	14	97	111
Total	148	315	463

Seven did not respond to this question.

6.1 QUESTION 6: Did you obtain English HG or English SG
(Respondents with matriculation exemption)

	Higher Grade	Standard Grade	Total
Zulu speaking	22	2	24
Xhosa speaking	14	2	16
Afrikaans speaking	42	6	48
English speaking	53	1	54
French speaking	2	0	2
Greek speaking	1	0	1
Tswana speaking	7	0	7
S. Sotho speaking	1	2	3
N. Sotho speaking	4	0	4
Venda speaking	2	0	2
English/Afrikaans	6	0	6
Total	154	13	167

6.2 Did you obtain English HG or English SG?
(Respondents with Senior Certificate)

	Higher Grade	Standard Grade	Total
Zulu	38	16	54
Xhosa	57	8	65
Afrikaans	46	6	52
English	50	13	63
French	0	0	0
Greek	1	1	2
Tswana	13	2	15
S. Sotho	8	2	10
N. Sotho	26	0	26
Venda	6	0	6
Eng/Afrik	5	0	5
Total	250	48	299

6.3 Did you obtain English HG or English SG? (City/Town/Rural area)

	City		Town		Rural Area		Total	
	HG	SG	HG	SG	HG	SG	HG	SG
Zulu	19	6	17	1	24	11	60	18
Xhosa	18	4	20	1	32	6	70	11
Afrikaans	48	4	41	9	1	0	90	13
English	72	7	27	5	4	2	103	14
French	2	0	0	0	0	0	2	0
Greek	0	0	1	1	1	0	2	1
Tswana	8	0	6	1	6	1	20	2
S. Sotho	2	2	5	1	2	1	9	4
N. Sotho	10	0	7	0	14	0	31	0
Venda	2	0	4	0	2	0	8	0
Eng/Afr	3	0	0	0	5	0	8	0
Total	184	23	128	19	91	21	403	63

7.1 QUESTION 7: What was your Std 10 aggregate?

Aggregate Symbol	City	Town	Rural Area	Total
A	1	0	1	2
B	8	2	0	10
C	45	23	3	71
D	71	56	12	139
E	46	22	32	100
EE	23	31	48	102
F	9	5	14	28
Total	203	139	110	452

18 did not respond to this question.

7.2 Std 10 aggregate symbols and careers students would like to have pursued.

Careers	A	B	C	D	E	EE	F	Total
Professional	1	3	18	33	25	17	5	102
Business	1	7	51	98	68	83	23	331
Industrial	0	0	1	1	4	0	0	6
Domestic	0	0	0	5	3	1	0	9
Total	1	10	70	137	100	101	28	448

7.3 Std 10 aggregate symbols and whether students attended Pre-school or not.

PRE-SCHOOL	A	B	C	D	E	EE	F	Total
Yes	1	6	46	81	35	23	9	201
No	1	4	25	58	65	77	19	249
Total	2	10	71	139	100	100	28	450

7.4 Std 10 aggregate symbols and language

LANGUAGE	A	B	C	D	E	EE	F	Total
Zulu	1	0	4	6	25	28	14	78
Xhosa	0	1	2	13	25	33	5	79
Afrikaans	1	6	37	44	6	3	1	98
English	0	2	26	64	14	1	1	108
French	0	0	1	1	0	0	0	2
Greek	0	0	1	2	0	0	0	3
Tswana	0	0	0	3	10	6	3	22
S.Sotho	0	0	0	1	4	7	2	14
N.Sotho	0	0	0	0	11	18	1	30
Venda	0	0	0	2	2	3	1	8
Eng/Afr	0	0	0	3	4	3	0	10
Total	2	9	71	139	101	96	28	452

7.5 Std 10 aggregate symbols and technikons from which students come:

TECHNIKON	A	B	C	D	E	EE	F	Total
Mangosuthu	0	0	2	5	20	28	8	63
Natal	0	3	12	30	6	1	1	53
N. Tvl	0	1	3	10	8	13	12	47
P.E.	1	6	41	70	28	8	1	155
Transkei	0	0	0	4	11	23	7	45
Witwatersrand	1	1	12	20	28	29	0	91
Total	2	11	70	139	101	102	29	454

8.1 QUESTION 8: Did you do typing in Std 10

Total number of students who did typing in Std 10 were 129

Total number of students who did not do typing in Std 10 were 289

8.2 Number at each Technikon who typed in Std 10

TECHNIKON	TYPING IN STD 10	NO TYPING IN STD 10	TOTAL
A	2	60	62
B	33	23	56
C	8	83	91
D	89	70	159
E	2	43	45
F	32	20	52
Total	166	299	465

9.1 QUESTION 9: Did you attend a Pre-School?

Those who attended = 201

Those who did not attend = 250

9.2 Influence of attendance at a pre-school on Std 10 aggregate:

Yes/ No	A	B	C	D	E	EE	F	Total
Yes	1	6	46	81	36	23	9	201
Percentage	0,5	2,9	22,8	40,3	17,8	11,43	4,4	100
No	1	4	25	58	65	78	19	250
Percentage	0,4	1,6	10,1	23,3	26,0	31,3	7,3	100

It is clear that those who attended a pre-school, had better aggregate symbols than those persons who did not have a pre-school education.

10.1 QUESTION 10: How many English books do you read in a year?
(According to language groups)
(Percentages are rounded off and those given in brackets are for each language group; the totals are for the entire sample)

	12+	10-12	8-10	6-8	4-6	2-4	1-2	0	Total
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Zulu	3(4)	7(9)	6(8)	14(20)	17(22)	8(10)	21(27)	2(3)	78 (17)
Xhosa	11(14)	5(6)	12(15)	21(26)	16(20)	12(15)	1(1)	2(2)	80 (17)
Afrik	10(10)	7(7)	8(8)	3(3)	30(29)	19(18)	25(24)	1(1)	103 (22)
Eng	31(26)	11(9)	15(13)	14(12)	13(11)	18(15)	14(11)	2(2)	118 (25)
French	0	0	0	2(100)	0	0	0	0	2 (,5)
Greek	0	0	0	2(67)	1(33)	0	0	0	3 (,6)
Tswana	4(18)	1(5)	4(18)	3(14)	4(18)	5(23)	1(5)	0	22 (5)
S. Sotho	4(29)	2(14)	3(21)	3(21)	1(7)	0	1(7)	0	14 (3)
N. Sotho	5(17)	2(7)	3(10)	7(23)	5(17)	3(10)	4(13)	1(3)	30 (6)
Venda	1(13)	3(38)	1(13)	1(13)	2(25)	0	0	0	8 (2)
Eng/Afr	0	2(22)	0	3(33)	3(33)	1(11)	0	0	9 (2)
Total	69	40	52	73	92	66	67	8	467

Three did not respond to this question.

10.2 Number of English books read - (According to aggregates obtained in Std 10.) Percentages given are related to entire sample

	12+	10-12	8-10	6-8	4-6	2-4	1-2	0	Total
	%	%	%	%	%	%	%	%	%
A	0	0	0	0	1(,2)	1(,2)	0	0	2(,5)
B	2(,5)	2(,5)	1(,2)	1(,2)	1(,2)	1(,2)	2(,5)	0	10(2)
C	9(2)	7(1,5)	4(,8)	8(1,7)	18(4)	11(2,4)	11(2,4)	3(,7)	71(16)
D	26(6)	11(2,4)	15(3,3)	11(2,4)	29(4,2)	25(5,5)	21(5)	1(,2)	139(31)
E	16(3,5)	7(1,5)	13(2,8)	19(4,2)	15(3,3)	12(2,7)	16(3,5)	1(,2)	99(22)
EE	11(2,4)	10(2)	16(3,5)	20(4,4)	20(4,4)	12(2,7)	12(2,7)	1(,2)	102(23)
F	1(,2)	2(,5)	2(,5)	10(2)	5((1)	3(,7)	3(,7)	2(,5)	28(6)
T	65(14)	39((9)	51(11)	69(15)	89(20)	65(14)	65(14)	8(2)	451

11. Where do you live? (City/Town/Rural Area)

223 live in a city; 142 live in a town; 102 live in rural areas.

12. Do you live with parents/guardians? This question did not seem relevant to the research project and the responses were therefore not considered.

13. Are both your parents/guardians still alive? This question did not seem relevant to the research project and the responses were therefore not considered.

14. Did your father/male guardian attend school? This question also seemed irrelevant as questions 19 and 20 (occupation of father/mother) were more important.

15.1 Which qualification does father/male guardian have compared with language groups

Educ.	Zu	Xh	Afr	Eng	Fr	Gr	Tsw	S.S.	N.S.	Ven	E/A	Total
Prim	18	12	0	3	0	0	4	0	3	0	2	42
6/7	11	24	5	7	0	0	2	3	9	3	3	67
8/9	16	11	16	18	0	1	4	3	5	0	2	76
10	12	12	38	21	0	1	6	1	1	1	0	93
Cert.	5	2	9	3	0	0	1	1	1	0	1	23
Dip.	7	4	15	24	0	1	0	4	5	2	1	63
Degre	1	4	13	20	1	0	2	0	3	1	0	45
Other	4	3	6	19	1	0	0	0	2	1	0	36
Total	74	72	102	115	2	3	19	12	29	8	9	445

Summary:

Primary education	:	5 (1 %)	whites and 37 blacks (8 %)
Std 6 and 7	:	15 (3 %)	whites and 52 blacks (12 %)
Std 8 and 9	:	37 (8 %)	whites and 39 blacks (9 %)
Std 10	:	60 (15 %)	whites and 33 blacks (7 %)
Post sch. cert.	:	13 (3 %)	whites and 10 blacks (2 %)
Post sch. dip.	:	41 (9 %)	whites and 22 blacks (5 %)
University degree	:	34 (8 %)	whites and 11 blacks (3 %)
Other qualification	:	26 (6 %)	whites and 10 blacks (2 %)

The total respondents were 470 of which 235 were white and 214 were black

15.2 Influence of father's education on Std 10 aggregate:

Father's education	RESULTS OF CHILDREN: A	B	C	D	E	EE	F	Total
Primary educ.	0	0	2	8	12	14	6	42
Std 6/7	0	0	5	10	14	31	6	66
Std 8/9	0	4	12	21	22	13	5	77
Std 10	0	4	18	32	19	12	5	90
Post school								
Certificate	0	1	6	6	6	3	0	22
Diploma	1	0	10	28	14	8	1	62
Univ. Degree	0	1	10	18	6	7	1	43
Other	1	0	6	15	2	5	1	30
Total	2	10	69	138	95	93	25	432

16. Did your mother/female guardian attend school? See comment 14 above.

17. Influence of mother's education on Std 10 aggregate:

Mother's education	RESULTS OF CHILDREN A	B	C	D	E	EE	F	Total
Primary educ.	0	1	1	6	12	16	4	40
Std 6/7	0	0	2	6	19	25	10	62
Std 8/9	0	2	13	37	22	15	2	91
Std 10	0	4	24	28	17	8	3	84
Post school:								
Certificate	0	2	5	9	7	5	1	29
Diploma	0	1	15	30	11	20	2	79
Univ. Degree	1	0	2	8	5	5	1	22
Other	1	0	6	11	3	5	4	30
Total	2	10	68	135	96	99	27	437

18.1 Give an indication of parents' or guardians' ability in using English. The researcher realised that this assessment was done according to each student's measurement of his own parents'/guardians' English ability and that the responses received would not be very reliable, however, the following information was obtained:

	Speak Well	Av	Poor	Read Well	Av	Poor	Write Well	Av	Poor
Father	258	124	46	285	90	50	273	100	53
Mother	266	26	58	293	92	61	283	92	72

18.2 The assessment of white students of their parents' English language capabilities:

	Speak Well	Av	Poor	Read Well	Av	Poor	Write Well	Av	Poor
Father	186	36	9	193	27	11	186	35	10
Mother	186	38	7	198	22	11	185	25	11

18.3 The assessment of black students of their parents' English language capabilities

	Speak Well	Av	Poor	Read Well	Av	Poor	Write Well	Av	Poor
Father	72	88	37	92	63	39	87	65	43
Mother	80	88	51	95	70	50	98	57	61

19.1 What occupation does your father/male guardian have?

The following responses were given:

Occupation	Number	Percentage
Professional	53	13
Managerial	106	26
Clerical	44	11
Skilled worker	88	22
Semi-skilled worker	23	6
Unskilled worker	41	10
Unemployed	53	13

19.2 Occupation of father/male guardian related to Std 10 aggregate symbols achieved

Occupation	A	B	C	D	E	EE	F	Total
Professional	1	0	12	17	9	13	1	53
Managerial	1	4	22	51	20	6	2	106
Clerical	0	1	11	10	11	10	1	44
Skilled worker	0	3	18	33	19	8	7	88
Semi-skilled	0	0	0	2	11	9	1	23
Unskilled	0	0	0	8	9	19	5	41
Unemployed	0	0	3	9	12	23	6	53
Total	2	8	66	130	91	88	23	408

62 did not respond to this question.

19.3 Occupation of father/male guardian related to language:

Father's occup.	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S.	N.S.	Ven	E/A	Total
Prof.	1	10	11	17	2	0	2	3	8	1	1	56
Man.	4	3	36	57	0	2	3	1	2	2	2	112
Clerical	7	5	15	8	0	0	3	1	4	1	1	45
Skilled worker	16	8	27	24	0	1	4	2	5	1	3	91
Semi-Sk worker	9	2	2	0	0	0	3	1	6	0	0	23
Unskil. worker	15	14	1	0	0	0	4	1	4	1	1	41
Unempl.	10	27	3	6	0	0	2	2	1	1	1	53
Total	62	69	95	112	2	3	21	11	30	7	9	421

Of the 200 black people who responded, 103 (52 %) are semi-skilled, unskilled or unemployed; 61 (31 %) are in professional, managerial or clerical positions.

Of the 221 white people who responded, 14 (6,3% are semi-skilled, unskilled or unemployed; 152 (69 %) are in professional, managerial or clerical positions.

20.1 What occupation does your mother/female guardian have?

The following responses were given:

Occupations	Number	Percentage
Professional	90	21
Managerial	36	8
Clerical	85	19
Skilled worker	40	9
Semi-skilled worker	27	6
Unskilled worker	41	9
Unemployed	117	27

20.2 Occupation of mother/female guardian related to Std 10 aggregate symbols

Mother's Occupation	A	B	C	D	E	EE	F	Total
Professional	2	0	15	19	20	32	2	92
Managerial	0	1	3	24	5	1	2	36
Clerical	0	3	32	40	7	2	1	85
Skilled worker	0	2	4	11	12	8	3	40
Semi-skilled	0	0	2	7	7	8	3	27
Unskilled	0	0	1	7	14	17	2	41
Unemployed	0	2	13	26	33	30	13	117
Total	2	8	70	134	98	98	26	436

34 did not respond to this question.

21.1 Which of the following do you have in your home?

Periodicals and books	Yes	%	No
Readers' Digest	12	2,7	431
Financial Mail	49	11,0	394
Time Magazine	46	10,4	397
Panorama	81	18,3	362
Fair Lady	84	19,0	359
Loving	96	22,0	347
Reading Books	44	10,0	399
Encyclopaedia	22	05,0	421
Other books	9	2,3	434

21.2 Availability of periodicals and books (above) compared with Std 10 aggregate:

Periodicals and books	A	B	C	D	E	EE	F	Total
Readers' Digest	0	0	0	1	1	7	3	12
Financial Mail	0	1	1	5	16	21	3	47
Time Magazine	0	0	6	12	13	10	5	46
Panorama	0	1	15	21	13	21	5	76
Fair Lady	0	4	14	25	18	16	4	81
Loving	0	0	19	34	22	13	5	93
Reading Books	1	3	7	13	10	8	2	44
Encyclopaedia	0	0	2	10	3	3	1	19
Other	1	0	2	5	1	0	0	9
Total	2	9	66	127	97	99	28	427

22. QUESTION 22: Which dictionaries do you have in your home?

Responses were as follows:

Types of dictionaries	Yes	No	Total
English dictionaries	451	17	468
Afrikaans dictionarie	355	110	465
Thesaurus dictionaries	69	394	464
Zulu dictionaries	60	403	463
Xhosa dictionaires	40	423	463
Other dictionaires	87	361	448

23.1 How many children are in your family?

Number of children in the family	Number of families recording the number of children in Column 1
1 child	16
2 children	90
3 children	129
4 children	74
5 children	42
6 children	40
7 children	22
8 children	23
9 children	9
10 children	3
12 children	1
14 children	2

23.2 Number of children related to aggregate Std 10 symbols

Number of children in the family	Symbols attained by respondents: A	B	C	D	E	EE	F	Total
1 child	0	0	5	6	1	4	0	16
2 children	0	5	23	50	6	5	1	90
3 children	0	2	30	43	31	19	4	129
4 children	1	3	7	22	17	19	5	74
5 children	1	0	4	5	16	12	4	42
6 children	0	0	2	3	12	18	5	40
7 children	0	0	0	1	9	10	2	22
8 children	0	0	0	5	5	9	4	23
9 children	0	0	0	3	2	2	2	9
10 children	0	0	0	0	1	2	0	3
12 children	0	0	0	0	1	0	0	1
14 children	0	0	0	0	0	1	1	2
Total	2	10	71	138	101	101	28	451

19 did not respond to this question

23.3 Number of children related to fathers' occupations

No of childr.	Prof.	Man.	Cler.	Sk.W	Semi-sk.	Unsk.	Unempl.	Total
1	3	4	1	2	1	0	1	12
2	9	37	13	18	0	5	7	89
3	21	35	17	36	1	7	13	130
4	11	16	4	14	7	5	10	67
5	5	9	4	2	4	6	7	37
6	5	5	2	8	6	4	4	34
7	1	3	1	4	3	4	4	20
8	1	2	3	2	1	7	3	19
9	0	0	0	3	0	2	2	7
10	0	0	0	1	0	1	0	2
12	0	0	0	0	0	0	1	1
14	0	0	0	2	0	0	0	2
Total	56	111	45	92	23	41	52	420

23.4 Number of children related to mothers' occupations

No of childr.	Prof.	Man.	Cler.	Sk.W	Semi-sk.	Unsk.	Unempl.	Total
1	4	1	6	1	2	0	1	15
2	12	15	38	5	5	3	16	94
3	32	11	31	12	6	10	29	131
4	19	6	9	13	5	7	14	73
5	10	4	3	2	1	8	11	39
6	6	1	0	6	5	2	19	39
7	2	3	0	1	1	5	10	22
8	5	0	1	1	1	4	11	23
9	2	0	1	0	1	2	2	8
10	1	0	0	0	0	0	2	3
12	0	0	0	0	0	0	1	1
14	0	0	0	2	0	0	0	2
Total	93	41	89	43	27	41	116	450

23.5 Number of children in family related to language groups

No of childr.	Zu	Xh	Af	En	Fr	Gr	Tsw	SS	NS	Ven	E/A	Total
1	3	1	5	4	1	0	1	1	0	0	0	16
2	3	5	36	47	0	0	2	2	2	0	1	98
3	14	14	40	44	0	2	5	5	8	2	0	134
4	12	17	15	12	0	0	6	2	6	1	4	75
5	12	11	4	3	0	1	4	1	2	3	1	42
6	15	8	1	3	0	0	2	3	6	2	1	41
7	6	6	0	0	0	0	2	0	6	0	2	22
8	9	8	1	2	1	0	0	0	1	0	1	23
9	3	5	0	1	0	0	0	0	0	0	0	9
10	0	3	0	0	0	0	0	0	0	0	0	3
12	0	1	0	0	0	0	0	0	0	0	0	1
14	1	0	0	1	0	0	0	0	0	0	0	2
Total	78	79	102	117	2	3	22	14	31	8	10	466

24. How many brothers do you have? The researcher found no use in interpreting this question as question 23, (How many children are in your family?) proved to be more useful.

25. What are the ages of brothers? Age groups of brothers related to language:

Ages	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S.	N.S.	Ven	E/A	Total
0 - 2	1	7	1	2	0	0	0	0	3	0	0	14
3 - 5	1	8	4	1	1	0	1	2	3	0	1	22
6 - 8	10	15	4	4	0	0	2	0	6	2	0	43
9 - 11	20	11	6	7	1	0	4	1	3	2	0	55
12 - 14	20	18	11	13	0	0	3	5	9	0	1	80
15 - 17	28	24	18	22	1	2	4	4	13	0	2	118
18 - 20	22	11	14	20	2	0	5	3	4	0	2	83
21 +	58	76	17	55	2	0	17	7	14	4	12	262
Total	160	170	75	124	7	2	36	22	55	8	18	677

26. How many sisters do you have? The researcher found no use in interpreting this answer. (See Paragraph 24.)

27.1 What are the ages of sisters? Age groups of sisters related to language:

Ages	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S.	N.S.	Ven	E/A	Total
0 - 2	3	10	1	0	0	0	1	0	4	1	2	22
3 - 5	6	9	1	0	1	0	1	0	1	1	0	20
6 - 8	5	14	2	5	0	0	0	1	10	0	1	38
9 - 11	23	14	4	7	1	0	2	1	7	0	0	59
12 - 14	26	18	6	18	0	0	2	2	5	3	2	82
15 - 17	26	20	26	21	0	0	4	5	5	1	3	111
18 - 20	14	19	7	10	1	2	4	0	2	2	2	63
21 +	33	69	47	40	0	2	14	6	21	12	10	254
Total	136	173	94	101	3	4	28	15	55	20	20	649

27.2 Details of ages of brothers and sisters combined:

Ages	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S.	N.S.	Ven	E/A	Total
0 to 2	4	17	2	2	0	0	1	0	7	1	2	36
3 to 5	7	17	5	1	2	0	2	2	4	1	1	42
6 to 8	15	29	6	9	0	0	2	1	16	2	1	81
9 to 11	43	25	10	14	2	0	6	2	10	2	0	114
12 to 14	46	36	17	31	0	0	5	7	14	3	3	162
15 to 17	54	44	44	43	1	2	8	9	18	1	5	229
18 to 20	36	30	21	30	3	2	9	3	6	2	4	146
21 +	91	145	64	95	2	2	31	13	35	16	22	516
Total	296	343	169	225	10	6	64	37	110	28	38	1 326

28. Were any of your brothers and sisters unable to attend school? This question related to language groups:

Yes or No	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S.	N.S.	Ven	E/A	Total
Yes	16	38	3	8	0	0	2	3	8	2	4	84
No	59	40	96	107	1	3	20	10	22	6	11	360
Total	75	78	99	115	1	3	22	13	30	8	9	453

29. Why were they unable to attend school? This question related to language groups:

Reason	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S.	N.S.	Ven	E/A	Total
Financial	12	34	1	0	0	0	0	3	6	2	1	59
Too far from sch.	1	4	0	1	0	0	0	0	0	0	1	7
Mentally disab.	2	2	1	1	0	0	0	0	1	0	1	8
Physically disab.	0	1	0	0	0	0	0	0	0	0	0	1
Total	15	41	2	2	0	0	0	3	7	2	3	75

30. Did all the children in your family of school going age attend primary school? Related to language groups:

Yes or No	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S.	N.S.	Ven	E/A	Total
Yes	15	57	95	113	1	3	19	8	28	7	9	395
No	17	18	5	3	0	0	2	2	2	0	0	49
Total	72	75	100	116	1	3	21	10	30	7	9	444

31. Did all the children in your family of the appropriate age attend high school? Related to language groups:

Yes or No	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S.	N.S.	Ven	E/A	Total
Yes	48	49	97	111	1	3	18	6	25	6	8	372
No	22	28	3	2	0	0	4	3	3	0	0	65
Total	70	77	100	113	1	3	22	9	28	6	8	437

32. Did any of your brothers and sister attend College/Technikon/University? Related to language:

Col./ Tech./ Univ.	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S.	N.S.	Ven	E/A	Total
College	12	15	19	18	0	0	4	1	9	1	3	82
Technikon	11	13	17	27	1	2	3	0	4	0	2	80
University	9	11	15	17	0	1	7	4	7	5	1	77
Total	32	39	51	62	1	3	14	5	20	6	6	239

33. Have any of your brothers or sisters obtained a diploma or university degree? Related to language:

Yes or No	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S.	N.S.	Ven	E/A	Total
Yes	8	18	30	28	0	2	9	3	10	4	4	116
No	50	51	40	62	1	1	11	7	17	3	4	247
Total	58	69	70	90	1	3	20	10	27	7	8	363

34. Are any of your brothers and sisters employed? Researcher found no need for interpreting this information.

35. How many are employed? Researcher found no need for interpreting this information.

36. What are the occupations of those employed? Researcher found no need for this question.

37. Do you have any of the following in your home? Researcher decided to use 38 combined with 39 as a determinant for overcrowding instead of this question.

38. How many bedrooms in your home? This question was used to determine overcrowding. The number of people in the home was divided into the number of bedrooms to determine the number of people sharing a bedroom. The following results were found, according to ethnic language groups:

No in bedroom	Zulu	Xhosa	Tswana	S.Sotho	N.Sotho	Venda	Total
2 or fewer	4	7	1	1	1	0	14
3	14	17	2	1	3	1	38
4	22	19	4	3	4	3	55
5	34	35	15	8	23	4	119
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	1	0	0	0	0	1
More	0	2	0	0	0	0	2
Total	74	81	22	13	31	8	229

39. How many people in your home? This question was combined with 38 above.

40. Do you have any of the following in your home?
Telephone/Radio/Tape Recorder/Television/Video Recorder/Microwave/Musical instrument

To determine the degree of exposure to technology and how advantaged students were, the total number of each of the above, owned by the students' families, were considered:

No of items	Zulu	Xhosa	Tswana	S. Sotho	N.Sotho	Venda	Total
None	19	13	5	1	7	2	47
One item	17	24	5	3	6	2	57
Two items	12	17	4	3	6	1	43
Three items	12	13	4	3	5	1	38
Four items	7	10	2	2	4	1	26
Five items	3	2	1	1	2	0	9
Six items	3	1	1	1	1	1	8
Seven items	2	1	0	0	0	0	3
Total	75	81	22	14	31	8	231

41. Do you play a musical instrument? Related to language

Yes or No	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S.	N.S.	Ven	E/A	Total
Yes	7	5	49	38	2	1	2	1	4	1	0	110
No	69	74	53	76	0	2	19	9	27	7	9	345
Total	76	79	102	114	2	3	21	10	31	8	9	455

42. Do you, or have you played electronic games? Related to language.

Yes or No	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S.	N.S.	Ven	E/A	Total
Yes	25	20	88	109	2	3	12	4	7	4	6	280
No	52	58	14	7	0	0	9	7	24	4	3	178
Total	77	78	102	116	2	3	21	11	31	8	9	458

43. Do you have a banking account? Researcher found no relevant use for this question.

44. Have you operated an automatic teller? Responses related to language groups:

Never Seldom Often	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S.	N.S.	Ven	E/A	Total
Never	30	45	5	10	1	0	7	5	13	2	3	121
Seldom	24	12	16	18	0	1	4	3	7	3	4	92
Often	24	14	81	88	1	2	11	6	11	3	2	243
Total	78	71	102	116	2	3	22	14	31	8	9	456

45. Which of the following did you have at your last school? Typewriters/Television/Video Recorders/Computers - to determine poor school background, the items listed, were grouped and the number of students exposed to these items were recorded. An assessment of those exposed to computers was also made.

No of items	Zulu	Xhosa	Tswana	S.Sotho	N.Sotho	Venda	Total
None	14	27	2	2	13	1	59
One item	23	33	5	2	8	2	73
Two items	10	11	3	2	5	2	33
Three items	8	7	8	2	4	3	32
Four items	7	1	4	2	1	0	15
(Exposed to computers)	(12)	(1)	(7)	(2)	(2)	(1)	(25)
Total	62	79	22	10	31	8	212

46. Approximately how many computers were there at your previous school? Related to language groups:

No of computers	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S.	N.S.	Ven	E/A	Total
1 - 3	12	3	24	9	0	0	8	3	4	2	2	67
4 - 6	3	1	21	15	1	1	2	1	0	0	0	45
7 - 10	1	0	18	13	0	1	0	0	4	0	0	37
More than ten	4	4	29	64	1	1	1	2	1	0	3	110
Total	20	8	92	101	2	3	11	6	9	2	5	259

Those who recorded having no computers were:
Zulu 58; Xhosa 73; Afrikaans 11; English 16; Tswana 11; S. Sotho 8; N. Sotho 22; Venda 6; English/Afrikaans 6.

47. Who were permitted to use the typewriters at previous school?

	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S	N.S	Ven	E/A	Total
Staff only	40	19	8	9	1	0	9	1	13	6	4	110
Pupils only	1	1	4	4	0	0	0	0	0	0	0	10
Both	20	22	90	96	1	3	6	7	7	1	2	155
Total	61	42	102	109	2	3	15	8	20	7	6	375
No typewriters at school	17	39	1	8	0	0	7	6	11	1	5	95

Of the 234 black students who responded to the questionnaire, 81 had no typewriters at their previous schools, this represents 35 % of respondants.

Of the 236 white students who responded, 14 had no typewriters at their previous schools. This represents 6 % .

48. Number of schools where pupils were permitted to use the televisions:

Yes/ No	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S.	N.S.	Ven	E/A	Total
Yes	24	18	38	66	2	1	12	8	8	3	4	180
No	13	10	55	43	0	2	1	0	3	1	0	128
Total	37	28	93	105	2	3	13	8	11	4	4	308
No TV at school	41	53	10	12	0	0	9	6	20	4	7	162

Of the 234 black students who responded to the question, 133 had no televisions at their previous schools. This represents 57 % .

Of the 236 white students, 29 had not televisions at their previous schools. This represents 12 % .

49. Schools where pupils were allowed to use the computers, responses were recorded as follows:

Yes/ No	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S.	N.S.	Ven	E/A	Total
Yes	7	2	62	82	2	3	3	2	3	0	3	169
No	12	12	27	15	0	0	1	3	2	2	2	75
Total	19	14	89	97	2	3	4	3	6	2	5	244

No computers at school
59 67 14 20 0 0 18 11 25 6 6 226

Of the 234 black respondants, 186 had no computers at their previous school (79 %).

Of the 236 white respondants, 40 had no computers at their previous schools (17 %).

50. Number of students who played the following sport:

Type of sport	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S.	N.S.	Ven	E/A	Total
Tennis	11	17	53	54	1	2	11	5	6	1	2	163
Netball	41	36	48	26	1	2	4	2	8	5	4	177
Basket-ball	5	3	4	12	1	0	2	0	0	0	0	27
Hockey	1	0	34	54	0	2	0	1	1	0	1	94
Table tennis	11	3	7	9	0	0	6	1	4	0	1	42
Squash	0	0	27	36	0	0	1	0	0	0	0	64
Other	13	18	30	47	2	1	9	3	17	2	4	146

307 did not play tennis; 67 + 63 + 11 + 9 + 25 + 7 = 182 [59% ethnic]
50 + 63 + 1 + 9 = 123 [41% whites]

293 did not play netball: 30 + 45 + 18 + 12 + 23 + 4 = 132 [45%]
55 + 91 + 1 + 1 + 8 = 156 [65%]

443 did not play basketball: 73 + 78 + 20 + 14 + 31 + 8 = 224 [51%]
99 + 105 + 1 + 2 + 12 = 219 [49%]

376 did not play hockey: 77 + 81 + 2 + 14 + 31 + 8 = 213 [57%]
69 + 63 + 2 + 1 + 11 = 146 [43%]

428 did not play table tennis: 67 + 78 + 16 + 13 + 27 + 8 = 209 [49%]
96 + 108 + 2 + 3 + 11 = 220 [51%]

406 did not play squash: 78 + 81 + 21 + 14 + 31 + 8 = 233 [57%]
76 + 81 + 2 + 3 + 11 = 173 [43%]

323 did not play any other sport: 65 + 63 + 13 + 11 + 14 + 6 = 172 (53%]
73 + 70 + 2 + 7 = 152 [47%]

51. Number of pupils who participated in the following activities:

Activity	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S.	N.S.	Ven	E/A	Total
Cook	72	54	87	93	2	2	19	10	16	6	7	368
Crochet	21	19	8	7	0	1	5	1	3	5	0	70
Knit	17	20	29	34	0	1	4	3	5	5	2	120
Embroider	5	5	11	15	0	1	2	0	0	3	0	42
Sew	22	34	48	55	2	2	5	3	7	3	2	183
Woodworking	2	2	2	4	0	0	1	1	1	1	3	17
Other	11	8	14	33	2	1	9	3	9	0	2	92

52.1 What problems do you experience with your course?
(Students could give as many responses as they wished)

No.	Problems experienced	Yes	No
1.	Getting used to machines	283	187
2.	Understanding instructions	251	219
3.	Keeping eyes off keyboard	211	259
4.	Keeping eyes on copy you type from	172	298
5.	Remembering word processing functions	303	167
6.	Finger stretches on keyboard	237	233
7.	Applying theory in practice	84	386
8.	Submitting assignments punctually	130	340
9.	Boredom	78	392
10.	Accuracy in typing	295	175
11.	Speed in typing	261	209
12.	Concentration	191	279

52.2 Problems experienced, related to language groups:
(See key above for interpretation of problems listed below)

Problem	Zu	Xh	Afr	Eng	Fr	Grk	Tsw	S.S.	N.S.	Ven	E/A	Total
1	71	80	15	34	1	1	21	14	29	7	10	283
2	68	80	7	12	1	3	20	14	29	8	9	251
3	62	55	8	27	1	1	8	11	23	6	9	211
4	51	43	12	23	1	0	12	6	14	4	6	172
5	70	80	32	37	2	1	21	14	30	7	9	303
6	62	75	6	17	1	0	19	13	29	5	10	237
7	23	13	13	25	0	1	3	3	1	1	1	84
8	26	26	7	22	1	1	13	10	13	4	7	130
9	13	7	15	34	0	0	3	2	3	0	1	78
10	68	76	28	46	1	2	20	12	26	8	8	295
11	73	71	17	26	0	2	20	12	24	7	9	261
12	43	38	21	24	2	1	15	11	25	4	7	191

52.5 Problems experienced, related to Std 10 aggregates:
(17 gave no response to question 7 asking for Std 10 aggregates)

Problems	A	B	C	D	E	EE	F	Total
Totals:	2	10	71	139	101	102	28	453
Adjusting to machines	1	4	19	49	83	99	28	283
Understanding instructions	1	1	8	36	81	98	26	251
Keeping eyes off keyboard	1	1	13	40	64	73	19	211
Keeping eyes on copy you type from	1	2	10	35	43	61	19	171
Remembering word processing functions	1	1	20	64	90	99	28	303
Finger stretches	1	4	10	35	73	91	23	237
Applying theory in practice	0	3	8	26	10	24	13	84
Submitting assignments punctually	1	1	8	26	37	43	14	130
Boredom	0	1	11	34	12	17	3	78
Accuracy in typing	2	4	26	61	81	93	28	295
Speed in typing	2	1	12	51	77	90	28	261
Concentration	1	1	14	37	47	69	22	187

52.6 Problems experienced related to whether students did typing in Std 10 or not

Problems	Yes (typed)	%	No (no typing)	%	Total
Adjusting to machines	51	**18**	231	**82**	283
Understanding instructions	30	**12**	220	**88**	251
Keeping eyes off keyboard	22	**10**	189	**90**	211
Keeping eyes on copy you type from	19	**11**	152	**72**	171
Remembering word processing functions	71	**23**	231	**77**	303
Finger stretches	21	**09**	215	**91**	237
Applying theory in practice	35	**42**	49	**58**	84
Submitting assignments punctually	22	**17**	108	**83**	130
Boredom	34	**44**	44	**56**	78
Accuracy in typing	56	**19**	238	**81**	295
Speed in typing	30	**12**	231	**88**	261
Concentration	40	**21**	147	**79**	187

52.7 Problems experienced, related to whether the student attended a pre-school or not:

Problems	Yes	No	Total
Adjusting to machines	93	190	283
Understanding instructions	78	173	251
Keeping eyes off keyboard	71	140	211
Keeping eyes on copy you type from	65	106	171
Remembering word processing functions	109	194	303
Finger stretches	75	162	237
Applying theory in practice	33	51	84
Submitting assignments punctually	41	89	130
Boredom	42	36	78
Accuracy in typing	110	185	295
Speed in typing	86	175	261
Concentration	67	120	187

52.3 Problems experienced, related to area in which last school attended, was situated:

(Percentages given in brackets are for each relevant group. Responses to question 3 indicate that 203 students attended schools in the city, 139 in towns and 110 in rural areas. 18 did not respond to this question.)

Total from each area: Problems	203 City	%	139 Town	%	110 Rural	%	452 Tot
Adjusting to machines	98	(48)	81	(58)	104	(95)	283
Understanding instructions	78	(38)	73	(53)	100	(91)	251
Keeping eyes off keyboard	76	(37)	51	(37)	84	(76)	211
Keeping eyes on copy you type from	59	(29)	43	(31)	68	(62)	171
Remembering word processing functions	111	(55)	89	(64)	103	(94)	303
Finger stretches on keyboard	79	(39)	61	(44)	97	(88)	237
Applying theory in practice	31	(15)	32	(23)	21	(19)	84
Submitting assignments punctually	51	(25)	38	(27)	41	(37)	130
Boredom	42	(21)	21	(15)	15	(14)	78
Accuracy in typing	112	(55)	84	(60)	99	(90)	295
Speed in typing	88	(43)	76	(55)	97	(88)	261
Concentration	68	(34)	58	(42)	65	(59)	191

52.4 Problems experienced, related to English First or Second Language in Std 10:

Problems	English 1st Lang	English 2nd Lang	Total
Adjusting to machines	80	203	283
Understanding instructions	60	191	251
Keeping eyes off keyboard	67	144	211
Keeping eyes on copy you type from	52	119	171
Remembering word processing functions	89	214	303
Finger stretches	70	167	237
Applying theory in practice	23	61	84
Submitting assignments punctually	39	91	130
Boredom	29	49	78
Accuracy in typing	89	206	295
Speed in typing	73	188	261
Concentration	51	140	191

52.8.1 Problems experienced in **understanding instructions**, related to number of books read in a year:

(Percentage of students who do experience problems understanding instructions i.e. out of the total number of persons reading the number of books indicated in column 1 - refer to paragraph 10).

Number of books read in a year	Those who do experience problems	Those who do not experience problems	Total	Percentage who do experience problems
12 or more	27	42	69	39
10 to 12	22	18	40	55
8 to 10	32	20	52	62
6 to 8	55	18	73	75
4 to 6	49	43	92	53
2 to 4	27	39	66	41
1 to 2	31	36	67	46
None	6	0	6	100

52.8.2 Problems experienced in **submitting assignments punctually,** related to number of books read: (Percentage in last column, calculated as above)

Number of books read in a year	Those who do experience problems	Those who do not experience problems	Total	Percentage who do experience problems
12 or more	21	48	69	30
10 to 12	17	23	40	43
8 to 10	14	38	52	27
6 to 8	20	53	73	27
4 to 6	21	71	92	23
2 to 4	20	46	66	30
1 to 2	14	53	67	25
None	2	4	6	33

52.8.3 Problems experienced with **accuracy in typing**, related to number of books read: (Percentage in last column calculated as above)

Number of books read in a year	Those who do experience problems	Those who do not experience problems	Total	Percentage who do experience problems
12 or more	32	37	69	53
10 to 12	25	15	40	63
8 to 10	41	11	52	79
6 to 8	56	17	73	77
4 to 6	63	29	92	68
2 to 4	36	30	66	55
1 to 2	34	33	67	51
None	6	0	6	100

52.8.4 Problems experienced with **concentration**, related to number of books read: (Percentage in last column calculated as above)

Number of books read in a year	Those who do experience problems	Those who do not experience problems	Total	Percentage who do experience problems
12 or more	25	44	69	36
10 to 12	18	22	40	45
8 to 10	23	29	52	44
6 to 8	38	35	73	52
4 to 6	33	59	92	36
2 to 4	22	44	66	33
1 to 2	25	42	67	37
None	5	1	6	83

52.9 Influence of **father**'s or **male guardian**'s qualifications on problems experienced by student: (Problems abbreviated to fit onto page - see 52.1 for list of problems)

Problems [Totals]:	Qualifications: Prim sch. 42	Std 6/7 67	Std 8/9 76	Std 10 93	[Post school: [Cert 59	Dip 63	Degr 45	Tot 445
Adj. to machines	42	57	50	41	28	30	15	263
Understanding instr.	40	50	45	34	24	25	13	231
Eyes off keys	33	41	34	29	22	26	12	197
Eyes on copy	25	29	24	21	22	24	12	157
Rem. WP functions	40	54	53	48	36	33	18	282
Finger stretches	33	49	39	35	23	24	12	218
Theory in practice	11	16	19	12	10	8	4	80
Assignments punctually	19	25	23	19	15	9	7	117
Boredom	3	11	10	17	17	6	11	75
Accuracy in typing	39	52	49	52	13	36	19	277
Speed in typing	39	48	41	41	18	30	17	242
Concentration	26	36	35	25	19	23	13	177

52.10 Influence of **mother**'s or **female guardian**'s qualifications on problems experienced by student:

Problems	Qualifications: Prim sch.	Std 6/7	Std 8/9	Std 10	[Post school: [Cert	Dip	Dege	Tot
Totals:	40	62	91	84	59	79	22	437
Adj. to machines	39	56	51	32	39	42	11	270
Understanding instr.	38	52	39	26	35	38	10	238
Eyes off keys	34	42	40	18	27	31	10	202
Eyes on copy	19	35	33	16	22	29	9	163
Rem. WP functions	40	52	53	38	48	48	11	289
Finger stretches	34	49	40	24	33	36	9	225
Theory in practice	9	15	17	11	9	15	2	79
Assignments punctually	17	25	21	17	17	16	7	120
Boredom	3	6	17	17	10	20	4	77
Accuracy in typing	40	51	52	34	39	51	18	285
Speed in typing	35	47	49	26	37	41	12	247
Concentration	28	36	26	20	25	35	10	180

52.11 Influence of **father**'s or **male guardian**'s occupation on problems experienced by student:

Problems	Prof	Manag	Cler	Sk W	Semi sk	Unsk	Unempl	Tot
Totals:	53	106	44	88	23	41	53	408
Adj. to machines	30	33	32	48	20	41	47	250
Understanding instr.	29	24	22	39	20	39	45	218
Eyes off keys	25	28	19	36	15	31	35	189
Eyes on copy	17	31	13	33	10	21	28	153
Rem. WP functions	38	40	30	50	21	41	48	267
Finger stretches	31	26	22	34	19	39	39	210
Theory in practice	3	16	9	22	6	6	12	74
Assignments punctually	10	26	9	21	13	15	22	116
Boredom	9	26	7	14	4	0	7	67
Accuracy in typing	31	48	30	54	18	38	43	262
Speed in typing	28	35	23	44	21	36	40	227
Concentration	24	29	13	35	16	23	32	172

52.12 Influence of **mother**'s or **female guardian**'s occupation on problems experienced by students:

Problems Totals:	Prof 90	Manag 36	Cler 85	Sk W 40	Semi sk 27	Unsk 41	Unempl 117	Tot 436
Adj. to machines	70	11	20	26	19	39	86	270
Understanding instr.	65	10	11	23	16	38	77	240
Eyes off keys	44	11	17	16	18	31	66	203
Eyes on copy	42	8	19	18	9	18	50	164
Rem. WP functions	71	15	33	27	21	40	83	289
Finger stretches	56	7	16	20	17	36	76	228
Theory in practice	13	10	11	11	8	10	17	80
Assignments punctually	29	7	16	10	8	19	34	123
Boredom	16	5	21	10	7	3	15	77
Accuracy in typing	69	12	34	29	19	38	82	283
Speed in typing	60	10	27	26	17	37	74	251
Concentration	49	12	18	18	11	27	46	181

52.13 The influence of the **number of children** in the home, on problems students experience: (The figures below represent those students, in each age group, who recorded having some or more of the problems indicated in 52.1)

	Number of children in the home					
Problems Total in each age group:	0-2 106	3-5 245	6-8 85	9-11 12	12-14 4	Total 451
Adj. to machines	11	49	44	6	2	112
Understanding instr.	7	51	48	8	3	117
Eyes off keys	15	63	52	7	2	139
Eyes on copy	13	57	48	6	2	126
Rem. WP functions	21	75	59	9	3	167
Finger stretches	19	67	53	8	2	149
Theory in practice	9	21	31	6	1	68
Assignments punctually	18	58	34	7	2	119
Boredom	12	29	22	4	1	68
Accuracy in typing	39	52	49	10	4	154
Speed in typing	27	48	45	8	4	132
Concentration	16	36	35	15	4	106

52.14 Other interesting phenomena are tabled below:

Problems	Those who do not experience this problem		Those without the problem who had access to computers at school	
	No.	%	No.	%
Adjusting to electronic equipment	187/470	40	103/187	55
Understanding instructions	219/470	47	77/219	35
Keeping eyes off keyboard	259/470	55	71/259	27
Remembering word processing functions	167/470	36	123/167	74
Finger stretches	233/470	50	73/233	31
Accuracy in typing	175/470	37	121/175	69
Speed in typing	209/470	45	86/209	41

(Many students recorded having more than one of the problems listed in question 52, therefore percentages do not add up to 100.)

52.15 The following interesting facts were obtained from responses to question 52.6 relating to problems with **finger stretches**:

Total number of students who recorded having problems with finger stretches	Those who recorded that they play musical instruments		Those who recorded that they play no musical instrument		Those who recorded that they have played electronic games		Those who recorded that they have never played electronic games		Those who operate automatic tellers					
									often		seldom		never	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
237	17	7	220	93	87	37	150	63	53	22	75	32	109	46

RESPONSES TO QUESTIONNAIRES SENT TO LECTURERS

Thirteen lecturers responded to questionnaires, an average of two from each of the participating technikons.

The following were the responses to the first part of the questionnaire:

	NUMBER OF RESPONSES RECORDED:			
	Strongly agree	Agree	Tend to disagree	Strongly disagree
Touch typing is the only suitable way of typing	10	3	0	0
The best method of keyboard instruction is:				
mental and conscious memorising of the keyboard	3	0	2	8
home-row approach	5	5	0	3
first-finger-first approach	5	0	1	5
skip-around method	0	1	0	12
accuracy should be developed before speed	9	3	0	1
speed should be developed first	0	3	3	7
finger gymnastics improve finger movement on the keyboard	3	8	1	1
beginners find finger exercises difficult to perform	2	8	2	1
students need practice out of lesson times	13	0	0	0
additional practice improves typing ability	12	1	0	0
students who play musical instruments are better at typing than others	3	8	0	2
students who sew, knit, crochet, cook or do woodworking are better at typing than others	0	6	4	3

The following were the responses to the second part of the questionnaire to lecturers:

Do your students have difficulties with finger stretches? 10 said YES and 3 said NO

The following areas of difficulty were recorded, ranging from most difficult to least difficult:

the use of the third (ring) finger
the use of the little finger
long stretches to t, y and b
typing figures
use of shift keys and shift lock
operation of space bar
transposing u and y; r and t; b and v; s and x
typing dcd

Major problems experienced by lecturers with initial keyboard instruction:

clumsiness of fingers or lack of dexterity
eye-hand co-ordination
students have difficulty keeping their eyes off the keyboard
students have difficulty using specific fingers for specific keys
correct manipulation of keys
long finger stretches
speed and accuracy ability
maintaining of correct posture (position of body, hands and arms)
concentration
boredom

Difficulties experienced by students adapting to technology:

initial fear of machines
language problems slow down progress
insufficient exposure to technology - do not know/understand terms used
difficulty in adapting to use of machines
"touch" too heavy - lighter touch required (depression of keys)
understanding instructions

Home or attitude problems experienced by students:

shy and uncertain, lack confidence
lack initiative
poor comprehension of and communication in English
speak very softly
afraid to ask if uncertain about something
lack of response when asking questions
do not volunteer ideas - one has to draw information out of them
socio-economic hardships
many do not know left from right
absence from class for lengthor time without informing anyone
late in submitting assignments (no sense of time or urgency)
bad habits/poor etiquette
expect to be spoonfed

Other observations or comments by lecturers:

cultural differences
poor school background
students from rural areas have greater difficulties than those from larger centres
no exposure to media, TV etc.